

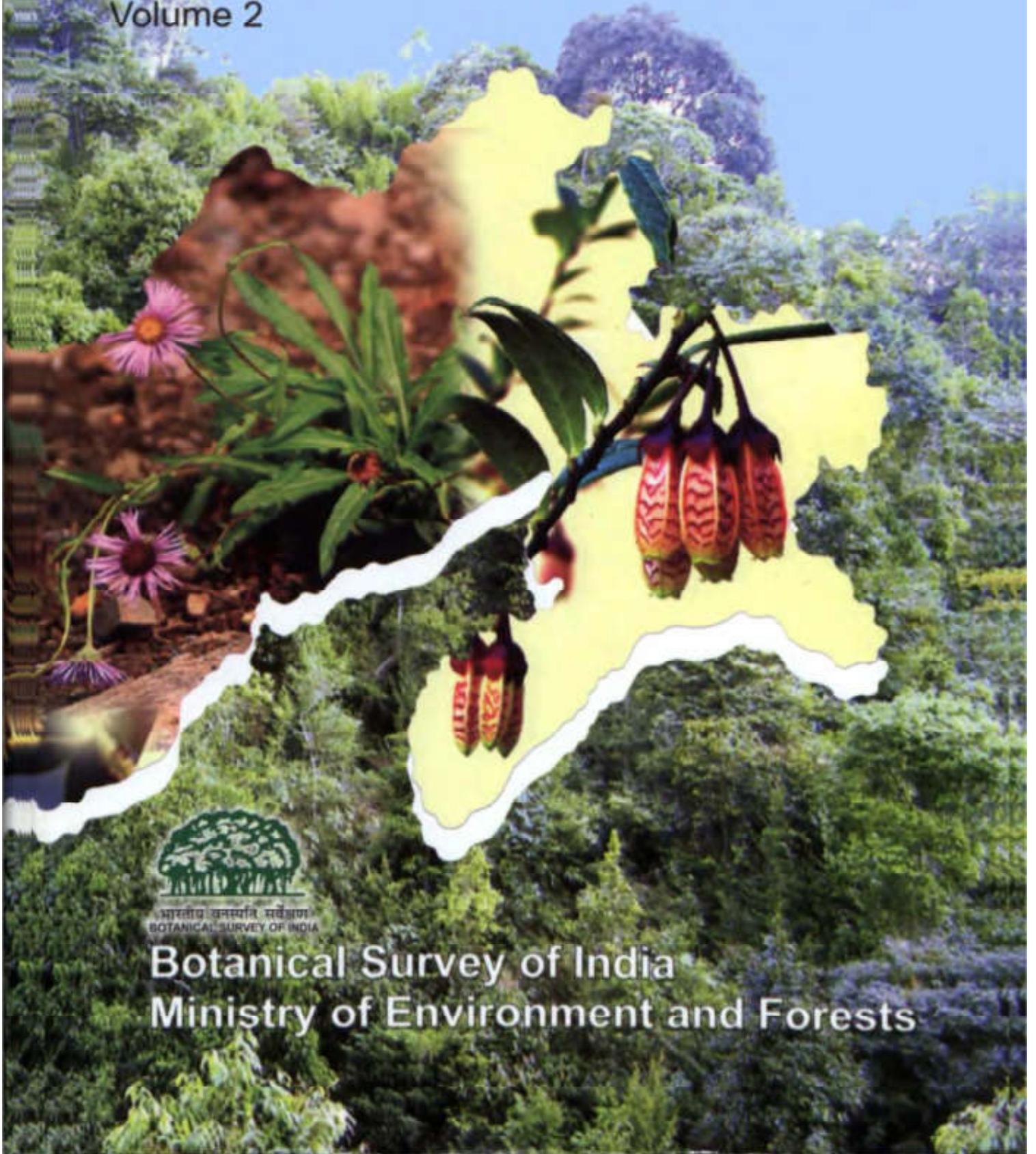


Flora of India  
Series - 2

Volume 2

# Materials for the Flora of Arunachal Pradesh

(ASTERACEAE - CERATOPHYLLACEAE)



भारतीय वनस्पति सर्वेक्षण  
BOTANICAL SURVEY OF INDIA

Botanical Survey of India  
Ministry of Environment and Forests

*Editors*

G.S. GIRI

A. PRAMANIK

&

H.J. CHOWDHERY

ISBN : 81-8177-023-4

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Flora of Arunachal Pradesh  
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*Cover photo* : Subtropical forest in Arunachal Pradesh (Photo : P. Singh)  
Inset : *Agapetes incurvata* (Griff.) Sleumer var. *hookeri* (C.B.Clarke) Airy Shaw, *Aster tricephalus* C.B.Clarke & *Salix daltoniana* Andersson

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*Aster tricephalus* C.B. Clarke



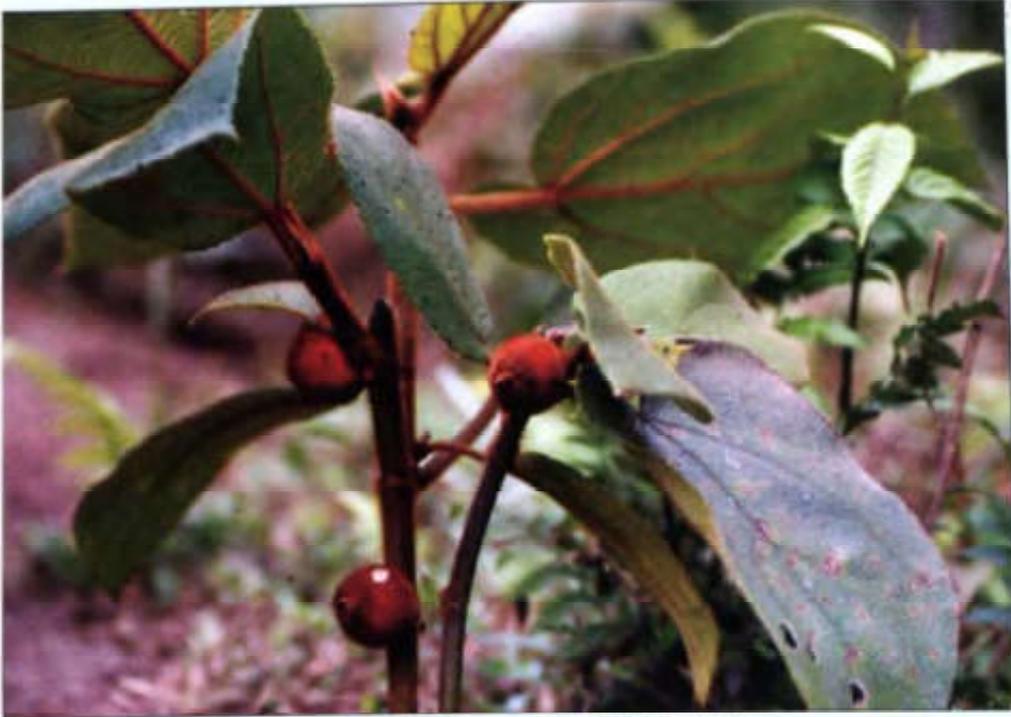
*Agapetes incurvata* (Griff.) Sleumer  
var. *hookeri* (C.B. Clarke) Airy Shaw



*Clerodendrum japonicum* (Thunb.) Sweet



*Castanopsis indica* (Roxb.) Miq.



*Ficus hirta* var. *roxburghii* (Miq.) King



*Piper sylvaticum* Roxb.



*Piper nigrum* var. *macrostachyum* C. DC.



*Quercus griffithi* Hook. f. et Thomson ex Miq.



*Rhododendron arboreum* subsp. *delavayi* (Franch.) D.F. Chamb.



*Rhododendron hodgsonii* Hook. f.



*Rhododendron thomsonii* Hook. f.



*Rhynchosyris obliquum* Blume



*Salix babylonica* L.



*Salix daltoniana* Andersson

## ASTERACEAE

**Adenostemma lavenia** (L.) Kuntze, Rev. Gen. Pl. 1: 304. 1891; Uniyal in Hajra *et al.*, Fl. India 12: 346. 1995. *Verbesina lavenia* L., Sp. Pl. 902. 1753. *Adenostemma viscosum* J. R. & G. Forst., Char. Gen. Pl. 90, t. 45. 1776; Hook. f., Fl. Brit. India 3: 242. 1881, *p. p.*

### var. *lavenia*

Perennial herbs, 20-100 cm tall; stems and branches glabrous, pubescent or viscid-pubescent. Leaves lanceolate to oblong-ovate, opposite. Heads homogamous. Involucral bracts ciliate at margin. Achenes subtriangular, glandular-tuberculate.

*Fl. & Fr.*: March - Dec.

*Distrib.*: Kameng, Lohit, Siang, Subansiri, Tirap; 800-2500 m, amidst grasses on black humus soil.

**Adenostemma lavenia** var. **elatum** (D. Don) Hochr. in Candollea 5: 298. 1934; Uniyal in Hajra *et al.*, Fl. India 12: 347. 1995. *A. elatum* D. Don, Prodr. Fl. Nep. 181. 1825. *A. viscosum* var. *elatum* (D. Don) C. B. Clarke, Comp. Ind. 29. 1876; Hook. f., Fl. Brit. India 3: 242. 1881, *p. p.*

Herbs; branches pubescent or viscid-pubescent. Leaves alternate, upper sessile. Involucral bracts smooth on margin. Achenes densely muricate or tuberculate.

*Fl. & Fr.*: March - Dec.

*Distrib.*: Siang, Tirap; 500 -1500 m.

**Adenostemma lavenia** var. **madurensense** (DC.) Panigrahi in Kew Bull. 30(4): 654. 1975; Uniyal in Hajra *et al.*, Fl. India 12: 347. 1995. *A. madurensense* DC. in Wight, Contrib. Bot. Ind. 9. 1834. *A. viscosum* var. *reticulatum* Hook. f., Fl. Brit. India 3: 242. 1881, *p. p.*, *quoad syn.*

Herbs; branches glabrous, pubescent or viscid-pubescent. Involucral bracts smooth on back. Achenes smooth.

*Fl. & Fr.*: March - Dec.

*Distrib.*: Siang, Subansiri, Tirap; 500 - 1500 m.

**Ageratum conyzoides** L., Sp. Pl. 839. 1753; Hook. f., Fl. Brit. India 3: 243. 1881; Uniyal in Hajra *et al.*, Fl. India 12: 348. 1995; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 199. 1996.

Herbs or shrubs, 10 - 100 cm tall; branches hispid hairy. Leaves usually ovate, crenate. Heads discoid, pale purple to white in dense

terminal corymbs or panicles. Involucral bracts oblong, apex acute, fringed. Achenes 5-angled, black.

*Fl. & Fr.*: March - Nov.

*Distrib.*: Changlang, Lohit, Siang, Subansiri, Tirap; 100-1500 m.

***Ageratum houstonianum*** Mill., Gard. Dict. ed. 8, no. 2, 1768; C. F. C. Fisch. in Gamble, *Fl. Pres. Madras* 3: 1302, 1936; Saxena in *Bull. Bot. Surv. India* 12: 49, 1970; Uniyal in Hajra *et al.*, *Fl. India* 12: 349, 1995.

Annual or perennial herbs, up to 60 cm high. Leaves deltoid, crenate-serrate, pilose. Flowers in 75-100-flowered heads, bluish. Involucral bracts oblong-acuminate, hirsute or pilose on back. Achenes bristly along ribs.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Subansiri; 100-600 m, in open forests, along roadsides.

***Ainsliaea angustifolia*** Hook. f. *et* Thomson ex C. B. Clarke in *J. Linn. Soc.* 14: 412, 1875; Hook. f., *Fl. Brit. India* 3: 388, 1881; Rao in Hajra *et al.*, *Fl. India* 13: 165, 1995.

Herbs; stems sparsely hairy. Leaves oblanceolate, narrowed into a long petiole, crenate. Heads discoid; flowers white or purplish. Achenes silky, obscurely ribbed with brown pappus.

*Fl. & Fr.*: April - Dec.

*Distrib.*: Kameng; up to 2000 m, in forests.

***Ainsliaea latifolia*** (D. Don) Sch.-Bip. in *Pollichia* 18, 19: 190, 1861; Rao in Hajra *et al.*, *Fl. India* 13: 167, 1995; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 200, 1996, *Liatris latifolia* D. Don, *Prodr. Fl. Nep.* 169, 1825, *Ainsliaea pteropoda* DC., *Prodr.* 7: 14, 1838; Hook. f., *Fl. Brit. India* 3: 388, 1881.

Herbs, 30 - 70 cm tall; stems hairy or cottony-tomentose. Leaves ovate or ovate-cordate; petioles broadly winged. Head solitary or 1-2 together, axillary, 3-flowered; flowers pale blue. Achenes ribbed, softly silky with pale brown pappus.

*Fl. & Fr.*: Jan. - Dec.

*Distrib.*: Kameng, Lohit, Subansiri, Tawang, Tirap; 1000 - 3000 m, along moist slopes.

***Ambrosia artemisiifolia*** L., *Sp. Pl.* 988, 1753; Naithani & Bennet in *Ind. J. For.* 4: 73, 1981; Chowdhery in Hajra *et al.*, *Fl. India* 12: 363, 1995.

Erect herbs, up to 3 m high; branches ridged. Leaves deeply cut into many lobes. Heads small, yellowish white with separate male and female flowers. Achenes enclosed in fused involueral bract, pale brown.

*Fl. & Fr.*: July - Sept.

*Distrib.*: Kameng, Lohit, Siang, Subansiri; a weed of Jhum cultivation fallows, along roadsides.

*Note*: The wind borne pollens of this species are said to cause serious allergic diseases.

**Anaphalis adnata** DC., Prodr. 6: 274. 1838; Hook. f., Fl. Brit. India 3: 282. 1881; Pant in Hajra *et al.*, Fl. India 13: 53. 1995.

Stout herbs or undershrubs, 0.5 - 1.5 m tall; stems densely white floccose. Leaves obovate-oblong, sub-spathulate or lanceolate, densely clothed with white silky or cottony hairs. Flowers white in dense rounded terminal or axillary corymbose clustered heads, surrounded by white, opaque, involueral bracts. Achenes oblong, minutely hairy or dotted.

*Fl. & Fr.*: Aug. - March.

*Distrib.*: Kameng, Subansiri; 1000 - 1500 m.

**Anaphalis busua** (Buch.-Ham. ex D. Don) DC., Prodr. 6: 275. 1838; Pant in Hajra *et al.*, Fl. India 13: 57. 1995. *Anaphalium busuum* Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 173. 1825. *Anaphalis araneosa* DC., Prodr. 6: 275. 1838; Hook. f., Fl. Brit. India 3: 283. 1881.

Herbs, up to 1 m high; stems erect, cottony or woolly-pubescent, more or less winged due to decurrent leaf bases. Leaves linear-lanceolate to oblanceolate, 1-nerved, semiamplexicaul at base, acuminate at apex. Heads in terminal corymbose clustered; flowers yellowish-green; involueral bracts obovate-spathulate, white, opaque.

*Fl. & Fr.*: July - March.

*Distrib.*: Kameng, Siang, Subansiri, Tawang; up to 250 m.

**Anaphalis contorta** (D. Don) Hook. f., Fl. Brit. India 3: 284. 1881; N. P. Balakr., Fl. Jowai 1: 276. 1981; Pant in Hajra *et al.*, Fl. India 13: 59. 1995. *Antennaria contorta* D. Don in Bot. Reg. 7: t. 605. 1821. *Anaphalis tenella* DC., Prodr. 6: 273. 1838.

Herbs, 10 - 60 cm tall; branches prostrate or ascending, woolly. Leaves linear, 1-nerved, cottony woolly. Heads in terminal corymbs, clustered, enclosed by white, yellowish or purplish involueral bracts. Achenes oblong, smooth or verrucose.

*Fl. & Fr.*: July - Dec.

*Distrib.*: Kameng, Lohit, Siang, Subansiri; 1200 – 5000 m, along roadsides.

**Anaphalis griffithii** Hook. f., Fl. Brit. India 3: 280. 1881; Pant in Hajra *et al.*, Fl. India 13: 61.1995.

Herbs, unbranched, 30 – 80 cm high. Leaves linear-lanceolate, semiamplexicaul at base, grey – woolly or cobwebby beneath; 1-nerved. Heads in terminal, open corymb. Involucral bracts white, up to 4-seriate, ovate or ovate-elliptic, subacute. Achenes oblong, hairy.

*Fl. & Fr.*: Sept. - Feb.

*Distrib.*: Subansiri; up to 2500 m, undergrowth in secondary forests.

**Anaphalis margaritacea** (L.) Benth. in Benth. & Hook. f., Gen. Pl. 2: 303. 1873; Pant in Hajra *et al.*, Fl. India 13: 68. 1995. *Gnaphalium margaritaceum* L., Sp. Pl. 850. 1753. *Anaphalis cinnamomea* C. B. Clarke, Comp. Ind. 104. 1876; Hook. f., Fl. Brit. India 3: 281. 1881.

Herbs, erect or decumbent, 20 – 60 cm tall. Leaves narrowly lanceolate, densely clothed with white, grey to cinnamomeous woolly hairs, 3-5 nerved. Heads subglobose in dense terminal corymbs. Involucral bracts opaque, white, ovate, many seriate. Achenes compressed, narrowly oblong.

*Fl. & Fr.*: Aug. – Dec.

*Distrib.*: Kameng; 1500 – 3000 m.

**Anaphalis nepalensis** (Spreng.) Hand.-Mazz., Symb. Sin. 7: 1099. 1936. *Helichrysum nepalensis* Spreng., Syst. Veg. 3: 485. 1826. *Anaphalis nubigena* DC., Prodr. 6: 272. 1838; Hook. f., Fl. Brit. India 3: 279. 1881.

Small, tufted, cottony-woolly herbs, 2-20 cm tall. Lower leaves obovate-spathulate, upper leaves elliptic or lanceolate. Heads solitary or few together.

*Fl. & Fr.*: July – Dec.

*Distrib.*: Kameng, Tawang; upto 5000 m.

**Anaphalis royleana** DC., Prodr. 6: 272. 1838; Hook. f., Fl. Brit. India 3: 280. 1881; Pant in Hajra *et al.*, Fl. India 13: 71 & 72. 1995.

Herbs, 10-15 cm tall; stems many together, softly tomentose. Leaves, linear or linear-oblong, puberulous above, greyish white tomentoes beneath. Heads in terminal corymbs, flowers white. Involucral bracts many seriate, ovate to oblong. Achenes oblong, papillose.

*Fl. & Fr.*: July – Dec.

*Distrib.*: Kameng, Tawang; 4000-4500 m.

**Anaphalis triplinervis** (Sims.) C. B. Clarke, Camp. Ind. 105. 1876; Hook. f., Fl. Brit. India 3: 281. 1881; Pant in Hajra *et al.*, Fl. India 13: 77. 1995. *Antennaria triplinervis* Sims. in Bot. Mag. 51: t. 2468. 1823.

Perennial, woody herbs, up to 50 cm high. Leaves broadly elliptic to oblong or narrowly oblong, densely clothed with white woolly hairs beneath, cobwebby above, amplexicaul, 3(-5) nerved. Heads solitary or few in terminal corymb. Involucral bracts ovate, white. Achenes oblong, tuberculate. Pappus white, bristly.

*Fl. & Fr.*: Sept. - Feb.

*Distrib.*: Subansiri; 1500-3000 m.

**Artemisia dubia** Wall. ex Bess. var. **subdigitata** Ling in Kew Bull. 42(2): 444. 1987; Naithani in Hajra *et al.*, Fl. India 1: 19. 1995. *A. glauca auct. non* Pall. ex Willd.: Hook. f., Fl. Brit. India 3: 322. 1881.

Perennial herbs; stems erect, puberulose, more or less purplish. Cauline leaves pinnatifid or pinnati-partite, segments linear or linear-lanceolate. Heads heterogeneous, solitary or in clusters of 2-3 forming raceme; flowers yellow or dull green. Involucral bracts oblong, pale white.

*Fl. & Fr.*: Aug. - Feb.

*Distrib.*: Kameng; 2000 m, amidst grasses on black humus soil.

**Artemisia indica** Willd., Sp. Pl. 3: 1846. 1803; Naithani in Hajra *et al.*, Fl. India 12: 27. 1995. *A. vulgaris auct. non* L.: Hook. f., Fl. Brit. India 3: 325. 1881, *p.p.*

Herbs, 1-2 m tall; stems aromatic, pubescent or tomentose. Leaves pinnati-partite, segments narrowly lanceolate, pubescent above, white-felted beneath. Heads ovoid to subglobose, solitary to fascicled.

*Fl. & Fr.*: July - March.

*Distrib.*: Dibang valley, Kameng, Lohit, Siang, Subansiri, Tirap; up to 2500 m, along roadsides, waste places.

*Use*: The plant is anthelmintic, asthmatic, and used in preparation of tonic, expectorant. It is also used as a valuable antispasmodic and stomachic.

**Artemisia japonica** Thunb., Fl. Jap. 310. 1784; Naithani in Hajra *et al.*, Fl. India 12: 28. 1995. *A. parviflora* Roxb. ex D. Don, Prodr. Fl. Nep. 181. 1825; Hook. f., Fl. Brit. India 3: 322. 1881.

Annual herbs, laxly villous, 1-2 m tall with nauseating smells. Cauline leaves linear with stipule like appendages at base. Heads dull green, secund in spreading paniced racemes. Achenes ellipsoid, smooth.

*Fl. & Fr.*: Aug. Feb.

*Distrib.*: Kameng; 2000-3000 m, in open and shaded places amongst grasses.

**Artemisia maritima** L., Sp. Pl. 846. 1753; Hook. f., Fl. Brit. India 3: 323. 1881; Naithani in Hajra *et al.*, Fl. India 12: 31. 1995.

Perennial, aromatic herbs, up to 1m tall; stems hoary or tomentose. Leaves 2- pin-natisect. Heads 3-8-flowered, ovoid or oblong in spicate fascicles, homoge-neous. Involucral bracts broadly oblong to obovate, brownish. Receptacle naked.

*Fl. & Fr.*: May March.

*Distrib.*: Arunachal Pradesh.

**Artemisia nilagirica** (C. B. Clarke) Pamp. in Nuovo Giorn. Bot. Ital. n.s. 33: 452. 1926; Naithani in Hajra *et al.*, Fl. India 12: 36. 1995; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 200. 1996. *A. vulgaris* L. var. *nilagirica* C. B. Clarke, Comp. Ind. 162. 1876. *A. vulgaris auct. non* L.: Hook. f., Fl. Brit. India 3: 325. 1881, *p.p.*

Perennial, aromatic herbs, 1-2 m tall; stems hoary pubescent or tomentose. Leave ovate-elliptic, lobed, densely white woolly beneath, glabrous above. Heads ovoid in sparsely leafy panicles, tomentose.

*Fl. & Fr.*: Aug. Feb.

*Distrib.*: Kameng, Lohit, Siang, Subansiri, Tirap; 1000-2500 m, in open or shaded places amidst grasses or along forest edges.

**Aster ageratoides** Turcz. subsp. **alatopetiolata** Kitam. in Fauna & Fl. Nep. Himal. 247. 1955; Hajra in Hajra *et al.*, Fl. India 12: 79. 1995. *A. trinervius* Roxb. ex D. Don subsp. *ageratoides* (Trucz.) Grierson in Notes Roy. Bot. Gard. Edinburgh 26: 102. 1964, *p.p.*

Rhizomatous herbs, up to 1 m tall; stems and branches pubescent. Leaves elliptic-lanceolate, subentire to distantly serrate at margin, ligulate. Heads white to pale-pink, 10-15 num across. Achenes 2-3 ribbed with dirty white to reddish pappus.

*Fl. & Fr.*: Oct. Feb.

*Distrib.*: Lohit, Subansiri; 1000-2000 m, on moist soil in open places.

**Aster albescens** (DC.) Hand.-Mazz. in Acta Hort. Gotob. 12. 205. 1938; Hajra in Hajra *et al.*, Fl. India 12 : 79. 1995. *Amphiraphis*

*albescens* DC., Prodr. 5: 343. 1836. *Microglossa albescens* (DC.) Benth. ex C. B. Clarke, Comp. Ind. 59. 1876; Hook. f., Fl. Brit. India 3: 257. 1881.

Shrubs, 50-150 cm high; branches faintly grooved. Leaves ovate or elliptic, subentire, sessile. Heads small, up to 6 mm across, in loosely clustered corymbs. Achenes puberulous with red pappus.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Lohit; 2500-4000 m, along open hill slopes.

**Aster flaccidus** Bunge in Mem. Acad. Sci. St. Petersb. 2: 599. 1838; Hajra in Hajra *et al.*, Fl. India 12: 86. 1995. *A. heterochaeta* C. B. Clarke, Comp. Ind. 44. 1876; Hook. f., Fl. Brit. India 3: 250. 1881, *p.p.* *A. tibeticus* Hook. f., Fl. Brit. India 3: 251. 1881, *p.p.*

subsp. **flaccidus** forma **flaccidus**

Acaulis or shortly stemmed, woolly or tomentose herbs. Leaves obovate-spathulate, villous and ciliate at margin. Heads solitary, 3-4 cm across. Involucral bracts brownish. Achenes glabrescent, pappus whitish.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Dibang valley, Lohit; 4000-5000 m, on open slopes, screes

**Aster flaccidus** subsp. **flaccidus** forma **griseobarbatus** Grierson in Notes Roy. Bot. Gard. Edinburgh 26: 131. 1964.

Involucral bracts dark coloured than forma **flaccidus**.

*Fl. & Fr.*: July - Sept.

*Distrib.*: Lohit; 3000-4000 m.

**Aster himalaicus** C. B. Clarke, Comp. Ind. 43. 1876; Hook. f., Fl. Brit. India 3: 250. 1881; Hajra in Hajra *et al.*, Fl. India 12: 90. 1995.

Small, robust, laxly villous herbs, up to 50 cm high. Radicle leaves persistent, petiolet, obovate to spatulate, denticulate at margin; cauline leaves semiamplexicaul. Heads solitary, ca 2 cm across, lilac. Involucral bracts purplish tinged, pubescent. Achenes silky, obovate.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Kameng; 2500-4500 m, on open hill slopes.

**Aster sikkimensis** Hook. f. in Bot. Mag. t. 4557. 1851; Hook. f., Fl. Brit. India 3: 252. 1881; Hajra in Hajra *et al.*, Fl. India 13: 95. 1995.

Glabrous or puberulous herbs, up to 1 m tall. Leaves lanceolate, semiamplexicaul, distantly denticulate. Heads numerous, small, blue, in terminal corymbs. Achenes hispid, 4-ribbed, pappus white or creamy.

*Fl. & Fr.*: Sept. March.

*Distrib.*: Kameng; 1200-2500 m.

**Aster thomsonii** C. B. Clarke, *Comp. Ind.* 48. 1876; Hook. f., *Fl. Brit. India* 3: 252. 1881; Hajra in Hajra *et al.*, *Fl. India* 13: 96. 1995.

Laxly villous herbs with flexuous branches. Leaves ovate-elliptic, acuminate, dentate-serrate. Heads solitary, 2-4 cm across, purple. Achenes pilose. Pappus pale brown.

*Fl. & Fr.*: Aug. March.

*Distrib.*: Kameng; 2500-3000 m, in shady places.

**Aster tricephalus** C. B. Clarke, *Comp. Ind.* 43. 1876; Hook. f., *Fl. Brit. India* 3: 250. 1881; R. R. Rao *et al.*, *Fl. Ind. Enum. Asteraceae* 13. 1988; Hajra in Hajra *et al.*, *Fl. India* 12: 98. 1995.

Puberulous herbs, up to 50 cm high. Leaves oblanceolate, spatulate, apex obtuse, margin entire or so, glandular-pilose. Heads solitary or 2-3 together, bluish. Involucral bracts oblanceolate, ciliate. Achenes pubescent. Pappus reddish hairy.

*Fl. & Fr.*: Aug. Feb.

*Distrib.*: Arunachal Pradesh; 3000-4200 m, in moist shady places.

**Aster trinervius** Roxb. ex D. Don, *Prodr. Fl. Nep.* 177. 1825, *non* Gilib. 1791; Hook. f., *Fl. Brit. India* 3: 352. 1881; Hajra in Hajra *et al.*, *Fl. India* 12: 98. 1995. *A. ageratoides* Turcz. subsp. *trinervius* var. *spathulatus* Kitam., *Fauna & Fl. Nep. Himal.* 247. 1955. *A. scaberidus* C. B. Clarke, *Comp. Ind.* 47. 1876, *non* E. Mey ex DC. 1836.

Perennial slender herbs, lower parts glabrescent, upper sparsely to densely hairy, up to 1 m high. Leaves usually lanceolate, entire or serrulate, scabrid. Heads many in corymbs, up to 10 mm across, sparsely pubescent. Involucral bracts linear, 3-seriate. Achenes obovate. Pappus reddish, sparsely hairy.

*Fl. & Fr.*: Sept. Oct.

*Distrib.*: Arunachal Pradesh.

**Bidens bipinnata** L., *Sp. Pl.* 832. 1753; H. J. Chowdhery in Hajra *et al.*, *Fl. India* 12: 367. 1995. *B. pilosa* L. var. *bipinnata* (L.) Hook. f., *Fl. Brit. India* 3: 309. 1881.

Erect, glabrous herbs. Leaves bipinnatifid, segments ovate-lanceolate, sparsely hairy. Heads solitary or few, up to 5 mm across, yellow with 2-5 ray florets. Achenes glabrous to shortly hispid. Pappus awned, 2-4, unequal, bristly.

*Fl. & Fr.*: March - Nov.

*Distrib.* : Subansiri; up to 2000 m, common weed in waste places, roadsides.

***Bidens biternata*** (Lour.) Merr. *et* Sheriff in Bot. Gaz. 88: 293. 1929; H. J. Chowdhery in Hajra *et al.*, Fl. India 12: 367. 1995; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 200. 1996. *Coreopsis biternata* Lour., Fl. Cochinch. 508. 1790. *Bidens pilosa auct. non L.*: Hook. f., Fl. Brit. India 3: 309. 1881, *p.p.*

Erect herbs, up to 90 cm tall, sparsely pubescent when young. Leaves pinnate, segments ovate, deeply dentate. Heads radiate, 5-8 mm across with usually 3-ray florets, white or yellow. Achenes linear, glabrous with 2-5 awns at apex.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; up to 2000 m, in waste places, sandy river-beds.

***Bidens pilosa*** L., Sp. Pl. 832. 1753; Hook. f., Fl. Brit. India 3: 309. 1881; H. J. Chowdhery in Hajra *et al.*, Fl. India 12: 372-373. 1995; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 201. 1996.

Hairy or glabrous herbs, up to 1 m tall. Leaves imparipinnate with translucent dots, coarsely toothed. Heads discoid or radiate with or without white or yellow ray florets. Outer involueral bracts spatulate. Achenes fusiform, black with stout spinescent awns covered with recurved hooks.

*Fl. & Fr.*: March - Dec.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Tirap; up to 2000 m, in waste places, roadsides.

***Bidens tripartita*** L., Sp. Pl. 831. 1753; Hook. f., Fl. Brit. India 3: 309. 1881, *p.p.*; H. J. Chowdhery in Hajra *et al.*, Fl. India 12: 375. 1995.

Stout, glabrous to hirsute herbs, up to 1 m tall. Leaves 3-lobed, tripartite or simple; petioles winged. Heads discoid, solitary. Involueral bracts in 2-series, outer bracts leafy. Achenes cuneate-linear, dark brown, glabrous with retrorsely barbed margins and 2-3 awns at apex.

*Fl. & Fr.*: March - Nov.

*Distrib.* : Changlang, Kameng, Siang, Subansiri, Tirap; up to 2000 m, in waste places.

*Use*: Leaves are eaten as vegetable either raw or after boiling/ cooking.

**Blumea aromatica** DC., Prodr. 5: 446. 1836; Hook. f., Fl. Brit. India 3: 270. 1881; Kanjilal *et al.*, Fl. Assam 3: 113. 1939; S. Kumar in Hajra *et al.*, Fl. India 13: 116. 1995.

Glandular hairy, aromatic undershrubs, up to 3 m tall. Leaves usually obovate, dentate-serrate, hairy on both surfaces. Heads in large terminal or axillary panicles; flowers yellowish or white. Involucral bracts oblong-lanceolate. Receptacle fimbriate. Achenes densely pilose, 10-ribbed, pappus red.

*Fl. & Fr.*: Sept. - April.

*Distrib.*: Kameng; up to 1500 m, in open places.

**Blumea balsamifera** (L.) DC., Prodr. 5: 447. 1836; Hook. f., Fl. Brit. India 3: 270. 1881; Kanjilal *et al.*, Fl. Assam 3: 113. 1939; S. Kumar in Hajra *et al.*, Fl. India 12: 118. 1995; *Conyza balsamifera* L., Sp. Pl. ed. 2, 1208. 1763.

Large, woody shrubs or small trees, aromatic, densely silky, villous or tomentose. Leaves oblong-lanceolate to oblong-obovate, serrulate, appendiculate, upper surfaces pilose, lower silky woolly. Heads sessile, small, in lax panicles, whitish yellow. Achenes ribbed with red pappus.

*Fl. & Fr.*: Oct. - April.

*Distrib.*: Lohit, Siang, Subansiri; up to 1500 m, common in abandoned jhum lands, open places.

*Use*: The decoction of leaves is used as expectorant, warm infusion acts as a sudorific. In S. W. China, Ai or Nagi camphor is distilled from this plant.

**Blumea densiflora** DC., Prodr. 5: 446. 1836; Hook. f., Fl. Brit. India 3: 269. 1881; Kanjilal *et al.*, Fl. Assam 3: 112. 1939; S. Kumar in Hajra *et al.*, Fl. India 13: 122. 1995. *B. densiflora* var. *excisa* C. B. Clarke, Comp. Ind. 89. 1876.

Stout herbs or undershrubs. Leaves large, elliptic-lanceolate, densely tomentose or thick white woolly beneath. Heads sessile in white felted panicles; corolla lobes of female flowers hairy. Achenes 10-ribbed with red pappus.

*Fl. & Fr.*: Oct. - March.

*Distrib.*: Kameng, Lohit, Tirap, Siang; up to 1500 m.

*Use*: Camphor extracted from this plant is pronounced identical with that imported from China (Watt).

**Blumea fistulosa** (Roxb.) Kurz in J. As. Soc. Bengal 46(2): 187. 1877; S. Kumar in Hajra *et al.*, Fl. India 13: 124. 1995; *Conyza fistulosa* Roxb., Fl. Ind. 3: 429. 1832. *B. glomerata* DC. in Wight, Contrib. Bot. Ind. 15. 1834; Hook. f., Fl. Brit. India 3: 262. 1881. *B. nodiflora* Hook. f., Fl. Brit. India 3: 262. 1881.

Velvety or puberulous herbs, 50-120 cm tall. Leaves obovate with tapering base, dentate-serrate. Heads sessile, in compact, globose clusters. Involucral bracts bright purple. Achenes 8-10-ribbed, glabrous or hairy. Pappus white, hairy.

*Fl. & Fr.*: Oct. - April.

*Distrib.*: Kameng, Subansiri; up to 1500 m, in open grasslands, roadsides.

*Use*: Boiled leaves are used as an antidote for diarrhoea.

**Blumea hieracifolia** (D. Don) DC. in Wight, Contrib. Bot. Ind. 15. 1834; Hook. f., Fl. Brit. India 3: 263. 1881; S. Kumar in Hajra *et al.*, Fl. India 13: 125. 1995. *Erigeron hieracifolium* D. Don, Prodr. Fl. Nep. 172. 1825. *B. sericans* Hook. f., Fl. Brit. India 3: 262. 1881.

var. **hieracifolia**

Herbs; stems unbranched, tomentose, silky, villous or woolly. Leaves obovate-spathulate to elliptic-oblong, densely woolly beneath. Heads globose in sessile clusters. Involucral bracts straw coloured with purple tip. Achenes oblong, sparsely hairy. Pappus white.

*Fl. & Fr.*: Aug. - March.

*Distrib.*: Kameng; up to 2500 m, moist places, along roadsides, grasslands.

**Blumea hieracifolia** var. **macrostachya** (DC.) Hook. f., Fl. Brit. India 3: 263. 1881; S. Kumar in Hajra *et al.*, Fl. India 13: 126. 1995. *B. macrostachya* DC., Prodr. 5: 442. 1836.

Robust, tall herbs. Heads in large pedunculate clusters at the end of branches.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Arunachal Pradesh.

**Blumea lacera** (Burm. f.) DC. in Wight, Contrib. Bot. Ind. 14. 1834; Hook. f., Fl. Brit. India 3: 263. 1881; S. Kumar in Hajra *et al.*, Fl. India 13: 128. 1995. *Conyza lacera* Burm. f., Fl. Ind. 180, t. 59.f.1. 1768. *Blumea fandulosa* DC. in Wight, Contr. Bot. Ind. 14. 1834. *B. cinerascens* DC., Prodr. 5: 438. 1836. *B. lacera* var. *cinerascens* (DC.)

Hook. f., Fl. Brit. India 3: 263. 1881. *B. lucera* var. *glandulosa* Hook.f., Fl. Brit. India 3:263. 1881.

Small, coarse, villous or glandular hairy herbs with strong camphor or turpentine smell. Leaves obovate to elliptic-oblong, lyrate-lobed, coarsely dentate. Heads yellow in axillary panicles. Achenes grey-brown, minutely pubescent or glabrescent. Pappus white.

*Fl. & Fr.*: June - Sept.

*Distrib.*: Kameng.

*Use*: Decoction of leaves is a useful anthelmintic; mixed with black pepper it is given in cholera, also used as astringent and febrifuge.

***Blumea lacinata*** (Roxb.) DC., Prodr.5: 436. 1836; Hook. f., Fl. Brit. India 3: 264. 1881; S. Kumar in Hajra *et al.*, Fl. India 3: 128. 1995. *Conyza lacinata* Roxb., Fl. Ind. 3: 428. 1832.

Stout, pubescent or laxly tomentose herbs, 20 - 150 cm high with stalked glands. Lower leaves lyrate, upper oblanceolate, pilose. Heads in large terminal panicles, yellow. Involucral bracts linear, white, tinged with purple. Achenes ribbed, sparsely pubescent.

*Fl. & Fr.*: Jan. - June.

*Distrib.*: Kameng, Lohit, Tirap; up to 2500 m, along roadsides, fallow lands.

***Blumea lanceolaria*** (Roxb.) Druce. Rep. Bot. Exch. Club. Brit. Isles 4: 609. 1917; S. Kumar in Hajra *et al.*, Fl. India 13: 130. 1995; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 201. 1996. *Conyza lanceolaria* Roxb., Fl. Ind. 3: 432. 1832. *Blumea myriocephala* DC., Prodr. 5: 445. 1836; Hook. f., Fl. Brit. India 3: 269. 1881.

Stout, glabrous or puberulous shrubby herbs. Leaves narrowly oblanceolate, upper surfaces rugose, coriaceous with recurved margins. Heads clustered on large terminal panicles. Involucral bracts purplish, ciliate. Achenes hairy, ribbed. Pappus yellowish-white.

*Fl. & Fr.*: May - Feb.

*Distrib.*: Kameng, Lohit; around 1500 m.

***Blumea maritima*** Vaniot in Bull. Acad. Bot. 12: 26. 1903; S. Kumar in Hajra *et al.*, Fl. India 13: 133; 1995. *B. henryi* Dunn in J. Linn. Soc. Bot. 35: 503. 1903; Deb & Dutta in J. Bombay Nat. Hist. Soc. 70: 92. 1793.

Shrubby herbs; branches densely woolly. Leaves ovate-lanceolate to oblong-lanceolate, distantly denticulate, densely woolly on lower

surfaces. Heads in axillary clusters on large panicles, reddish-yellow. Involucral bracts linear, dorsally woolly. Achenes oblong, brown, pubescent. Pappus yellowish.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Tirap; in evergreen forests at higher elevations.

**Blumea membranacea** DC., Prodr. 5: 440. 1836; Hook. f., Fl. Brit. India 3: 265. 1881; S. Kumar in Hajra *et al.*, Fl. India 13: 134. 1995.

Tall, slender, pubescent herbs. Leaves large, ovate-lanceolate, serrate-dentate, membranous, hairy. Heads many, small, in terminal, lax panicles, yellow. Achenes ribbed, hairy, brown, pubescent. Pappus white.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Arunachal Pradesh; in forests along water sources.

**Blumea procera** DC., Prodr. 5: 445. 1836; Hook. f., Fl. Brit. India 3:268. 1881; S. Kumar in Hajra *et al.*, Fl. India 13: 139. 1995; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 201. 1996.

Herbs or undershrubs, 1-3 m high; younger parts densely velutinous. Leaves oblanceolate, densely velutinous beneath. Heads in terminal large panicles, greenish-white or yellowish. Involucral bracts linear, densely hairy. Achenes brown, pubescent. Pappus white.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Kameng, Lohit, Subansiri; up to 1500 m, in moist shaded places.

**Blumea riparia** (Blume) DC., Prodr. 5: 444. 1836; S. Kumar in Hajra *et al.*, Fl. India 13: 141. 1995. *Conyza riparia* Blume, Bijdr. 899. 1826, non H. B. K.; Hook. f., Fl. Brit. India 3: 268. 1881.

Scandent, glabrous herbs or small shrubs, up to 2 m tall; branches terete or grooved. Leaves obovate or elliptic-oblong, base rounded, margin denticulate. Heads yellowish in terminal or axillary lax panicles. Receptacle flat, hairy. Achenes strongly ribbed, hairy. Pappus white.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Changlang, Kameng, Subansiri, Tirap; up to 150 m.

**Blumeopsis flava** (DC.) Gagnep. in Bull. Mus. Hist. Nat. Paris 26: 76. 1920; S. Kumar in Hajra *et al.*, Fl. India 13: 145. 1995. *Blumea flava* DC., Prodr. 5: 439. 1836. *Laggera flava* (DC.) Benth. in Benth. & Hook. f., Gen. Pl. 2: 290. 1873; Hook. f., Fl. Brit. India 3: 270. 1881.

Slender herbs, 15-100 cm high; branches grooved. Leaves mostly in rosette at base, obovate, spinulose-dentate; upper leaves oblong - obovate

or oblong elliptic, amplexicaul. Heads golden yellow. Achenes minute, glabrous. Pappus white.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Kameng; 2000 - 3500 m.

**Brachyactis anomalum** (DC.) Kitam. in H. Hara, Fl. E. Himal. 3: 113. 1975; Hajra in Hajra *et al.*, Fl. India 12: 101. 1995. *Erigeron anomalum* DC., Prodr. 5: 293. 1836. *Brachyactis menthodora* Benth. in Hook., Icon. Pl. 12, t. 1106. 1872; Hook. f., Fl. Brit. India 3: 253. 1881.

Tall, erect, glandular-pubescent herbs, 30 - 60 cm high. Leaves oblong-lanceolate, upper sessile, decurrent, semiamplexicaul; lower long-petioled. Heads solitary, bluish or rosy to pale blue. Involucral bracts linear, pubescent. Achenes glabrous. Pappus reddish.

*Fl. & Fr.*: Aug. - Oct.

*Distrib.*: Dibang valley, Lohit; 3000 - 4000 m.

*Note*: The plant has got mint like odour.

**Brachycome assamica** C. B. Clarke, Comp. Ind. 40. 1876; Hook. f., Fl. Brit. India 3: 248. 1881; Hajra in Hajra *et al.*, Fl. India 12: 102. 1995.

Glabrous, shrubby herbs with sharply angled branches. Leaves sessile, linear, dilated upward. Heads small, solitary, terminal. Flowers radiate, outer rows ligulate. Achenes terete, striate. Pappus absent.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Arunachal Pradesh. Endemic. Rare.

**Cacalia chenopodifolia** (DC.) Kitam. *ex* Koyama in Mem. Fasc. Sci. Kyoto Univ. ser. Biol. 2 (2): 170. 1969; R. Mathur in Hajra *et al.*, Fl. India 13: 188. 1995. *Senecio chenopodifolius* DC., Prodr. 6: 364. 1838; Hook. f., Fl. Brit. India 3: 354. 1881.

Stout herbs; stems and branches terete, finely pubescent. Leaves membranous, triangular-cordate or obscurely 3-lobed; auricles toothed. Heads small, numerous, discoid, drooping, yellow to deep brown in axillary or terminal racemose panicles. Achenes turbinate, obovate, ribbed, glabrous. Pappus brownish.

*Fl. & Fr.*: Aug. - Feb.

*Distrib.*: Kameng; 2000 - 3500 m.

**Cacalia mertonii** (C. B. Clarke) Kitam. *ex* Koyama in Mem. Fasc. Sci. Kyoto Univ. ser. Biol. 2(2): 166. 1969; R. Mathur in Hajra *et al.*, Fl.

India 13: 191, f. 60, 1995. *Senecio mortonii* C. B. Clarke, Comp. Ind. 208, 1876; Hook. f., Fl. Brit. India 3: 349, 1881.

Shrubby herbs, 1–1.3 m high; younger parts pubescent. Leaves palmately 5-11 lobed; petiole of cauline leaves winged with sheathing base. Heads numerous in corymbs. Involucral bracts linear-oblong. Achenes narrow, oblong, pubescent with yellow pappus.

*Fl. & Fr.*: May–Sept.

*Distrib.*: Kameng, Subansiri; 500–3000 m.

***Carpesium abrotanoides*** L., Sp. Pl. 860, 1753; Hook. f., Fl. Brit. India 3: 301, 1881; S. Kumar in Hajra *et al.*, Fl. India 13: 6, 1995.

Herbs, younger parts pubescent. Heads sessile or subsessile, inserted along whole length of branches, whitish-yellow. Involucral bracts ovate to oblong. Receptacle glabrous. Achenes elongate, shortly beaked, finely ribbed.

*Fl. & Fr.*: May–Feb.

*Distrib.*: Tirap; up to 1500 m.

*Use*: Used to dye silk. The plant has got medicinal properties and considered as laxative, anthelmintic and diuretic.

***Carpesium cernuum*** L. var. ***griffithii*** Hook. f., Fl. Brit. India 3: 302, 1881; S. Kumar in Hajra *et al.*, Fl. India 13: 10, 1995. *C. nepalense* Less var. *griffithii* (Hook. f.) S. Kumar in R. R. Rao *et al.*, Fl. Ind. Enum. Asteraceae 22, 1988.

Erect herbs with tomentose stems and branches. Leaves linear to linear-lanceolate, subsessile or short petioled, hirsute on both surfaces. Heads yellow with subtending leafy bracts. Achenes linear-oblong, 10-ribbed.

*Fl. & Fr.*: May–Sept.

*Distrib.*: Kameng. Endemic.

***Carpesium cernuum*** var. ***pedunculosum*** (Wall. ex DC.) C. B. Clarke, Comp. Ind. 13, 1876; Hook. f., Fl. Brit. India 3: 301, 1881; S. Kumar in Hajra *et al.*, Fl. India 13: 10, 1995. *C. pedunculosum* Wall. ex DC., Prodr. 6: 281, 1838. *C. nepalense* var. *pedunculosa* (Wall. ex DC.) S. Kumar in R. R. Rao *et al.*, Fl. Ind. Enum. Asteraceae 22, 1988, *nt* (C. B. Clarke) S. Kumar.

Glabrous or sparsely hairy herbs. Leaves large, ovate with winged petioles. Heads on very long, stiff, naked peduncles. Achenes linear-oblong, 10-ribbed.

*Fl. & Fr.*: Aug. Sept.

*Distrib.*: Kameng.

**Centipeda minima** (L.) A. Br. et Aschers., Ind. Sem. Fl. Berol. App. 6. 1867; Naithani in Hajra *et al.*, Fl. India 12: 48. 1995. *Artemisia minima* L., Sp. Pl. 849. 1753. *Centipeda orbicularis* Lour., Fl. Cochinch. 493. 1790; Hook. f., Fl. Brit. India 3: 317. 1881.

Prostrate herbs, spreading from woody rootstocks, 10–15 cm high, glabrous or sparsely woolly. Leaves obovate-oblong, distantly toothed. Heads sessile, globose, solitary, yellow. Involucral bracts ovate to lanceolate, 2-seriate. Achenes 4-angled, angles hairy. Pappus absent.

*Fl. & Fr.*: May–Oct.

*Distrib.*: Kameng; up to 1500 m, in moist places.

**Cirsium interpositum** Petrak in Fedde, Repert. 43: 283. 1838; Uniyal in Hajra *et al.*, Fl. India 12: 170. 1995. *Cnicus griffithii* Hook. f., Fl. Brit. India 3: 363. 1881. *Cirsium lepskyi* Petrak in Fedde, Repert. 9: 197. 1911.

Robust herbs, stems hollow, cottony. Leaves pinnatifid, lobes lanceolate, spinescent above, white appressed-tomentose beneath. Heads crowded. Involucral bracts aristate, glabrous. Achenes 4-angled, obovoid-oblong.

*Fl. & Fr.*: Aug.–Feb.

*Distrib.*: Kameng, Subansiri, Tirap; up to 1500 m.

*Use*: The aromatic seeds and young shoots are edible.

**Cirsium shansiense** Petrak in Mitt. Thuring. Bot. Ver. n.f.1: 176. 1943; Uniyal in Hajra *et al.*, Fl. India 12: 170. 1995. *Cnicus sinensis* (Gard. & Champ.) C. B. Clarke, Comp. Ind. 219. 1876; Hook. f., Fl. Brit. India 3: 364. 1881.

Robust herbs, up to 3 m high, glabrous or sparsely pubescent. Leaves sessile, linear-oblong or lanceolate, sinuate lobed, ciliate and spinescent, white-tomentose beneath. Heads solitary, long peduncled, purple. Involucral bracts oblong with spinulose tips.

*Fl. & Fr.*: May–Oct.

*Distrib.*: Kameng; up to 1600 m.

**Cirsium verutum** (D. Don) Spreng., Syst. Veg. 3: 370. 1826; Uniyal in Hajra *et al.*, Fl. India 12: 171. 1995. *Cnicus verutus* D. Don, Prodr. Fl. Nep. 167. 1825. *Cirsium involucreatum* DC., Prodr. 6: 639. 1838. *Cnicus involucreatus* (DC.) Hook. f., Fl. Brit. India 3:

362, 1881. *C. involucratus* var. *horrida* Hook. f., Fl. Brit. India 3: 362. 1881. *Cirsium involucratum* var. *horridum* (Hook. f.) N. P. Balakr., Fl. Jowai 1: 256. 1981.

Glandular pubescent herbs or shrubs, up to 2 m high. Leaves deltoid or rhomboid-ovate, entire or dentate, glabrous above, cottony beneath. Heads sessile, 2-4-flowered in trichotomous, convex corymbs, pale blue or white, enclosed by stiff, spiny, woolly involueral bracts. Achenes 4-5 ribbed. Pappus white.

*Fl. & Fr.*: May - Dec.

*Distrib.*: Kameng, Subansiri; up to 2800 m, in open wastelands, along roadsides.

***Cissampelopsis volubilis*** (Blume) Miq., Fl. Ind. Bat. 2: 103. 1856; Uniyal in Hajra *et al.*, Fl. India 13: 200. 1995. *Cacalia volubilis* Blume, Bijdr. 903. 1826. *Senecio araneosus* DC., Prodr. 6: 364. 1838; Hook.f., Fl. Brit. India 3: 351. 1881, *p.p.*, *excl. S. walkeri* Arn.

Shrubby herbs; stems and branches grooved, glabrous or sparsely cottony woolly. Leaves broadly ovate, cordate, upper surfaces greyish tomentose, lower white floccose. Heads discoids, creamy-white. Achenes cylindric, glabrous, striate. Pappus white.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Kameng, Lohit, Subansiri; up to 2500 m.

***Cissampelopsis walkeri*** (Arn.) Jeffrey *et* Chen in Kew Bull. 39(2): 341. 1984; Uniyal in Hajra *et al.*, Fl. India 13: 200. 1995. *Senecio walkeri* Arn. in Nova Acta Phys. Med. Acad. Caes. Leop. Carol. Nat. Cur. 18: 349. 1831; Hook. f., Fl. Brit. India 3: 351. 1881. *S. araneosus* var. *walkeri* (Arn.) C. B. Clarke, Comp. Ind. 182. 1876.

Extensive climbers; branches grooved, floccose-tomentose when young. Leaves obovate, glabrous. Heads discoid, oblong, pale green.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Kameng, Subansiri; up to 2100 m.

***Conyza angustifolia*** Roxb., Fl. Ind. 3: 429. 1832; Hook. f., Fl. Brit. India 3: 258. 1881; Hajra in Hajra *et al.*, Fl. India 12: 104. 1995.

Woody, scaberulous herbs, up to 1 m high. Leaves sessile, long, narrowly linear, serrate. Heads in slender, peduncled cymes. Achenes minute, silky. Pappus reddish.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Tirap; up to 1500 m.

***Conyza bonariensis*** (L.) Cronq. in Bull. Torrey Bot. Club 70 (6): 632. 1943; Hajra in Hajra *et al.*, Fl. India 12: 104. 1995. *Erigeron bonariensis* L., Sp. Pl. 863. 1753; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 202. 1996. *E. linifolius* Willd., Sp. Pl. 3: 1955. 1803; Hook. f., Fl. Brit India 3: 254. 1881.

Erect herbs, up to 1.5 m tall. Leaves cuneate at base, acute at apex, coarsely serrate-incised. Heads in long, leafy panicles, ray florets purplish tipped, disc florets pale yellow. Achenes subglabrous. Pappus yellowish.

*Fl. & Fr.*: June - Feb.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap, in open grasslands, waste places.

***Conyza canadensis*** (L.) Cronq. in Bull. Torrey Bot. Club. 70 (6): 632. 1943; Hajra in Hajra *et al.*, Fl. India 12: 105. 1995. *Erigeron canadensis* L., Sp. Pl. 863. 1753; Hook. f., Fl. Brit. India 3: 254. 1881.

Slender herbs; branches pubescent, hirsute or nearly glabrous. Leaves narrowly linear. Heads small, pale rosy or glabrous. Pappus dirty white.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Kameng; up to 1500 m.

***Conyza japonica*** (Thunb.) Less ex DC., Prodr. 5: 382. 1836; Hook. f., Fl. Brit., India 3: 258. 1881; Hajra in Hajra *et al.*, Fl. India 12: 105. 1995. *Erigeron japonicum* Thunb., Fl. Jap. 312. 1784.

Erect herbs. Leaves sessile, obovate-spathulate, serrate, basal leaves rosette, upper cauline. Heads densely glomerate in terminal panicles, white or yellowish. Achenes glabrous. Pappus reddish-brown.

*Fl. & Fr.*: March - July.

*Distrib.*: Kameng, Subansiri; in open grasslands.

***Conyza leucantha*** (D. Don) Ludlow *et* Raven in Kew Bull. 17: 71. 1963; Hajra in Hajra *et al.*, Fl. India 12: 105. 1995. *Erigeron leucanthus* D. Don, Prodr. Fl. Nep. 171. 1825. *Conyza viscidula* Wall. ex DC., Prodr. 5: 383. 1836; Hook. f., Fl. Brit. India 3: 258. 1881.

Stout herbs, erect, viscid-pubescent. Leaves oblong-lanceolate to elliptic-oblong. Heads glomerate in large terminal and axillary panicles or loose corymbs, white or pink. Pappus reddish or white.

*Fl. & Fr.*: Aug. - Feb.

*Distrib.*: Kameng; in shady places.

***Conyza sumatrensis*** (Retz.) E. Walker in J. Jap. Bot. 46: 72. 1971; Hajra in Hajra *et al.*, Fl. India 12:109. 1995. *Erigeron sumatrensis* Retz., Obs. Bot. 5:28. 1789. *E. floribundus* (Kunth) Sch.-Bip. in Bull. Soc. Bot. Fr. 12: 81. 1865. *Conyza floribunda* Kunth, Nov. Gen. Sp. 4:73. 1820.

Tall herbs, sparsely pubescent. Leaves oblanceolate, alternate at base, upper linear-lanceolate. Heads numerous in racemose panicles. Female flowers minutely ligulate. Achenes sparsely pubescent.

*Fl. & Fr.*: Aug. Oct.

*Distrib.*: Kameng, Subansiri, Tirap.

***Conyza semipinnatifida*** Wall. ex DC., Prodr. 5: 382. 1836; Hook. f., Fl. Brit. India 3: 257. 1881; Hajra in Hajra *et al.*, Fl. India 12: 108. 1995.

Erect, villous or hirsute herbs, up to 60 cm high. Leaves obovate-spathulate or oblanceolate. Heads globose, crowded, yellow. Involucral bracts slender. Achenes glandular. Pappus white.

*Fl. & Fr.*: June July.

*Distrib.*: Arunachal Pradesh.

***Cotula australis*** (Sieb. ex Spreng.) Hook. f., Bot. Antarch. Voy. 2(1): 128. 1852 & in Handb. Newzeal. Fl. 1: 128. 1853; Gamble, Fl. Pres. Madras 2: 712. 1921; Naithani in Hajra *et al.*, Fl. India 12: 54. 1995. *Anacyclus australis* Sieb. ex Spreng. in L., Syst. Veg. ed. 16, 3: 497. 1826.

Small, erect pubescent, flaccid herbs. Leaves pinnatifid, segments oblong-linear. Heads small, solitary on long filiform peduncles. Achenes of ray florets flat, winged, glandular; disc florets thick, not winged.

*Fl. & Fr.*: June Sept.

*Distrib.*: Arunachal Pradesh.

***Cotula hemisphaerica*** (Roxb.) Wall. ex C. B. Clarke, Comp. Ind. 150. 1876; Naithani in Hajra *et al.*, Fl. India 12: 54. 1995. *Artemisia hemisphaerica* Roxb., Fl. Ind. 3: 422. 1832; Hook. f., Fl. Brit. India 3: 316. 1881.

Erect, glabrous or villous herbs. Leaves pinnatisect with deeply cut, linear, mucronate segments. Heads solitary, yellow, erect, but drooping at maturity. Receptacle naked. Achenes angular.

*Fl. & Fr.*: June Oct.

*Distrib.*: Kameng, Lohit; in dried cultivated field.

**Crassocephalum crepidioides** (Benth.) Moore in J. Bot. 1: 211. 1912; R. Mathur in Hajra *et al.*, Fl. India 13: 201. 1995. *Gynura crepidioides* Benth. in Hook. f., Fl. Niger. 438. 1849.

*Local name:* Jogen (Adi); Gendahamang (Apat., Hill-Miri).

Annual, erect, succulent, glabrous or hispid herbs. Leaves elliptic-ob lanceolate, lyrate-lobed, pubescent. Heads cylindric, in lax terminal corymbs, red. Achenes dark brown, ribbed with silky-white pappus.

*Fl. & Fr.:* April - Dec.

*Distrib.:* Subansiri, Tirap.

*Use:* Leaf juice is applied in cuts to prevent bleeding and relief pain.

**Cremanthodium bhutanicum** Ludlow in Bull. Brit. Mus. (Nat. Hist.) Bot. 5 (5): 278. 1976; R. Mathur in Hajra *et al.*, Fl. India. 13: 309. 1995.

Perennial, erect herbs with remains of petiolar bases and old leaves. Radical leaves linear to linear-ob lanceolate with reflexed margin, glaucous beneath, distinctly petiolate; cauline leaves linear, semiamplexicaule. Capitula solitary, nodding, radiate, bright yellow. Achenes oblong, glabrous.

*Fl. & Fr.:* Aug. - Sept.

*Distrib.:* Tawang, ca. 4570 m.

**Cremanthodium palmatum** Benth. subsp. **rhodocephalum** R. Good in J. Linn. Soc. Bot. 48: 271. 1929; R. Mathur in Hajra *et al.*, Fl. India 13: 315. 1995.

Small rhizomatous herbs, hairy. Leaves palmately lobed, margin distinctly dentate, lower surfaces purple hairy. Capitula linear, usually solitary, radiate, campanulate, purple. Achenes elliptic-oblong, flattened.

*Fl. & Fr.:* Aug. - Sept.

*Distrib.:* Arunachal Pradesh.

**Dendranthema mutellina** (Hand.-Mazz.) Kitam. in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 24. 1982. *Tanacetum mutellina* Hand. - Mazz. in Anz. Akad. Wiss. Wien, Math.-Nat. 61: 203. 1925. *T. nubigenum* auct. non DC.: Hook. f., Fl. Brit. India 3: 318. 1881, *p.p.*

Hoary or woolly herbs, rootstocks woody. Leaves pinnatisect. Heads many, yellow with purple-brown tinge, involucrel bracts woolly at margin. Achenes ovoid-oblong, brown, ribbed.

*Fl. & Fr.:* July - Sept.

*Distrib.*: Arunachal Pradesh; 3000–4500 m.

***Dichrocephala integrifolia*** (L. f.) Kuntze, Rev. Gen. Pl. 1: 333. 1891; Hajra in Hajra *et al.*, Fl. India 12: 114. 1995. *Hippia integrifolia* L. f., Suppl. Pl. 389. 1781. *Cotula latifolia* Pers., Syn. 2: 464. 1806. *Dichrocephala latifolia* (Pers.) DC. in Wight, Contrib. Bot. Ind. 11. 1834; Hook. f., Fl. Brit. India 3: 245. 1881.

Aromatic herbs, erect or often creeping at base, densely pubescent. Leaves lyrate, irregularly dentate-crenate. Heads on slender divaricating peduncles; ray florets greyish-white, gland dotted; disc florets greenish-yellow or green. Achenes minutely puberulous. Pappus of bisexual flowers bristled.

*Fl. & Fr.*: March–Dec.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; up to 3000 m, in open grasslands, waste places and roadsides.

***Dubyaea hispida*** (D. Don) DC., Prodr. 7: 247. 1838; Mangain & R. R. Rao in Hajra *et al.*, Fl. India 12: 275. 1995. *Hieracium hispidum* D. Don, Prodr. Fl. Nep. 165. 1825, non Forsk. *Lactuca dubyaea* C. B. Clarke, Comp. Ind. 271. 1876; Hook. f., Fl. Brit. India 3: 409. 1881.

Robust, hispid herbs with creeping rhizomes. Leaves ovate-oblong. Heads drooping or nodding with black glandular hairy peduncles. Achenes black with pale, slender beak, ribbed, compressed. Pappus pale white.

*Fl. & Fr.*: May–Oct.

*Distrib.*: Kameng; 2500–4000 m.

***Eclipta prostrata*** (L.) L., Mant. Pl. 2: 286. 1771; H. J. Chowdhery in Hajra *et al.*, Fl. India 12: 381. 1995. *Verbesina prostrata* L., Sp. Pl. 902. 1753. *Verbesina alba* L., Sp. Pl. 902. 1753. *Eclipta alba* (L.) Hassk., Pl. Jav. Rar. 528. 1848; Hook. f., Fl. Brit. India 3: 304. 1881.

Diffuse or erect herbs, up to 50 cm high, strigillose to hirsute. Leaves opposite, elliptic-oblong, shallowly toothed, pubescent. Heads small, white, solitary or fascicled. Achenes minute, dark brown, verrucose. Pappus of 1-2 minute teeth.

*Fl. & Fr.*: April–Dec.

*Distrib.*: Kameng, Tirap. Moist, in humid places, roadsides.

*Use*: Widely used medicine—as a tonic, deobstruent in hepatic and splenic enlargements, and relieves headache when applied with oil. Leaf juice is given in fever and jaundice. It is also used as hair tonic for promoting growth.

**Elephantopus scaber** L., Sp. Pl. 814, 1753; Hook. f., Fl. Brit. India 3: 242, 1881; Uniyal in Hajra *et al.*, Fl. India 13: 333, 1995.

Dichotomously branched herbs, up to 70 cm tall; branches stout, villous or strigillose. Leaves in basal rosette, spatulate. Heads 2-5-flowered, in dense clusters, purple; each cluster supported by 3 cordate, rigid, ovate bracts. Achenes truncate, brown, finely ribbed, hairy.

*Fl. & Fr.*: Aug. - March.

*Distrib.*: Tirap; in grasslands, along roadsides and cultivated fields.

*Use*: Decoction of root and leaves is given in fever. Boiled bruised leaves with rice is given for swelling or pains in stomach.

**Emilia scabra** DC., Prodr. 6: 303, 1838; R. Mathur in Hajra *et al.*, Fl. India 13: 211, 1995. *E. sonchifolia* (L.) DC. var. *scabra* (DC.) Hook. f., Fl. Brit. India 3: 336, 1881.

Puberulous or scabrid herbs. Leaves all radical, ovate-lanceolate, lower surfaces purplish green, scaberulous. Flowering stems leafless. Heads purple. Involucral bracts dark brown. Achenes linear-oblong, dirty brown, hispid on angles.

*Fl. & Fr.*: Jan. - Dec.

*Distrib.*: Lohit.

**Emilia sonchifolia** (L.) DC. in Wight, Contrib. Bot. Ind. 24, 1834; Hook. f., Fl. Brit. India 3: 336, 1881; R. Mathur in Hajra *et al.*, Fl. India 13: 312, 1995. *Cacalia sonchifolia* L., Sp. Pl. 1835, 1753.

Erect herbs, up to 60 cm tall, glabrous or sparsely puberulous. Radical leaves lyrate-pinnatifid or lobed with triangular-ovate, terminal lobes. Flowering stems leafy. Heads in lax corymbs, pinkish-purple. Involucre cylindric, sparsely puberulous. Achenes 5-ribbed, scabrid, brown.

*Fl. & Fr.*: Jan. - Dec.

*Distrib.*: Kameng; up to 1500 m, in open grasslands, roadsides.

**Erechtites valerianaeifolia** (Wolf) DC., Prodr. 6: 295, 1838; R. Mathur in Hajra *et al.*, Fl. India 13: 216, 1995. *Senecio valerianefolius* Wolf, Ind. Sem. Hort. Berol. 1825, teste Reichenb. Ic. Bot. Exot. 59, t. 85, 1827.

Slender herbs, up to 1.5 m tall. Leaves ovate-elliptic, irregularly incised, glabrous. Heads pinkish-purple, cylindric. Involucral bracts connate, glabrous. Achenes brown, sparsely puberulous.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Lohit, Siang.

**Erigeron acer** L., Sp. Pl. 863. 1753; Hook. f., Fl. Brit. India 3: 255. 1881; Hajra in Hajra *et al.*, Fl. India 12: 117. 1995.

var. **acer**

Densely hispidly hairy herbs. Leaves elliptic to obovate, entire or serrate, tomentose or woolly. Involucral bracts 2-3-seriate, subulate-lanceolate. Achenes oblanceolate, subsilky.

*Fl. & Fr.*: July - Sept.

*Distrib.*: Kameng; 3000 - 4500 m.

**Erigeron acer** var. **khasianus** (Hook. f.) Hajra in Hajra *et al.*, Fl. India 12: 118. 1995. *E. aplina* L. var. *khasiana* Hook. f., Fl. Brit. India 3: 255. 1881.

Erect herbs, very sparsely hairy. Heads few.

*Fl. & Fr.*: July - Sept.

*Distrib.*: Kameng; up to 2000 m.

**Erigeron annuus** (L.) Pers., Syn. Pl. 2: 431. 1807; Hajra in Hajra *et al.*, Fl. India 12: 120. 1995. *Aster annuus* L., Sp. Pl. 875. 1753.

Erect, sparsely hairy herbs. Basal leaves broadly ovate to obovate. Heads 3-many in corymbiform panicles. Florets dimorphic. Achenes minutely pubescent.

*Fl. & Fr.*: June - Aug.

*Distrib.*: Kameng.

**Erigeron multiradiatus** (Lindl. ex DC.) C. B. Clarke, Comp. Ind. 56. 1876; Hook. f., Fl. Brit. India 3: 256. 1881; Hajra in Hajra *et al.*, Fl. India 12: 123. 1995. *Stenactis multiradiata* Lindl. ex DC., Prodr. 5: 299. 1836.

Erect herbs, hirsute or pubescent. Leaves cauline, obovate to lanceolate. Heads solitary or few, long peduncled; ray florets long, thread like, dark purple, disc florets yellow. Achenes glabrous. Pappus red.

*Fl. & Fr.*: July - Sept.

*Distrib.*: Kameng; 2500 - 3500 m.

**Erigeron sublyratus** DC. in Wight, Contrib. Bot. Ind. 9. 1834; Hajra in Hajra *et al.*, Fl. India 12: 125. 1995. *E. asteroides* Roxb., Fl. Ind. 3: 432. 1832, non Andr. ex Bassef 1921; Hook. f., Fl. Brit. India 3: 254. 1881.

Pubescent or villous herbs, up to 60 cm high. Radical leaves obovate, cauline leaves obovate or spatulate. Heads solitary or subcorymbose;

ray florets pink, disc florets yellow. Achenes minute, flat, narrowly obovoid, pappus reddish or dirty white.

*Fl. & Fr.*: May–Sept.

*Distrib.*: Kameng; up to 2000 m.

**Ethulia conyzoides** L. f., Decas Prima 1. t. 1. 1762; Uniyal in Hajra *et al.*, Fl. India 13: 335. 1995.

Herbs, up to 60 cm high; stems ribbed, glandular, appressed pubescent. Leaves oblanceolate, denticulate, glandular, rusty pubescent on nerves beneath. Heads many flowered. Achenes obpyramidal, 4-5-angled, reddish glandular between angles. Pappus absent.

*Fl. & Fr.*: Feb.–Nov.

*Distrib.*: Arunachal Pradesh.

**Eupatorium cannabinum** L. subsp. **asiaticum** Kitam. var. **heterophyllum** (DC.) Kitam. in Acta Phyt. Geobot. 32: 139. 1981; Uniyal in Hajra *et al.*, Fl. India 12: 352. 1995. *E. heterophyllum* DC., Prodr. 5: 180. 1836. *E. cannabinum auct. non L.*: Hook. f., Fl. Brit. India 3: 243. 1881.

Straggling, pubescent herbs. Leaves usually palmately 3-5-fid, coarsely serrate, scabrid above, pubescent beneath. Heads corymbose. Achenes 5-ridged, black. Pappus white.

*Fl. & Fr.*: Aug.–Feb.

*Distrib.*: Kameng, Subansiri; weed in waste places, along roadsides.

*Use*: Used as deobstruent in visceral obstruction and also as discutient in hydrophic swellings of legs and scrotum.

**Eupatorium capillifolium** (Lam.) Small in Mem. Torrey Bot. Club 5: 31. 1894; Deb in J. Bombay Nat. Hist. Soc. 70: 92. 1973; Uniyal in Hajra *et al.*, Fl. India 12: 352. 1995. *Artemisia capillifolia* Lam., Encycl. Meth. Bot. 1: 267. 1783.

Perennial, pubescent herbs or undershrubs. Leaves finely dissected, segments filiform. Heads 5-flowered, in axillary panicles. Involucral bracts with scarious margin. Achenes angled. Pappus reddish.

*Fl. & Fr.*: June–Oct.

*Distrib.*: Tirap; often cultivated as garden plant.

**Eupatorium chinense** L., Sp. Pl. 837. 1753; Uniyal in Hajra *et al.*, Fl. India 12: 352. 1995. *E. reevesii* Wall. ex DC., Prodr. 5: 179. 1856; Hook. f., Fl. Brit. India 3: 243. 1881.

Tall, erect or scandent, slender herbs, glandular pubescent. Leaves ovate to ovate-oblong, hairy. Heads pale purple, in terminal compact panicles, 5-flowered. Achenes hairy on ribs.

*Fl. & Fr.*: May - Dec.

*Distrib.*: Kameng; in open grasslands, shady forest edges.

**Eupatorium odoratum** L., Syst. Nat. ed. 10, 1205. 1759; Hook. f., Fl. Brit. India 3: 244. 1881; Uniyal in Hajra *et al.*, Fl. India 12: 354. 1995. *Chromolaena odorata* King *et* Robinson in Phytologia 20: 204. 1970; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 202. 1996. *Eupatorium conyzoides* Vahl, Symb. Bot. 3: 96. 1794; Hook. f., Fl. Brit. India 3: 244. 1881. *E. repandum* Willd., Sp. Pl. 3: 1767. 1803.

Herbs or shrubs, up to 2 m high, glandular pubescent. Leaves deltoid or rhomboid-ovate, entire or dentate, long acuminate, glandular pubescent beneath. Heads 20-40-flowered, in trichotomous convex corymbs, pale blue or white. Involucral bracts oblong, sparsely pubescent. Achenes 4-5-ribbed. Pappus white.

*Fl. & Fr.*: Nov. - Apr.

*Distrib.*: Lohit, Siang; 100 - 1000 m, in secondary forests.

**Galinsoga parviflora** Cav., Ic. & Descr. Pl. 3: 41, t. 281. 1795; Hook. f., Fl. Brit. India 3: 311. 1881. H. J. Chowdhery in Hajra *et al.*, Fl. India 12: 388. 1995.

Weak, erect, glabrous or sparsely glandular hairy herbs, up to 30 cm tall. Heads axillary or terminal; ray florets 4-5, white; disc florets many, yellow. Achenes black, fusiform, puberulous. Pappus scales not awn tipped.

*Fl. & Fr.*: Oct. - May.

*Distrib.*: Kameng, Subansiri; 1800 - 2200 m, in waste places and cultivated fields.

**Galinsoga quadriradiata** Ruiz *et* Pavon, Syst. Veg. 1: 198. 1798; H. J. Chowdhery in Hajra *et al.*, Fl. India 12: 388. 1995. *Adventia ciliata* Rafin., New Fl. America 1: 67. 1836. *Galinsoga ciliata* (Rafin.) Blake in Rhodora 24: 35. 1922; Kitam. in II. Hara, Fl. E. Himal. 339. 1966.

Herbs, densely glandular hairy, up to 50 cm tall. Heads axillary or terminal, white. Achenes black, turbinate, puberulous. Pappus scales awn tipped.

*Fl. & Fr.*: Sept. - March.

*Distrib.*: Kameng, Subansiri; up to 1500 m.

**Gerbera maxima** (D. Don) Beauv. in Bull. Soc. Bot. Geneve ser. 2, 2: 44. 1910; R. R. Rao in Hajra *et al.*, Fl. India 13: 175. 1995. *Chaptalia maxima* D. Don, Prodr. Fl. Nep. 166. 1825. *Gerbera macrophylla* Benth. in Benth. & Hook. f., Gen. Pl. 2: 497. 1873; Hook. f., Fl. Brit. India 3: 391. 1881.

Scapigerous herbs, rootstocks prominent. Leaves sagittate, often irregularly pinnatifid, woolly when young, yellowish brown tomentose beneath. Flowers white in 15 - 45 cm long peduncled heads; ray florets absent. Achenes faintly puberulous, strongly ribbed. Pappus dirty white to reddish.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Kameng; in grasslands, moist stony places.

**Gerbera nivea** (Wall. ex DC.) Sch.-Bip. in Flora (Regensb.) 27: 780. 1844; Hook. f., Fl. Brit. India 3: 390. 1881; R. R. Rao in Hajra *et al.* Fl. India 13: 175. 1995. *Oreoseris nivea* Wall. ex DC., Prodr. 7: 18. 1838.

Perennial, grey pubescent herbs with elongate rootstocks. Leaves lanceolate to oblanceolate or obovate pinnatifid, softly woolly beneath. Scape solitary, heads drooping with yellowish ray florets. Achenes glabrous. Pappus tawny white.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Arunachal Pradesh, at higher elevations.

**Gnaphalium affine** D. Don, Prodr. Fl. Nep. 173. 1825. *G. luteo-album auct. non* L.: Hook. f., Fl. Brit. India 3: 288. 1881. *G. luteo-album* L. var. *multiceps* DC., Prodr. 6: 222. 1838. *G. luteo-album* subsp. *affine* (D. Don) Koster in Blumea 4: 484. 1941.

*Local name*: Buli (Adi); Miang (Apat).

Erect herbs, up to 60 cm tall, densely woolly. Leaves sessile, oblong-spathulate, densely woolly tomentose beneath. Heads in terminal condense corymbs; peduncles buff tomentose; corolla with pinkish red apex. Achenes linear, brown. Pappus yellowish.

*Fl. & Fr.*: April - Nov.

*Distrib.*: Kameng, Siang, Subansiri, Tirap; up to 2500 m, in cultivated fields, roadsides, waste places.

*Note*: Koster (1941) recognised *G. luteo-album* subsp. *affine* reducing *G. affine* D. Don. The same is maintained by Pant (1995), who remarked that the subspecies *typica* and subspecies *affine* are more or less distributed throughout India. However, only *G. affine* is recognised here.

**Gnaphalium hypoleucum** DC. in Wight, Contrib. Bot. Ind. 21. 1834; Hook. f., Fl. Brit. India 3: 288. 1881; Pant in Hajra *et al.*, Fl. India 3: 86. 1995.

Small woolly herbs. Leaves linear, base semiamplexicaul, auricled. Heads in corymbose clusters, pale brown. Achenes oblong-obovoid. Pappus white.

*Fl. & Fr.*: March - Nov.

*Distrib.*: Kameng, Siang, Subansiri, Tirap; 2000 - 3000 m.

*Use*: Commonly used as vegetable by Abories.

**Gnaphalium pensylvanicum** Willd., Enum. Hort. Berol. 867.1809; P. C. Pant in Hajra *et al.*, Fl. India 13: 89. 1995; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 202. 1996. *G. peregrinum* Fernald in Rhodora 45: 479, t. 795. 1943. *G. purpureum auct. non L.*: Hook. f., Fl. Brit. India 3 : 289. 1881.

Herbs, up to 50 cm high, erect or decumbent; stems and branches pearl grey cottony tomentose. Leaves spatulate-lanceolate, laxly villous upper surfaces, white woolly beneath. Heads in axillary or terminal clusters, densely woolly tomentose, inflorescence prominently leafy; involueral bracts 2-3 seriate, brownish. Achenes brown. Pappus free.

*Fl. & Fr.*: Jan. - Nov.

*Distrib.*: Changlang, Lohit; in open dry places, along dry streams and canals.

**Gnaphalium purpureum** L., Sp. Pl. 854. 1753; Hook. f., Fl. Brit. India 3: 289. 1881, *p.p.*; Pant in Hajra *et al.*, Fl. India 13: 92. 1995.

Stout herbs, sparsely cottony. Leaves spatulate, white woolly beneath. Heads yellowish brown, in spicate clusters. Achenes oblong, dark brown. Pappus yellowish hairy.

*Fl. & Fr.*: April - Nov.

*Distrib.*: Kameng, Siang, Subansiri.

**Grangea maderaspatana** (L.) Poir. in Lam., Encycl. Meth. Bot. suppl. 2. 825. 1812; Hook. f., Fl. Brit. India 3: 247. 1881; Hajra in Hajra *et al.*, Fl. India 12: 127. 1995. *Artemisia maderaspatana* L., Sp. Pl. 849. 1753.

Prostrate, spreading herbs, villous or pubescent. Leaves sinuate-pinnatifid, coarsely serrate-dentate, pubescent. Heads usually solitary, subglobose, yellow, in leaf opposed peduncles. Achenes flattened. Pappus cupular.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Kameng; weeds, growing flat and spread all sides from centre forming dense patches.

***Gynura bicolor*** (Roxb. ex Willd.) DC., Prodr. 6: 299, 1838; Hook. f., Fl. Brit. India 3: 318, 1881; R. Mathur in Hajra *et al.*, Fl. India 13: 218, 1995. *Cacalia bicolor* Roxb. ex Willd., Sp. Pl. 3: 1731, 1804. *Cacalia cusimbua* D. Don, Prodr. Fl. Nep. 179, 1825. *Gynura angulosa* DC., Prodr. 6: 298, 1836; Hook. f., Fl. Brit. India 3: 334, 1881. *Gynura cusimbua* (D. Don) Moore in J. Bot. 1: 212, 1912; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 203, 1996.

*Local name*: Kochibamang (Apat.)

Succulent, erect or decumbent herbs, 1 - 3 m tall. Leaves spirally arranged, elliptic-lanceolate, sessile, amplexicaule, auricled at base. Heads many, large, orange-yellow. Achenes oblong, glabrous or pubescent. Pappus white.

*Fl. & Fr.*: Aug. - April.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; in moist shady places

*Use*: The bitter leaf juice is taken orally as a preventive measure against worms.

***Gynura nepalensis*** DC., Prodr. 6: 300, 1838; Hook. f., Fl. Brit. India 3: 333, 1881; Mathur in Hajra *et al.*, Fl. India 13: 221, 1995.

Tall, shrubby herbs, pubescent or subtomentose; branches corymbosely branched. Leaves sessile, obovate to elliptic-lanceolate. Heads many, in terminal corymbs, yellow, involucrel bracts hoary villous. Achenes cylindrical, glabrous or sparsely pubescent. Pappus white.

*Fl. & Fr.*: April - Dec.

*Distrib.*: Kameng, Tirap; up to 1500 m.

***Gynura procumbens*** (Lour.) Merr., Enum. Philip. Fl. Pl. 3: 618, 1923; R. Mathur in Hajra *et al.*, Fl. India 13: 223, 1995. *Cacalia procumbens* Lour., Fl. Cochinch. 485, 1790. *Gynura sarmentosa* DC., Prodr. 6: 298, 1838; Hook. f., Fl. Brit. India 3: 335, 1881.

Climbing herbs, pubescent when young. Leaves elliptic to rhomboid, purplish tinged beneath, shortly petioled. Capitula discoid, campanulate, in lax corymbs. Achenes glabrous.

*Fl. & Fr.*: Throughout the year.

*Distrib.*: Kameng; in higher elevations.

**Gynura pseudochina** (L.) DC., Prodr. 6: 299. 1838; Hook. f., Fl. Brit. India 3: 334. 1881; R. Mathur in Hajra *et al.*, Fl. India 13: 223. 1995. *Senecio pseudochina* L., Sp. Pl. 867. 1753.

Perennial herbs with short stems and tuberous roots, glabrous or pubescent. Leaves basal, in rosette, obovate to spatulate, sometimes pinnatisect. Heads few, on leafless long scapes, orange-yellow. Achenes glabrous, red or brown. Pappus white.

*Fl. & Fr.*: May - Nov.

*Distrib.*: Kameng, Lohit, Tirap; up to 1500 m.

**Hemistepta lyrata** Bunge ex Fisch. & Mey. in Index Sem. Hort. Bot. Petrop. 2: 38. 1835; Hajra in Hajra *et al.*, Fl. India 13: 181. 1995. *Saussurea affinis* Spreng. ex DC., Prodr. 6: 540. 1838; Hook. f., Fl. Brit. India 3: 373. 1881.

Herbs, up to 3 m tall, corymbosely branched above. Leaves lyrate, pinnatifid at base, cottony below. Heads large, in long peduncled corymbs, pale red; receptacles bristly. Achenes obovoid, smooth, 10-ribbed. Pappus white.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Kameng, Siang; 600 - 1500 m.

**Hypochoeris glabra** L., Sp. Pl. 810. 1753; Hook. f., Fl. Brit. India 3: 401. 1881; Mangain & R. R. Rao in Hajra *et al.*, Fl. India 12: 250. 1995.

Scapigerous slender herbs. Leaves radical, rosulate, sinuate pinnatifid. Flowering stems many, stout, grooved, leafless. Heads long peduncled, solitary, yellow. Outer achenes truncate, inner ones with a long slender beak. Pappus white, 2-seriate.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Kameng; up to 2000 m; in moist slopes.

**Inula cappa** (Buch.-Ham. ex D. Don) DC., Prodr. 5: 469. 1836; Hook. f., Fl. Brit. India 3: 295. 1881; S. Kumar in Hajra *et al.*, Fl. India 13: 13. 1995; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 203. 1996. *Coryza cappa* Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 176. 1825.

Stout, aromatic undershrubs, 2 - 3 m tall, branches brownish silky or woolly. Leaves oblong-lanceolate, amplexicaul, densely white woolly or tomentose. Heads many, in terminal or axillary corymbs; corolla yellow. Achenes silk hairy. Pappus dirty white.

*Fl. & Fr.*: Dec. - April.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri; in open forests and waste places.

***Inula eupatorioides*** DC., Prodr. 5: 469. 1836; Hook. f., Fl. Brit. India 3: 295. 1881.

Stout shrubs, 1–3 m tall, branches pubescent. Leaves spirally arranged, ligules narrow, coriaceous, scaberulous above. Heads in terminal or axillary panicles. Flowers yellow. Achenes silky pubescent. Pappus pale brownish.

*Fl. & Fr.*: Sept. – March.

*Distrib.*: Kameng, Lohit, Tirap; up to 2000 m, in open forests and grasslands.

***Inula hookeri*** C. B. Clarke, Comp. Ind. 122. 1876; Hook. f., Fl. Brit. India 3: 294. 1881; S. Kumar in Hajra *et al.*, Fl. India 13: 18. 1995.

Perennial, tall herbs, up to 80 cm high, shaggy or glabrescent. Leaves lanceolate, auricled at base, margin gland toothed. Heads terminal, solitary, yellow, very broad with long hairs. Achenes angled, glabrous. Pappus dirty white.

*Fl. & Fr.*: July – March.

*Distrib.*: Kameng, Siang: 2000–3000 m.

***Inula kalapani*** C. B. Clarke, Comp. Ind. 123. 1876; Hook. f., Fl. Brit. India 3: 295. 1881; S. Kumar in Hajra *et al.*, Fl. India 13: 19. 1995.

Unbranched herbs, up to 50 cm tall, hirsute to pubescent. Radical leaves elliptic, cauline oblong, amplexicaul. Heads blue in corymbs. Achenes minute, glabrous. Pappus scanty, reddish.

*Fl. & Fr.*: Aug. – April.

*Distrib.*: Kameng; up to 4000 m, amidst grasses in open places.

***Inula nervosa*** Wall. ex DC., Prodr. 5: 471. 1836; Hook. f., Fl. Brit. India 3: 293. 1881; S. Kumar in Hajra *et al.*, Fl. India 13: 20. 1995.  
*I. nervosa* var. *purpurascens* Hook. f., Fl. Brit. India 3: 293. 1881.

Pubescent, hirsute or villous, glandular hairy herbs. Leaves elliptic or elliptic-lanceolate, scaberulous, hairs with tubercled bases. Heads solitary or corymbose, white with yellow centre. Achenes silky. Pappus dirty white.

*Fl. & Fr.*: May – Oct.

*Distrib.*: Kameng; 1200–2000 m.

**Inula rubricaulis** (DC.) C. B. Clarke, Comp. Ind. 126. 1876; Hook. f., Fl. Brit. India 3: 296. 1881; S. Kumar in Hajra *et al.*, Fl. India 13: 25. 1995. *Amphiraphis rubricaulis* DC., Prodr. 5: 343. 1836.

Undershrubs; branches long, slender, flexuous. Leaves elliptic-lanceolate, serrate with subparallel nerves. Heads in short axillary racemes, ray florets pink, disc florets yellow. Achenes silky.

*Fl. & Fr.*: Sept. - April.

*Distrib.*: Kameng; up to 4000 m, along roadsides and forest floor.

**Ixeris gracilis** (Wall. ex DC.) Stebb. in J. Bot. London 75: 50. 1937; Mamgain & R. R. Rao in Hajra *et al.*, Fl. India 12: 278. 1995. *Lactuca gracilis* Wall. ex DC., Prodr. 7: 140. 1838; Hook. f., Fl. Brit. India 3: 410. 1881.

Annual, erect herbs with white latex; stems solitary or many from the roots. Radical leaves linear or linear-lanceolate, cauline not auricled. Heads in terminal corymb, 3-8-flowered, cylindric, yellow. Achenes pale red, compressed, many ribbed. Pappus dirty white.

*Fl. & Fr.*: Dec. - April.

*Distrib.*: Kameng, Subansiri, Tirap; up to 1500 m, grows in crannies of rocks on river bed and remain firmly fixed.

**Ixeris polycephala** Cass., Dict. Sci. Nat. 24: 50. 1822; Mamgain & R. R. Rao in Hajra *et al.*, Fl. India 12: 279. 1995. *Lactuca polycephala* (Cass.) Benth. & Hook. f., Gen. Pl. 2: 526. 1873; Hook. f., Fl., Brit. India 3: 410. 1881.

Flaccid, annual herbs. Radical leaves linear-lanceolate; cauline auricled, membranous. Heads in subumbellate corymbs, 10 - 20 flowered, yellow. Achenes reddish brown, strongly ribbed with silvery pappus.

*Fl. & Fr.*: Feb. - April.

*Distrib.*: Kameng; up to 2000 m.

**Lactuca gracilliflora** DC., Prodr. 7: 139. 1838; Hook. f., Fl. Brit. India 3: 406. 1881; Mamgain & R. R. Rao in Hajra *et al.*, Fl. India 12: 289. 1995.

Annual or biennial herbs, 50 - 200 cm high, stout, leafy, paniculately branched. Lower leaves pinnatifid, deltoid; upper leaves sessile, ovate-lanceolate. Heads in large drooping panicles, blue, violet or purple. Achenes oblanceolate, brown, smooth. Pappus dirty white.

*Fl. & Fr.*: May - July.

*Distrib.*: Kameng; 2000 - 3500 m, on moist and shady slopes.

***Lactuca indica*** L., Mant. Pl. 2: 278. 1771; Mangain & R. R. Rao in Hajra *et al.*, Fl. India 12: 299. 1995. *L. brevirostris* Champ. ex Benth. in Hook., Kew J. 4: 237. 1852; Hook. f., Fl. Brit. India 3: 405. 1881.

Tall, erect, glabrous herbs. Leaves linear-lanceolate, shortly auricled at base. Heads pale yellow within, purplish outside. Achenes ellipsoid, black. Pappus dirty white or yellowish.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Kameng, Subansiri; up to 2000 m.

***Laggera alata*** (D. Don) Sch.-Bip. ex Oliver in Trans. Linn. Soc. London 29: 94. 1873; S. Kumar in Hajra *et al.*, Fl. India 13: 148. 1995. *Erigeron alatum* D. Don, Prodr. Fl. Nep. 171. 1825; Hook. f., Fl. Brit. India 3: 271. 1881.

Stout, much branched, pubescent or tomentose, leafy herbs; stems with continuous, entire wing. Leaves oblong-lanceolate, denticulate, woolly beneath. Heads in leafy racemes on short axillary winged branches, pink. Achenes oblong, dark brown, hairy. Pappus white.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Kameng; 2000 - 3500 m, on open dry hilly slopes.

***Laggera crispata*** (Vahl) Hepper *et* Wood in Kew Bull. 38: 83. 1983; S. Kumar in Hajra *et al.*, Fl. India 13: 151. 1995. *Conyza crispata* Vahl, Symb. Bot. 1: 71. 1790. *Laggera pterodonta* (DC.) Sch.-Bip. ex Oliver in Trans. Linn. Soc. London 29: 94. 1873; Hook. f., Fl. Brit. India 3: 271. 1881.

Annual or perennial herbs; stems much branched, deeply toothed, lobed or winged. Leaves oblong-lanceolate, serrate-dentate, glandular pubescent. Heads purplish, in terminal corymbiform panicles. Achenes faintly ribbed, hairy. Pappus white.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Changlang, Kameng, Tirap; 1200- 2000 m.

***Launaea acaulis*** (Roxb.) Bahcock ex Kerr. in Craib., Fl. Siam. Enum. 2: 299. 1936; Mangain & R. R. Rao in Hajra *et al.*, Fl. India 12: 304. 1995. *Prenanthes acaulis* Roxb., Fl. Ind. 3: 403. 1832. *Lactuca glabra* DC. in Wight, Contrib. Bot. Ind. 26. 1834; Hook. f., Fl. Brit. India 3: 396. 1881.

Dwarf, glabrous herbs. Roots long, woody. Leaves mostly radical, narrowly oblanceolate. Heads few, yellowish, cylindrical. Achenes ellipsoid, strongly ribbed. Pappus silvery white.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Kameng; up to 1500 m, on open slopes and wastelands.

**Ligularia japonica** (Thunb.) Less., Syn. Comp. 390. 1832; R. Mathur in Hajra *et al.*, Fl. India 13: 232. 1995. *Arnica japonica* Thunb., Fl. Jap. 319. 1784. *Senecio macranthus* C. B. Clarke, Comp. Ind. 319. 1876; Hook. f., Fl. Brit. India 3: 349. 1881.

Tall, robust, sparingly pubescent, succulent herbs, 1-2 m high. Leaves reniform in outline, palmately 7-9-lobed, glandular pubescent beneath. Heads large, few, radiate on long peduncle, white. Achenes oblong, black. Pappus reddish.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Kameng; 3000 - 4000 m, on open slopes.

**Microglossa pyrifolia** (Lam.) Kuntze, Rev. Gen. Pl. 1: 353. 1891; Hajra in Hajra *et al.*, Fl. India 12: 133. 1995. *Conyza pyrifolia* Lam., Encycl. Meth. Bot. 2: 89. 1786. *Microglossa volubilis* DC., Prodr. 5: 320. 1836; Hook. f., Fl. Brit. India 3: 257. 1881.

Sprawling shrubs, up to 3 m high; branches grooved. Leaves ovate-lanceolate, obscurely toothed. Heads clustered in rounded corymbs, white. Achenes compressed, 4-angled, puberulous. Pappus red.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Changlang, Tirap; 1500 - 2500 m.

**Mikania micrantha** Kunth in H. B. K., Nov. Gen. Sp. 4: 134. 1820; Uniyal in Hajra *et al.*, Fl. India 12: 357. 1995; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 203. 1996. *M. scandens auct. non* Willd.: Hook. f., Fl. Brit. India 3: 244. 1881.

Climbing or twining, glabrous or puberulous shrubs. Leaves opposite, cordate or truncate at base, distantly blunt toothed, sometimes villous beneath. Heads in corymbose panicles, 4-flowered, homogamous. Achenes 4-5-ribbed, glandular. Pappus reddish.

*Fl. & Fr.*: Dec. - March.

*Disturb.*: Throughout Arunachal Pradesh; quickly spreading weed, often become problematic cause of health hazards.

**Myriactis nepalensis** Less. in Linnaea 6: 128, t. 2. 1831; Hook. f., Fl. Brit. India 3: 247. 1881; Hajra in Hajra *et al.*, Fl. India 12: 134. 1995; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 203. 1996.

Herbs; stems ribbed, glabrous, villous or hispid. Leaves ovate to lanceolate. Heads greenish yellow, marginal flowers ca 10 seriate, ligules elliptic. Achenes mucronate at apex.

*Fl. & Fr.*: Dec. - March.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 1500-3000 m.

**Myriactis wallichii** Less. in *Linnaea* 6: 129. 1831; Hook. f., *Fl. Brit. India* 3: 247. 1881; Hajra in Hajra *et al.*, *Fl. India* 12: 135. 1995.

Slender herbs, sparsely hairy. Leaves elliptic-lanceolate, hispidulous. Heads in panicles, very small, globose, greenish yellow; marginal flowers 3-5-seriate, ligules linear.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Kameng, Lohit, Tirap; 2500 - 4000 m, in moist places near water sources.

**Petasites albus** (L.) Gaertn., *Fruct. Sem. Pl.* 2: 406. 1791; Panigrahi & Kar in *Bull. Bot. Surv. India* 8: 234. 1966; R. Mathur in Hajra *et al.*, *Fl. India* 13: 319. 1995. *Tussilago alba* L., *Sp. Pl.* 856. 1753.

Herbs; rhizomes fibrous, creeping, white woolly. Leaves subrosulate, long petiolate, reniform, densely appressed tomentose beneath. Capitula homogeneous, radiate on densely tomentose peduncle, white. Achenes minutely scabrid. Pappus white.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Kameng, in moist places.

**Petasites kamengicus** Deb in *Ind. For.* 93(4): 255. 1967; R. Mathur in Hajra *et al.*, *Fl. India* 13: 319. 1995.

Acaulis herbs; rootstocks tuberous. Leaves radical, reniform, cordate, densely woolly beneath. Capitula heterogeneous, in lax thyrse; female capitula surrounded by disc floret. Achenes cylindric, 10-ribbed.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Kameng.

**Picris hieracioides** L., *Sp. Pl.* 792. 1753; Hook. f., *Fl. Brit. India* 3: 393. 1881; Mangain & R. R. Rao in Hajra *et al.*, *Fl. India* 12: 235. 1995.

Tall herbs, 30 - 120 cm high; corymbosely branched. Leaves radical, oblanceolate, rugose, densely hairy. Heads long peduncled, yellow. Achenes slightly curved, narrowed at both ends. Pappus white, feathery.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Kameng; between 1500 - 2500 m.

*Note:* Kitamura (Acta Phytotax. Geobot. 27: 37, 1957) recognised two subspecies, *kaimaensis* Kitam. and *nuristanica* Kitam. under *P. hieracioides* based on nature of stem, leaves and indumenta. Mangain & Rao (*l.c.*) recorded the former subspecies from Kashmir in north-west to Meghalaya in north-east, while the latter from Jammu & Kashmir only. The additional material from Arunachal Pradesh, though superficially resembles to subsp. *kaimaensis* only, but require further scrutiny.

***Piloselloides hirsuta*** (Forssk.) C. Jeffrey in Kew Bull. 21: 218, 1967; R. R. Rao in Hajra *et al.*, Fl. India 13: 184, 1995. *Arnica hirsuta* Forssk., Fl. Aegypt. Arab. 151, 1775. *Gerbera piloselloides* (L.) Cass., Dict. Sci. Nat. 18: 461, 1820; Hook. f., Fl. Brit. India 3: 389, 1881.

Perennial, acaulescent herbs, rootstocks silky villous. Leaves radical, elliptic to obovate-oblong, denticulate, villous beneath; petioles long. Scape with solitary head, ray-florets purplish. Achenes compressed, papillose. Pappus reddish.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Kameng, Subansiri; up to 3000 m.

*Use*: Leaves used for hot fomentation in rheumatic pain.

***Pluchea linearifolia*** C. B. Clarke, Comp. Ind. 95, 1876; Hook. f., Fl. Brit. India 3: 273, 1881; Kumar in Hajra *et al.*, Fl. India 13: 155, 1995.

Annual, erect, scabrous herbs. Leaves linear with broad base, coriaceous, recurved. Heads corymbosely clustered at end of long branches, yellowish. Achenes cylindric, ribbed, strigose. Pappus of basally united bristles.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Arunachal Pradesh.

***Prenanthes hookeri*** C. B. Clarke *ex* Hook. f., Fl. Brit. India 3: 412, 1881; Mangain & R. R. Rao in Hajra *et al.*, Fl. India 12: 313, 1995.

Stout or slender herbs, much branched, glabrous. Leaves hastate or cordate with amplexicaul, winged petioles, dilated and auricled at base. Heads blue-purple. peduncles long. Achenes narrowly elliptic, compressed.

*Fl. & Fr.*: Aug. - Oct.

*Distrib.*: Kameng, Subansiri; 1200 - 2000 m, on slopes.

**Prenanthes khasiana** C. B. Clarke, Comp. Ind. 273. 1876; Hook. f., Fl. Brit. India 3: 411. 1881; Mamgain & R. R. Rao in Fl. India 12: 315. 1995.

Erect herbs, 30–120 cm high, glabrous or sparsely hairy. Leaves membranous, deltoid, ciliated, toothed. Heads bluish purple. Achenes narrow, compressed, truncate, brown, ribbed.

*Fl. & Fr.*: Aug.–Nov.

*Distrib.*: Kameng; 1500–3000 m; on shady slopes.

**Prenanthes scandens** Hook. f. et Thomson ex C. B. Clarke, Comp. Ind. 274. 1876; Hook. f., Fl. Brit. India 3: 413. 1881; Mamgain & R. R. Rao in Hajra *et al.*, Fl. India 12: 315. 1995; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 204. 1996.

Scandent or rambling climbers; branches zig-zag, flaccid, glabrous, puberulous or pubescent. Leaves glaucous beneath, with strong projecting cilia at margins. Heads rose-purple or violet. Achenes slender, narrowed at both ends.

*Fl. & Fr.*: Oct.–April.

*Distrib.*: Changlang, Dibang valley, Lohit, Siang; 1200–3000 m.

**Rhynchospermum verticillatum** Reinw. in Syll. Pl. Nov. Ratisb. 2: 8. 1828; Hook. f., Fl. Brit. India 3: 248. 1881; Hajra in Hajra *et al.*, Fl. India 12: 140. 1995.

Slender herbs; branches long, spreading, puberulous. Leaves membranous, lanceolate, coarsely toothed. Heads small, axillary, white. Achenes beaked, compressed. Pappus bristly, caducous.

*Fl. & Fr.*: May–Oct.

*Distrib.*: Kameng, Subansiri; 1800–2200 m.

**Saussurea crispa** Vaniot in Bull. Geogr. Bot. Le. Mans. 12: 21. 1903; Hajra in Hajra *et al.*, Fl. India 12: 197. 1995. *S. deltoidea* (DC.) Sch. Bip. var. *nivea* (DC.) Hook. f., Fl. Brit. India 3: 375. 1881. *Aplotaxis nivea* DC., Prodr. 6: 541. 1838. *S. nivea* (DC.) N. P. Balakr., Fl. Jowai 1: 262. 1981.

Corymbosely branched herbs; branches grooved. Leaves ovate or deltoid, white-tomentose or cottony beneath. Heads in terminal panicles, small, subglobose, pale purplish. Achenes 4–5-angled.

*Fl. & Fr.*: Sept.–Feb.

*Distrib.*: Arunachal Pradesh; 1000–1500 m, in open forests and scrubs.

**Saussurea deltoidea** (DC.) Sch.-Bip. in *Linnaea* 19: 331. 1846; Hajra in Hajra *et al.*, *Fl. India* 12: 197. 1995. *Aplotaxis deltoidea* DC., *Prodr.* 6: 541. 1838; Hook. f., *Fl. Brit. India* 3: 374. 1881.

Herbs, 1-3 m high; branches grooved, glabrous or pubescent. Leaves white or buff tomentose or cottony beneath, cauline leaves deltoid. Heads nodding, yellow. Achenes 4-5-angled, smooth, black, angles tubercled.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Kameng, Subansiri; 2000 - 3300 m

**Saussurea gossypiflora** D. Don in *Mem. Wern. Nat. Hist. Soc.* 3: 414. 1821; Hook. f., *Fl. Brit. India* 3: 376. 1881; Hajra in Hajra *et al.*, *Fl. India* 12: 200. 1995.

Herbs, 10 - 30 cm high; branches densely clothed with long, white or yellowish matted wool. Leaves linear, very densely woolly. Heads many, crowded on flat, hollow, dilated top of stems, enclosed by woolly floral leaves. Achenes 4-5-angled, narrowly obovoid, compressed.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Kameng; 3500 - 4500 m, on dry, stony and cool places.

**Saussurea obvallata** (DC.) Edgew. in *Trans. Linn. Soc. London* 20: 76. 1841; Hook. f., *Fl. Brit. India* 3: 365. 1881; Hajra in Hajra *et al.*, *Fl. India* 12: 208. 1995. *Aplotaxis obvallata* DC., *Prodr.* 67: 541. 1838.

Herbs, up to 45 cm high; branches pubescent. Basal leaves elongate, obovate, stalked, glabrous; stem-leaves, oblong, semiamplexicaul. Heads 2-6, hemispheric surrounded by boat shaped, papery, pale yellow bracts.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Arunachal Pradesh, at higher altitude.

**Saussurea sugho** C. B. Clarke, *Comp. Ind.* 255. 1876; Hook. f., *Fl. Brit. India* 3: 368. 1881; Hajra in Hajra *et al.*, *Fl. India* 12: 213. 1995.

Acaulis or dwarf herbs, up to 15 cm high. Leaves coriaceous, oblong-obovate, white tomentose beneath. Heads solitary, sessile or subsessile. Involucral bracts dark purple. Achenes muricate. Pappus pale brown.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Kameng; 3500 - 4800 m.

**Saussurea taraxacifolia** Wall. ex DC., *Prodr.* 6: 532. 1838; Hook. f., *Fl. Brit. India* 3: 368. 1881; Hajra in Hajra *et al.*, *Fl. India* 12: 214. 1995. *Aplotaxis caespitosa* DC., *Prodr.* 6: 539. 1838, *p.p.*

Acaulis or dwarf, cottony herbs, up to 160 cm high, base covered with withered, old leaf bases. Leaves spreading, linear elongate, white tomentose beneath. Heads solitary, bluish purple. Achenes glabrous.

*Fl. & Fr.*: Aug. - Feb.

*Distrib.*: Kameng, 3500 - 4500 m, along hill slopes, rock crevices.

**Senecio biligulatus** W.W.Sm. in J. As. Soc. Bengal n.s. 7:69.1911; Jeffrey & Chen in Kew Bull. 39: 393. 1984; R. Mathur in Hajra *et al.*, Fl. India 13: 243. 1995.

Perennial, rhizomatous herbs, 60 - 90 cm tall; stem solitary, fulvous pubescent or glabrous. Leaves lyrate-pinnatifid with triangular terminal lobe. Heads small, numerous, in dense terminal corymbs, yellow. Achenes cylindrical, sparsely puberulous. Pappus white.

*Fl. & Fr.*: June - Sept.

*Distrib.*: Arunachal Pradesh; 3000 - 4000 m, in open places.

**Senecio graciliflorus** DC., Prodr. 6: 365. 1838; Hook. f., Fl. Brit. India 3: 338. 1881.

Rhizomatous herbs, 50 - 150 cm high; stems and branches erect, sometimes angled and grooved, glabrous. Leaves large, membranous, ovate to oblong lanceolate, pinnatifid, terminal lobe oblong-lanceolate. Heads deep yellow, in erect or drooping, terminal corymbs. Achenes ribbed, brownish. Pappus white.

*Fl. & Fr.*: Aug. - Oct.

*Distrib.*: Subansiri; 2000 - 3000 m, in open grassy slopes.

**Senecio lactus** Edgew. var. **spectabilis** (Hook. f.) R. Mathur in R. R. Rao *et al.*, Fl. Ind. Enum. Asteraceae 69. 1983. *S. chrysanthemoides* DC. var. *spectabilis* Hook. f., Fl. Brit. India 3: 339. 1881.

Erect herbs. Lower leaves glabrous, lyrate, pinnatifid; upper ones amplexicaul. Flowers yellow. Achenes strongly ribbed.

*Fl. & Fr.*: Aug. - March.

*Distrib.*: Kameng; 2500 - 3800 m.

**Senecio linifolius** C. B. Clarke, Comp. Ind. 202. 1876; Hook. f., Fl. Brit. India 3: 343. 1881; R. Mathur in Hajra *et al.*, Fl. India 13: 267. 1995.

Erect herbs, glabrous. Leaves sessile, fastigiately arranged, linear-lanceolate. Heads few, radiate in long peduncled corymbs, yellow. Achenes slender, ribbed, glabrous. Pappus red.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Subansiri; up to 2000 m, on rocky banks of streams, moist stony places.

**Senecio mishmi** C. B. Clarke, Comp. Ind. 203, 1876; Hook. f., Fl. Brit. India 3 : 344, 1881; R. Mathur in Hajra *et al.*, Fl. India 13: 270, 1995.

Slender herbs; stems glabrous, angular, reddish brown on drying. Leaves broadly oblong, glandular pubescent on both surfaces, auricles broad. Capitula radiate, in terminal or axillary corymbs. Achenes narrowly oblong, 5-angled. Pappus white.

*Fl. & Fr.*: July - Sept.

*Distrib.*: Mishmi hills. Rare.

*Note*: The species is only known by the type collection.

**Senecio nodiflorus** Chang in Bull. Fan. Mem. Inst. Biol. 6: 54, 1935; Jeffrey & Chen in Kew Bull. 39: 318, 1984.

Rhizomatous herbs, 10 - 50 cm tall, densely to laxly white-arachnoideus. Heads nodding, bright yellow. Achenes cylindric, glabrous. Pappus white.

*Fl. & Fr.*: Aug. - Oct.

*Distrib.*: Arunachal Pradesh; 300 - 4500 m, in rocky, gravelly soil, scarce.

**Senecio nudicaulis** Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 178, 1825; Hook. f., Fl. Brit. India 3: 340, 1881; R. Mathur in Hajra *et al.*, Fl. India 13: 273, 1995.

Scapigerous, unbranched herbs, 10 - 90 cm high, glabrous to sparsely pubescent. Basal leaves usually rosulate, obovate-spathulate; cauline leaves oblong-lanceolate, base very dilated, auricled. Heads many, yellow. Achenes elliptic, deeply grooved, papillose. Pappus white.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Kameng; up to 3000 m; in moist forest floor and grassy slopes.

**Senecio ramosus** Wall. ex DC., Prodr. 6: 365, 1838; Hook. f., Fl. Brit. India 3: 342, 1881; R. Mathur in Hajra *et al.*, Fl. India 13: 275, 1995.

Erect or decumbent herbs, 25-60 cm high, glabrous. Leaves linear-oblong, pinnatifid, base semi-amplexicaul. Capitula on 3-5 cm long peduncle. Achenes cylindric, pubescent.

*Fl. & Fr.*: Feb. - March.

*Distrib.*: Mishmi Hill. Rare.

**Senecio raphanifolius** Wall. ex DC., Prodr. 6: 366. 1838; R. Mathur in Hajra *et al.*, Fl. India 13: 275. 1995. *S. diversifolius* Wall. ex DC., Prodr. 6: 366. 1838; Hook. f., Fl. Brit. India 3: 340. 1881. *S. pallens* Boj. ex DC. var.  *khasiana* C. B. Clarke, Comp. Ind. 192. 1876. *S. chrysanthemoides* DC. var.  *khasiana* (C. B. Clarke) Hook. f., Fl. Brit. India 3: 339. 1881.

Perennial, robust herbs; glabrous or arachnoid tomentose. Basal leaves pinnatifid or lyrate-pinnatifid, petiolate, cauline leaves oblong, sessile with broad auricled base. Heads broadly campanulate on stout peduncles. Achenes glabrous. Pappus red.

*Fl. & Fr.*: April. Sept.

*Distrib.*: Kameng; 2500–4000 m; on open hill slopes.

**Senecio wightianus** DC. ex Wight, Contrib. Bot. India 22. 1834; R. Mathur in Hajra *et al.*, Fl. India 13: 280. 1995. *S. scandens* auct. non Buch.-Ham. ex D. Don 1825; Hook. f., Fl. Brit. India 3: 352. 1881; Kanjilal *et al.*, Fl. Assam 3: 122. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 204. 1996; Kanjilal *et al.*, Fl. Assam 3: 123. 1939.

Scandent herbs, 2-5 m long, glabrous. Leaves ovate to hastate or lanceolate. Heads oblong, in dense axillary corymbs, pale yellow. Achenes 4-angled or ribbed, pubescent. Pappus white.

*Fl. & Fr.*: Oct. - April.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap; 1500-2100 m.

**Senecio wightii** (DC.) Benth. ex Hook. f., Gen. Pl. 2: 248. 1873; R. Mathur in Hajra *et al.*, Fl. India 13: 283. 1995; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 204. 1996. *Doronicum wightii* DC. in Wight, Contrib. Bot. Ind. 23. 1834. *Senecio saxatilis* auct. non Wall. ex DC. 1838; Hook. f., Fl. Brit. India 3 : 344. 1881.

Weak herbs, up to 1 m tall; simple or branched. Leaves sessile, oblong to oblong-elliptic, sparsely hairy, upper leaves auricled at base. Heads yellow. Achenes linear, glabrous. Pappus reddish.

*Fl. & Fr.*: Sept. Feb.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri; 1200–2100 m, in shady moist places near streams.

**Siegesbeckia orientalis** L., Sp. Pl. 900. 1753; Hook. f., Fl. Brit. India 3: 304. 1881; H. J. Chowdhery in Hajra *et al.*, Fl. India 12: 407. 1995. **Fig.1.**

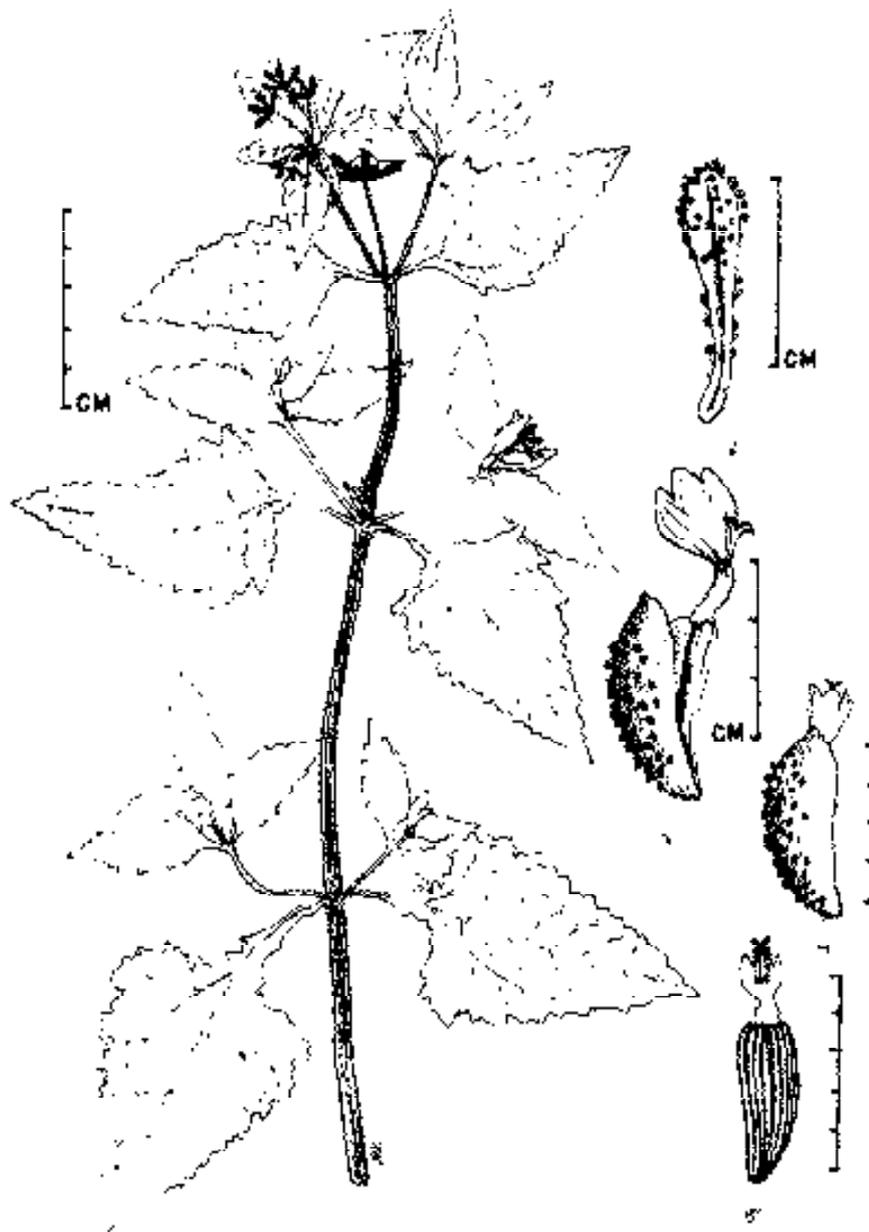


Fig. 1. *Stegesbeckia orientalis* L. 1. Flowering twig; 2. Bract;  
3. Ray floret; 4. Disc floret; 5. Stamen

Large herbs, erect, coarse, glandular pubescent. Leaves ovate, triangular, softly pubescent. Heads small, yellow. Involucral bracts uniseriate, outer 5 linear-spathulate, glandular; inner 5 boat shaped, glandular. Heads in many flowered panicles, yellow, peduncles glandular hairy. Achenes obovoid, oblong, slightly rough, black.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Dibang valley, Kameng, Lohit, Subansiri.

*Use*: The plant has antiseptic properties and is applied externally to sores. It is a valuable depurative and has healing properties in gangrenous ulcers and sores. A mixture of the plant and glycerine is effective in ringworm and similar parasitic eruption.

***Sonchus asper*** (L.) Hill, Herb. Brit. 1: 47. 1769; Hook. f., Fl. Brit. India 3: 414. 1881; Mangain & R. R. Rao in Hajra *et al.*, Fl. India 13: 318. 1995. *S. oleraceus* L. var. *asper* L., Sp. Pl. 794. 1753.

Erect herbs, glabrous or sparsely glandular. Basal leaves lanceolate, upper ones pinnatifid, obtuse, auricled at base. Heads crowded. Achenes compressed, 3-ribbed, muricate between ribs. Pappus creamy white.

*Fl. & Fr.*: Dec. - May.

*Distrib.*: Kameng; 2000 - 3500 m, in cultivated fields.

***Sonchus oleraceus*** L., Sp. Pl. 794. 1753; Hook. f., Fl. Brit. India 3: 414. 1881; Mangain & R. R. Rao in Hajra *et al.*, Fl. India 13: 321. 1995.

Herbs, glabrous or sparsely glandular hispid. Basal leaves lanceolate with winged petioles, stem-leaves clasping with acute auricles. Heads crowded, yellow. Achenes oblanceolate, compressed, 3-ribbed. Pappus bright white.

*Fl. & Fr.*: Oct. - April.

*Distrib.*: Kameng; 2000 - 3500 m, moist slopes and cultivated fields.

***Sonchus wightianus*** DC., Prodr. 7: 187. 1838; Mangain & R. R. Rao in Hajra *et al.*, Fl. India 13: 321. 1995. *S. arvensis* auct. non L.: C. B. Clarke, Comp. Ind. 276. 1876; Hook. f., Fl. Brit. India 3: 414. 1881, *p.p.*

Tall herbs; stems densely glandular hairy, rootstocks creeping. Basal leaves uncinat-pinnatifid, spinous-toothed; cauline leaves lanceolate. Heads cylindric, in glandular hispid peduncles, brownish yellow. Achenes narrow with thick, regular ribs on both sides.

*Fl. & Fr.*: Sept. - April.

*Distrib.*: Kameng; 1200 - 2500 m, along cultivated fields and waste places.

*Use*: Leaves are used in curries. Roots are used in the treatment of jaundice.

**Sphaeranthus indicus** L., Sp. Pl. 927. 1753; Hook. f., Fl. Brit. India 3: 275. 1881.

Sparingly branched herbs; branches villous or tomentose, winged and toothed. Leaves sessile, oblong-spathulate, double dentate, densely stalked glandular. Heads spherical, clustered in winged peduncles. Achenes angled, minutely puberulous.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Kameng, Subansiri; up to 1500 m.

**Spilanthes clava** DC. in Wight, Contrib. Bot. Ind. 19. 1834; H. J. Chowdhery in Hajra *et al.*, Fl. India 12: 409. 1995. *S. acmella* auct. plur. non (L.) Murr.; Hook. f., Fl. Brit. India 3: 307. 1881. *S. acmella* (L.) Murr. var. *clava* (DC.) C. B. Clarke, Comp. Ind. 138. 1876.

Herbs, 15-40 cm high, sparsely pubescent. Leaves opposite, ovate, sparsely pubescent on both sides. Heads solitary or few, in axillary or terminal peduncles, yellowish. Achenes ciliate. Pappus absent.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Kameng, Siang, Tirap; up to 1500 m, in marshy hilly regions.

**Spilanthes oleracea** L., Syst. Nat. ed. 12, 2: 534. 1767; H. J. Chowdhery in Hajra *et al.*, Fl. India 12: 410. 1995. *S. acmella* (L.) Murr. var. *oleracea* C. B. Clarke, Comp. Ind. 138. 1876; Hook. f., Fl. Brit. India 3: 307. 1881.

Herbs, up to 500 cm high; stems erect, somewhat succulent. Leaves triangular or tirangular-ovate, glabrous. Heads solitary, axillary, large, yellow or reddish brown. Achenes laterally compressed, ciliate. Pappus absent or of 1 or 2 bristles.

*Fl. & Fr.*: Throughout the year.

*Distrib.*: Siang; up to 1500 m.

*Use*: Leaves are used as potherb, also cultivated as a medicinal plant.

**Spilanthes paniculata** Wall. ex DC., Prodr. 5: 625. 1836; H. J. Chowdhery in Hajra *et al.*, Fl. India 12: 410. 1995, A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 205. 1996. *S. acmella* (L.) Murr. var.

*paniculata* (DC.) C.B. Clarke, Camp. Ind., 139. 1876; Hook. f., Fl. Brit. India 3: 307. 1881.

Herbs, up to 50 cm tall; stems glabrous, striate. Leaves opposite, ovate-elliptic or elliptic, long petioled. Heads subglobose to conical, in up to 10 cm long peduncles. Achenes dimorphic, marginal ones trigonous, central ones flattened, strongly margined, densely ciliate with 2-3 bristly pappus.

*Fl. & Fr.*: Dec. – June.

*Distrib.*: Changlang, Lohit, Kameng, Siang.

**Synotis acuminata** (Wall. ex DC.) Jeffrey & Chen in Kew Bull. 39(2): 332. 1984; R. Mathur in Hajra *et al.*, Fl. India 13: 286. 1995. *Senecio acuminatus* Wall. ex DC., Prodr. 6: 368. 1838; Hook. f., Fl. Brit. India 3: 354. 1881.

Perennial, erect herbs; younger parts and inflorescence fulvous pubescent. Leaves narrowly lanceolate, caudate-acuminate, glabrous. Capitula radiate. Achenes cylindric, glabrous.

*Fl. & Fr.*: July – Sept.

*Distrib.*: Arunachal Pradesh; at higher altitudes.

**Synotis ainsliaeifolia** Jeffrey *et* Chen in Kew Bull. 39 (2): 307. 1984; R. Mathur in Hajra *et al.*, Fl. India 13: 287. 1995.

Perennial rhizomatous herbs, densely fulvous pubescent or brownish villous. Leaves mostly rosulate, petiolate, truncate or cordate at base, brownish villous; upper leaves ovate or lanceolate. Capitula in panicles, on solitary subscapiform flowering branch. Achenes cylindric, glabrous.

*Fl. & Fr.*: Sept. – Oct.

*Distrib.*: Arunachal Pradesh.

**Synotis alata** (Wall. ex DC.) Jeffrey *et* Chen in Kew Bull. 39(2): 308. 1984; R. Mathur in Hajra *et al.*, Fl. India 13: 287. 1995. *Senecio alatus* Wall. ex DC., Prodr. 6: 368. 1838; Hook. f., Fl. Brit. India 3: 353. 1881.

Herbs, 30 – 60 cm high; stem and branches glabrous, pubescent or cottony; vegetative stem ascending and flowering stem solitary. Leaves subrosulate, ovate-cordate or lanceolate, densely hairy beneath with winged petiole. Heads shortly pedicellate, in large, branched, thyrsoid panicles. Achenes slender, glabrous or puberulous.

*Fl. & Fr.*: April – Nov.

*Distrib.*: Kameng; 2000 – 3500 m.

**Synotis auriculata** Jeffrey *et* Chen in Kew Bull. 39 (2): 330. f. 19. 1984; R. Mathur in Hajra *et al.*, Fl. India 13: 289, 1995.

Slender herbs, up to 2 m tall, reddish brown, glandular pubescent. Leaves narrowly elliptic-oblong, pubescent; auricles semicircular. Capitula in axillary and terminal corymbs, yellow. Achenes cylindric, sparsely hairy.

*Fl. & Fr.*: Nov. Dec.

*Distrib.*: Arunachal Pradesh, up to 2000 m.

**Synotis borii** (Raizada) R. Mathur in J. Econ. Tax. Bot. 8 (2): 282. 1986 & in Hajra *et al.*, Fl. India 13: 290, 1995. *Senecio borii* Raizada in J. Ind. Bot. Soc. 27: 206. 1948.

Perennial herbs, sparsely pubescent, reddish brown. Leaves elliptic, caudate-acuminate, exauriculate. Capitula discoid, 2-3 bracteolate. Achenes obconic, blackish.

*Fl. & Fr.*: Aug. Oct.

*Distrib.*: Kameng; at about 1900 m.

**Synotis brevipappa** Jeffrey *et* Chen in Kew Bull. 39 (2): 300. 1984; R. Mathur in Hajra *et al.*, Fl. India 13: 290, 1995.

Perennial, rhizomatous herbs, brownish pubescent. Leaves subrosulate at base of flowering stem, obovate to oblanceolate, sharply serrate; petioles usually long; cauline leaves sessile, small. Capitula discoid, in terminal corymbs, yellow. Achenes cylindrical, glabrous.

*Fl. & Fr.*: July Sept.

*Distrib.*: Arunachal Pradesh.

**Synotis cappa** (Buch.-Ham. ex D. Don) Jeffrey *et* Chen in Kew Bull. 39 (2): 319. 1984; R. Mathur in Hajra *et al.*, Fl. India 13: 291, 1995. *Senecio cappa* Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 179. 1825; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 204. 1996. *S. densiflorus* Wall. ex DC., Prodr. 6: 369. 1838; Hook. f., Fl. Brit. India 3: 355. 1881; Kanjilal *et al.*, Fl. Assam 3: 123. 1939. *S. densiflorus* var. *lobbii* Hook. f., Fl. Brit. India 3: 355. 1881.

Shrubs, up to 3 m high; branches appressed white or grey cottony. Leaves brownish black, obovate-lanceolate, mucronulate toothed, densely white tomentose beneath. Capitula radiate, in white tomentose peduncles. Achenes glabrous.

*Fl. & Fr.*: Aug. March.

*Distrib.*: Changlang, Kameng, Lohit; 2000-3500 m, along streams.

**Synotis kunthiana** (Wall. ex DC.) Jeffrey *et* Chen in Kew Bull. 39 (2): 288. 1984; R. Mathur in Hajra *et al.*, Fl. India 13: 292. 1995. *Senecio kunthianus* Wall. ex DC., Prodr. 6: 368. 1838; Hook. f., Fl. Brit. India 3: 354. 1881.

Perennial, erect, stout herbs; branches glandular pubescent, brownish. Leaves ovate-lanceolate, brackish-green, white tomentose beneath. Capitula radiate, blackish. Involucre broadly campanulate, glandular pubescent. Achenes pale brown. Pappus yellowish.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Arunachal Pradesh; 2500 - 3500 m.

**Synotis nagensium** (C. B. Clarke) Jeffrey *et* Chen in Kew Bull. 39: 321. 1984; R. Mathur in Hajra *et al.*, Fl. India 13: 295. 1995. *Senecio nagensium* C. B. Clarke in J. Linn. Soc. Bot. 35: 39. 1898; Kanjilal *et al.*, Fl. Assam 3: 123. 1939. *S. densiflorus* Wall. ex DC. var. *mishmiensis* Hook. f., Fl. Brit. India 3: 355. 1881.

Perennial, rhizomatous undershrubs, densely fulvous tomentose. Leaves obovate-elliptic, serrate, coriaceous, clothed with cinnamon colour cottony wool, upper surfaces finely araneose. Heads in terminal or axillary corymbs, peduncles densely fulvous tomentose. Achenes laxly tomentose.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Arunachal Pradesh; 2000 - 3500 m.

**Synotis saluenensis** (Diels) Jeffrey *et* Chen in Kew Bull. 39 (2): 330. 1984; R. Mathur in Hajra *et al.*, Fl. India 13: 297. 1995. *Senecio saluenensis* Diels in Notes Roy. Bot. Gard. Edinburgh 5: 193. 1912.

Scrambling or erect herbs or undershrubs, densely glandular, fulvous pubescent. Leaves elliptic to elliptic-lanceolate, irregularly mucronate serrate. Capitula radiate, in terminal corymbs. Achenes cylindric, glabrous.

*Fl. & Fr.*: Oct. - Feb.

*Distrib.*: Lohit valley.

**Synotis solidaginea** (Hand.-Mazz.) Jeffrey *et* Chen in Kew Bull. 39: 323. 1984. *Senecio solidaginea* Hand.-Mazz. in Acta Hort. Gothob. 12: 285. 1938.

Perennial, rhizomatous herbs forming large clumps, 30-70 cm tall; rhizomes woody, creeping; stems solitary or 2-3 together. Heads pale yellow or cream. Achenes cylindric, pubescent.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Arunachal Pradesh; 2500 - 3900 m, in open sunny places.

**Synotis tetrantha** (DC.) Jeffrey *et* Chen in Kew Bull. 39 (2): 308. 1984; R. Mathur in Hajra *et al.*, Fl. India 13 : 299. 1995. *Senecio tetranthus* DC., Prodr. 6: 370. 1838; Hook. f., Fl. Brit. India 3 : 352. 1881.

Perennial, scandent or climbing herbs; stems and branches terete, sparsely pubescent. Leaves ovate-cordate or lanceolate. Heads yellow, peduncles densely pubescent. Achenes cylindric, puberulous. Pappus white or red.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Kameng; 2000 - 3500 m.

**Synotis triligulata** ( Buch.-Ham. ex D. Don) Jeffrey *et* Chen in Kew Bull. 39(2): 329. 1984; R. Mathur in Hajra *et al.*, Fl. India 13: 301. 1995; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 205. 1996. *Senecio triligulatus* Buch. Ham. ex D. Don, Prodr. Fl. Nep. 178. 1825; Hook. f., Fl. Brit. India 3: 356. 1881.

Climbing shrubs, 2 - 3 m high; stems and branches slender, woody, sparsely pubescent, flexuous. Leaves ovate-lanceolate, caudate-acuminate, membranous, glabrous. Heads mustard yellow. Involucre cylindric. Achenes glabrous.

*Fl. & Fr.*: Oct. - March.

*Distrib.*: Changlang, Dibang valley, Kameng, Lohit, Siang; 2000 - 3500 m, along roadsides.

**Tagetes erecta** L., Sp. Pl. 887. 1753; C. B. Clarke, Comp. Ind. 143. 1876; Mangain & R. R. Rao in Hajra *et al.*, Fl. India 13: 327. 1995.

Aromatic herbs, erect, sparingly branched. Leaves opposite-decussate, oblong-lanceolate. Heads yellow outside, crimson-red inside, solitary, terminal, radiate, large, in long peduncle. Achenes blackish, scabrous on angles, pappus scales united.

*Fl. & Fr.*: March - Oct.

*Distrib.*: Kameng; widely cultivated ornamental.

**Tagetes minuta** L., Sp. Pl. 887. 1753; Maheshw. in J. Bombay Nat. Hist. Soc. 69: 451. 1972; Mangain & R. R. Rao in Hajra *et al.*, Fl. India 3: 327. 1995.

Annual, strongly aromatic herbs, up to 1 m high. Leaves pinnate, leaflets linear-lanceolate, sharply serrate, gland dotted. Heads numerous,

crowded, in axillary and terminal cymes or corymbs, yellow. Achenes subcompressed, angular, blackish, with 5 scaly unequal pappus.

*Fl. & Fr.*: Sept. Nov.

*Distrib.*: A native of S. America, now naturalised in Arunachal Pradesh in waste places, hill slopes and cultivated fields ascending to 2000 m.

**Tagetes patula** L., Sp. Pl. 887. 1753; C. B. Clarke, Comp. Ind. 142. 1876; Mangain & R. R. Rao in Hajra *et al.*, Fl. India 13: 329. 1995.

Strongly aromatic herbs, up to 60 cm high. Leaves pinnate or pinnatifid, lanceolate-oblong, sharply serrate, glandular along margin beneath. Heads with yellow ligules having brown patches inside, small, solitary or cymose. Achenes angled, compressed hairy. Pappus scaly, awned.

*Fl. & Fr.*: March Oct.

*Distrib.*: Kameng, Tirap. Cultivated ornamental.

**Taraxacum officinale** Weber in Wiggers, Prim. Fl. Holset 56. 1780; Hook. f., Fl. Brit. India 3: 401. 1881; Mangain & R. R. Rao in Hajra *et al.*, Fl. India 12: 252. 1995.

Milky, rhizomatous herbs; scapes woolly. Leaves radical, oblanceolate or runcinate-pinnatifid. Heads solitary, yellow. Achenes narrowly obovoid, yellowish, muricately ribbed with a slender beak.

*Fl. & Fr.*: April Oct.

*Distrib.*: Kameng; up to 4500 m, amidst grasses in open slopes.

**Thespis divaricata** DC. in Guill. Arch. Bot. 2: 517. 1833 & Prodr. 5: 376. 1836; Hook. f., Fl. Brit. India 3: 259. 1881; Hajra in Hajra *et al.*, Fl. India 12: 146. 1995. *T. erecta* DC., Prodr. 5: 375. 1836.

Herbs, up to 60 cm high; branches glabrous. Leaves elliptic to oblong or obovate, toothed. Heads minute, yellow. Achenes small, minutely papillose.

*Fl. & Fr.*: April Sept.

*Distrib.*: Kameng; weed.

**Tithonia diversifolia** (Hemsl.) A. Gray in Proc. Amer. Acad. Arts 19: 5. 1883; H. J. Chowdhery in Hajra *et al.*, Fl. India 12: 416. 1995; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 205. 1996. *Mirasolia diversifolia* Hemsl., Centr. Amer. Bot. 2: 168, t. 47. 1881.

Perennial undershrubs, 2-5 m tall; stems round, glabrous or villous. Leaves deltoid, 3-5 lobed, serrate at margin, sparsely hispid hairy above.

Heads solitary, heterogamous. Involucral bracts 3-4 seriate. Ray florets yellow, corolla linear, 4-7 cm long; ligules 4.5 mm or more long. Achenes one seriate, white or yellow. Pappus absent. Disc florets yellow.

*Fl. & Fr.*: Sept. May.

*Distrib.*: Changlang, Lohit; weed.

***Tithonia rotundifolia*** ( Mill.) S. F. Blake in *Contrib. Gray Herb.* ser. 52: 41. 1917; H. J. Chowdhery in Hajra *et al.*, *Fl. India* 12: 416. 1995. *Tagetes rotundifolia* Mill., *Gard. Disc. ed.* 8. *Tagetes* 4. 1768. *Tithonia tagetiflora* Lam., *Tab. Encycl. Meth.* 2: 284, t. 708. 1797.

Annual herbs; stems softly pubescent, purplish. Leaves deltoid or 3-5 lobed, pubescent beneath. Heads heterogeneous in long peduncles, orange or yellow. Achenes quadrangular, pubescent. Pappus of fused squamellae with 2 awns.

*Fl. & Fr.*: July Jan.

*Distrib.*: Subansiri.

***Tridax procumbens*** L., *Sp. Pl.* 900. 1753; Hook. f., *Fl. Brit. India* 3: 311. 1881.

Weak, straggling or procumbent hairy herbs, up to 60 cm high. Leaves opposite, elliptic-ovate, pinnatisect. Heads solitary, small, in long spreading hairy peduncles, pale yellow to white. Achenes turbinate or oblong, silky. Pappus of 15-20 plumose bristles.

*Fl. & Fr.*: March Oct.

*Distrib.*: Kameng; amidst grasses on open slopes, stony places and roadsides.

***Vernonia andersoni*** C. B. Clarke, *Comp. Ind.* 27. 1876; H. J. Chowdhery in Hajra *et al.*, *Fl. India* 13: 356. 1995.

Scandent or rambling climbers, pubescent. Leaves broadly ovate, thinly leathery, finely reticulate. Heads in axillary or terminal, loose corymbose panicles. Achenes deeply ribbed, flattened, puberulous. Pappus red.

*Fl. & Fr.*: May Oct.

*Distrib.*: Arunachal Pradesh.

***Vernonia attenuata*** DC., *Prodr.* 5: 33. 1836; Hook. f., *Fl. Brit. India* 3: 231. 1881; H. J. Chowdhery in Hajra *et al.*, *Fl. India* 13: 360. 1995.

Rigid herbs; branches erect, grooved. Leaves puberulous, obovate or oblong-obovate, reticulate. Heads usually solitary. Achenes striate, villous.

*Fl. & Fr.*: March–Oct.

*Distrib.*: Kameng; up to 1500 m, in dry tropical forests.

**Vernonia cinerea** (L.) Less. in *Linnaea* 4: 291. 1829; Hook. f., *Fl. Brit. India* 3: 233. 1881; H. J. Chowdhery in Hajra *et al.*, *Fl. India* 13: 367. 1995. *Conyza cinerea* L., *Sp. Pl.* 862. 1753.

Annual or perennial herbs, glandular, hoary-pubescent. Leaves ovate or lanceolate, repand serrate to entire. Heads in terminal loose corymbs, pink. Involucral bracts 4-seriate. Achenes terete, appressed silky.

*Fl. & Fr.*: Aug.–Nov.

*Distrib.*: Kameng, Lohit, Siang, Subansiri; up to 3500 m, amidst grasses in open places.

**Vernonia pyramidale** (D. Don) S. N. Mitra in *Ind. For.* 99: 100. 1973; H. J. Chowdhery in Hajra *et al.*, *Fl. India* 13: 380. 1995. *Eupatorium pyramidale* D. Don, *Prodr. Fl. Nep.* 170. 1825. *Vernonia aspera* DC., *Prodr.* 5: 31. 1836, *non* Buch.-Ham, 1825. *V. roxburghii* Less. in *Linnaea* 6: 674. 1831; Hook. f., *Fl. Brit. India* 3: 232. 1881.

Rigid herbs or undershrubs, scabrid. Leaves subsessile, elliptic to obovate-lanceolate, deeply serrate. Heads many flowered, compact, in axillary and terminal corymbose panicles, pinkish. Achenes strongly 10-ribbed, hairy. Pappus white with reddish tinge.

*Fl. & Fr.*: May–Oct.

*Distrib.*: Arunachal Pradesh; ascending to 1200 m.

**Vernonia saligna** DC., *Prodr.* 5: 33. 1836; Hook. f., *Fl. Brit. India* 3: 235. 1881; H. J. Chowdhery in Hajra *et al.*, *Fl. India* 13: 382. 1995; N. P. Balakr., *Fl. Jowai* 1: 271. 1981; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 206. 1996.

Herbs or undershrubs; stems pubescent, grooved. Leaves rigid, elliptic-oblong, scabrid on both surfaces. Heads in panicles, white. Achenes compressed, strongly ribbed with reddish pappus.

*Fl. & Fr.*: April–Oct.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri; up to 1500 m, in moist places.

**Vernonia subsessilis** DC., *Prodr.* 5: 62. 1836; H. J. Chowdhery in Hajra *et al.*, *Fl. India* 13: 388. 1995. *V. subsessilis* var. *bracteolata* Hook. f., *Fl. Brit. India* 3: 240. 1881.

Shrubby herbs; branches pubescent. Leaves subsessile, obovate-lanceolate to linear-lanceolate, pubescent beneath. Heads corymbose, purplish. Achenes silky with reddish pappus.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Kameng.

**Vernonia talaumifolia** Hook. f. et Thomson ex C. B. Clarke, Comp. Ind. 25. 1876; Hook. f., Fl. Brit. India 3: 240. 1881; H. J. Chowdhery in Hajra *et al.* Fl. India 13: 389. 1995.

Trees. Leaves coriaceous, obovate to oblanceolate, hairy on nerves beneath, glabrous above, shining, reticulate. Heads sessile, in dichotomous, divaricating branched, long panicles. Achenes deeply ribbed, glabrous with red pappus.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Kameng, Lohit; up to 1500 m.

**Vernonia vagans** Wall. ex DC., Prodr. 5: 32. 1836; H. J. Chowdhery in Hajra *et al.*, Fl. India 13: 391. 1995. *V. scandens* DC., Prodr. 5: 32. 1836; Hook. f., Fl. Brit. India 3: 241. 1881.

Woody climbers or scandent shrubs; branches terete, brownish pubescent. Leaves elliptic-obovate, glandular, chartaceous. Heads brownish-purple with long, exerted, yellow stigma; corolla glandular. Achenes glabrous, compressed, deeply 10-ribbed with red pappus.

*Fl. & Fr.*: Dec. - March.

*Distrib.*: Kameng, Lohit, Siang, Subansiri; up to 2000 m.

**Vernonia volkameriaefolia** DC., Prodr. 5: 32. 1836; Hook. f., Fl. Brit. India 3: 240. 1881; H. J. Chowdhery in Hajra *et al.*, Fl. India 13: 393. 1995; Kanjilat *et al.*, Fl. Assam 3: 105. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 206. 1996.

Small trees; young shoots rusty pubescent. Leaves oblanceolate, subcoriaceous, pubescent on nerves. Heads many, lilac, in large terminal and leafless, nodding panicles. Achenes slightly curved, strongly ribbed with white pappus.

*Fl. & Fr.*: Oct. - April.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap; up to 2000 m.

**Wedelia montana** (Blume) Boerl. var. **wallichii** (Less.) H. Koyama in Acta Phytotax. Geobot. 34: 171. 1985; H. J. Chowdhery in Hajra *et al.*, Fl. India 12: 424. 1995. *W. wallichii* Less. in Linnaea 6: 162. 1831; Hook. f., Fl. Brit. India 3: 307. 1881.

Robust, much branched, coarse herbs, 1 - 1.5 m high. Leaves broadly ovate-cordate, 3 - 5 lobed, hispid on both surfaces. Heads unisexual.

whitish, male globose, female obovoid. Achenes ovoid or elliptic, in pale green involucre, covered with hooked bristles and divergent beaks.

*Fl. & Fr.*: March–Dec.

*Distrib.*: Kameng, Subansiri, Tirap; up to 2000 m, weed of waste places and roadsides.

*Use*: Tender shoots are eaten as vegetable. Leaves yield a yellow dye. The plant has sedative properties.

**Xanthium indicum** Koenig in Roxb., *Fl. Ind.* 3: 601. 1832; R. Mathur in Hajra *et al.*, *Fl. India* 12: 427. 1995. *Xanthium strumarium* L., *Sp. Pl.* 987. 1753, p.p.; Hook. f., *Fl. Brit. India* 3: 395. 1881; Kanjilal *et al.*, *Fl. Assam* 3: 116. 1939; A. S. Chauhan in Hajra, *Contrib. Fl. Nampaha* 206. 1996. **Fig. 2.**

Herbs, up to 1.5 m tall; stems without spines. Leaves ovate or cordate, 3-5 lobed, irregularly serrate at margin; green on both surfaces. Male heads globose, corolla whitish green; female heads ovoid, corolla absent. Fruiting involucre pale green, covered with hooked bristles, glands and hairs absent. Achenes narrowly ovoid or elliptic, grayish black.

*Fl. & Fr.*: March–Dec.

*Distrib.*: Changlang, Lohit.

**Youngia japonica** (L.) DC., *Prodr.* 7: 194. 1838. *Prenanthes japonica* L., *Mant. Pl.* 107. 1767. *Crepis japonica* Benth., *Fl. Hongk.* 194. 1861; Hook. f., *Fl. Brit. India* 3: 395. 1881.

*Local name*: Rum Dun (Adi); Rubjup, Rupjup (Hill-Miri).

Herbs, glabrous or puberulous. Leaves rosulate, membranous. Flowering stems erect, slender, leafless. Achenes ribbed, reddish brown.

*Fl. & Fr.*: April–Oct.

*Distrib.*: Kameng, Siang, Subansiri, Tirap; 2000 m.

*Use*: The whole plant is used as vegetable.

**Youngia silhetensis** (DC.) Babcock *et* Stebbins in *Carn. Inst. Wash. Publ.* 484. 104. 1937; Mamgain & R. R. Rao in Hajra *et al.*, *Fl. India* 12: 330. 1995. *Hieracium silhetense* DC., *Prodr.* 7: 218. 1838. *Crepis silhetensis* (DC.) Hook. f., *Fl. Brit. India* 3: 397. 1881.

Perennial, glabrous herbs; rootstock stout, woody. Radical leaves linear-lanceolate, obscurely toothed. Heads numerous, in panicles, cylindric, yellowish. Achenes glabrous, ribbed. Pappus brown.

*Fl. & Fr.*: April–Dec.

*Distrib.*: Kameng, Subansiri; up to 1600 m, in open sandy soil.



Fig. 2. *Xanthium indicum* Koenig

**Insufficiently known material**

**Cosmos bipinnatus** Cav. Ic. 1. 10. t. 14. 1791.

**Eupatorium trapezoideum** Kunth, Ind. Sem. Hort. Berl. 13. 1847.

## CAMPANULACEAE

**Campanula cana** Wall. in Roxb., Fl. Ind. 2: 101. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 3: 440. 1881.

Herbs; stems ascending, patently hispid. Leaves approximate, sessile, oblong, toothed, scabrous-pilose above, white tomentose beneath, floral leaves linear. Flowers terminal, peduncles short; corolla infundibuliform, hairy without, blue.

*Fl. & Fr.*: Dec. Feb.

*Distrib.*: Dibang valley, Lohit, Siang; 1500 - 2000 m, in sandy fields.

**Campanula khasiana** Hook. f. et Thomson in Linn. Soc. Bot. 2: 25. 1857; C. B. Clarke in Hook. f., Fl. Brit. India 3: 439. 1881.

Tall, scandent, spreading herbs. Leaves ovate or broadly lanceolate, hispid, base obtuse, crenate-serrate. Flowers bluish or purplish, funnel shaped, nodding. Capsules ellipsoid, glabrous.

*Fl. & Fr.*: Aug. Oct.

*Distrib.*: Lohit; 1200 - 1800 m, amidst grasses along slopes.

**Campanula pallida** Wall. in As. Res. 13: 375. 1820. *C. colorata* Wall. in Roxb., Fl. Ind. 2: 101. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 3: 440. 1881.

Erect herbs, ca 30 cm high; stems terete, patently hairy. Leaves lanceolate, crenate or dentate, softly pilose on both surfaces. Flowers purple or greenish purple or blue; peduncles elongate, axillary or terminal, bearing 1-3 leafy bracts. Capsules obconic.

*Fl. & Fr.*: Sept. Nov.

*Distrib.*: Subansiri; 900 - 1500 m, in moist damp places.

**Campanula sylvatica** Wall. in Roxb., Fl. Ind. 2: 97. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 3: 439. 1881.

Small, pilose herbs, up to 22 cm high. Leaves linear, subentire, approximate, pilose. Inflorescence panicles, few flowered. Flowers violet-blue, pubescent with campanulate tube and lanceolate lobes. Capsules broadly obconic, glabrous.

*Fl. & Fr.*: March May.

*Distrib.*: Arunachal Pradesh; 1500 - 2700 m, in open grounds on dry rocky soil.

**Campanumaea parviflora** (Wall. ex DC.) Benth. in Benth. & Hook. f., Gen. Pl. 2: 558. 1876; C. B. Clarke in Hook. f., Fl. Brit. India 3: 436. 1881; Kanjilal *et al.*, Fl. Assam 3: 129. 1939; *Codonopsis parviflora* Wall. ex DC., Prodr. 7: 423. 1839; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 206. 1996.

Perennial, erect herbs or diffuse undershrubs, 30 - 60 cm high. Leaves opposite, lanceolate, caudate, serrate, glaucous beneath. Flowers solitary, axillary or terminal, tetramerous, white or pale pink. Berries white when ripe.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Changlang, Dibang valley, Lohit, Siang, Subansiri, Tirap; 305 - 1500 m.

**Codonopsis affinis** Hook. f. et Thomson in J. Linn. Soc. Bot. 2: 12. 1857; C. B. Clarke in Hook. f., Fl. Brit. India 3: 431. 1881.

Climbers; stems twinning. Leaves elliptic-oblong, base rhomboid or truncate, densely pilose beneath. Flowers greenish yellow with violet tinge. Capsules hemispheric with a prominent beak.

*Fl. & Fr.*: Oct. - Dec.

*Distrib.*: Lohit; 600 - 1200 m.

**Codonopsis javanica** (Blume) Hook. f., Ill. Himal. Pl. 116, t. 16 B. 1855. *Campanumaea javanica* Blume, Bijdr. 727. 1826; C. B. Clarke in Hook. f., Fl. Brit. India 3: 435. 1881.

Perennial, climbing herbs. Leaves ovate-cordate, glabrous, entire or crenate-serrate, glaucous beneath. Flowers solitary, axillary or leaf-opposed, greenish white with purplish veins or pinkish.

*Fl. & Fr.*: Sept. - Dec.

*Distrib.*: Kameng, Siang; 800 - 1500 m, on bushes.

**Cyananthus lobatus** Wall. ex Benth. in Royle, Ill. Bot. Himal. 309. t. 69. f. 1. 1835; C. B. Clarke in Hook. f., Fl. Brit. India 3: 433. 1881.

Perennial, stout herbs, 10 - 40 cm high; stems and branches glabrous below, hirsute above. Leaves obovate-oblong, lobed, sparingly pilose, petioles short. Flowers solitary, bright blue. Capsules ovoid, remain enclosed by blackish, hirsute calyx.

*Fl. & Fr.*: Sept. - Nov.

*Distrib.*: Kameng; 3300 - 4200 m. in rocky places.

**Leptocodon gracilis** (Hook. f. *et* Thomson) Lemaire in Ill. Hort. 3: Misc. 49. 1856; C. B. Clarke in Hook. f., Fl. Brit. India 3: 430. 1881. *Codonopsis gracilis* Hook. f. *et* Thomson in Hook. f., Ill. Himal. Pl. t. 16 A. 1855.

Slender, glabrous twiners. Leaves long petioled, ovate, membranous, undulate-crenate. Flowers white at bottom and violet-purple at throat and limb, solitary in terminal or leaf-opposed peduncles.

*Fl. & Fr.*: Sept. - Nov.

*Distrib.*: Subansiri; 1200 - 1500 m, on hedges forming a net work.

**Lobelia doniana** Skottsb. in Acta Hort. Bot. Gotob. 4: 19, t. 12. 1928; Harid. & P. K. Mukh. in Fasc. Fl. India 19: 48. 1988. *L. pyramidalis* D. Don in Sims, Bot. Mag. 50, t. 2387. 1823, *non* Wall. 1820; C. B. Clarke in Hook. f., Fl. Brit. India 3: 426. 1881, *p.p.* *L. nicotianaefolia* Moeliono *et* Tuyn. in Steenis, Fl. Males. ser. 1, 6: 123. 1926, *p.p.*, *non* Roth *ex* Roem. & Schult.

Erect herbs, 70 - 105 cm high. Leaves sessile, elliptic-lanceolate to elliptic-oblanccolate. Inflorescence densely racemose; bracts linear-lanceolate. Flowers bluish violet to purple or whitish violet.

*Fl. & Fr.*: Sept. - May.

*Distrib.*: Arunachal Pradesh; 600 - 3000 m, on shady moist hill slopes.

**Lobelia pyramidalis** Wall. in As. Res. 13: 376. 1820; C. B. Clarke in Hook. f., Fl. Brit. India 3: 426. 1881, *p.p.* *L. nicotianaefolia* Moeliono *et* Tuyn. in Steenis, Fl. Males. ser. 1, 6: 123. 1960, *p.p.*, *non* Roth *ex* Roem. *et* Schult.

Erect, glabrous herbs, 30 - 65 m tall. Leaves sessile, oblanceolate or linear-lanccolate, denticulate or serrulate. Inflorescence paniculate. Flowers white or pale lilac, tube densely pilose within.

*Fl. & Fr.*: Throughout the year.

*Distrib.*: Arunachal Pradesh; 500 - 1200 m. in moist soils or on dry rocks.

**Lobelia rosea** Wall. in Roxb., Fl. Ind. 2: 115. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 3: 427. 1881; Harid. & P. K. Mukh. in Fasc. Fl. India 19: 55. 1988.

Annual, erect, villous herbs, 15 - 40 cm high. Leaves subsessile, approximate, spreading, lanceolate to oblong-lanceolate, cordate, tomentose on upper surfaces, finely denticulate. Flowers rosy, unilateral, almost pendulous, nodding, in terminal panicles.

*Fl. & Fr.*: Sept. May.

*Distrib.*: Arunachal Pradesh; 600 - 2500m , in damp forests.

**Peracarpa carnos**a (Wall.) Hook. f. et Thomson in J. Linn. Soc. Bot. 2: 26. 1857; C. B. Clarke in Hook. f., Fl. Brit. India 3: 437. 1881. *Campanula carnos*a Wall. in Roxb., Fl. Ind. 2: 102. 1824.

Weak, succulent, procumbent herbs, up to 20 cm high. Leaves ovate, entire or crenate, glabrous or scabrid. Flowers solitary, axillary or in clusters, purple or white. Capsules indehiscent, white, club shaped, crowned with persistent calyx. Seeds fusiform, ellipsoid, dark brown.

*Fl. & Fr.*: Aug. Oct.

*Distrib.*: Arunachal Pradesh; 1500 - 3000 m, in moist places.

**Pratia mont**ana (Reinw. ex Blume) Hassk. in Flora 25(2): Beibl. 1: 23. 1842; C. B. Clarke in Hook. f., Fl. Brit. India 3: 423. 1881. *Lobelia mont*ana Reinw. ex Blume, Bijdr. 728. 1825; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 207. 1996.

Herbs, up to 30 cm tall; stems erect, glabrous, reddish, rooting at base. Leaves elliptic to elliptic-lanceolate, serrulate or denticulate. Flowers solitary, white, greenish blue or violet with two purple gibbosities inside. Berries globose, yellowish to purple or red.

*Fl. & Fr.*: Throughout the year.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Tirap; 300 - 3000 m, in moist shady forests or along roadsides.

**Pratia nummularia** (Lam.) A. Br. et Aschers., Index Sem. Hort. Berol. Append. 6. 1861. *Lobelia nummularia* Lam., Encycl. Meth. Bot. 3: 589. 1792. *Pratia begonifolia* (Wall.) Lindl. in Bot. Reg. t. 1373. 1831; C. B. Clarke in Hook. f., Fl. Brit. India 3: 422. 1881. *Lobelia begonifolia* Wall. in As. Res. 13: 377. 1820.

Small, pubescent creepers; rooting at nodes. Leaves petiolate, cordate-ovate, denticulate. Flowers solitary, green with pink marks. Berries ellipsoid, black.

*Fl. & Fr.*: Aug. Sept.

*Distrib.*: Lohit, Siang, Subansiri, Tirap; 600 - 2100 m, in open sunny tracts on marshy soil.

## ERICACEAE

**Agapetes aborensis** Airy Shaw in Kew Bull. 14: 111. 1960.

Epiphytic shrubs, 30 - 40 cm long; young branches glabrous or fuscous. Leaves pseudo-verticillate, elliptic to oblanceolate, margin

entire. Inflorescence short, 2-8-flowered, glandular setose. Flowers pendent, narrowly cylindrical, glabrous or sparsely setulose, dark red.

*Fl.*: Jan.

*Distrib.*: Abor (Rengging); at about 700 m.

**Agapetes acuminata** D. Don ex G. Don, Gen. Syst. 3: 862. 1834; Airy Shaw in Kew Bull. 13: 482. 1858. *Corallobotrys acuminata* (D. Don ex G. Don) Hook. f. in Benth. & Hook. f., Gen. Pl. 2: 575. 1876; C. B. Clarke in Hook. f., Fl. Brit. India 3: 455. 1881. *Vaccinium acuminatum* (D. Don ex G. Don) Kurz in J. As. Soc. Bengal 46 (2): 214. 1877.

Epiphytic shrubs, 50-120 cm high; branches terete. Leaves lanceolate, acuminate, obtusely serrate, coriaceous. Flowers red.

*Fl.*: May-July.

*Distrib.*: Kameng, Tirap; 900-1200 m.

**Agapetes angulata** (Griff.) Hook. f. in Benth. & Hook. f., Gen. Pl. 2: 571. 1876; C. B. Clarke in Hook. f., Fl. Brit. India 3: 447. 1881. *Ceratostema angulatum* Griff., Ic. 4, 302. 1854 & As. Pl. 503. 1854; Airy Shaw in Kew Bull. 13: 481. 1858.

Shrubs, ca 2.5 m tall; branches angular. Leaves dark green, lanceolate-acuminate, petioles short. Flowers in axillary pendulous racemes, lobes revolute, red, distinctly veined.

*Fl. & Fr.*: Aug.-Oct.

*Distrib.*: Dibang valley, Siang; 1200-2000 m.

**Agapetes anonyma** Airy Shaw in Kew Bull. 1948: 95. 1948.

Scandent, epiphytic shrubs, 10-15 cm long; branches reddish, ferruginous pilose. Leaves small, broadly ovate to elliptic or oblong, crenulate-serrulate, glabrous. Flowers solitary. Fruits globose, densely ferruginous setose.

*Fr.*: Aug.

*Distrib.*: Subansiri, Delei valley, 2100-2700 m, in forest slope.

*Note*: The species is known from the fruiting material only. Flowering material is not yet collected.

**Agapetes astrosanguenea** Airy Shaw in Kew Bull. 13: 494. 1858.

Epiphytic shrubs; branches puberulous, sometimes nude. Leaves ovate-lanceolate, remotely crenate-denticulate, glabrous. Flowers in 7-13-flowered corymbs, pedicels slender, puberulous; corolla cylindrical.

*Fl.*: Nov.

*Distrib.*: Subansiri, Apatani valley; about 1800 m

**Agapetes bhutanica** N. P. Balakr. *et* H. J. Chowdhery in Reinwardtia 7: 287. 1966; Long & Rae in Grierson & D. G. Long, Fl. Bhutan 2 (1): 403. 1991.

Epiphytic shrubs; branches glabrous. Leaves oblanceolate, base attenuate, margin entire with 2 glands at base. Flowers in 7-15-flowered fascicles; sepals glandular hairy; corolla tubular, pale pink with red markings, sparsely glandular pubescent.

*Fl.*: March - April.

*Distrib.*: Arunachal Pradesh.

**Agapetes burmanica** W. E. Evans in Notes Roy. Bot. Gard. Edinburgh 15: 199. 1927; Kanjilal *et al.*, Fl. Assam 3: 534. 1939.

Large, straggling or rarely erect shrubs; branches long, loose. Flowers pendent, solitary or in bunches from old branches, bright rose-crimson.

*Fl. & Fr.*: April - June.

*Distrib.*: Arunachal Pradesh; 300 - 400 m.

**Agapetes buxifolia** Nutt. *ex* Hook. f. in Curtis, Bot. Mag. 83: t. 5012. 1857.

Shrubs, 1 - 1.5 m tall; branches terete, filose. Leaves elliptic, crenate. Flowers tubular, deep red.

*Fl. & Fr.*: May - July.

*Distrib.*: Kameng; up to 1500 m.

**Agapetes discolor** C. B. Clarke in Hook. f., Fl. Brit. India 3: 448. 1881; Airy Shaw in Kew Bull. 13: 493. 1958.

Shrubs; branches terete, uniformly leafy, glabrous. Leaves oblong, narrowed at both ends, subpetioled, toothed, white beneath, coriaceous. Calyx large, membranous; corolla campanulate, deeply divided into linear segments. Fruits almost hemispherical.

*Fl. & Fr.*: May - July.

*Distrib.*: Kameng; 1200 - 1600 m.

**Agapetes forrestii** W. E. Evans in Notes Roy. Bot. Gard. Edinburgh 15: 202. 1927; Kanjilal *et al.*, Fl. Assam 3: 535. 1939.

Epiphytes. Leaves herbaceous, subcuneate to rounded at base. Calyx almost divided to the base. Corolla lobes very short, deltoid, greenish.

*Fl. & Fr.*: Nov. - Jan.

*Distrib.*: Arunachal Pradesh; 1800–2500 m, usually hanging from long, loose branches in mixed forest.

**Agapetes griffithii** C. B. Clarke in Hook. f., Fl. Brit. India 3: 449. 1882; Bennet & Naithani in Notes Roy. Bot. Gard. Edinburgh 38: 140. 1980.

Shrubby epiphytes; branches terete, uniformly leafy, glabrous. Leaves petioled, oblong, caudate acuminate at apex, cuneate at base, entire, coriaceous. Peduncles long, axillary. Calyx teeth ovate, acute.

*Fl. & Fr.*: Nov.–Feb.

*Distrib.*: Lohit.

**Agapetes hyalocheilos** Airy Shaw in Kew Bull. 1935: 42. 1935; Kanjilal *et al.*, Fl. Assam 3: 535. 1939.

Shrubby epiphytes. Leaves small, sub sessile, lanceolate, base rotundate. Peduncles short. Calyx segments subulate; corolla narrowly infundibuliform.

*Fl. & Fr.*: Nov.–Feb.

*Distrib.*: Subansiri.

**Agapetes incurvata** (Griff.) Sleumer var. **hookeri** (C. B. Clarke) Airy Shaw in Kew Bull. 13: 486. 1958. *Pentapterygium hookeri* C. B. Clarke in Hook. f., Fl. Brit. India 3: 450. 1882.

Epiphytic shrubs. Leaves elliptic, acute, hairy on midrib beneath. Flowers yellow to greenish yellow with 5 sharp angles.

*Fl. & Fr.*: July–Aug.

*Distrib.*: Subansiri; 1300–1600 m.

**Agapetes interdicta** (Hand.-Mazz.) Sleumer in Engl., Bot. Jahrb. 70: 106. 1939; Airy Shaw in Kew Bull. 1948: 100. 1948. *Pentapterygium interdictum* Hand.-Mazz. in Anz. Akad. Wiss. Wien. 60: 186. 1923.

Epiphytic, straggling shrubs, 1–1.5 m high. Leaves entire in lower half and toothed near extreme apex. Flowers from old wood, pedicels crimson; corolla cylindric, tubes long and narrow, crimson with purple-black, 'V' shaped marks.

*Fl.*: April.

*Distrib.*: Subansiri (Delei valley); 2100–2400 m, in the mixed forests.

**Agapetes kanjilali** A. Das in Assam. For. Rec. 1: 13. 1934.

Epiphytic shrubs; young branches pilose, bud scales lanceolate. Leaves elliptic to oblanceolate, entire, coriaceous. Flowers solitary or

2, terminal; bracts lanceolate, pilose; calyx obconic, pilose outside; corolla campanulate, purplish red, thinly pilose.

*Fl.*: April.

*Distrib.*: Arunachal Pradesh.

**Agapetes linearifolia** C. B. Clarke in Hook. f., Fl. Brit. India 3: 449. 1882; Kanjilal *et al.*, Fl. Assam 3: 534. 1939.

Shrubby epiphytes; branches terete, uniformly leafy, glabrous. Leaves long, linear, entire, petioled, coriaceous. Inflorescence pedunculate corymb, calyx short, cylindric, fleshy, rose coloured, calyx-teeth lanceolate, corolla green.

*Fl. & Fr.*: March - June.

*Distrib.*: Lohit.

**Agapetes marginata** Dunn in Kew Bull. 1920: 133. 1920; Burkill in Rec. Bot. Surv. India 10: 52, 74, 311. 1925; Airy Shaw in Kew Bull. 1958: 471. 1958.

Woody, epiphytic shrubs. Leaves obovate, entire, marginal nerves strong. Flowers from thicker stems, strongly glandular; corolla cylindric, about 1 cm across; anthers distinctly spurred.

*Fl. & Fr.*: Jan. - March.

*Distrib.*: Kameng, Siang, 1100 -1500 m, in oak forests.

**Agapetes miniata** (Griff.) Hook. f. in Benth. & Hook. f., Gen. Pl. 2: 571. 1876; C. B. Clarke in Hook. f., Fl. Brit. India 3: 445. 1881; Airy Shaw in Kew Bull. 1958: 480. 1958. *Ceratostema miniatum* Griff., Notul. 4, 302. 1854 & Ic. Pl. Asiat. t. 504. 1854. *Vaccinium miniatum* (Griff.) Kurz in J. As. Soc. Bengal 42 (2): 85. 1873 & 46 (2): 214. 1877.

Small epiphytic shrubs. Flowers crimson, in axillary fascicles, corolla 2 - 2.5 cm long.

*Fl.*: March.

*Distrib.*: Mishmi hill, Kamlang valley; at about 1050 m.

**Agapetes muscorum** Airy Shaw in Kew Bull. 21: 473. 1968.

Small, epiphytic shrubs; branches pendent. Leaves small, ovate, base rotundate, serrulate, reflexed, glabrous. Flowers in axillary, few flowered corymbs; corolla ovoid-oblong, 5-angled, tubular, red with greenish mouth.

*Fl.*: April.

*Distrib.*: Subansiri (Apatani valley); ca 2700 m, in rain forests among dense mosses.

**Agapetes nutans** Dum in Kew Bull. 1920: 134. 1920; Rao & Ahuja in Bull. Bot. Surv. India 10: 362. 1968.

Epiphytic shrubs; branches pendulous, glabrous. Leaves sessile, linear, coriaceous, glabrous. Flowers in axillary pendulous, 5-6-flowered corymbs; corolla tubular, 5-toothed, greenish with red V-markings.

*Fl. & Fr.*: Nov.- Jan.

*Distrib.*: Siang; 1300 - 2200 m. Endemic.

**Agapetes nuttallii** C. B. Clarke in Hook. f., Fl. Brit. India 3: 445. 1881; Airy Shaw in Kew Bull. 13: 475. 1958; Deb & Raghavan in Bull. Bot. Surv. India 24(1-4): 171. (1982) 1983. Fig. 3.

Epiphytic shrubs, 2-5 m high; branches glabrous. Leaves alternate to pseudo-verticillate, elliptic-lanceolate or elliptic-obovate, sometimes glandular. Flowers in racemes, scarlet, tube straight, up to 3 cm long. Berries ovoid-oblong.

*Fl. & Fr.*: Oct. - Dec.

*Distrib.*: Kameng; 1200 - 1500 m.

**Agapetes obovata** Hook. f. in Benth. & Hook. f., Gen. Pl. 2: 572. 1876; C. B. Clarke in Hook. f., Fl. Brit. India 3: 447. 1881.

Small, bushy shrubs; branches rigid, terete. Leaves obovate, coriaceous with recurved margins. Flowers deep red.

*Fl. & Fr.*: Feb. - April.

*Distrib.*: Tirap; 1000 - 2000 m, on dried moss covered rocky surfaces.

**Agapetes praestigiosa** Airy Shaw in Kew Bull. 13: 495. 1958.

Epiphytic shrubs; branches pendulous, flexuous, densely setose. Leaves elliptic, apex abruptly acute, margin serrulate-denticulate, coriaceous. Flowers in fascicles, axillary or from old wood; corolla 5-angled, red with minute, subglobose teeth. Fruits globose.

*Fl. & Fr.*: April - June.

*Distrib.*: Kameng.

**Agapetes refracta** Airy Shaw in Kew Bull. 13: 496. 1958 & *ibid.* 21: 474. 1968.

Small, epiphytic shrubs. Leaves small, ovate, base rounded, subentire or crenulate, chartaceous, glabrous. Flowers solitary, axillary with deltoid calyx segments; corolla rose-purple, segments forming a distinct beak in bud and reflexed after anthesis. Fruits globose, crowned by persistent, prominently veined calyx.

*Fl.*: Oct.

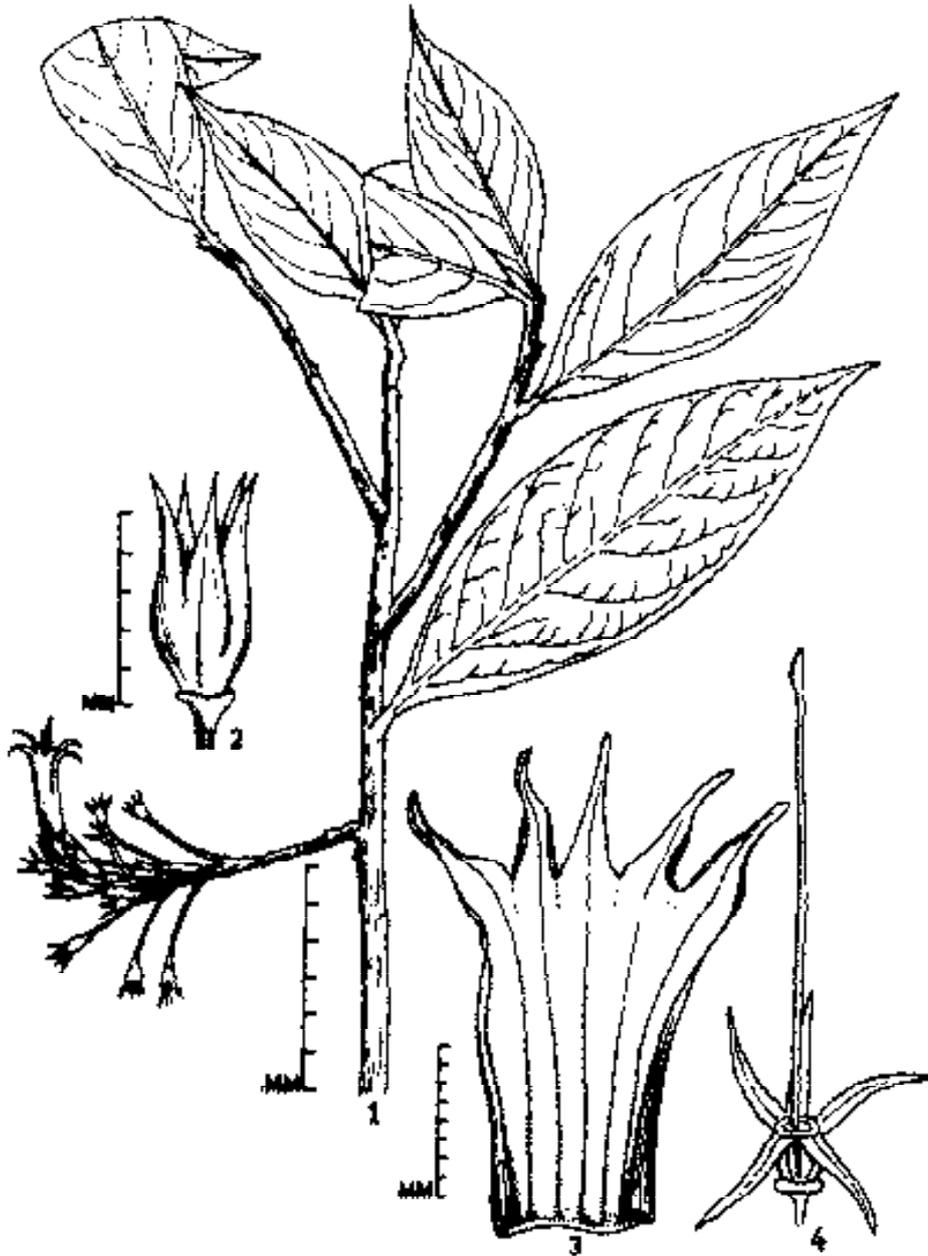


Fig. 3. *Agapetes nuttallii* C. B. Clarke: 1. Flowering twig; 2. Calyx tube; 3. Corolla tube (split open); 4. Gynoecium.

*Distrib.*: Subansiri, (Apatani valley); ca 1620 m, in subtropical forests.

**Agapetes salicifolia** C. B. Clarke in Hook. f., Fl. Brit. India 3: 455. 1882; Airy Shaw in Kew Bull. 1958: 479. 1958.

Epiphytic shrubs; branches scarcely angular, glabrous. Leaves narrowly oblanceolate, entire, coriaceous. Flowers small, in few flowered racemes; corolla cylindric, 1.5–1.6 cm, crimson with short lobes.

*Fl.*: March–May

*Distrib.*: Subansiri, (Delei valley).

*Note*: Airy Shaw (*l.c.* 479) remarked 'the undetermined fruiting specimen collected by Kingdon Ward (no. 7922) in Delei valley and referred to in Kew Bull. 1935: 38. 1935, looks superficially very much like a broad-leaved form of *A. salicifolia*, but is probably specifically distinct.

**Agapetes saligna** (Hook. f.) Hook. f. in Benth. & Hook. f., Gen. Pl. 2: 571. 1876; C. B. Clarke in Hook. f., Fl. Brit. India 3: 444. 1881; N. P. Balakr., Fl. Jowai 1: 284. 1981; A. S. Chauhan in Hajra *et al.*, Contrib. Fl. Namdapha 207. 1996.

Epiphytic shrubs. Leaves sub verticillate or scattered, elliptic-lanceolate, cuneate or acute at base, acuminate at apex. Flowers ca 2 cm long, red. Fruits red.

*Fl. & Fr.*: Oct.–March.

*Distrib.*: Changlang, Lohit.

**Agapetes serpens** (Wight) Sleumer in Engl., Bot. Jahrb. 70: 180. 1939; Airy Shaw in Kew Bull. 3: 102. 1948 & *ibid.* 14: 113. 1960. *Vaccinium serpens* Wight in Calcutta J. Nat. Hist. 8: 171. 1847. *Pentapterygium serpens* (Wight) Klotz. in Linnaea 24: 47. 1851; C. B. Clarke in Hook. f., Fl. Brit. India 3: 449. 1882. **Fig. 4.**

Epiphytic shrubs; branches pendulous, hispid, densely leafy. Leaves elliptic-oblong, coriaceous, glabrous, margins recurved. Flowers bright red with transverse V-shaped markings.

*Fl. & Fr.*: Feb.–May.

*Distrib.*: Kameng; 900–2400 m, on moss covered trees.

**Agapetes setigera** (Wall.) D. Don ex G. Don, Gen. Syst. 3: 862. 1834; C. B. Clarke in Hook. f., Fl. Brit. India 3: 443. 1881. *Thibaudia setigera* Wall. Num. List no. 752.

Woody epiphytes. Leaves large, up to 11 cm long. Flowers dark crimson or deep red, in densely setose and puberulous inflorescence.

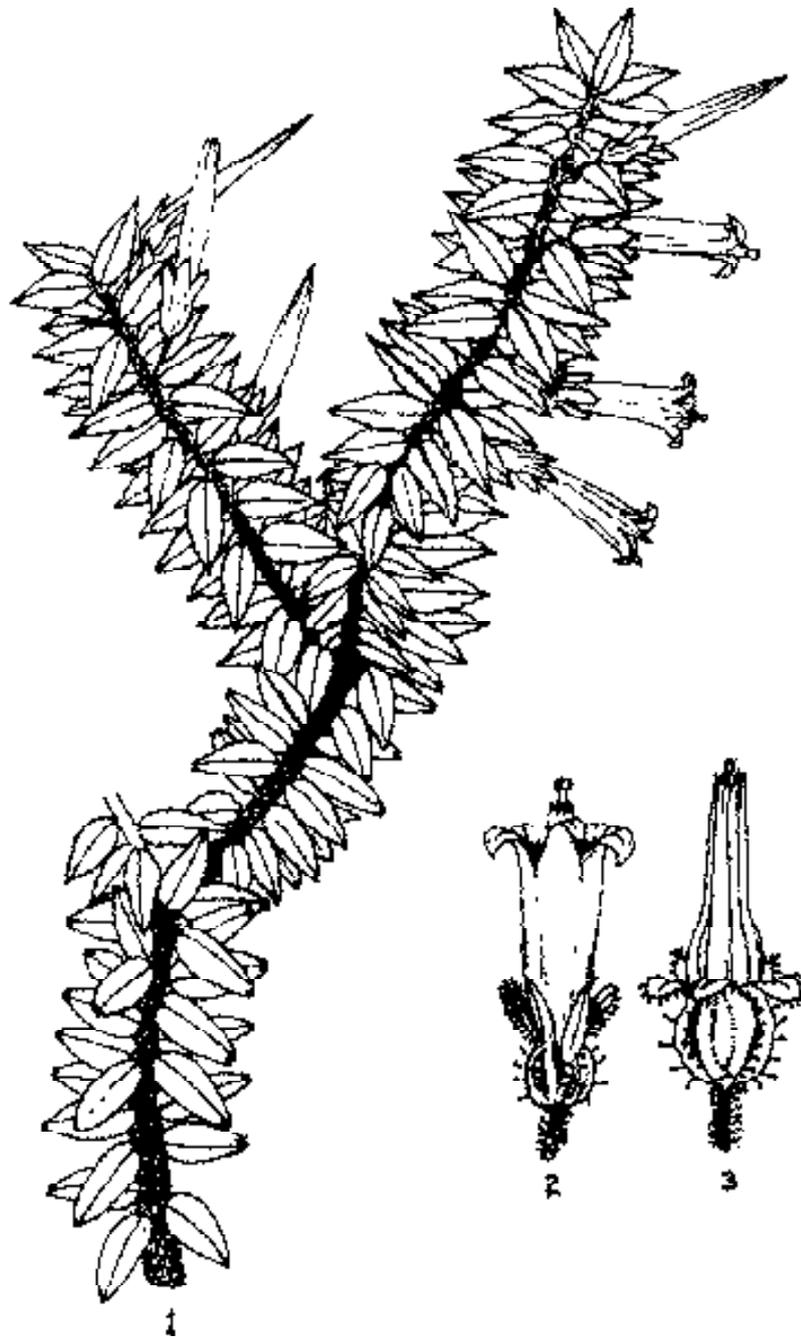


Fig. 4. *Agapetes serpens* (Wight) Sleumer: 1. Flowering twig; 2. Flower; 3. Androecium (with calyx tube).

*Fl. & Fr.*: Jan. March.

*Distrib.*: Dibang valley, Siang; 700–1500 m.

*Note*: Airy Shaw in Kew Bull. 1935: 33-36. 1935 described five varieties in addition to var. *setigera*. The material from Arunachal Pradesh requires confirmation.

***Agapetes sikkimensis*** Airy Shaw in Kew Bull. 1935: 29. 1935. *Thibaudia auriculata* Griff., Ic. Pl. Asiat. t. 508. 1854. *Agapetes auriculata* (Griff.) Hook. f. in Benth. & Hook. f., Gen. Pl. 2: 571. 1876. *Vaccinium auriculatum* Kurz in J. As. Soc. Bengal 2: 214. 1877.

Epiphytic shrubs, up to 120 cm tall; branches stout, glabrous. Leaves large, sessile, oblong-lanceolate, base rounded, coriaceous. Flowers bright red, finely pubescent. Fruits bright red.

*Fl. & Fr.*: April–June.

*Distrib.*: Kameng; 900–1500 m.

***Agapetes similis*** Airy Shaw in Kew Bull. 21: 472. 1968; Bennet & Naithani in Notes Roy. Bot. Gard. Edinburgh 38: 137. 1980.

Epiphytic shrubs; branches horizontal, patent hairy. Leaves elliptic to sub rhomboid-ovate, remote dentate-serrate, revolute, glabrous. Flowers red, in axillary three flowered corymbs. Fruits ellipsoid, glaucous green.

*Fl. & Fr.*: Sept.–Nov.

*Distrib.*: Kameng, Subansiri; 1500–2400 m, in sheltered deciduous forests.

***Agapetes splssa*** Airy Shaw in Kew Bull. 1935: 49. 1935; Kanjilal *et al.*, Fl. Assam 3: 535. 1939.

Large epiphytic shrubs; branches verticillate to subverticillate, hairy. Leaves obovate, crenate-denticulate. Flowers solitary, axillary, white; calyx segments nearly connate; corolla subcylindric, narrowed at apex, 5-angled, minutely hairy on angles without.

*Fl. & Fr.*: July–Sept.

*Distrib.*: Lohit, Siang; 1800–2500 m.

***Agapetes subansirica*** G. D. Pal *et* Thoth, in Bull. Bot. Surv. India 26 (3-4): 239. (1984) 1986. Fig. 5.

Epiphytic shrubs, up to 1.5 m high; buds covered with leafy scales. Leaves oblong-lanceolate. Flowers in axillary corymbs; corolla cylindric-tubular, pinkish-green.

*Fl.*: April–June.

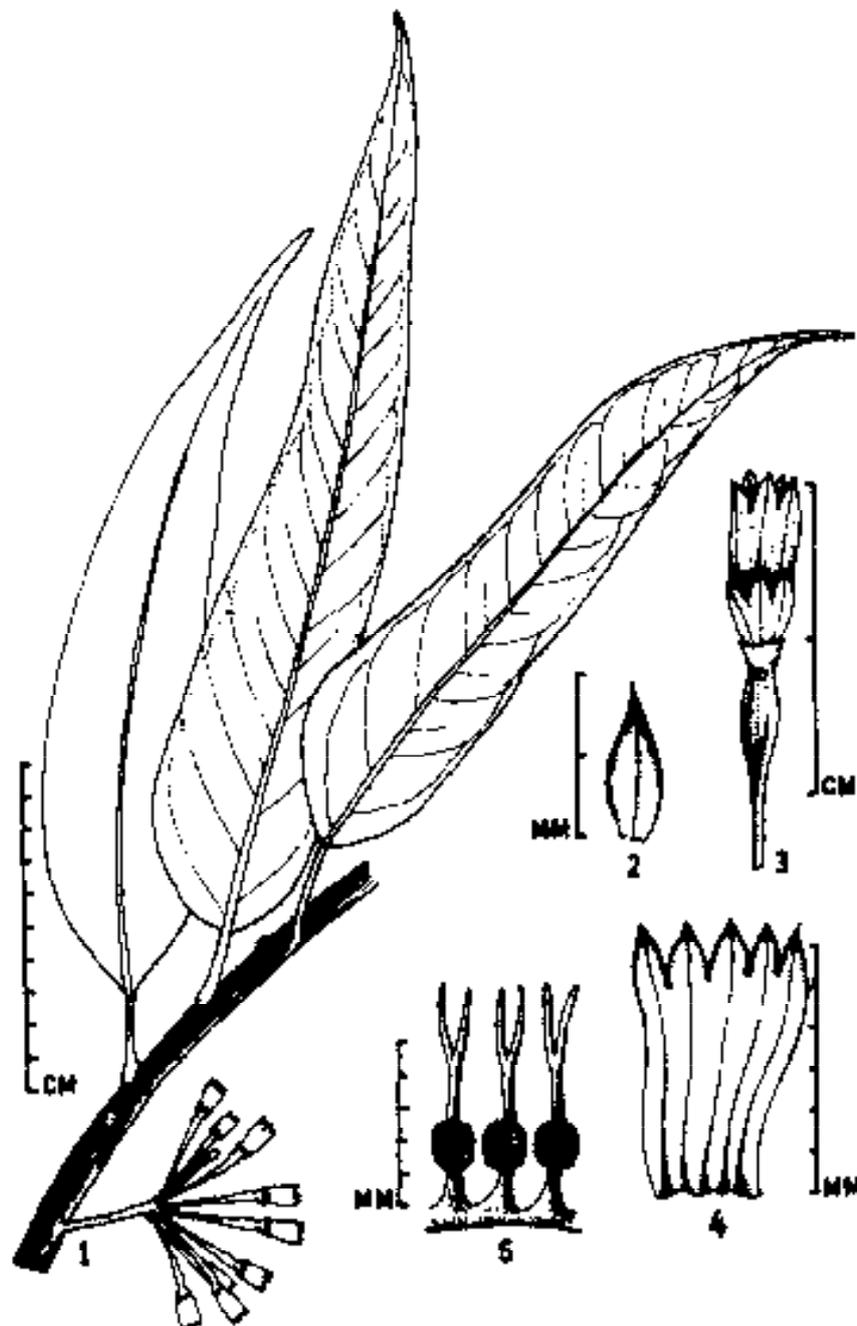


Fig. 5. *Agapetes subansirica* G. D. Pal *et* Thoth. : 1. Flowering branch; 2. Bract; 3. Flower; 4. Corolla (split open); 5. Androecium.

*Distrib.:* Subansiri; on tree trunks along river banks in dense subtropical forests.

**Agapetes variegata** (Roxb.) D. Don ex G. Don, Gen. Syst. 3: 862, 1834; C. B. Clarke in Hook. f., Fl. Brit. India 3: 446, 1881; Airy Shaw in Kew Bull. 1948: 88, 1948 & *ibid.* 13: 477, 1959. A. S. Chauhan in Hajra *et al.*, Contrib. Fl. Namdapha 207, 1996. *Ceratostema variegatum* Roxb., Fl. Ind. 2: 413, 1832. *Agapetes loranthifolia* D. Don ex G. Don var. *glabrata* C. B. Clarke in Hook. f., Fl. Brit. India 3: 446, 1881. *A. variegata* var. *glabrata* (C. B. Clarke) Airy Shaw in Kew Bull. 1948: 88, 1948.

**var. variegata**

Epiphytic shrubs; stems swollen, spindle shaped, glabrous. Leaves tufted, in false whorls, lanceolate to narrowly elliptic, cuneate at base with 2 glands, margin entire. Flowers in 4 - 10-flowered fascicles; corolla narrowed tubular, scarlet purple or pink with purple transverse markings, sweet scented. Fruits subglobose with persistent sepals.

*Fl. & Fr.:* Nov. - April.

*Distrib.:* Changlang, Dibang valley, Lohit, Siang; 1300 - 2000 m.

**Agapetes variegata** var. **macrantha** (Hook. f.) Airy Shaw in Kew Bull. 3: 89, 1948. *Thibaudia macrantha* Hook. f. in Curtis, Bot. Mag. 77: t. 4566, 1851. *Agapetes macrantha* (Hook. f.) Hook. f. in Benth. & Hook. f., Gen. Pl. 2: 571, 1876; C. B. Clarke in Fl. Brit. India 3: 446, 1881.

Shrubs; branches terete. Leaves shortly petiolate, narrowed at both ends. Flowers much larger than var. **variegata**.

*Fl. & Fr.:* June - Aug.

*Distrib.:* Kameng, Lohit, Subansiri; 1500 - 2000 m.

**Craibiodendron henryi** W.W.Sm. in Notes Roy. Bot. Gard. Edinburgh 5: 158, 1912; C. E. C. Fisch. in Kew Bull. 1939: 210, 1939. *C. mannii* W.W.Sm. in Notes Roy. Bot. Gard. Edinburgh 5: 159, 1912; Kanjilal *et al.*, Fl. Assam 3: 151, 1939.

Small trees. Leaves alternate, entire. Inflorescence terminal paniced raceme; pedicels short, bracteate, bracteolate. Calyx persistent. Corolla campanulate. Capsules compressed, globose, 5-locular. Seeds unilaterally winged.

*Fl. & Fr.:* May - Aug.

*Distrib.:* Arunachal Pradesh,

**Eukianthus deflexus** (Griff.) C. K. Schneid., Ill. Handb. Laubh. 2: 512. 1911. *Rhodora deflexa* Griff., Itin. Notes 148 & 187. 1837. *Enkianthus himalaicus* Hook. f. et Thomson in Hook., Kew J. Bot. 125, t. 3. 1855; C. B. Clarke in Hook. f., Fl. Brit. India 3: 461. 1881.

Small trees or shrubs, 5-7 m high. Leaves ovate or elliptic, serrulate. Inflorescence umbellate. Flowers yellowish brown with reddish tip. Capsules pentagonal, glabrous.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Kameng, Lohit, Subansiri; 2400 - 3300 m, on hill slopes.

**Gaultheria codonantha** Airy Shaw in Hook. f., Ic. Pl. 33, t. 3207. 1933 & in Kew Bull. 1940: 311. 1941; Kanjilal *et al.*, Fl. Assam 3: 149. 1939.

Large bushy shrubs; branches wide spreading, ferruginous setose. Leaves ovate, elliptic-ovate or lanceolate, acute or acuminate, margin shortly toothed, coriaceous, glabrescent, base cordate or truncately rotundate. Inflorescence axillary, shortly racemose or corymbose. Flowers cream coloured in bud, banded often with red at maturity.

*Fl. & Fr.*: March - June.

*Distrib.*: Lohit, Siang; up to 1500 m.

**Gaultheria fragrantissima** Wall. in As. Res. 13: 397. 1820; C. B. Clarke in Hook. f., Fl. Brit. India 3: 457. 1882.

Stout shrubs, up to 4 m high; branches more or less trigonous. Leaves lanceolate to ovate, acute at apex, rhomboid at base, crenate-serrate, coriaceous. Inflorescence pubescent raceme. Flowers green to greenish yellow or whitish.

*Fl. & Fr.*: Nov. - Jan.

*Distrib.*: Siang; 1200 - 1800 m.

*Use*: Juice extracted from crushing the leaves, mixed with water is taken in cough.

**Gaultheria griffithiana** Wight in Calcutta J. Nat. Hist. 8: 176. 1847; Wight, Ic. 4: t. 1197. 1848; C. B. Clarke in Hook. f., Fl. Brit. India 3: 458. 1882.

Stout shrubs, up to 2 m high; stems reddish. Leaves oblong elliptic, caudate, acuminate, closely serrulate. Inflorescence pubescent raceme. Calyx teeth ovate-oblong, obtuse. Corolla whitish.

*Fl. & Fr.*: Oct. - Dec.

*Distrib.*: Lohit, Siang; 1800 - 2700 m.

**Gaultheria hookeri** C. B. Clarke in Hook. f., Fl. Brit. India 3: 458, 1882.

Undershrubs, up to 2 m high; branches hispid. Leaves elliptic, apex rounded, serrate, base rounded, bristly beneath. Flowers in pubescent racemes; calyx teeth ovate, obtuse, glabrous; corolla pink or white.

*Fl. & Fr.*: Aug. - Oct.

*Distrib.*: Kameng, Siang; 3000 - 3300 m.

**Gaultheria hypochlora** Airy Shaw in Kew Bull. 1940: 324, 1940.

Creeping or crawling plants with slender thread like branches forming carpet. Leaves chartaceous-coriaceous, obovate, apex rotundate. Flowers few, solitary; corolla broadly campanulate, snow white. Berries bright blue.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Subansiri, (Delei valley); 3000 - 3500 m, in open places amongst moss in Abies-Rhododendron forests.

**Gaultheria seshagiriana** Subba Rao *et* Kumari in Bull. Bot. Surv. India 10(2): 223, 1968, Fig. 6.

Glabrous shrubs. Leaves ovate-lanceolate, hard, mucronulate, glabrous. Inflorescence axillary racemes; bracts and bracteoles ciliate. Flowers pinkish white; corolla broadly campanulate, lobes slightly recurved. Berries blue when dry.

*Fl. & Fr.*: Sept. - Nov.

*Distrib.*: Siang; 3000 - 3800 m.

**Gaultheria sinensis** Anthony in Notes Roy. Bot. Gard. Edinburgh 18: 19, 1933, *p.p.*; Hand-Mazz., Symb. Sin. 7: 793, 1936; Airy Shaw in Kew Bull. 1940: 325, 1940.

Prostrate or creeping herbs; branches slender, adpressed hairy or minutely verrucose. Leaves elliptic-oblong or obovate, mature leaves ciliate. Berries bluish or bright rosy-red.

*Fl. & Fr.*: July - Aug.

*Distrib.*: Subansiri, (Delei vally); 3000 - 3600 m, on steep earth screes and rocky faces among scrub Rhododendrons.

**Gaultheria thymifolia** Stapf *ex* Airy Shaw in Kew Bull. 1940: 322, 1941.

Creeping, dwarf shrubs forming mats; branches slender, sparsely ferruginous. Leaves small, linear or narrowly oblanceolate, ciliate.



Fig. 6. *Gaultheria seshagiriensis* Subba Rao *et* Kumari ;  
1. Twig; 2. Calyx; 3. Corolla; 4. Androecium; 5. Gynoecium.

Corolla shortly campanulate, whitish to purplish red or maroon. Berries blue or bright rosy-red.

*Fl. & Fr.*: June July.

*Distrib.*: Arunachal Pradesh; among boulders in higher elevation.

**Gaultheria trichophylla** Royle, Ill. Bot. Himal. 200, t. 63 a-c, f. 3. 1935; C. B. Clarke in Hook. f., Fl. Brit. India 3: 457. 1882.

Prostrate herbs, hirsute upward. Leaves oblong, cuneate at base, glabrous on both surfaces, margin long ciliate. Flowers red or nearly white. Fruits bright blue.

*Fl. & Fr.*: Sept. Nov.

*Distrib.*: Kameng; 3000-3900 m.

**Lyonia ovalifolia** (Wall.) Drude in Engl. et Prantl, Pflanzenfam. 4 (1): 44. 1889; N. P. Balakr., Fl. Jowai 1: 281. 1981; A. S. Chauhan in Hajra *et al.*, Contrib. Fl. Namdapha 208. 1996. *Andromeda ovalifolia* Wall. in As. Res. 13: 391, t. 11. 1820. *Pieris ovalifolia* (Wall.) D. Don in Edinburgh New Phil. J. 17: 159. 1834; C. B. Clarke in Hook. f., Fl. Brit. India 3: 460. 1882. *P. ovalifolia* var. *lanceolata* (Wall.) C. B. Clarke in Hook. f., Fl. Brit. India 3: 461. 1882.

Deciduous, small trees or shrubs, 6-12 m tall. Leaves ovate or elliptic, acute, entire, rounded at base, glabrous or pilose beneath. Inflorescence raceme, simple or rarely panicle, more or less pubescent. Flowers white. Fruits globose, glabrous.

*Fl. & Fr.*: April Nov.

*Distrib.*: Changlang, Lohit, Siang; 1500-2000 m, in hilly terrain.

*Use*: Infusion of young leaves and buds is applied to skin diseases.

**Lyonia villosa** (Hook. f. ex C. B. Clarke) Hand.-Mazz., Symb. Sin. 7: 789. 1936; H. Hara, Fl. E. Himal. 236. 1966. *Pieris villosa* Hook. f. ex C. B. Clarke in Hook. f., Fl. Brit. India 3: 461. 1882.

Small trees, 5-12 m high. Leaves elliptic, obovate or suborbicular, subobtusate at apex, entire, villous beneath. Inflorescence 6-12-flowered raceme; bracts leafy, scattered throughout. Flowers white. Fruits globose, glabrous.

*Fl. & Fr.*: Sept. Nov.

*Distrib.*: Kameng; 3000-3900 m.

**Pieris formosa** G. Don in Edinburgh New Phil. J. 17: 159. 1834; C. B. Clarke in Hook. f., Fl. Brit. India 3: 461. 1882.

Evergreen, small trees or shrubs, 5-7 m high. Leaves lanceolate, serrate, glabrous, acuminate at apex, attenuate at base. Inflorescence paniced raceme. Flowers white. Capsules ovoid, glabrous.

*Fl. & Fr.*: April - July.

*Distrib.*: Kameng; 2000 - 3300 m.

***Pyrola rotundifolia* L.**, Sp. Pl. 396. 1753; C. B. Clarke in Hook. f., Fl. Brit. India 3: 475. 1882.

Perennial herbs; branches glabrous. Leaves radical, orbicular or broadly ovate or obovate, elliptic, coriaceous, obtuse or subacute, entire, glabrous. Flowers in scapigerous long racemes, pale green when young. Capsules subglobose.

*Fl. & Fr.*: March - May.

*Distrib.*: Kameng; up to 2500 m.

***Rhododendron anthopogon* D. Don** in Mem. Wern. Nat. Hist. 3: 409. 1821; C. B. Clarke in Hook. f., Fl. Brit. India 3: 472. 1882. *R. haemonium* Balf. f. et Cooper in Notes Roy. Bot. Gard. Edinburgh 9: 283. 1916; Calder *et al.* in Rec. Bot. Surv. India 11 (1): 125. 1926.

subsp. ***anthopogon***

*Local name*: Balu (Monpa).

Small herbs or shrubs, up to 30 cm high; branchlets scabrous or densely scaly. Leafy bud scales deciduous. Leaves petiolate, elliptic, subobtuse at both ends, glabrous above, densely scaly beneath. Inflorescence terminal fascicle; pedicels short. Flowers pale or greenish yellow; corolla tube cylindrical, lobes wide spreading. Capsules ovoid.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Kameng, Tawang; 2400 - 4900 m, on open slopes, hill sides.

***Rhododendron anthopogon* subsp. *hypenanthum* (Balf. f.) Cullen** in Notes Roy. Bot. Gard. Edinburgh 37: 327. 1979. *R. hypenanthum* Balf. f. in Notes Roy. Bot. Gard. Edinburgh 9: 291. 1916.

Small shrubs, up to 1 m high. Leafy bud scales persistent. Leaves ovate or elliptic, rarely almost orbicular, rounded at base, subacute, mucronate or slightly emarginate at apex. Flowers white or pink, rarely creamy or yellowish.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Arunachal Pradesh; 3350 - 4500 m, on open slopes and sometimes in open forests.

**Rhododendron arboreum** Sm., Exot. Bot. 1: 9, t. 6, 1805; C. B. Clarke in Hook. f., Fl. Brit. India 3: 465, 1882.

subsp. **arboreum** var. **arboreum**

*Local name:* Shourin (Aka); Thama (Monpa).

Large shrubs or trees, up to 7 m high. Leaves broadly lanceolate, rugose on both surfaces, often rusty tomentose beneath. Inflorescence many flowered, dense. Flowers bright red, rarely white with dots. Capsules cylindric, curved, furfuracious.

*Fl. & Fr.:* April - July.

*Distrib.:* Kameng, Subansiri; 1500 - 2500 m, on rocky slopes.

**Rhododendron arboreum** subsp. **cinnamomeum** var. **roseum** Lindl. in Bot. Reg. 15: t. 1240, 1829. *R. arboreum* var. *album* Wall., Pl. As. Rar. 2: 23, t. 123, 1830.

Large trees with well developed trunks. Leaves as long as broad, reticulate above, fawn to whitish indumentum below. Flowers pink to carmine, rarely white.

*Fl. & Fr.:* April - July.

*Distrib.:* Kameng; 2700 - 3700 m in open forests, rocky slopes.

**Rhododendron arboreum** subsp. **delavayi** (Franch.) D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 37: 328, 1979. *R. delavayi* Franch. in Bull. Soc. Bot. France 33: 231, 1886.

var. **delavayi**

Leaves 2.8 - 4.4 cm, as long as broad, lower surfaces with spongy whitish indumentum. Flowers deep crimson to carmine.

*Fl. & Fr.:* May - Sept.

*Distrib.:* Kameng; 1500 - 3000 m, in open forests.

**Rhododendron arboreum** subsp. **delavayi** var. **peramoenum** (Balf. f. et Forrest) D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 37: 328, 1979. *R. peramoenum* Balf. f. et Forrest in Notes Roy. Bot. Gard. Edinburgh 13: 56, 1920.

Leaves linear-lanceolate, 14.5 x 2.5 cm, long acuminate at apex. Flowers in many flowered racemes, crimson, rhacis glandular tomentose.

*Fl. & Fr.:* May - Sept.

*Distrib.:* Dibang valley, 2500 - 3500 m.

**Rhododendron arizelum** Balf. f. *et* Forrest in Notes Roy. Bot. Gard. Edinburgh 12: 90. 1920; Kingdon-Ward in Gard. Chron. ser. 3, 92: 454. 1932; Sastry & Katakai in Ind. For. 932: 264. 1967.

Trees, ca 15 m tall. Leaves oblong-obovate, rounded at base, retuse or mucronate at apex, thickly coriaceous, dorsal surfaces rugose, ventral surfaces brown with thick indumentums. Flowers in dense, short racemes of 15 or more flowers; corolla obliquely campanulate, pale yellow with crimson flush at base. Capsules oblong-ovoid, slightly curved with orange-red indumenta.

*Fl. & Fr.*: Jan. - April.

*Distrib.*: Subansiri; 1500 - 3000 m.

**Rhododendron barbatum** Wall. *ex* G. Don in Gen. Syst. 3: 844. 1834; D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 39(2): 380. 1982. *R. lancifolium* Hook. f., Rhodo. Sikkim Himal. t. 4. 1849.

Large shrubs or small trees, 1 - 6 m high; young shoots with long, stiff bristles. Leaves elliptic to obovate; lower surfaces with scattered dendroid hairs and stipitate glands. Flowers fleshy, crimson to blood red, rarely white; ovary densely stipitate, glandular.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Kameng; 2700 - 3800 m, on open slopes amongst shrubs.

**Rhododendron beanianum** Cowan in New Flora & Silva 10: 245, f. 80, 1938; D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 39(2): 386. 1982.

Straggling shrubs, up to 3 m high; young shoots stellate-setose and stipitate-glandular. Leaves obovate-elliptic, as long as broad, upper surfaces rugulose, glabrous, lower tomentose. Inflorescence 6-10 flowered; pedicels setulose. Flowers fleshy, carmine to blood red.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Arunachal Pradesh; 3000 - 3500 m, on rocky slopes in forests.

**Rhododendron boothii** Nutt. in Hook., Kew J. Bot. 5: 346. 1853; Cullen in Notes Roy. Bot. Gard. Edinburgh 39: 134. 1980. *R. mishmiense* Hutch. *et* Kingdon -Ward in Notes Roy. Bot. Gard. Edinburgh 16: 173. 1931.

Epiphytic shrubs, up to 2 m high; younger parts yellowish tomentose. Leaves narrowly ovate to ovate-oblong. Flowers in dense, 6-10-flowered inflorescence. Flowers dull to bright yellow, sometimes spotted or lepidote without. Capsules ovoid.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Arunachal Pradesh; 1800 - 2500 m, in forest and scrubs, rarely on rocks.

**Rhododendron bulu** Hutch. in Rhod. Soc. Notes 31(5): 283. 1932; Cullen in Notes Roy. Bot. Gard. Edinburgh 39: 104. 1980; Sastry & Hajra in Jain & Rao, Threatened Pl. India 24. 1983.

Shrubs, up to 1.5 m high. Leaves elliptic or oblong-elliptic, apex rounded; scales on lower surfaces of two colours. Inflorescence 1-3 flowered. Flowers pinkish purple, rarely white, pubescent on throat. Capsules ovoid, lepidote.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Arunachal Pradesh; 3000 - 3800 m.

**Rhododendron calostrotum** Balf.f. *et* Kingdon-Ward subsp. **riparium** (Kingdon-Ward) Cullen in Notes Roy. Bot. Gard. Edinburgh 36: 112. 1978 & *ibid.* 39: 116. 1980. *R. riparium* Kingdon -Ward in Notes Roy. Bot. Gard. Edinburgh 16: 180. 1931.

Prostrate undershrubs, up to 1 m. Leaves elliptic, oblong-elliptic to suborbicular, both surfaces lepidote. Flowers 2-4, purple or pink, in terminal clusters.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Lohit; 3000 - 4500 m, on open rocky slopes, hill sides and along streams.

**Rhododendron camelliflorum** Hook. f., Rhodo. Sikkim Himal. t. 28. 1849; Cullen in Notes Roy. Bot. Gard. Edinburgh 39(1): 138. 1980. *R. sparsiflorum* Nutt. in Hook., Kew J. Bot. 5: 363. 1853.

Epiphytic shrubs, up to 2 m high; young branches lepidote. Leaves narrowly elliptic or oblong-elliptic, densely lepidote, brownish beneath. Flowers white to deep rose, rarely with a whitish or yellowish zone within at base. Capsules ovoid, tapering at apex, lepidote.

*Fl. & Fr.*: April - June.

*Distrib.*: Arunachal Pradesh; 2500 - 3700 m, in forests, forest margins, cliffs and often grow on rocks.

**Rhododendron campanulatum** D. Don in Mem. Wern. Nat. Hist. Soc. 3: 410. 1821; C. B. Clarke in Hook. f., Fl. Brit. India 3: 466. 1882.

Small trees or large shrubs, 1.8- 4.8 m tall. Leaves ovate to elliptic, subobtuse at both ends, tomentose beneath, glabrous above, dense fulvous lanate beneath. Flowers white to pale mauve or pink to rosy red. Capsules cylindric, more or less curved, glabrous.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Kameng; 2800 - 4000 m, in mixed forests and Scrubs jungles.

**Rhododendron campylocarpum** Hook. f., Rhodo. Sikkim Himal. 1. 30. 1851; D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 39(2): 263. 1982.

Shrubs or small trees, 1-6 m high; young shoots with few stipitate glands. Leaves orbicular to elliptic. Flowers saucer shaped, pale to sulphur-yellow with or without a basal blotch; style glandular at tip. Capsules curved, stipitate glandular.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Arunachal Pradesh; 3000 - 4600 m, in open forests on rocky slopes.

**Rhododendron campylogynum** Franch. in Bull. Soc. Bot. France 32: 10. 1885; Cullen in Notes Roy. Bot. Gard. Edinburgh 39(1): 145. 1980.

Creeping, prostrate or decumbent shrublets, up to 60 cm high. Leaves obovate or narrowly elliptic, often whitish or silvery beneath. Flowers pink to red or purple. Capsules on rigid pedicels, ovoid-cylindric, lepidote.

*Fl. & Fr.*: April - July.

*Distrib.*: Arunachal Pradesh; 2700 - 4900 m, on cliffs, hedges, scrubs.

**Rhododendron cephalanthum** Franch. in Bull. Soc. Bot. France 32: 9. 1885; Cullen in Notes Roy. Bot. Gard. Edinburgh 39(1): 161. 1980. *R. crebreflorum* Hutch. et Kingdon - Ward in Notes Roy. Bot. Gard. Edinburgh 16: 1763. 1931.

Shrubs, up to 1 m high. Leaves broadly elliptic to sub-orbicular, 12-26 × 7-15 mm, lower surfaces dark brown with overlapping scales. Flowers white or pink, rarely yellowish in terminal, dense, many flowered racemes. Capsules scarcely exceeding calyx.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Lohit; 3000 - 4500 m, in open meadows and rocky slopes.

**Rhododendron chamaethomsonii** (Tagg et Forrest) Cowan et Davidian, Rhod. Year Book. 6: 70. 1951; D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 16: 39. 406. 1982; Pradhan in Himal. Pl. J. 3: 114. 1985. *R. repens* Balf. f. et Forrest var. *chamaethomsonii* Tagg et Forrest in Notes Roy. Bot. Gard. Edinburgh 16: 206. 1931.

Dwarf shrubs, up to 1 m high; young branches stipitate-glandular or sparsely tomentose. Leaves broadly obovate to elliptic, rounded or retuse at apex, rounded to cuneate at base, upper surfaces glabrous. Inflorescence 2 - 5-flowered. Flowers fleshy, campanulate, pink to deep crimson.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Arunachal Pradesh; 4000 - 4600 m, amongst boulders on damp rocky soil.

**Rhododendron cinnabarinum** Hook. f., *Rhodo. Sikkim Himal.* t. 8. 1849; C. B. Clarke in Hook. f., *Fl. Brit. India* 3: 474. 1882.

subsp. **cinnabarinum**

Straggling shrubs, up to 7 m high; younger parts lepidote, often glaucous or with a pruinose bloom. Leaves narrowly elliptic, upper surfaces usually clepidote. Inflorescence terminal. Flowers tubular-campanulate, yellow, orange, coppery red or reddish yellow. Capsules lepidote.

*Fl. & Fr.*: Sept. - Nov.

*Distrib.*: Kameng; 2700 - 4000 m, on hill side forests and forest margins.

**Rhododendron cinnabarinum** subsp. **xanthocodon** (Hutch.) Cullen in *Notes Roy. Bot. Gard. Edinburgh* 36: 113. 1978. *R. xanthocodon* Hutch. in *Gard. Chron.* 95: 409. 1934. *R. cinnabarinum* var. *pallidum* Hook., *Bot. Mag.* 80: t. 4788. 1854. *R. cinnabarinum* var. *purpurellum* Cowan in *Notes Roy. Bot. Gard. Edinburgh* 21: 147. 1951.

Differs from subsp. **cinnabarinum** in having campanulate, yellow to apricot, purple or yellow flushed with purple flowers and leaves lepidote above.

*Fl. & Fr.*: Sept. - Nov.

*Distrib.*: Arunachal Pradesh; 3000 - 4000 m, on hill sides, forest margins.

**Rhododendron concinoides** Hutch. et Kingdon-Ward in *Notes Roy. Bot. Gard. Edinburgh* 16: 180. 1831; Sastry & Hajra in *Jain & Rao, Threatened Pl. India* 224. 1983.

Small shrubs, up to 3.5 m high. Leaves obovate to elliptic, densely brownish scaly beneath. Flowers in threes, pinkish or purplish with dark spots.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Lohit; 3000 - 4000 m. Rare and endemic. Only known from the type collection.

**Rhododendron crinigerum** Franch. in J. Bot. 12: 200. 1908; D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 39: 288. 1982.

Shrubs or small trees, 1-5 m high; young branches with sparse, stipitate glands. Leaves subcoriaceous, obovate to oblanceolate, often cuspidate, rounded at base, upper surfaces glabrous, lower surfaces densely matted hairy intermixed with stipitate glands. Inflorescence 8-14-flowered, rachis densely stipitate glandular. Flowers campanulate, white, flushed pink with a few purple flecks and a basal blotch.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Arunachal Pradesh; 3500 - 4000 m, in open pine forests, rocky slopes.

**Rhododendron dalhousiae** Hook. f., Rhodo. Sikkim Himal. t. 1 & 2. 1849; C. B. Clarke in Hook. f., Fl. Brit. India 3: 469. 1882.

var. **dalhousiae**

Epiphytic shrubs, young shoots loriform-setose. Leaves narrowly elliptic to obovate, loriform ciliate, scales reddish. Flowers campanulate, white or creamy, yellowish within, 5 longitudinal red lines running from corolla base to lobe apices without. Capsules cylindric fusiform, strongly 5-ridged.

*Fl. & Fr.*: April - Nov.

*Distrib.*: Kameng, Siang; 1500 - 2800 m, on forest trees along hill sides.

**Rhododendron dalhousiae** var. **rhabdotum** (Balf. f. et Cooper) Cullen in Notes Roy. Bot. Gard. Edinburgh 36: 107. 1978. *R. rhabdotum* Balf. f. et Cooper in Notes Roy. Bot. Gard. Edinburgh 10: 141. 1917.

Epiphytic or rarely terrestrial shrubs; young branches hairy. Leaves crowded at branch apices, elliptic-oblong, densely bristled. Flowers yellow or creamy, yellowish inside with 5 longitudinal red lines.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Kameng; 1500 - 2600 m, epiphytic in forests or along hill sides.

**Rhododendron dendricola** Hutch. in Notes Roy. Bot. Gard. Edinburgh 12: 60. 1919.

Epiphytic or terrestrial shrubs. Leaves narrowly elliptic to narrowly obovate, acute or with a short drip-tip, nerves impressed above, dark green or brown on drying. Flowers white, often with a yellow, orange or greenish blotch, flushed with pink, lepidote outside, tube pilose at base.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Arunachal Pradesh; 1200 - 1400 m, on rock cliffs.

**Rhododendron edgeworthii** Hook. f., *Rhodo. Sikkim Himal.* t. 21. 1849; C. B. Clarke in Hook. f., *Fl. Brit. India* 3: 469. 1882.

Terrestrial or epiphytic shrubs, 1.2 - 1.8 m tall. Leaves oblong-ovate or elliptic, subacute, dull green, densely ferruginous woolly beneath. Flowers white or sometimes flushed pink or with a yellow blotch at base. Capsules broadly oblong, ferruginous woolly.

*Fl. & Fr.*: March - Sept.

*Distrib.*: Kameng; 2100 - 3300 m, in dense forests.

**Rhododendron eudoxum** Balf. f. *et* Forrest in *Notes Roy. Bot. Gard. Edinburgh* 12: 62. 1919; D. F. Chamb. in *Notes Roy. Bot. Gard. Edinburgh* 39: 401. 1982; Pradhan in *Himal. Pl. J.* 3: 17. 1985.

Dwarf shrubs, up to 1.5 m high; young branches tomentose. Leaves elliptic, obtuse at apex, apiculate, rounded at base, upper surfaces glabrous, lower surfaces with thin and discontinuous whitish to brown indumenta. Inflorescence 2-6-flowered. Flowers tubular-campanulate to campanulate, pink to rose-carmine; ovary predominantly glandular.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Arunachal Pradesh; 3350 - 4250 m, on rocky slopes, cliffs and thickets.

**Rhododendron exasperatum** Tagg in *Notes Roy. Bot. Gard. Edinburgh* 16: 192. 1931.

Shrubs or small trees, 2-5 m high; young shoots densely covered with stout, gland tipped bristles. Leaves broadly obovate to elliptic, lower surfaces gland-tipped hairy, distinctly petiolate. Flowers brick red; ovary densely stipitate glandular.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Dibang valley, Subansiri; 3000 - 3700 m, in forests.

**Rhododendron falconeri** Hook. f., *Rhodo. Sikkim Himal.* t. 10. 1849; C. B. Clarke in Hook. f., *Fl. Brit. India* 3: 465. 1882.

subsp. **falconeri** var. **falconeri**

Trees, 6-12 m high. Leaves broadly elliptic to obovate, upper surfaces rugulose, glabrous, lower surfaces densely hairy. Calyx viscid-glandular. Corolla fleshy, white, pink to magenta or purple with a darker basal blotch. Ovary and pedicels glandular. Capsules straight.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Arunachal Pradesh; 2500 - 3800 m.

**Rhododendron falconeri** subsp. **eximium** (Nutt.) D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 37: 330. 1979. *R. eximium* Nutt. in Hook., J. Bot. Kew Gard. Misc. 5: 364. 1853.

Shrubs or small trees, about 9 m tall. Leaves large, long petioled, elliptic, obtuse, upper surfaces scurfy even at maturity, ferruginous tomentose beneath, very coriaceous. Flowers pale pink with darker tips. Capsules more or less tomentose, curved.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Kameng, Subansiri; 2700 - 3000 m.

**Rhododendron formosum** Wall., Pl. As. Rar. 3(3): t. 207. 1832; Kanjilal *et al.*, Fl. Assam 3: 153. 1939. *R. formosum* var. *salicifolium* C. B. Clarke in Hook. f., Fl. Brit. India 3: 473. 1882. *R. iteaphyllum* Hutch. in Notes Roy. Bot. Gard. Edinburgh 12: 83. 1919.

var. **formosum**

Small shrubs, up to 2.4 m tall. Leaves elliptic to linear-elliptic, 10-16 mm broad, acute, veins impressed above, glabrous or setose-ciliate. Inflorescence corymb. Flowers funnel-campanulate, whitish pink, often with yellow markings along tube. Capsules erect, symmetric.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Kameng; 1500 - 2300 m, along streams, moist places.

**Rhododendron formosum** var. **inaequale** (Hutch.) Cullen in Notes Roy. Bot. Gard. Edinburgh 36: 108. 1978; R. B. Ghosh & Samaddar in J. Econ. Tax. Bot. 13(1): 209. 1989. *R. inaequale* Hutch. in Notes Roy. Bot. Gard. Edinburgh 12: 75. 1919; C. B. Clarke in Hook. f., Fl. Brit. India 3: 473. 1882.

Erect shrubs. Leaves broadly elliptic, 16-21 mm broad. Flowers white or white flushed with pink, often with a yellow blotch and pink markings along tube. Capsules lepidote.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Arunachal Pradesh; 1500–2500 m, on hill slopes.

**Rhododendron fulgens** Hook. f., *Rhodo. Sikkim Himal.* 27, t. 25. 1849; D. F. Chamb. in *Notes Roy. Bot. Gard. Edinburgh* 39(2): 415. 1982; C. B. Clarke in Hook. f., *Fl. Brit. India* 3: 466. 1882.

Large shrubs, 1.8–5 m tall. Leaves ovate to obovate, base rounded, tomentose beneath. Inflorescence 8-14-flowered. Flowers campanulate, light violet or scarlet to blood red. Capsules glabrous, cylindrical, more or less curved.

*Fl. & Fr.*: May–Sept.

*Distrib.*: Kameng; 3000–4300 m, in forests.

**Rhododendron fulvum** Balf. f. et W.W. Sm. in *Notes Roy. Bot. Gard. Edinburgh* 10: 110. 1917; D. F. Chamb. in *Notes Roy. Bot. Gard. Edinburgh* 39: 366. 1982; Pradhan in *Himal. Pl. J.* 3: 117. 1985.

Shrubs or small trees, 2-8 m high; young shoots rufous-tomentose. Leaves oblanceolate to elliptic, apex rounded, apiculate, base cuneate, lower surfaces with dense indumenta, upper layer fulvous, largely composed of capitate hairs. Inflorescence 10–20-flowered. Flowers campanulate, white to pink, usually with basal blotch.

*Fl. & Fr.*: May–Sept.

*Distrib.*: Arunachal Pradesh; 3000–4700 m.

**Rhododendron glaucophyllum** Rehder in *J. Arn. Arb.* 26: 73. 1945; Cullen in *Notes Roy. Bot. Gard. Edinburgh* 39(1): 140. 1980. *R. glaucum* Hook. f., *Rhodo. Sikkim Himal.* t. 17. 1849.

var. **glaucophyllum**

Shrubs, up to 1.5 m high. Leaves narrowly elliptic to elliptic. Inflorescence 4-6-flowered. Flowers pink or rosy-red, rarely white; corolla campanulate, densely lepidote without; style sharply deflexed. Capsules ovoid, lepidote.

*Fl. & Fr.*: April–Aug.

*Distrib.*: Kameng; 3000–3500 m, on rocky slopes.

**Rhododendron glaucophyllum** var. **tubiforme** Cowan et Davidian, *Rhodo. Year Book* 3: 86. 1948; Cullen in *Notes Roy. Bot. Gard. Edinburgh* 39(1): 140. 1980.

Differs from var. **glaucophyllum** in having tubular corolla and declinate style.

*Fl. & Fr.*: April–Aug.

*Distrib.*: Arunachal Pradesh; 2700–3700 m, in forests and on rocks.

**Rhododendron grande** Wight in Calcutta J. Nat. Hist. 8: 176. 1847; Cullen in Notes Roy. Bot. Gard. Edinburgh 39(2): 244. 1982. *R. argenteum* Hook. f., Rhodo. Sikkim Himal. t. 8. 1849. *R. longiflorum* Nutt. in Hook., J. Bot. Kew Gard. Misc. 5: 366. 1853.

Shrubs or trees, 8-12 m high. Leaves large, elliptic to oblanceolate, glabrous above and silvery hairy beneath. Flowers large, white, creamy, pale yellow or red-scarlet, ventricose-campanulate. Capsules brown tomentose.

*Fl. & Fr.*: March - Sept.

*Distrib.*: Kameng, Subansiri; 2500-3000 m, on open stony slopes, mixed woodlands.

**Rhododendron griffithianum** Wight, Ic. 4: 6, t. 1203; D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 39(2): 237. 1982. *R. aucklandii* Hook. f., Rhodo. Sikkim Himal. t. 11. 1851. *R. oblongum* Griff., Ic. Pl. Asiat. t. 523. 1854. Fig. 7.

Shrubs or trees, 2-10 m high, young parts floccose. Leaves oblong or as long as broad. Flowers open campanulate, pale pink, fading to white with large calyx about 15-20 mm long.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Dibang valley, Kameng, Siang; 2000-3000 m, in open mixed woodlands.

**Rhododendron hodgsonii** Hook. f., Rhodo. Sikkim Himal. 16, t. 1851. 15. 1851; C. B. Clarke in Hook. f., Fl. Brit. India 3: 464. 1882; D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 39(2): 259. 1982.

Trees or shrubs, 10-15 m high. Leaves obovate, oblong, long petioled, upper surfaces glabrescent, lower surfaces with silvery indumenta in two layers, upper one composed of slightly fimbriate, cup shaped hairs. Inflorescence 15-25-flowered. Flowers pink to magenta or purple with a darker basal blotch.

*Fl. & Fr.*: April - June.

*Distrib.*: Kameng; 3000-3600 m, along open hill sides in forests.

**Rhododendron hookeri** Nutt. in Hook., J. Bot. Kew Gard. Misc. 5: 359. 1853; D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 39(2): 422. 1982.

Shrubs or small trees, up to 4 m high, glabrous. Leaves broadly oblanceolate, glabrous; petioles winged. Inflorescence dense flowered. Flowers tubular campanulate, deep rose to crimson.



Fig. 7. *Rhododendron griffithianum* Wight : Flowering Twig.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Kameng; 2500 - 3000 m, on slopes and along forest margins.

**Rhododendron johnstoneanum** (Watt ex Brandis) Hutch. in Notes Roy. Bot. Gard. Edinburgh 12: 72. 1919. *R. formosum* var. *johnstoneanum* Watt ex Brandis, Ind. Trees 411. 1906.

Epiphytic shrubs. Leaves elliptic to broadly elliptic, scaly beneath. Flowers white with yellowish blotches and pink or purplish flush, laxly lepidote all over and pilose at base. Capsules lepidote.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Arunachal Pradesh; 1800 - 3100 m, on slopes along forest margins.

**Rhododendron kasoense** Hutch. et Kingdon-Ward in Notes Roy. Bot. Gard. Edinburgh 16: 181. 1931; Cullen in Notes Roy. Bot. Gard. Edinburgh 39(1): 60. 1980.

Shrubs with scattered branches. Leaves oblong-lanceolate, glabrous or sparsely papillose and scaly beneath. Flowers campanulate, solitary or in 1-2-flowered inflorescence.

*Fl. & Fr.*: March - Sept.

*Distrib.*: Arunachal Pradesh; 1400 - 1800 m. Rare.

**Rhododendron kendrickii** Nutt. in Hook., J. Bot. Kew Gard. Misc. 5: 358. 1853; C. B. Clarke in Hook. f., Fl. Brit. India 3: 466. 1882; D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 39(2): 302. 1982. *R. pankimense* Cowan et Kingdon-Ward in Notes Roy. Bot. Gard. Edinburgh 19: 180. 1936.

Shrubs or small trees, 3-8 m high. Leaves subcoriaceous, narrowly oblanceolate to elliptic, acuminate, glabrous. Inflorescence 10 - 20 flowered. Flowers fleshy, tubular campanulate, deep red to scarlet. Capsules curved.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Kameng, Siang, Subansiri; 2300 - 3300 m, in mixed forests.

**Rhododendron keysii** Nutt. in Hook., J. Bot. Kew Gard. Misc. 5: 353. 1853; C. B. Clarke in Hook. f., Fl. Brit. India 3: 474. 1882; Cullen in Notes Roy. Bot. Gard. Edinburgh 39(1): 126. 1980.

Straggling shrubs, 2-6 m high. Leaves elliptic, narrowed at both ends, upper surfaces lepidote, under surfaces lepidote and scaly. Flowers pendulous, deep red to salmon pink, lobes usually yellow. Capsules cylindrical, lepidote.

*Fl. & Fr.*: May -Sept.

*Distrib.*: Kameng; 2400 - 3800 m, on rocky slopes in forests.

**Rhododendron lanatum** Hook. f., *Rhodo. Sikkim Himal.* 17, t. 16, 1849; C. B. Clarke in Hook. f., *Fl. Brit. India* 3: 467, 1882; D. F. Chamb. in *Notes Roy. Bot. Gard. Edinburgh* 39(2): 369, 1982. *R. flinckii* Davidian, *Quart. Bull. Amer. Rhodo. Soc.* 25: 143, 1975.

Shrubs, up to 4 m high; shoots densely rufous or white tomentose. Leaves coriaceous, elliptic or obovate, upper surfaces glabrate, lower surfaces thick crisped tomentose. Flowers creamy yellow with crimson flecks. Ovary densely rufous-tomentose. Capsules curved.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Arunachal Pradesh; 3000 - 4500 m, in forests.

**Rhododendron lanigerum** Tagg in *Notes Roy. Bot. Gard. Edinburgh* 16: 199, 1931; D. F. Chamb. in *Notes Roy. Bot. Gard. Edinburgh* 39(2): 332, 1982.

Shrubs or small trees, 2.5 - 6 m high. Leaves elliptic to oblanceolate, upper surfaces rugulose, hairy and glabrous at maturity, lower surfaces dense, whitish tomentose. Flowers deep pink to rosy-purple. Ovary densely tomentose. Capsules shortly cylindric.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Dibang valley; 2500 - 3500 m, on hill ridges.

**Rhododendron lepidotum** Wall. ex G. Don in *Gen. Syst.* 3: 845, 1834; C. B. Clarke in Hook. f., *Fl. Brit. India* 3: 47, 1882; Cullen in *Notes Roy. Bot. Gard. Edinburgh* 39(1): 149, 1980. *R. cremnastes* Balf. f. *et* Farrer in *Notes Roy. Bot. Gard. Edinburgh* 13: 253, 1922; Calder *et al.*, *Rec. Bot. Surv. India* 11(1): 124, 1926.

Slender, branched shrubs. Leaves elliptic or elliptic-oblong, narrowed at base, upper surfaces glabrous, under surfaces densely lepidote and translucent scaly. Inflorescence many flowered, sub-umbellate or 3-5-flowered corymb. Corolla white, yellow, pink or red, densely lepidote without. Capsules rough with scales.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Lohit.

**Rhododendron leptocarpum** Nutt. in Hook., *J. Bot. Kew Gard. Misc.* 6: 256, 1854; C. B. Clarke in Hook. f., *Fl. Brit. India* 3: 47, 1882; *R. pumilum* Nutt. in Hook., *J. Bot. Kew Gard. Misc.* 3: 554, 1853, *non* Hook. f., 1853.

Shrubs. Leaves elliptic or elliptic-oblong, glabrous. Flowers in 3-5-flowered corymbs. Corolla open campanulate, lemon yellow. Capsules rough with scales.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Lohit.

**Rhododendron lindleyi** T. Moore in Gard. Chron. 1864: 364. 1864; Cullen in Notes Roy. Bot. Gard. Edinburgh 39(1): 37. 1980. *R. bhotanicum* C. B. Clarke in Hook. f., Fl. Brit. India 3: 475. 1882.

Epiphytic shrubs. Leaves elliptic, oblong-elliptic or obovate, acute, glabrous, sparsely scaly beneath. Inflorescence 2-5-flowered. Flowers white or creamy with an orange yellow blotch at base. Capsules cylindric-fusiform, faintly 5-ridged.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Arunachal Pradesh; 2000 - 2800 m, in forests, rarely on rocks.

**Rhododendron maddenii** Hook. f., Rhodo. Sikkim Himal. t. 18. 1849; C. B. Clarke in Hook. f., Fl. Brit. India 3: 472. 1882; Cullen in Notes Roy. Bot. Gard. Edinburgh 39(1): 33. 1982. *R. maddenii* var. *calophylla* (Nutt.) C. B. Clarke in Hook. f., Fl. Brit. India 3: 473. 1882. *R. maddenii* var. *longiflora* Watson in Gard. Chron. 15: 684. 1894. *R. jenkinsii* Nutt. in Hook., J. Bot. Kew Gard. Misc. 5: 361. 1853.

subsp. **maddenii**

Shrubs, 1.8 - 2.4 m. tall. Leaves oblong or elliptic, acute, glabrous, densely scaly beneath. Inflorescence 4-12-flowered corymb. Flowers large, white, often flushed pink or purplish, rarely wholly pink, mouth widely funnel shaped. Capsules ovoid-globose, rounded at apex.

*Fl. & Fr.*: April - July.

*Distrib.*: Dibang valley, Kameng, Siang, Subansiri; 1500 - 3000 m, along hillsides, scrubs and damp forests.

**Rhododendron maddenii** subsp. **crassum** (Franch.) Cullen in Notes Roy. Bot. Gard. Edinburgh 36: 107. 1978; R. B. Ghosh & Samaddar in J. Econ. Tax. Bot. 13(1): 213. 1989. *R. crassum* Franch. in Bull. Soc. Bot. France 34: 282. 1887. *R. maddenii* var. *obtusifolia* Hutch. Bot. Mag. 134. t. 8212. 1908. *R. manipurensis* Balf. f. et Watt in Roy. Bot. Gard. Edinburgh 10: 119. 1917; Calder *et al.* in Rec. Bot. Surv. India 11(1): 126. 1926.

Much branched, tortuous trees or shrubs. Leaves broadly elliptic. Flowers large, white; filaments usually pubescent. Capsules oblong-cylindric, abruptly rounded to almost truncate at apex.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Kameng, Subansiri; 2000 - 3000 m.

**Rhododendron megacalyx** Balf.f. *et* Kingdon-Ward in Notes Roy. Bot. Gard. Edinburgh 9 : 246. 1916; Cullen in Notes Roy. Bot. Gard. Edinburgh 39(1): 41. 1980.

Shrubs, 1-5 m high. Leaves elliptic to obovate, scales small or large, deeply sunken in pits. Inflorescences 2 - 6-flowered. Calyx very large, cup like, reddish, whitish pruinose. Corolla white or creamy, rarely flushed pinkish purple. Capsules cylindric globose, lepidote, shorter than persistent calyx.

*Fl. & Fr.*: Sept. - Nov.

*Distrib.*: Arunachal Pradesh; 2000 - 3500 m, in scrubs forests or thickets, sometimes near water.

**Rhododendron megeratum** Balf. f. *et* Forrest in Notes Roy. Bot. Gard. Edinburgh 12: 140. 1920; Cullen in Notes Roy. Bot. Gard. Edinburgh 39(1): 137. 1980.

Terrestrial or rarely epiphytic shrubs, up to 1 m high, loriform setose. Leaves elliptic or elliptic-obovate or orbicular, margin loriform ciliate, lower surfaces with vesicular scales. Inflorescence 1 - 3 flowered. Flowers yellow or creamy, lepidote without. Capsules ovoid-cylindric, lepidote.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Arunachal Pradesh; 3000 - 4000 m, on rocks, cliffs, ledges, amongst boulders.

**Rhododendron mekongense** Franch. var. **rubrolineatum** (Balf. f. *et* Forrest) Cullen in Notes Roy. Bot. Gard. Edinburgh 36: 115. 1978; Sastry & Hajra in S. K. Jain & R. R. Rao, Threatened Pl. India 28. 1983. *R. rubrolineatum* Balf. f. *et* Forrest in Notes Roy. Bot. Gard. Edinburgh 12: 160. 1920.

Shrubs, up to 2 m high; sparsely loriform-setose and lepidote. Leaves deciduous, obovate or obovate-elliptic, rounded at apex, cuncate at base, loriform setae very sparse, restricted to petioles and leaf margins, sometimes at base of midrib beneath, upper surfaces puberulent. Inflorescence 2-4-flowered. Flowers yellow to greenish yellow, sometimes flushed with red. Capsules cylindric, lepidote.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Arunachal Pradesh; 3350 - 4250 m, on rocks, slopes, forest margins, rarely in swamps.

**Rhododendron micromeres** Tagg in Notes Roy. Bot. Gard. Edinburgh 16: 211, 1931; Cullen in Notes Roy. Bot. Gard. Edinburgh 39(1): 134, 1980.

Epiphytic or rarely terrestrial shrubs, up to 2 m high. Leaves narrowly elliptic or tending to obovate, lower surfaces papillose. Inflorescence 5-10-flowered; pedicels flexuous. Flowers yellow. Capsules narrowly cylindrical, often sickle shaped, lepidote.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Subansiri; 2400 - 3400 m.

**Rhododendron nayarii** G. D. Pal in J. Bombay Nat. Hist. Soc. 98(2): 258, 2001.

Small, decumbent, epiphytic shrublets, up to 50 cm tall, profusely branched, younger parts densely brownish or ferruginous brownish pilose. Leaves in whorls, 4-8 together, elliptic to elliptic-oblong, 16-22 x 8-11 mm, glabrous, margin loriform-setose, scales sunken in pits. Flower solitary, terminal, yellow, tube funnel-campanulate, corolla lobes distinctly notched at apex, calyx lobes oblong-spathulate. Capsules oblong-ellipsoid.

*Fl. & Fr.*: March - May.

*Distrib.*: Lower Subansiri (Tale valley); ca 3200 m, in moist shady places at higher elevation associated with species of mosses and lichens.

**Rhododendron neriifolium** Franch. in Bull. Soc. Bot. France 33: 230, 1886; D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 39(2): 408, 1982; R. B. Ghosh & Samaddar in J. Econ. Tax. Bot. 13(1): 213, 1989.

subsp. **neriifolium**

Shrubs or small trees, 1-6 m tall. Leaves elliptic to oblong or oblanceolate, rounded or apiculate to acuminate at apex, rounded at base, upper surfaces glabrous, lower surfaces sparsely floccose-tomentose or glabrescent, rarely glandular setose. Inflorescence many flowered. Flowers tubular-campanulate, fleshy, crimson or bright red; pedicels sparsely stellate-tomentose. Capsules strongly curved.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Subansiri; 2700 - 3500 m, amongst rocks and scrubs in pine forests.

**Rhododendron neriifolium** subsp. **phaedropum** (Balf. f. *et* Farrer) Tagg in Stevenson (ed.), *The species of Rhododendron* 533. 1930; D. F. Chamb. in *Notes Roy. Bot. Gard. Edinburgh* 39(2): 410. 1982. *R. phaedropum* Balf. f. *et* Farrer in *Notes Roy. Bot. Gard. Edinburgh* 13: 283. 1922. *R. tawangense* K. C. Sahni *et* H. B. Naithani in *Ind. For.* 105. 685. 1979.

Shrubs or small trees, 1-6 m high. Pedicles, calyx and ovary glandular. Flowers crimson, bright red or sometimes straw yellow. Capsules strongly curved.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Dibang valley, Kameng, Siang, Subansiri; 2000 - 3000 m, in primary forests.

**Rhododendron niveum** Hook. f., *Rhodo. Sikkim Himal.* t. 4. 1851; D. F. Chamb. in *Notes Roy. Bot. Gard. Edinburgh* 39(2): 332. 1982.

Shrubs or trees, up to 6 m high. Leaves oblanceolate to elliptic, upper surfaces glabrous, lower surfaces with dense, compact indumenta. Flowers deep magenta to deep lilac, in dense 15-20-flowered inflorescence; pedicles rufous tomentose. Capsules cylindric.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Kameng; 2900--3700 m, in mixed forests and rocky valleys.

**Rhododendron nuttallii** Booth in Hook., *Kew J. Bot.* 55: 355. 1853; C. B. Clarke in Hook. f., *Fl. Brit. India* 3: 470. 1882; Cullen in *Notes Roy. Bot. Gard. Edinburgh* 39(1): 36. 1980.

Trees or shrubs, up to 9 m tall. Leaves large, elliptic, coriaceous, prominently reticulate beneath. Inflorescence 3-4-flowered. Flowers white with a yellow blotch, pink at mouth, fragrant, lily like luminous; pedicels densely lepidote. Capsules much exceeding persistent calyx, cylindric, lepidote.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Subansiri; 1500 -2000 m, on cliffs, ledges and rocky slopes in open forests.

**Rhododendron obtusum** (Lindl.) Planch. in *Fl. Serres* 9: 80. 1853; C. E. C. Fisch. in *Kew Bull.* 1939: 97. 1939; H. B. Naithani in *Ind. For.* 103: 585. 1981. *Azalea obtusa* Lindl. in *J. Hort. Soc. London* 1: 52. 1846.

Tall shrubs, up to 6 m high. Leaves dimorphic, oval to elliptic-ovate, acute, cuneate at base, scattered appressed hairy on both surfaces. Inflorescence 1-3-flowered. Flowers funnel shaped, pink, rosy-mauve,

magenta to scarlet, crimson or white. Capsules conical ovoid, densely appressed setose.

*Fl. & Fr.*: March - May.

*Distrib.*: Subansiri; 1500 - 2000 m.

**Rhododendron papillatum** Balf. f. *et* Cooper in Notes Roy. Bot. Gard. Edinburgh 13: 282. 1922; D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 39(2): 304. 1982. *R. epapillatum* Balf. f. *et* Cooper in Notes Roy. Bot. Gard. Edinburgh 13: 257. 1922.

Shrubs or small trees, 2-5 m high. Leaves subcoriaceous, oblanceolate to oblong, upper surfaces glabrous, lower surfaces papillate cuticled and stellate hairy. Flowers pale green or pink with purple flecks and a basal blotch. Ovary densely dendroid, tomentose.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Arunachal Pradesh; 1800 - 3300 m.

**Rhododendron parryae** Hutch. in Gard. Chron. ser. 3, 93: 386. 1933; Cullen in Notes Roy. Bot. Gard. Edinburgh 39(1): 56. 1980.

Medium sized trees. Flowers sweet scented with yellow throat.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Subansiri; 1500 - 1800 m.

*Note*: Cullen (*l.c.*) referred the species under the uncertainly known species. The type is based on a cultivated plant said to be originated from Lushai Hill. The material from Arunachal Pradesh needs confirmation.

**Rhododendron pemakoense** Kingdon-Ward in Gard. Chron. 88: 298. 1930; Cullen in Notes Roy. Bot. Gard. Edinburgh 39(1): 121. 1980. *R. patulum* Kingdon-Ward in Gard. Chron. 88: 298. 1930.

Prostrate to erect, dwarf shrubs. Leave small, obovate or obovate-elliptic, markedly unequal. Inflorescence 1-2-flowered. Flowers large, bright purple or pink to pale purplish mauve, densely pilose and sparsely lepidote without. Capsules lepidote.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Lohit; 2800 - 3200 m, on cliffs and rock ledges.

**Rhododendron pendulum** Hook. f., Rhodo. Sikkim Himal. t. 13. 1849; Cullen in Notes Roy. Bot. Gard. Edinburgh 39(1): 27. 1980.

Straggling epiphytic shrubs, up to 1.3 m high. Leaves elliptic-oblong, glabrous, tough, mucronate-callose. Inflorescence 2-3-flowered; pedicels

tomentose. Flowers small, white, white flushed pink or creamy, lepidote without. Capsules oblong.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Arunachal Pradesh; 2000 - 3700 m.

**Rhododendron peramoinum** Balf. f. *et* Forrest in Notes Roy. Bot. Gard. Edinburgh 13: 56. 1920; Sastry & Katakai in Ind. For. 93: 264. 1967.

Trees, about 7 m tall. Leaves lanceolate or oblanceolate, leathery, attenuate at base, acuminate at apex, dorsal surfaces rough scurfy, ventral surfaces matted with thinly adpressed, greyish tomenta. Flowers in short racemes, bright scarlet-red.

*Fl. & Fr.*: Jan. - April.

*Distrib.*: Subansiri; 1500 - 3000 m.

**Rhododendron pruniflorum** Hutch. in Stevenson (ed.), The Species of Rhododendron 302. 1930; Cullen in Notes Roy. Bot. Gard. Edinburgh 39: 143. 1980. *R. sordidum* Hutch. in Rhodo. Soc. Notes 3: 286. 1932.

Shrubs, up to 1 m high with spreading branches, brownish bark. Leaves obovate to narrowly obovate, densely lepidote and scaly beneath. Flowers dull crimson to plum-purple, lepidote without. Capsules ovoid.

*Fl. & Fr.*: April - July.

*Distrib.*: Arunachal Pradesh; 3000 - 4000 m, in slopes and thickets.

**Rhododendron pumilum** Hook. f., Rhodo. Sikkim Himal. t. 14: 1849; C. B. Clarke in Hook. f., Fl. Brit. India 3: 471. 1882; Cullen in Notes Roy. Bot. Gard. Edinburgh 39(1): 120. 1980.

Creeping shrublets, up to 10 cm long. Leaves elliptic or oblong-elliptic, attenuate at base, margin revolute, golden scaly beneath. Inflorescence 2-4-flowered. Flowers purple or pink, pilose.

*Fl. & Fr.*: March - Sept.

*Distrib.*: Lohit; 3500 - 4200 m, on open slopes and rocks.

**Rhododendron santapau** Sastry *et al.* in J. Bombay Nat. Hist. Soc. 65: 744 - 747. 1969.

Epiphytic shrubs. Leaves subverticillate, elliptic to elliptic-lanceolate. Inflorescence umbellate. Flowers white.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Subansiri; on open slopes. Rare.

**Rhododendron setosum** D. Don in Mem. Wern. Soc. 3: 409. 1821; C. B. Clarke in Hook. f., Fl. Brit. India 3: 472. 1882; Cullen in Notes Roy. Bot. Gard. Edinburgh 39(1): 108. 1980.

Small, intricate shrublets, up to 30 cm high; young shoots densely lepidote. Leaves elliptic-obovate or ovate, small, mucronate at apex, margin loriform-setose, lower surfaces scanty. Flowers red-purple or pinkish in 1-3-flowered inflorescence, pilose within. Capsules oblong-cylindric, lepidote.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Kameng; 2500 - 4500 m, on open hillsides and slopes.

**Rhododendron sidereum** Balf. f. in Notes Roy. Bot. Gard. Edinburgh 12: 162. 1920; D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 39: 246. 1982.

Shrubs or small trees, 3-9 m high. Leaves oblanceolate to narrowly elliptic, acute to rounded at apex, apiculate, rounded to attenuate at base, upper surfaces glabrous, lower surfaces silvery. Inflorescence 12-20 flowered. Flowers ventricose campanulate, creamy to clear yellow, sometimes with red basal blotch.

*Fl. & Fr.*: May - July.

*Distrib.*: Arunachal Pradesh; 2500 - 3700 m, in thickets, mixed forests.

**Rhododendron sinogrande** Balf. f. et W.W. Sm. in Notes Roy. Bot. Gard. Edinburgh 9: 274. 1916; D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 39(1): 245. 1982.

Trees, 6-12 m high. Leaves lanceolate to broadly elliptic, rounded or retuse at apex, rounded at base, upper surfaces glabrous, lower surfaces silvery. Inflorescence 15-20-flowered; pedicels densely villous-tomentose, eglandular. Flowers ventricose-campanulate, creamy white with crimson blotch at base. Capsules slightly curved.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Arunachal Pradesh; 4000 - 4300 m.

**Rhododendron smithii** Nutt. ex Hook. f. in Bot. Mag. 85: t. 5120. 1859; C. B. Clarke in Hook. f., Fl. Brit. India 3: 469. 1882; D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 39(2): 380. 1982.

Shrubs or small trees, 2-8 m high; young shoots clothed with long, stiff setae. Leaves elliptic or obovate-lanceolate, lower surfaces pale brown hairy; petioles long gland tipped bristly. Flowers fleshy, scarlet to crimson. Capsules straight.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Kameng; 2700 - 3600 m, in mixed forests.

**Rhododendron stenaulum** Balf. f. *et* W.W.Sm. in Notes Roy. Bot. Gard. Edinburgh 10: 157. 1917.

Trees, up to 9 m tall; young shoots deep claret red. Leaves oblong or oblong-lanceolate, margin densely covered with white bristles, smooth, shining. Flowers white or reddish, scented, in axillary racemose umbel.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Subansiri.

**Rhododendron stewartianum** Diels in Notes Roy. Bot. Gard. Edinburgh 5: 211. 1912; D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 39: 426. 1982; Pradhan in Himal. Pl. J. 4: 75. 1986.

Shrubs, 0.5 - 2.5 m high; young shoots often glandular. Leaves obovate to elliptic, rounded at apex, apiculate, rounded at base, upper surfaces glabrous, lower surfaces with discontinuous indumenta intermixed with glands. Inflorescence 3 - 7-flowered. Flowers campanulate to tubular-campanulate, white or cream to pale rose with or without purple flecks.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Arunachal Pradesh; 3300 - 3600 m.

**Rhododendron subansiriense** D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 36: 124. 1978 & *ibid.* 39(2): 422. 1982.

Shrubs or trees, up to 15 m high; young shoots tomentose. Leaves oblong, apiculate; upper surfaces glabrous, lower surfaces with remains of hair bases along veins or glabrous. Inflorescence up to 15 flowered. Flowers tubular-campanulate, scarlet with a few purple streaks.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Subansiri; 2600 - 2800 m, in mossy rain forests. Rare.

*Note*: Known only from type collection.

**Rhododendron succothli** Davidian in Rhodo. Year Book 20: 103, t. 8. 1965; D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 39(2): 382. 1982.

Shrubs or small trees. Leaves sessile, narrowly oblong to elliptic, cordate at base, minutely apiculate, completely glabrous. Inflorescence 10-15-flowered. Flowers tubular-campanulate, crimson or scarlet. Capsules strongly curved.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Kameng; 3000 - 4200 m, in mixed forests.

**Rhododendron taggianum** Hutch. in Notes Roy. Bot. Gard. Edinburgh 16: 178. 1931; Cullen in Notes Roy. Bot. Gard. Edinburgh 39: 38. 1980.

Epiphytic shrubs. Leaves narrowly elliptic to oblong-elliptic, rarely obovate, tapered or rounded at base, obtuse or rounded at apex, lower surfaces with reddish brown scales. Calyx eciliate, often margined with scales. Corolla funnel-campanulate, white or creamy with an orange-yellow blotch at base. Capsules cylindric, weakly ridged.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Arunachal Pradesh; 1000 - 1300 m, near forest margins and scrubs.

**Rhododendron tephropeplum** Balf. f. *et* Farrer in Notes Roy. Bot. Gard. Edinburgh 13: 302. 1922; Cullen in Notes Roy. Bot. Gard. Edinburgh 39(1): 128. 1980. *R. deliensense* Hutch. *et* Kingdon-Ward in Notes Roy. Bot. Gard. Edinburgh 16: 172. 1931.

Shrubs, 0.5-1.5 m high. Leaves oblanceolate to elliptic, papillose with unequal scales beneath. Inflorescence 3-9-flowered; pedicels densely lepidote. Flowers campanulate, pink to red, variously lepidote without. Capsules ovoid-cylindric.

*Fl. & Fr.*: April - May.

*Distrib.*: Lohit; 2200 - 4200 m, on rocky slopes, cliffs, screes, alpine meadows.

**Rhododendron thomsonii** Hook. f., Rhodo. Sikkim Himal. t. 12. 1851; C. B. Clarke in Hook. f., Fl. Brit. India 3: 468. 1882; D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 39(2): 419. 1982.

Shrubs or small trees, 1.5-5 m high. Leaves orbicular to obovate or elliptic, glossy, glabrous or with few red stipitate glands. Inflorescence dense flowered. Flowers fleshy, deep crimson.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Kameng, Tawang; 3800 - 4000 m, in scrub forests.

**Rhododendron transtylum** Balf. f. *et* Kingdon-Ward in Trans. Bot. Soc. Edinburgh 27: 217. 1917; D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 39: 300. 1982; Sastry & Hajra in Jain & Rao. Threatened Pl. India 230. 1983.

Shrubs or small trees. Leaves coriaceous, elliptic to oblanceolate, acuminate at apex, cuneate at base, margin not undulate, both surfaces glabrous. Inflorescence 4-8-flowered. Flowers tubular-campanulate, deep pink to deep crimson.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Arunachal Pradesh.

**Rhododendron triflorum** Hook. f., *Rhodo. Sikkim Himal.* t. 19. 1849; C. B. Clarke in Hook. f., *Fl. Brit. India* 3: 474. 1882; Cullen in *Notes Roy. Bot. Gard. Edinburgh* 39(1): 77. 1980.

Straggling shrubs, 2-5 m tall. Leaves ovate, lanceolate, usually remain green. Inflorescence 2-3-flowered. Flowers creamy yellow with dark red spots, widely funnel shaped. Calyx very small. Capsules cylindric, lepidote.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Kameng; 2300 - 3700 m, in forests, forest margins and hill slopes.

**Rhododendron tsariense** Cowan in *Notes Roy. Bot. Gard. Edinburgh* 19: 232. 1937; D. F. Chamb. in *Notes Roy. Bot. Gard. Edinburgh* 39(2): 370. 1982.

Shrubs, 1-3 m high with densely tomentose young shoots. Leaves coriaceous, obovate to oblong, upper surfaces glabrous and lower surfaces rufous tomentose. Flowers white or pale cream with a pink flush or pale pink with crimson flecks.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Dibang valley; 3500 - 4500 m, in mixed forests and rock ledges.

**Rhododendron uvarifolium** Diels in *Notes Roy. Bot. Gard. Edinburgh* 5: 213. 1912; D. F. Chamb. in *Notes Roy. Bot. Gard. Edinburgh* 39: 368. 1982.

Large shrubs or small trees, 2-10 m high. Leaves oblanceolate to elliptic or oblong, rounded to acute at apex, upper surfaces glabrous when mature, lower surfaces with silvery indumenta. Flowers campanulate, white to pale-pink with crimson flecks and usually with a purple blotch, in dense 5-30 flowered inflorescence. Capsules strongly recurved.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Arunachal Pradesh; 3000 - 4000 m, on rocky slopes.

**Rhododendron vaccinoides** Hook. f., Fl. Brit. India 3: 464. 1882.

Epiphytic shrubs; branches rough with stalked scales. Leaves small, fleshy, obovate with pale glandular dots on under surfaces. Flowers small, lilac, pink or white with reddish tinge. Capsules linear, curved.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Kameng, Subansiri, Tirap; 2200- 2800 m.

**Rhododendron virgatum** Hook. f., Rhodo. Sikkim Himal. t. 26. 1849; Cullen in Notes Roy. Bot. Gard. Edinburg 39(1): 130. 1980.

subsp. **virgatum**

Shrubs, up to 1.5 m high. Leaves elliptic, densely lepidote beneath. Flowers solitary, rarely 2-flowered, pale to deep pink or mauve; corolla tube usually larger, pubescent and lepidote without. Capsules lepidote.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Arunachal Pradesh; 2500-3800 m, on stony slopes, forest margins, scrubs.

**Rhododendron virgatum** subsp. **oleifolium** (Franch.) Cullen in Notes Roy. Bot. Gard. Edinburgh 36: 113. 1978 & *ibid.* 39(1): 130. 1980. *R. oleifolium* Franch. In Bull. Soc. Bot. France 33: 235. 1886.

Shrubs, up to 1.5 m high; young parts lepidote. Leaves narrowly oblong or oblong-elliptic, laxly lepidote above along midrib near base, densely lepidote beneath. Inflorescence 1-2-flowered. Flowers white or pink, tube shorter. Capsules lepidote.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Arunachal Pradesh; 2000-4000 m, near forest margins, scrubs.

**Rhododendron wallichii** Hook. f., Rhodo. Sikkim Himal. t. 5. 1849; D. F. Chamb. in Notes Roy. Bot. Gard. Edinburgh 39(2): 373. 1982. *R. campalunatum* D. Don var. *wallichii* (Hook. f.) Hook. f. in Curtis, Bot. Mag. 82: t. 4928. 1856; C. B. Clarke in Hook f., Fl. Brit. India 3: 466. 1882.

Shrubs, 1 - 4.5 m high; young shoots with whitish floccose tomenta. Leaves elliptic or oblong, sparsely dark brown tomentose beneath; petioles densely woolly. Flowers whitish to pale mauve or lilac.

*Fl. & Fr.*: March - July.

*Distrib.*: Arunachal Pradesh; 3000- 4000 m, in mixed forests, scrubs.

**Rhododendron walongense** Kingdon-Ward in Gard. Chron. ser. 3, 133: 5. 1953.

Shrubs, 2-3 m high. Leaves large, elliptic, under surfaces brownish, laxly scaly. Inflorescence 3-4-flowered umbel. Flowers marble creamy with a greenish blotch, fragrant, pilose excepting lobes.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Arunachal Pradesh; 1500-2100 m, on rocks, cliffs and ravine.

**Rhododendron wightii** Hook. f., *Rhodo. Sikkim Himal.* 1: 27, 1851; C. B. Clarke in Hook. f., *Fl. Brit. India* 3: 467, 1882; D. F. Chamb. in *Notes Roy. Bot. Gard. Edinburgh* 39(2): 365, 1982.

Shrubs, 2-5 m high. Leaves broadly elliptic to obovate, bright green with rusty brown tomenta on lower surfaces. Inflorescence dense, 10-20 flowered. Flowers pale to lemon yellow with brown or purple flakes. Capsules straight or curved.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Kameng; 2500 - 5000 m, among scrubs, stony grounds and ridges.

**Rhododendron xanthostephanum** Merr. in *Brittonia* 4: 148, 1941; Cullen in *Notes Roy. Bot. Gard. Edinburgh* 39(1): 127, 1980. *R. aureum* Franch. in *J. de Bot.* 9: 394, 1895, *non* George 1775.

Shrubs, up to 2 m high; bark reddish brown, somewhat pruinose. Leaves oblong, narrowly elliptic to elliptic, acute at apex, lower surfaces silvery brown with unequal, small scales. Inflorescence terminal or axillary, 4-5 flowered. Flowers deep yellow or lemon-yellow with orange tinge. Capsules lepidote, cylindric.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Arunachal Pradesh; 1600-3500 m. in forests, along forest edges and scrubs.

**Vaccinium dunalianum** Wight in *Calcutta J. Nat. Hist.* 8: 175, 1847; C. B. Clarke in Hook. f., *Fl. Brit. India* 3: 453, 1882.

Large, erect shrubs with angular branches. Leaves oblong-lanceolate, caudate at apex, coriaceous, margins recurved, glabrous. Flowers in 6-12 flowered racemes; corolla urn shaped, pink. Fruits globose.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Arunachal Pradesh; 1000 - 3000 m.

**Vaccinium forrestii** Diels in *Notes Roy. Bot. Gard. Edinburgh* 5: 294, 1912; Kanjilal *et al.*, *Fl. Assam* 3: 145, 1939.

Bushy shrubs. Flowers creamy white, reddish at base; calyx red.

*Fl. & Fr.*: April - May.

*Distrib.*: Lohit; Siang; 1800-2500 m, along fringes of forests.

**Vaccinium vacciniaceum** (Roxb.) Sleumer in Engl., Bot. Jahrb. 71; 479. 1941; N. P. Balakr., Fl. Jowai 1: 285. 1981; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 208. 1996. *Ceratostema vaccinaceum* Roxb., Fl. Ind. 2: 412. 1832. *Agapetes serrata* G. Don, Gen. Syst. 3: 862. 1834. *Vaccinium serratum* (G. Don) Wight, Icon. Pl. Ind. Or. 4(1): 4, t. 1184. 1848; C. B. Clarke in Hook. f., Fl. Brit. India 3: 452. 1882; Kanjilal *et al.*, Fl. Assam 3: 141. 1939.

Epiphytic shrubs, up to 2 m high. Leaves crowded at apices of branchlets, lanceolate or oblanceolate, narrowed at base. Flowers in terminal or subterminal raceme, ca 1 cm long, greenish white. Berries ca 8 mm across, globose.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Changlang, Lohit.

#### MONOTROPACEAE

**Monotropastrum humile** (D. Don) H. Hara in J. Jap. Bot. 36: 78. f.2. 1961. *Monotropa humilis* D. Don, Prodr. Fl. Nep. 151. 1825. *M. uniflora auct. non L.*: C. B. Clarke in Hook. f., Fl. Brit. India 3: 476. 1882.

Saprophytic herbs, whitish, leafless with fleshy roots; stems erect with leafy, ovate-lanceolate scales. Flowers solitary, terminal, nodding, whitish, subtended by leafy bracts, bisexual. Berries smooth, indehiscent.

*Fl. & Fr.*: June - Sept.

*Distrib.*: Kameng, Tirap; 1800 - 2400m, in dense and undisturbed forest floor.

#### PLUMBAGINACEAE

**Plumbago zeylanica** L., Sp. Pl. 151. 1753; C. B. Clarke in Hook. f. Fl. Brit. India 3: 480. 1882.

Perennial, somewhat woody, rambling herbs. Leaves ovate-acute, fleshy, entire, base abruptly cuncate and running into decurrent petiole. Flowers in terminal or axillary, glandular pubescent, spicate racemes, white. Capsules oblong, apiculate.

*Fl. & Fr.*: Nov. - Dec.

*Distrib.*: Dibang valley, Lohit, Siang; up to 500 m.

*Use:* The root is said to be useful in dyspepsia, piles, diarrhoea and skin diseases.

### PRIMULACEAE

**Androsace gagnepainiana** Hand.-Mazz. in Sitzgsanz. Acad. Wiss. Wien. 200. 1924 & in Notes Roy. Bot. Gard. Edinburgh 15: 272. 1927; Kanjilal *et al.*, Fl. Assam 3: 536. 1939.

Rhizomatous herbs. Leaves rosulate, orbiculate, deeply cordate. Scape 3-8-flowered, strigillose. Corolla white or rosy. Capsules globose.

*Fl. & Fr.:* April July.

*Distrib.:* Arunachal Pradesh.

**Androsace henryi** Oliv. in Hook., Ic. Pl. Asiat. 20: t. 1973. 1891; C. E. C. Fisch. in Kew Bull. 1940: 196. 1940.

Herbs; stems white hairy. Leaves reniform-orbicular, long petioled, crenate. Scape long. Flowers in more than 10-flowered umbels.

*Fl. & Fr.:* May July.

*Distrib.:* Subansiri; 2500-2800 m, in densely shaded area, more or less hidden amongst undergrowth.

**Lysimachia assamica** Hu in Kew Bull. 38: 333. 1983.

Rhizomatous herbs; stems up to 70 cm long, quadrangular with articulate hairs. Leaves ovate, chartaceous, densely strigillose. Flowers axillary, solitary, yellow; calyx sparsely pilose; corolla lobes longer than tube.

*Fl. & Fr.:* June July.

*Distrib.:* Arunachal Pradesh; about 2000 m, in deep forests.

**Lysimachia congestiflora** Hemsl. in J. Linn. Soc. Bot. 26: 50. 1889; Deb & Dutta in J. Bombay Nat. Hist. Soc. 70(1): 89. 1973.

forma **congestiflora**\*

Perennial herbs; stems puberulous when young. Leaves broadly ovate-cordate or suborbicular, minutely puberulous, glandular punctate at margin. Flowers crowded among bracts at tip of branches, yellow; corolla lobes linear, glandular.

*Fl. & Fr.:* June July.

*Distrib.:* Tirap.

**Lysimachia congestiflora** forma **santapau** (Subba Rao *et* Halim) Deb in Bull. Bot. Surv. India 8: 96. 1966. *L. santapau* Subba Rao *et* Halim in Bull. Bot. Surv. India 5(1): 101. 1963.

Slender herbs; stems hollow, younger parts pubescent. Leaves ovate, brownish pubescent below. Flowers in axillary, pubescent racemes or solitary, yellow.

*Fl. & Fr.*: June - July.

*Distrib.*: Subansiri; 1000 - 1400 m, in moist places.

***Lysimachia debilis*** Wall. in Roxb., Fl. Ind. 2: 25. 1824; H. Hara, Fl. E. Himal. 2: 45. 1966. *L. japonica auct. non* Thunb.: Hook. f., Fl. Brit. India 3: 505. 1882, *p.p.*

Prostrate herbs; branches weak, pubescent. Leaves ovate, subcordate, gland dotted. Flowers solitary, yellowish in axillary peduncles; sepals densely villous, reflexed in fruit. Capsules much shorter than sepals, 5-valved, hairy.

*Fl. & Fr.*: April - Nov.

*Distrib.*: Kameng, Siang; 1500 - 2000 m, in moist places.

***Lysimachia decurrens*** Forst. f., Prodr. 12. 1786; Benth. in Steenis, Fl. Males. 6(2): 185. 1962. *L. javanica* Blume, Bijdr. 14: 736. 1826; Hook. f., Fl. Brit. India 3: 502. 1882.

Annual, erect, glabrous herbs, up to 40 cm high. Leaves elliptic, ovate or lanceolate. Flowers in terminal, elongate racemes, pinkish.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Kameng, Tirap; in moist places.

***Lysimachia ferruginea*** Edgew. in Trans. Linn. Soc. London 20: 83. 1851; H. Hara, Fl. E. Himal. 246. 1966. *L. japonica auct. non* Thunb.: Hook. f. Fl. Brit. India 3: 505. 1882, *p.p.*

Slender herbs; stems reddish at base, ferruginously pubescent. Leaves ovate. Flowers in peduncled cymes, yellow.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Kameng, Subansiri, Tirap; in moist slopes.

***Lysimachia evalvis*** Wall. in Roxb., Fl. Ind. 2: 27. 1824; Hook. f., Fl. Brit. India 3: 504. 1882; Deb & Dutta in J. Bombay Nat. Hist. Soc. 70(1): 89. 1973.

var. ***evalvis***

Herbs; stem erect, slender, up to 35 cm long. Leaves alternate, ovate or ovate-lanceolate, tapering at both ends. Flowers axillary, solitary, yellowish, on filiform, angular peduncles. Capsules globose, with five diverging lines from base of persistent style, glaucous.

*Fl. & Fr.*: June - Aug.

*Distrib.*: Kameng, Tirap; forest undergrowth in moist shady places.

**Lysimachia evalvis** var. **sessiliflora** Biswas in Ind. For. Rec. 3(1): 32. 1942.

Herbs; stems erect or ascending, glabrous. Leaves elliptic or ovate, sparingly gland dotted. Flowers sessile, yellow.

*Fl. & Fr.*: April - May.

*Distrib.*: Kameng; along roadsides in moist places.

**Lysimachia japonica** Thunb., Fl. Jap. 83. 1784; Hook. f., Fl. Brit. India 3: 505. 1882, *p.p.*; Deb & Dutta in J. Bombay Nat. Hist. Soc. 70(1): 89. 1973.

Diffuse herbs, much branched; stems and branches puberulous or villous. Leaves ovate, gland dotted. Flowers on short scapes; sepals lanceolate, villous, reflexed in fruits; corolla yellow, lobes oblong, gland dotted.

*Fl. & Fr.*: June - July.

*Distrib.*: Tirap.

**Lysimachia laxa** Baudo in Ann. Sci. Nat. Paris ser. 2, 20: 347. 1843; Deb & Dutta in J. Bombay Nat. Hist. Soc. 70(1): 89. 1973. *L. ramosa* Wall. ex Duby in DC., Prodr. 8: 65. 1844; Hook. f., Fl. Brit. India 3: 503. 1882.

Perennial herbs, erect or decumbent, up to 1.5 m high; branches winged. Leaves lanceolate, glabrous. Flowers solitary, axillary, yellow. Fruits globose.

*Fl. & Fr.*: May - Dec.

*Distrib.*: Kameng, Tirap; 1500 - 2000m, along roadsides amidst grasses.

**Lysimachia lobelloides** Wall. in Roxb., Fl. Ind. 2: 29. 1824; Hook. f., Fl. Brit. India 3: 502. 1882; Deb & Dutta in J. Bombay Nat. Hist. Soc. 70(1): 89. 1973.

Annual herbs, suberect or ascending, glabrous. Leaves elliptic or ovate-lanceolate, gland dotted at margin. Flowers in terminal, lax racemes, white or pale purplish. Capsules round, yellowish, longer than calyx.

*Fl. & Fr.*: June - Sept.

*Distrib.*: Tirap; in open places amidst grasses.

**Lysimachia prolifera** Klatt in Abh. Nat. Ver. Hanb. 4(4): 30. t. 16. 1866; Hook. f., Fl. Brit. India 3: 503. 1882.

Creeping or ascending herbs, 10–15 cm high. Leaves ovate, spatulate. Flowers in terminal corymbs, pale rosy or white.

*Fl. & Fr.*: April–May.

*Distrib.*: Kameng, Lohit, Tirap; 3200–3800 m, in moist places.

**Lysimachia rubiginosa** Hemsl. in J. Linn. Soc. Bot. 26: 56. 1889; Deb & Dutta in J. Bombay Nat. Hist. Soc. 70(1): 89. 1993.

Perennial herbs; stems erect, ferruginous-pubescent. Leaves ovate, membranous, glabrous or sparsely ciliate. Flowers in axillary, bracteate cyme, mostly 3-flowered; calyx segments linear oblong; corolla campanulate rotate, yellow, lobes oblong-lanceolate.

*Fl. & Fr.*: June–July.

*Distrib.*: Tirap.

**Omphalogramma elwesiana** (King) Franch. var. **assamicum** Fletcher in Notes Roy. Bot. Gard. Edinburgh 20: 141. 1949.

Perennial, rhizomatous herbs; roots fleshy. Leaves oblanceolate, obscurely denticulate, glabrous, tapering to winged petiole. Flowers infundibuliformis, purple, hairy without; corolla lobes emarginate to incised dentate, peduncles crimson hairy. Capsules dehiscent by longitudinal valves.

*Fl. & Fr.*: June–July.

*Distrib.*: Arunachal Pradesh.

**Omphalogramma forrestii** Balf. f. in Notes Roy. Bot. Gard. Edinburgh 13: 23. 1920; Kanjilal *et al.*, Fl. Assam 3: 536. 1939.

Perennial, scapigerous herbs. Leaves ovate or oblong-elliptic. Flowers solitary on long scape, ebracteate, irregular; corolla 6-partite, tube yellow, lobes crenulate, reddish. Capsules strongly ribbed.

*Fl. & Fr.*: May–Aug.

*Distrib.*: Arunachal Pradesh.

**Primula assamica** Fletcher in Trans. Bot. Soc. Edinburgh 33: 107. 1941; Ghosh in J. Econ. Tax. Bot. 16(3): 580. 1992.

Perennial, rhizomatous herbs. Leaves spatulate or oblong-spatulate, denticulate. Flowers in umbels on 2–5 cm long scapes, mauve.

*Fl. & Fr.*: June–Sept.

*Distrib.*: Arunachal Pradesh.

**Primula atrodentata** W.W.Sm. in Rec. Bot. Surv. India 4: 217. 1911.

Scapose herbs, 10 - 15 cm high, farinose, glandular pubescent. Scapes usually more than 7-flowered. Flowers sessile, pink or mauve; calyx finely glandular pubescent.

*Fl. & Fr.*: April - July.

*Distrib.*: Arunachal Pradesh; 3500 - 4000 m.

**Primula bhutanica** Fletcher in Gard. Ill. 63: 312. 1941; Ghosh, Rao & Maiti in Ind. For. 104: 751. 1978. *P. whitei* Ludlow in Himal. J. 10: 2. 1938, non W.W.Sm. 1911.

Perennial, stout, rhizomatous herbs. Leaves spatulate to oblong-spathulate, irregularly dentate. Scapes remain hidden among leaves when young, 1-8 cm long at maturity, few to many flowered. Corolla annulate.

*Fl. & Fr.*: March - June.

*Distrib.*: Kameng; 3000 - 4000 m.

**Primula blandula** W.W.Sm. in Notes Roy. Bot. Gard. Edinburgh 15: 299. 1927; R. B. Ghosh in J. Econ. Tax. Bot. 16(3): 581. 1992.

Perennial, slender herbs; rootstocks short. Leaves rosulate, broad, spatulate or subelliptic, finely denticulate, whitish farinose beneath. Flowers on 3-6 cm long, whitish farinose scapes, bright purple with bright yellow eye.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Arunachal Pradesh.

**Primula boothi** Craib in Notes Roy. Bot. Gard. Edinburgh 6: 249. 1917; Bancrjee in Rec. Bot. Surv. India 19(2): 62. 1966.

Rhizomatous herbs, slender, efarinose. Leaves spatulate or elliptic-spathulate, long petioled, glabrous. Flowers in lax umbels on short scape or solitary, purplish pink with orange-yellow eye, lobes obovate-cuneate; calyx and corolla with capitate glands at least when young.

*Fl. & Fr.*: April - July.

*Distrib.*: Arunachal Pradesh; 2700 - 3400 m, on moist soil.

**Primula bracteosa** Craib in Notes Roy. Bot. Gard. Edinburgh 6: 250. 1917; H. Hara, Fl. E. Himal. 2: 101. 1971. *P. petiolaris* Wall. var. *scapigera* Hook. f., Fl. Brit. India 3: 494. 1882, *p.p.*

Farinose, scapose herbs. Leaves rosulate, spatulate or obovate-spathulate, cordate or attenuate at base, minutely peberulent or glandular hairy. Flowers in long, stout, sparsely villous scapes, pink, mauve or

purple; calyx glandular pilose, ciliate. Capsules depressed globose, enclosed by calyx.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Kameng; on moist slopes.

**Primula calderiana** Balf. f. *et* Cooper in Notes Roy. Bot. Gard. Edinburgh 9: 7. 1915; R. B. Ghosh in J. Eco. Tax. Bot. 3: 233. 1982. *P. obtusifolia* E. H. L. Krause var. *roylei* Hook. f., Fl. Brit. India 3: 489. 1882, p.p.

subsp. **calderiana**

Perennial, rhizomatous herbs, 14-70 cm high, glabrous, efarinose. Leaves oblong, oblanceolate or subspathulate, margin denticulate. Scapes 5-30 cm long, puberulous, many flowered. Flowers in umbels, purple.

*Fl. & Fr.*: April - June.

*Distrib.*: Arunachal Pradesh; 3500 - 4500 m.

**Primula calderiana** subsp. **strumosa** (Balf. f. *et* Cooper) Richards in J. Scot. Rock. Gard. Club. 15: 211. 1977. *P. strumosa* Balf. f. *et* Cooper in Notes Roy. Bot. Gard. Edinburgh 9: 201. 1916; Calder *et al.* in Rec. Bot. Surv. India 11(1): 118. 1926.

Differs from subsp. **calderiana** by smaller scapes, about 2-5 cm long. Flowers mauve with light violet tinge.

*Fl. & Fr.*: April - May.

*Distrib.*: Kameng, Tawang; 4000 - 5000 m, on moist hilly slopes.

**Primula calthifolia** W.W.Sm. in Notes Roy. Bot. Gard. Edinburgh 15: 300. 1927; R. B. Ghosh in J. Econ. Tax. Bot. 16(1): 14. 1992.

Rhizomatous, efarinose herbs. Leaves suborbicular to broadly ovate, glandular, margin denticulate. Flowers in 3-7-flowered umbels; corolla lobes oblong to obovate, emarginate, yellow.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Kameng.

**Primula chungensis** Balf. f. *et* Kingdon-Ward in Notes Roy. Bot. Gard. Edinburgh 13: 7. 1920; W.W.Sm. & Forrest, in *ibid.* 16: 17. 1928.

Rhizomatous herbs. Leaves oblong-oval, crenulate; petioles long. Flowers in 4-8-flowered umbellate on long, robust scapes up to 50 cm long, white, farinose; corolla lobes obovate.

*Fl. & Fr.*: May - July.

*Distrib.*: Arunachal Pradesh.

**Primula clutterbuckii** Kingdon-Ward in Ann. Bot. 44: 122. 1930; R. B. Ghosh in J. Econ. Tax. Bot. 16(3): 581. 1992.

Tufted herbs, rootstocks stout. Leaves broad, spatulate to narrowly oval, sharply serrate. Flowers on 2-5 cms long, farinose scapes, deep purple.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Arunachal Pradesh.

**Primula denticulata** W.W.Sm., Exot. Bot. 2: 109, t. 114. 1805; Hook.f., Fl. Brit. India 3: 485. 1882. *P. aequalis* Craib in Notes Roy. Bot. Gard. Edinburgh 10: 205. 1918.

Scapigerous herbs. Leaves oblong, oblong-obovate to obovate-spatulate, subentire or minutely toothed, minutely hairy on both surfaces. Flowers capitate, bluish white. Capsules oblong.

*Fl. & Fr.*: April - May.

*Distrib.*: Kameng, Subansiri, Tawang; on hilly slopes at higher elevations.

**Primula dickieana** Watt in J. Linn. Soc. Bot. 29: 9, t. 8A. 1882; Hook.f., Fl. Brit. India 3: 491. 1882.

Small herbs, glabrous; rootstocks stout, fissured. Leaves elliptic obovate or oblanceolate. Flowers yellow.

*Fl. & Fr.*: April - May.

*Distrib.*: Kameng, Tawang; 3500 - 4200 m.

**Primula euosma** Craib in Notes Roy. Bot. Gard. Edinburgh 11: 172. 1919; R. B. Ghosh in J. Econ. Tax. Bot. 16(1): 116. 1992.

Small herbs, puberulous; rootstocks stout. Leaves elliptic to obovate. Scapes 1-8(-15) cm long, 3-7-flowered, sparsely farinose. Calyx green, campanulate, lobes subacute to acuminate. Corolla ex-annulate, soft, fragrant, purplish rose to deep blue-purple with a greenish yellow eye.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Kameng; 3500 - 4000 m.

**Primula filipes** Watt in J. Linn. Soc. Bot. 20: 5, t. 3A. 1882; Hook. f., Fl. Brit. India 3: 485. 1882.

Scapigerous herbs, pubescent, rootstocks stout. Leaves suborbicular, cordate, entire or toothed. Scapes up to 5 cm long. Flowers flesh coloured. Fruits chocolate-brown.

*Fl. & Fr.*: April - May.

*Distrib.*: Tawang; on moss covered rocks in shady places.

**Primula firmipes** Ball. f. *et* Forrest in Notes Roy. Bot. Gard. Edinburgh 13: 10, 1920; Deb in Ind. For. 91: 194, 1965 & *ibid.* 106: 817, 1980.

Farinose herbs. Leaves ovate or elliptic, long petioled, cordate, crenulate-serrate, glaucous beneath. Flowers in 4-5-flowered umbels, scape long, strong; corolla infundibuliformis, farinose, fragrant.

*Fl. & Fr.*: June - Aug.

*Distrib.*: Arunachal Pradesh.

**Primula glabra** Klott in Linnæa 37: 500, 1872; Hook. f., Fl. Brit. India 3: 487, 1882.

Scapigerous herbs, glabrous, 5-10 cm high. Leaves obovate, spatulate, erose or toothed. Scapes filiform, up to 10 cm long. Flowers pink.

*Fl. & Fr.*: Sept. - Oct.

*Distrib.*: Kameng, Tawang; in moist areas along nallas or lake.

**Primula glomerata** Pax in Engl., Pflanzenr. Primul. 92, 1905; R. B. Ghosh in J. Econ. Tax. Bot. 3: 234, 1982.

Herbs. Leaves with winged petioles, reddish at base. Flowers blue in pendent, compact, globular heads.

*Fl. & Fr.*: Sept. - Oct.

*Distrib.*: Tawang; 4000 - 5000 m.

**Primula gracilipes** Craib in Notes Roy. Bot. Gard. Edinburgh 6: 252, 1917. *P. petiolaris* var. *nana* Hook. f., Fl. Brit. India 3: 493, 1882, *p.p.*

Herbs, moderately farinose. Leaves oblong-spathulate, margin denticulate, farinose when young. Scapes very small. Corolla tubes long, lobes obovate, incised to dentate, pink or mauve.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Arunachal Pradesh; 3000 - 4000 m.

**Primula irregularis** Craib in Notes Roy. Bot. Gard. Edinburgh 6: 253, 268, 1917; Naithani & Bahadur in Ind. For. 107(1): 720, 1981.

Rhizomatous herbs. Leaves sessile to long petioled, elliptic, oblong-elliptic to oblong-spathulate, sparsely glandular pubescent or glabrous. Flowers pink, eye orange-yellow with a broad white border; petals stiff.

waxy, deeply and regularly toothed; scape yellowish farinose; pedicels glandular pubescent when young.

*Fl. & Fr.*: April - June.

*Distrib.*: Kameng; 3300 - 4200 m.

***Primula kingii*** Watt ex Hook. f., Fl. Brit. India 3: 491. 1882.

Small herbs. Leaves elliptic-lanceolate, sheathing at base, entire or obscurely crenulate. Scapes slender, up to 25 cm long, 4-6-flowered. Flowers red or purple.

*Fl. & Fr.*: Sept. - Oct.

*Distrib.*: Tawang; 3500 - 4300 m.

***Primula listeri*** King ex Hook. f., Fl. Brit. India 3: 485. 1882.

Herbs, pubescent; rootstocks elongate. Leaves orbicular cordate, sinuate lobed. Flowers few in terminal short scapes, pubescent.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Subansiri; 2500 - 3200 m.

***Primula malacoides*** Franch. in Bull. Soc. Bot. Fr. 33: 64. 1886; R. B. Ghose in Ind. For. 106: 818. 1980. *P. pseudomalacoides* Stewart in Notes Roy. Bot. Gard. Edinburgh 9: 36. 1915.

Perennial, rhizomatous herbs; stems many together. Leaves rosulate, oblong-elliptic, serrate-dentate, midvein whitish farinose; petioles about double lamina length. Flowers many in umbels, dull violet with yellowish eye.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Arunachal Pradesh.

***Primula melanodonta*** W.W.Sm. in Notes Roy. Bot. Gard. Edinburgh 15: 303. 1927.

Herbs, up to 25 cm long. Leaves broadly oblanceolate to obovate, apex rotund, margin dentate, membranous, glabrous. Flowers in 3-5 flowered umbels on farinose scape, yellow, fragrant.

*Fl.*: June - July.

*Distrib.*: Arunachal Pradesh.

***Primula mollis*** Nutt. ex Hook., Bot. Mag. t. 4798. 1854; Hook. f., Fl. Brit. India 3: 484. 1882.

Perennial herbs, stout, rhizomatous, softly pubescent. Leaves subrotund to reniform, pubescent. Scapes slender, up to 30 cm long. Flowers rosy.

*Fl.*: April May.

*Distrib.*: Kameng; on moist hill slopes.

***Primula obtusifolia*** Royle, Ill. Bot. Himal. 311, t. 77, f.1. 1835; Hook. f., Fl. Brit. India 3: 489. 1882.

Scapigerous herbs, up to 20 cm tall. Leaves elliptic, spatulate, ovate or obovate. Scapes stout, up to 20 cm long. Flowers purple or dark violet.

*Fl.*: May June.

*Distrib.*: Kameng, Tawang; 3500–4200m, on moist slopes.

***Primula prenantha*** Balf. f. et W.W.Sm. in Notes Roy. Bot. Gard. Edinburgh 9: 191. 1916; R. B. Ghosh in Ind. For. 106: 819. 1980.

Efarinose herbs. Leaves rosulate, oblong-obovate, crosse dentate, short petioled, glabrous. Flowers yellow in lax, 4-7-flowered umbels or solitary, pedicellate; corolla lobes entire, sinuate or crenate; calyx with reddish glandular striations. Capsules subglobose.

*Fl. & Fr.*: Feb. Sept.

*Distrib.*: Arunachal Pradesh; 3400–3800 m.

***Primula scapigera*** (Hook. f.) Craib in Notes Roy. Bot. Gard. Edinburgh 6: 254. 1917; H. Hara, Fl. E. Himal. 249. 1966. *P. petiolaris* var. *scapigera* Hook. f., Fl. Brit. India 3: 94. 1882, *p.p.*

Scapose, efarinose herbs. Leaves oblong, spatulate or elliptic-oblong, denticulate, sessile or shortly petioled. Flowers pink with yellowish patches at throat, scape short. Capsules depressed globose, included.

*Fl. & Fr.*: July Oct.

*Distrib.*: Kameng; 2000–3500 m, on moist hill slopes.

***Primula sessilis*** Royle ex Craib in Notes Roy. Bot. Gard. Edinburgh 6: 256. 1917. *P. petiolaris* var. *nana* Hook. f., Fl. Brit. India 3: 493. 1882. *p.p.*

Herbs, up to 15 cm tall. Leaves densely rosulate, oblong-elliptic or ovate-spathulate, toothed. Flowers many, corolla light blue with yellowish tinge at mouth.

*Fl. & Fr.*: April May.

*Distrib.*: Kameng; 1200–1500 m, in moist and shady places.

***Primula nana*** W.W.Sm. in J. Roy. Hort. Soc. London 39: 190. 1913. *P. prolifera* Wall. in Bot. Mag. t. 6732. 1884, *p.p.*

Herbs. Leaves oblong-lanceolate or rarely oblanceolate, denticulate, chartaceous, glabrous, attenuate to winged petiole. Flowers in umbels; calyx farinose without; corolla tube short, lobes cordate.

*Fl.*: April.

*Distrib.*: Arunachl Pradesh.

**Primula stuartii** Wall. in Roxb., Fl. Ind. 2: 20. 1832; Hook. f., Fl. Brit. India 3: 490. 1882.

Mealy herbs. Leaves oblanceolate, spatulate, closely and sharply toothed, glaucous above and densely mealy beneath. Flowers in loose umbels; calyx infundibuliform, 5-keeled, ligulate; corolla lobes orbicular, emarginate, purple, fragrant.

*Fl. & Fr.*: April July.

*Distrib.*: Kameng; in moist places at higher elevation.

**Primula subansirica** G. D. Pal in J. Bombay Nat. Hist. Soc. 82(3): 617. 1985. **Fig. 8.**

Perennial herbs, 20–30 cm high, rusty hairy. Leaves ovate, cordate, crenate, densely pubescent beneath. Flowers in long peduncled umbels, purple.

*Fl.*: April May

*Distrib.*: Subansiri; 1500–2000 m, along forest edges or steep hill slopes in moist shady places.

**Primula tanneri** King in J. As. Soc. Bengal 55: 227, t. 8. 1886. *P. elongata* Watt in J. Linn. Soc. Bot. 20: 8. 1882; Hook. f., Fl. Brit. India 3: 490. 1882.

Herbs, up to 20 cm tall. Leaves long petioled, obovate or oblanceolate, crenulate. Scapes long. Flowers bright mauve with light violet tinge.

*Fl.*: April May.

*Distrib.*: Kameng, Tawang; 4000–5000 m, on moist slopes.

Insufficiently known material

**Primula erythra** Fletcher in Trans. & Proc. Bot. Soc. Edinburgh 33: 440. 1943.

**Primula laxiuscula** W.W.Sm. in Trans. & Proc. Bot. Soc. Edinburgh 35: 184. 1950.

**Primula mishmiensis** Kingdon-Ward in Ann. Bot. 44: 122, 125. 1930.

**Primula normaniana** Kingdon-Ward in Ann. Bot. 44: 123, 125. 1930.

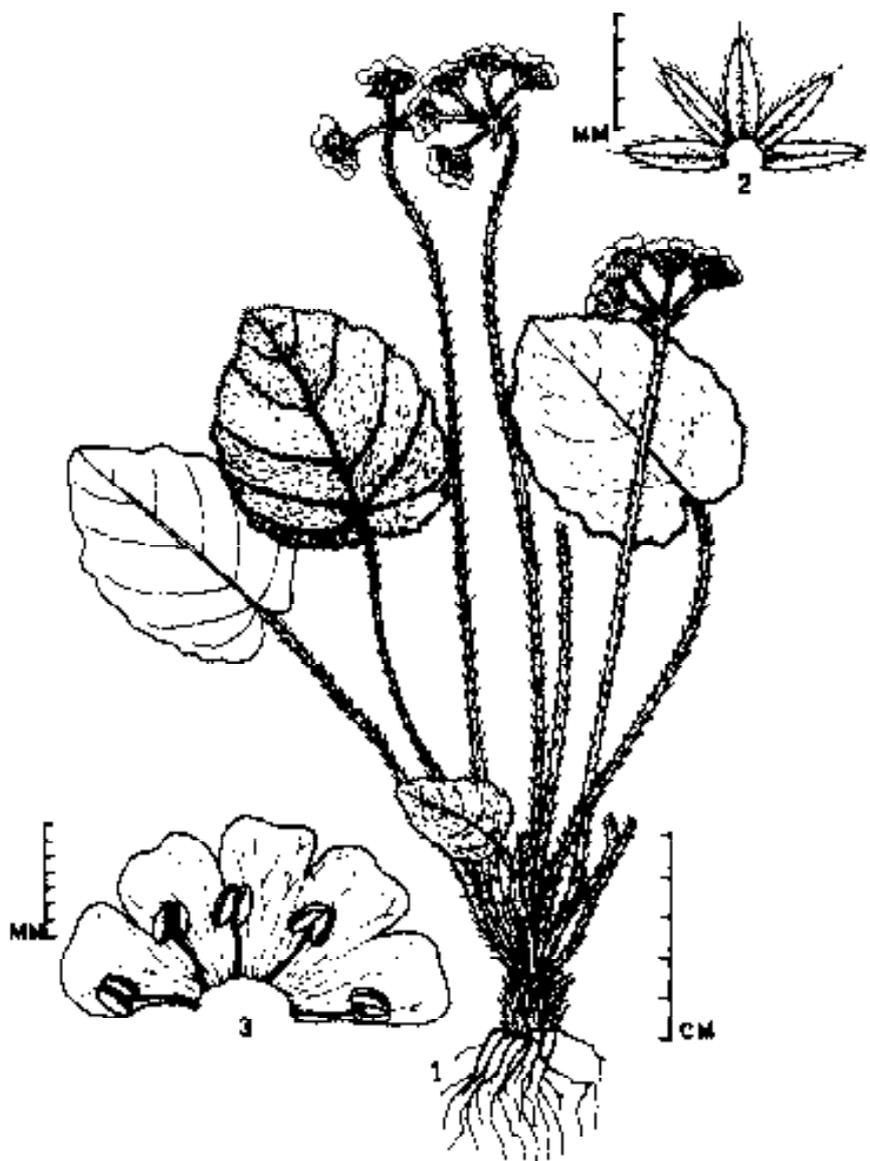


Fig. 8. *Primula subansirica* G. D. Pal : 1. Habit; 2. Calyx (split open);  
3. Corolla (split open).

**Primula polonensis** Kingdon-Ward in Ann. Bot. 44: 124, 125. 1930.

**Primula rubra** Kingdon-Ward in Ann. Bot. 44: 124, 125. 1930.

**Primula silaensis** Petitmengin in Bull. Herb. Boiss., ser. 2,7: 524. 1907.

#### MYRSINACEAE

**Amblyanthopsis membranacea** (Wall. ex A. DC.) Mez in Engl., Pflanzenr. 9.4. 236: 211. 1902. *Ardisia membranacea* Wall. ex A. DC. in Trans. Linn. Soc. London 17: 123. 1834; C. B. Clarke in Hook. f., Fl. Brit. India 3: 527. 1882.

Shrubs, 1-1.5 m high. Leaves lanceolate to oblong-lanceolate, membranous, crenate, glabrous, minutely punctate throughout. Flowers in axillary peduncles, pinkish. Fruits red or pink with brown spots.

*Fl. & Fr.*: June - Sept.

*Distrib.*: Kameng, Siang, Subansiri, Tirap; in shaded moist forests at lower altitudes.

**Amblyanthus glandulosus** (Roxb.) DC. in Ann. Sci. Nat. ser. 2, 16: 83, t. 6. 1841; C. B. Clarke in Hook. f., Fl. Brit. India 3: 533. 1882; Kanjilal *et al.*, Fl. Assam 3: 187. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 209. 1996. *Ardisia glandulosa* Roxb., Fl. Ind. 2: 276. 1824.

Shrubs, 2-4 m high. Leaves lanceolate to narrowly lanceolate, margin distinctly glandular toothed, glabrous. Flowers pinkish in terminal, umbellate or corymbose umbellate. Fruits globose with dark brown spots.

*Fl. & Fr.*: May - Nov.

*Distrib.*: Changlang, Lohit; in marshy shades at lower elevations.

**Amblyanthus obovatus** G. S. Giri, S. K. Das *et* H. J. Chowdhery in J. Bombay Nat. Hist. Soc. 99(3): 471. 2002. **Fig. 9.**

Shrubs, 5-6m tall; younger parts ferruginously furfuraceous, reddish. Leaves obovate or obovate-oblong, distinctly unequal at base, margin crenulate to undulate-crenate with submarginal glands below crenature, glabrous. Inflorescence axillary, condensed paniculately umbellate, ferruginously furfuraceous. Flowers pinkish; sepals and petals 1/3 connate at base; anthers connate along whole length of margin.

*Fl.*: April- May.

*Distrib.*: Upper Subansiri, ca 250m, on thick humus in primary forests.

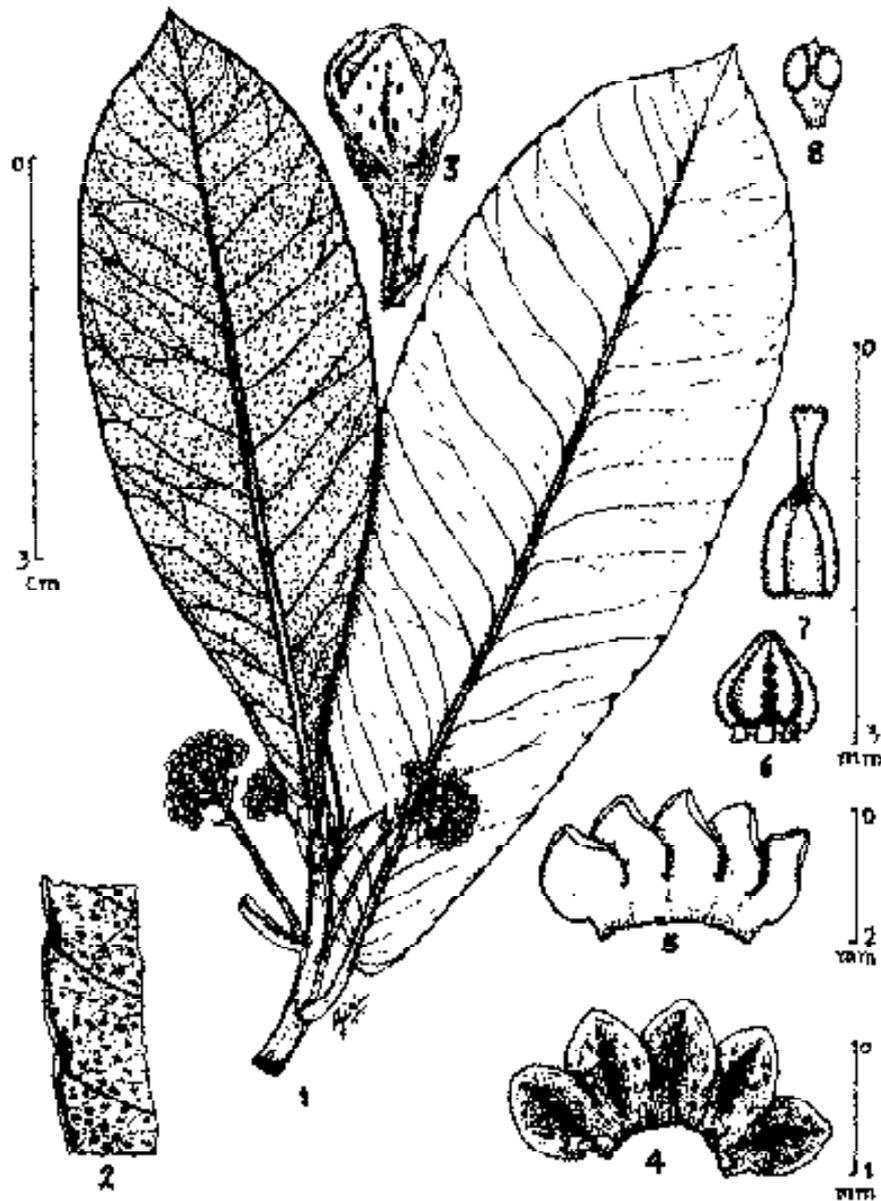


Fig. 9. *Amblyanthus obovatus* G. S. Giri, S. K. Das *et* H. J. Chowdhery :  
 1. Flowering twig; 2. Part of leaf magnified showing marginal glands;  
 3. Flower; 4. Calyx (split open); 5. Corolla (split open); 6. Stamens;  
 7. Gynoecium; 8. Ovules.

***Ardisia colorata*** Roxb., Fl. Ind. 2: 271. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 3: 520. 1882. *A. anceps* Wall. in Roxb., Fl. Ind. 2: 280. 1824. *A. complanata* Wall. in Roxb., Fl. Ind. 2: 280. 1824.

Shrubs or small trees, 1-2 m high, ferruginously tomentose. Leaves oblong-lanceolate or lanceolate, entire, glabrous. Flowers in terminal pyramidal panicles, white. Fruits globose, pink or red.

*Fl. & Fr.*: Nov. - May.

*Distrib.*: Kameng, Lohit, Subansiri, Tirap; in primary forests.

***Ardisia crispa*** (Thunb.) DC. in Trans. Linn. Soc. London 17: 124. 1834; Kanjilal *et al.*, Fl. Assam 3: 182. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 209, 1996. *Bladhia crispa* Thunb., Fl. Jap. 97. 1784. *A. crenata* Roxb., Fl. Ind. 2: 276. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 3: 524. 1882. *A. undulata* C. B. Clarke in Hook. f., Fl. Brit. India 3: 524. 1882.

Shrubs, up to 3 m high; branches verrucose. Leaves elliptic or elliptic-lanceolate, crenulate or serrulate, submarginal glands prominent. Flowers in subterminal corymbose or compound umbels, white or yellowish. Fruits red.

*Fl. & Fr.*: March - Jan.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri; in moist shady places of primary forests at lower altitudes.

***Ardisia depressa*** C. B. Clarke in Hook. f., Fl. Brit. India 3: 522. 1882; Kanjilal *et al.*, Fl. Assam 3: 179. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 209, 1996.

Shrubs, 2-4 m high; branches warty. Leaves elliptic-lanceolate or oblong-lanceolate, finely ferruginous tomentose. Flowers usually in axillary cymose-umbels, pinkish. Fruits globose, reddish or brownish.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Changlang, Kameng, Lohit; 800 - 1200 m, in shady places of forests and along streams.

***Ardisia griffithii*** C. B. Clarke in Hook. f., Fl. Brit. India 3: 523. 1882.

Shrubs; branches spreading, ferruginously tomentose. Leaves oblanceolate, elliptic-lanceolate or obovate-oblong, ferruginously fulvous. Flowers in dense, rusty terminal panicles, pink. Fruits globose, black.

*Fl. & Fr.*: April - Dec.

*Distrib.*: Kameng, Tirap; 1000–1500 m, in primary forest as undergrowth.

***Ardisia humilis*** Vahl. Symb. Bot. 3: 40. 1794; C. B. Clarke in Hook. f., Fl. Brit. India 3: 529. 1882, *p.p.* Fig. 10.

*Local name*: Chauldhoa (Asm.).

Shrubs, 2-5 m high; branches spreading. Leaves obovate-oblong, coriaceous, glabrous. Flowers in axillary or corymbose panicles, pinkish. Fruits globose, pinkish black when dry.

*Fl. & Fr.*: June–Dec.

*Distrib.*: Kameng, Siang, Subansiri; 600–1200 m, along riverbanks or in deciduous forests.

***Ardisia icara*** Buch.-Ham. ex A. DC. in Trans. Linn. Soc. London 17: 125, t. 1834 & Prodr. 8: 137. 1844; C. B. Clarke in Hook. f., Fl. Brit. India 3: 523. 1882.

*Local name*: Paysa-changne (Daff.).

Large shrubs; branches warty; younger parts ferruginous tomentose. Leaves lanceolate or elliptic-lanceolate, margin subentire to crenulate. Flowers in axillary or terminal rusty panicles, pinkish. Fruits obscurely five angled.

*Fl. & Fr.*: April–Dec.

*Distrib.*: Kameng.

***Ardisia japonica*** (Horn.) Blume, Bijdr. 690. 1825. *Bladhia japonica* Horn. in Thunb., Nov. Gen. Pl. 6. 1781. *A. odontophylla* Wall. ex A. DC. in Trans. Linn. Soc. London 17: 125, t. 6. 1834; C. B. Clarke in Hook. f., Fl. Brit. India 3: 525. 1882.

Shrubs, up to 2 m high; branches rusty pubescent. Leaves elliptic to oblong-lanceolate, sharply serrate to serrulate, rusty pubescent on nerves beneath. Flowers in axillary or subterminal compound umbels, pink or reddish. Fruits globose, scarlet.

*Fl. & Fr.*: June–Jan.

*Distrib.*: Kameng.

***Ardisia macrocarpa*** Wall. in Roxb., Fl. Ind. 2: 277. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 3: 524. 1882.

Shrubs, 1-1.5 m high. Leaves lanceolate to narrowly lanceolate, margin crenate, submarginal glands prominent in rows, glabrous. Flowers in axillary or subterminal paniced umbels, pinkish. Fruits globose, depressed, red.

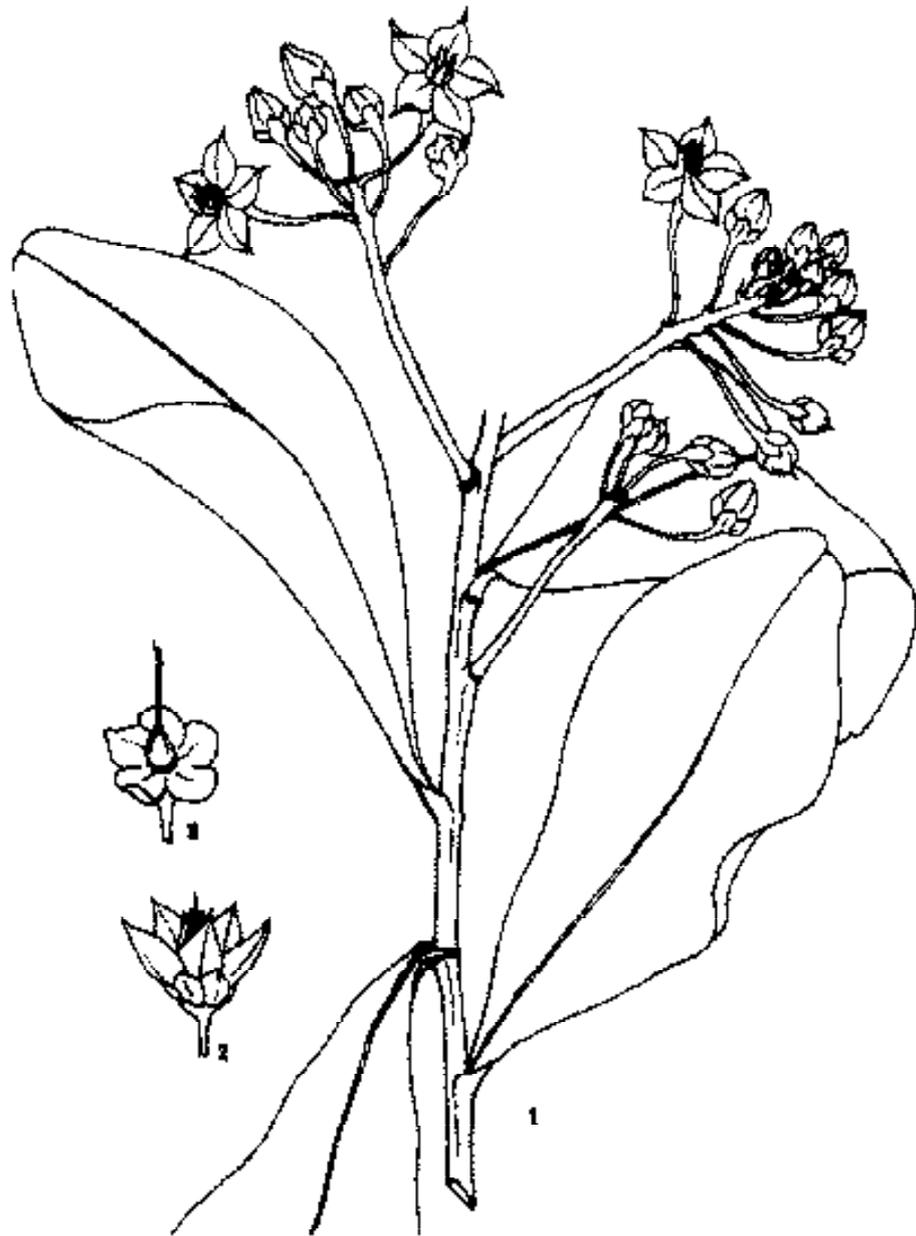


Fig. 10. *Ardisia humilis* Vahl : 1. Flowering twig;  
2. Flower; 3. Gynoecium with calyx

*Fl. & Fr.*: April - Nov.

*Distrib.*: Kameng; 1500 - 2000 m.

***Ardisia paniculata*** Roxb., Fl. Ind. 2: 270. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 3: 519. 1882. *A. paniculata* var. *hookeri* C. B. Clarke in Hook. f., Fl. Brit. India 3: 519. 1882.

Large shrubs; branches more or less compressed, glabrous. Leaves ovate-lanceolate. Flowers in large compound panicles, greenish white. Fruits globose, black.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Kameng, Subansiri.

***Ardisia pardalina*** Mez in Engl., Pflanzenr. 9, 4. 236: 148. 1902; Giri & Nayar in J. Bombay Nat. Hist. Soc. 78(3): 633. 1981.

Shrubs; stem and branches glabrous. Leaves lanceolate or elliptic-lanceolate, entire, prominently elongate gland dotted beneath. Flowers in axillary paniculate umbels, peduncles long. Fruits globose, reddish brown.

*Fl. & Fr.*: Oct. - Feb.

*Distrib.*: Siang.

***Ardisia pedunculosa*** Wall. in Roxb., Fl. Ind. 2: 279. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 3: 523. 1882.

Shrubs, up to 3 m high; branches spreading. Leaves lanceolate to oblong-lanceolate, entire. Flowers in axillary pedunculate racemose umbels, rosy pink. Fruits globose, brown.

*Fl. & Fr.*: Nov. - May.

*Distrib.*: Kameng; 1500 - 2000 m, in shaded forest fringes.

***Ardisia rynchophylla*** C. B. Clarke in Hook. f., Fl. Brit. India 3: 529. 1882.

Shrubs, 1-2 m high. Leaves obovate-lanceolate, entire, glabrous. Flowers in axillary short peduncles, usually two together, pink. Fruits globose, black when dry.

*Fl. & Fr.*: June - Nov.

*Distrib.*: Siang, Subansiri; 400- 1000 m, in open forests.

***Ardisia solanacea*** Roxb., Pl. Corom. 1: 27, t. 27. 1795; Harid. & R. R. Rao, For. Fl. Meghalaya 2: 554. 1987; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 209. 1996. *A. humilis* auct. non Vahl; C. B. Clarke in Hook. f., Fl. Brit. India 3: 529. 1882; Kanjilal *et al.*, Fl. Assam 3: 175. 1939.

Shrubs; branches spreading. Leaves obovate-oblong, coriaceous, glabrous. Flowers in axillary corymbose racemes, pinkish. Fruits globose, yellowish green, pinkish black when dry.

*Fl. & Fr.*: March - Nov.

*Distrib.*: Changlang, Lohit, Siang, Subansiri; 400- 1000 m, in open forests.

***Ardisia thomsonii*** (C. B. Clarke) Mez in Engl., *Pflanzenr.* 9, 4, 236: 133, 1902. *A. khasiana* C. B. Clarke var. *thomsonii* C. B. Clarke in Hook. f., *Fl. Brit. India* 3: 527, 1882.

Shrubs, 1 - 1.5 m high. Leaves obovate-lanceolate, entire, glabrous. Flowers in terminal or axillary, few flowered umbels, yellowish. Fruits globose, depressed, reddish.

*Fl. & Fr.*: May - Dec.

*Distrib.*: Siang; 600 - 1000 m, undergrowth in primary forests.

***Ardisia thyrsiflora*** D. Don, *Prodr. Fl. Nep.* 148, 1825; H. Hara *et al.*, *Enum. Fl. Pl. Nepal* 3: 75, 1982; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 210, 1996. *A. neritifolia* Wall. ex A. DC. in *Trans. Linn. Soc. London* 17: 118, 1834; C. B. Clarke in Hook. f., *Fl. Brit. India* 3: 522, 1882. *A. floribunda* Wall. in Roxb., *Fl. Ind.* 2: 292, 1824, *non* Roem. & Schult. 1819; Kanjilal *et al.*, *Fl. Assam* 3: 179, 1939.

Large shrubs or small trees. Leaves lanceolate to oblong-lanceolate, entire, glabrous. Flowers in large, minutely rusty, axillary or terminal panicles, pink to purplish. Fruits globose, depressed, reddish or brownish dotted.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Changlang, Kameng, Lohit; along forest margins and riverbanks.

*Use*: Ripe fruits are eaten.

***Ardisia virens*** Kurz, *For. Fl. Brit. Burma* 2: 575, 1877; C. B. Clarke in Hook. f., *Fl. Brit. India* 3: 524, 1882; Kanjilal *et al.*, *Fl. Assam* 3: 183, 1939; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 210, 1996.

*Local name*: Sedum - sing (Asm.).

Shrubs, up to 3 m high; branches spreading. Leaves elliptic or oblong-lanceolate, glabrous. Flowers pale yellow in terminal or subterminal, umbels or corymbs, peduncles long. Fruits globose, depressed, scarlet red or brown.

*Fl. & Fr.*: April - Dec.

*Distrib.*: Changlang, Lohit, Siang, Tirap; forest undergrowth at lower elevations.

**Embellia floribunda** Wall. in Roxb., Fl. Ind. 2: 291. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 3: 514. 1882; Kanjilal *et al.*, Fl. Assam 3: 171. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 210. 1996.

Scandent shrubs or large climbers. Leaves oblong-lanceolate or ovate-lanceolate, entire with submarginal, reddish, glandular dots along margin, glabrous. Flowers in axillary, puberulous, paniculate racemes, greenish white. Fruits globose, pinkish black.

*Fl. & Fr.*: June - Feb.

*Distrib.*: Changlang, Kameng, Lohit, Siang; 1000 - 1200 m, in primary forests.

**Embellia parviflora** Wall. ex A. DC. in Trans. Linn. Soc. London 17: 130. 1834; C. B. Clarke in Hook. f., Fl. Brit. India 3: 515. 1882.

Sprawling shrubs or climbers, up to 20 m long, rusty pubescent. Leaves elliptic or ovate, small, entire. Flowers in axillary racemose umbels, greenish white or violet, pubescent at margin. Fruits globose.

*Fl. & Fr.*: Jan. - Sept.

*Distrib.*: Siang, Subansiri, Tirap; 500 - 1800 m, along edges of forests and foot track.

**Embellia ribes** Burm. f., Fl. Ind. 62, t. 23. 1768; C. B. Clarke in Hook. f., Fl. Brit. India 3: 513. 1882; Kanjilal *et al.*, Fl. Assam 3: 169. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 211. 1996.

*Local name*: Tashi-reng (Abor.).

Scandent shrubs; branchlets warty. Leaves ovate, elliptic, entire, glabrous or grey pubescent beneath. Flowers in axillary or terminal, lax, pubescent, branched panicles, greenish white or greenish yellow. Fruits globose, black.

*Fl. & Fr.*: Feb. - Oct.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 400 - 1500 m, along edges of forests.

**Embellia subcoriacea** (C. B. Clarke) Mez in Engl., Pflanzen. 9, 4. 236: 329. 1902; Kanjilal *et al.*, Fl. Assam 3: 173. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 211. 1996. *E. nagushia* D. Don var. *subcoriacea* C. B. Clarke in Hook. f., Fl. Brit. India 3: 516. 1882.

*Local name*: Bon-metica (Asm.).

Scandent or subscandent shrubs or climbers. Leaves obovate, elliptic or ovate-lanceolate, subcoriaceous, glabrous. Flowers in long racemes arising from old wood, pale green. Fruits globose, pinkish or reddish when ripe.

*Fl. & Fr.*: May–Dec.

*Distrib.*: Changlang, Lohit; in dense evergreen forests.

***Embelia tsjeriam-cottam*** (Roem. et Schult.) A. DC. in Trans. Linn. Soc. London 17: 131, 1834. *Ardisia tsjeriam-cottam* Roem. et Schult., Syst. 4: 518, 1819. *E. robusta auct. non* Roxb. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 3: 515, 1882, *p. p.*

Shrubs, up to 3 m high; younger branches ferruginously tomentose. Leaves elliptic to obovate-elliptic, entire, glabrous. Flowers in axillary dense racemes, greenish white. Fruits globose.

*Fl. & Fr.*: June–Nov.

*Distrib.*: Siang.

***Embelia vestita*** Roxb., Fl. Ind. 2: 288, 1824; C. B. Clarke in Hook. f., Fl. Brit. India 3: 517, 1882. *E. nagushia* D. Don, Prodr. 147, 1825; C. B. Clarke in Hook. f., Fl. Brit. India 3: 516, 1882.

Scandent shrubs; branches densely lenticellate. Leaves oblong-lanceolate or elliptic-lanceolate, closely serrulate, glabrous. Inflorescence axillary or arises from fallen leaf axils, densely pubescent racemes. Flowers greenish white. Fruits globose.

*Fl. & Fr.*: March–Nov.

*Distrib.*: Kameng, Tirap; 1500–1800 m, in deciduous or mixed deciduous forests.

***Hymenandra wallichii*** A. DC. in Ann. Sci. Nat. ser. 2, 16: 83, t. 5, 1841; C. B. Clarke in Hook. f., Fl. Brit. India 3: 532, 1882; Nayar & Giri in J. Bombay Nat. Hist. Soc. 73(3): 819, 1974; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 211, 1996. *Ardisia hymenandra* Wall. in Roxb., Fl. Ind. 2: 282, 1824.

Shrubs. Leaves obovate to obovate-oblong, crenate-dentate, membranous, glabrous, base gradually tapering to decurrent petiole. Flowers in terminal or subterminal, compound, drooping umbels, pinkish; anthers united forming a tube. Fruits globose, dark violet.

*Fl. & Fr.*: April–Oct.

*Distrib.*: Changlang, Lohit, Tirap; undergrowth in primary forests or in shady places of forests edges.

**Maesa angustifolia** A. DC., Prodr. 8:L 81. 1844. *M. indica* (Roxb.) Wall. var. *angustifolia* (A. DC.) Hook. f. et Thomson in Hook. f., Fl. Brit. India 3: 509. 1882; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 212. 1996.

Shrubs or small trees; younger parts puberulous. Leaves lanceolate to narrowly lanceolate, long acuminate, dentate. Flowers in axillary panicles, white. Fruits globose, creamy white when ripe.

*Fl. & Fr.*: Sept. Dec.

*Distrib.*: Changlang, Kameng, Lohit, Tirap; 400 -0 1000 m, along forest edges.

**Maesa arunachalensis** G. S. Giri, S. K. Das et M. P. Nayar in J. Jap. Bot. 65(1): 21. 1990. Fig. 11.

Trees, 15-20 m tall; branches profusely lenticelled, glabrous. Leaves large, oblong, rugose, entire, glabrous. Flowers in axillary or terminal panicles, whitish or pinkish.

*Fl. & Fr.*: Jan. Feb.

*Distrib.*: Subansiri; 800 - 1200 m, in primary forests.

**Maesa castanefolia** Mez in Engl., Pflanzent. 9, 4, 236: 44. 1902.

Branched shrubs, 2-3 m high; branches profusely lenticelled. Leaves elliptic to elliptic-lanceolate, margin sharply dentate, glabrous. Flowers in axillary, branched, paniculate racemes, white. Fruits globose, black when dry.

*Fl. & Fr.*: March Nov.

*Distrib.*: Siang, Subansiri; 300 - 12200 m, in open places, forest edges or along streams.

**Maesa chisia** Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 148. 1825; C. B. Clarke in Hook. f., Fl. Brit. India 3: 509. 18882.

*Local name*: Susi-porma (Asm.)

Shrubs or small trees; branches profusely lenticelled. Leaves elliptic or elliptic-lanceolate, margin toothed, reticulations very distinct, glabrous. Flowers in axillary, branched racemes, white, scented. Fruits small, pinkish white.

*Fl. & Fr.*: Feb. Nov.

*Distrib.*: Kameng, Lohit, Siang, Subansiri, Tirap; 1000 - 1500m, in moist but open places.

*Use*: Young shoots and fruits are eaten.

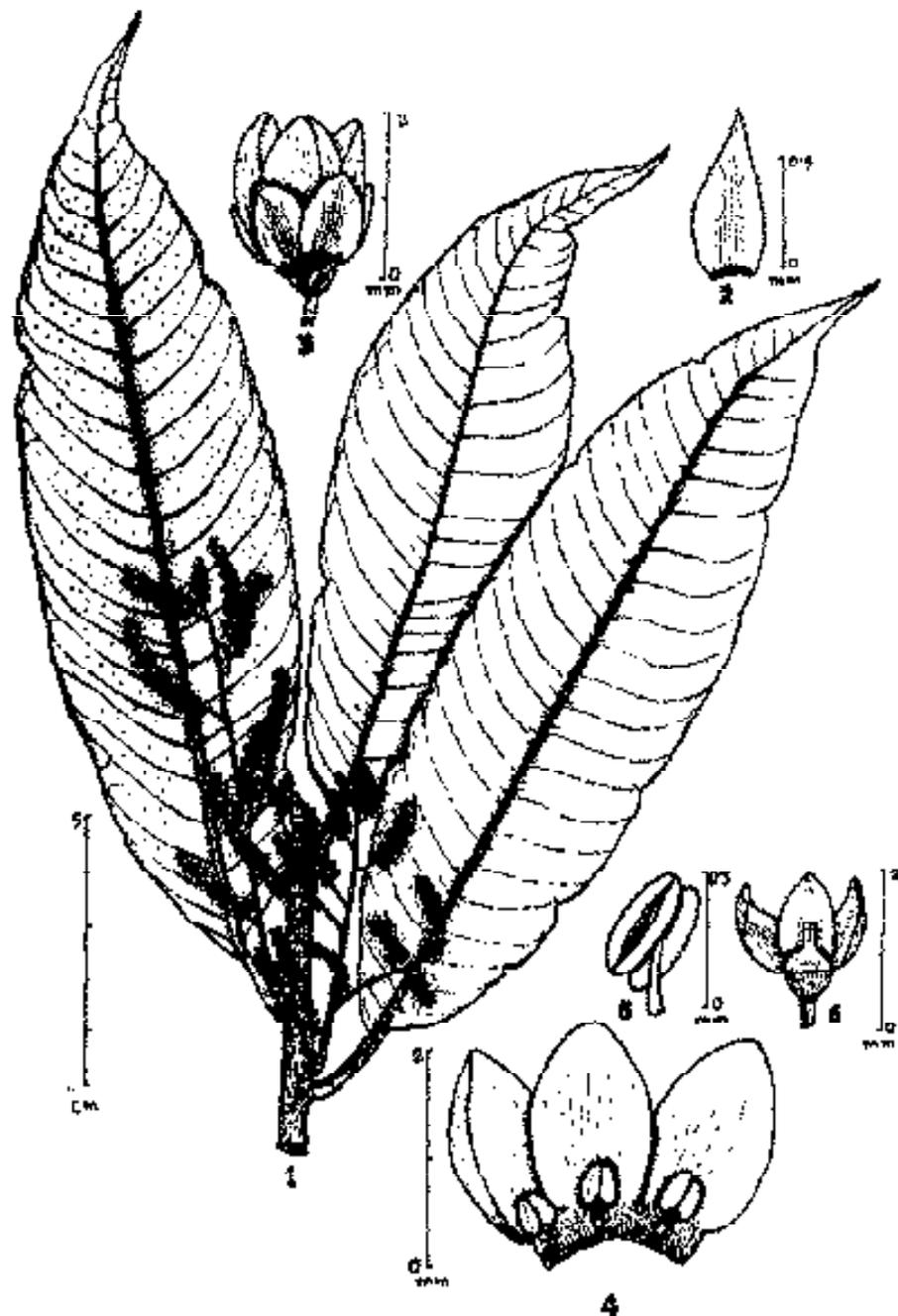


Fig. 11. *Maesa arunachalensis* G. S. Giri, S. K. Das et M. P. Nayar:  
 1. Flowering twig; 2. Bract; 3. Flower; 4. Corolla (part with stamens);  
 5. Stamen; 6. Gynoecium.

**Maesa indica** (Roxb.) Wall. in Roxb., Fl. Ind. 2: 230. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 3: 509. 1882; Kanjilal *et al.*, Fl. Assam 3: 163. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 211. 1996. *Baeobotrys indica* Roxb., Hort. Beng. 16. 1814 (*nom. nud.*) & Fl. Ind. Ed. Carey & Wall. 2: 230. 1824 & Fl. Ind. Ed Carey 1: 557. 1832.

*Local name:* Sesu (Asm.).

Shrubs or small tree, 3-10 m high. Leaves ovate, ovate-lanceolate to elliptic, coarsely dentate, glabrous. Flowers in axillary, simple or branched racemes, greenish white. Fruits globose, brown.

*Fl. & Fr:* Feb. Nov.

*Distrib.:* Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 500-800 m, common as forest undergrowth in moist places.

**Maesa manipurensis** Mez in Engl., Pflanzenr. 9, 4. 236: 30. 1902.

Small shrubs, up to 5 m tall. Leaves elliptic, acuminate, denticulate. Flowers in short axillary panicles, white.

*Fl. & Fr:* March Sept.

*Distrib.:* Kameng; 1500-2000 m, in moist places.

**Maesa maxima** (C. B. Clarke) Mez in Engl., Pflanzenr. 9, 4. 236: 44. 1902. *M. indica* (Roxb.) Wall. var. *maxima* C. B. Clarke in Hook. f., Fl. Brit. India 3: 509. 1882.

Branched shrubs, 1-3 m high. Leaves large, suborbicular to orbicular, base cordate, margin denticulate, coriaceous, glabrous. Flowers in axillary, branched racemes, white. Fruits globose.

*Fl. & Fr:* March Oct.

*Distrib.:* Subansiri; in moist open places and along forest edges at lower altitudes.

**Maesa montana** DC., Prodr. 8: 79. 1844; Harid. & R. R. Rao, For. Fl. Meghalaya 2: 561. 1938; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 212. 1996. *M. chisia auct. non* D. Don 1825; C. B. Clarke in Hook. f., Fl. Brit. India 3: 509. 1882; Kanjilal *et al.*, Fl. Assam 3: 163. 1939.

Shrubs, up to 3 m tall. Leaves ovate-elliptic or oblanceolate, rotund or obtuse at base, caudate-acuminate at apex. Flowers usually in branched raceme, ca 3 mm across, white. Fruits ca 5 mm across, white or creamy.

*Fl. & Fr:* Feb. Nov.

*Distrib.*: Changlang, Lohit, Subansiri.

**Maesa nayarii** G. S. Giri *et* S. K. Das in Bull. Bot. Surv. India 31(1-4): 178. 1992. Fig. 12.

Subscandent shrubs or small trees, 5-7 m high; branches ferruginous pilose. Leaves oblong-rectangular, truncate at apex, margin sharply dentate. Flowers in axillary panicles; anthers tailed. Fruits globose, fully adnate to calyx-tube.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Subansiri.

**Maesa permollis** Kurz in J. As. Soc. Bengal 11(2): 66. 1871. *M. mollis* auct. non A. DC. 1834; C. B. Clarke in Hook. f., Fl. Brit. India 3: 510. 1882.

Shrubs, 1-2 m high; young branches hairy. Leaves lanceolate or elliptic-lanceolate, dentate, ferruginous pilose. Flowers in axillary, short, pilose racemes, white. Fruits hairy.

*Fl. & Fr.*: April - Dec.

*Distrib.*: Siang; 800 - 1000 m, in oak forests.

**Maesa ramentacea** (Roxb.) Wall. in Roxb., Fl. Ind. 2: 230. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 3: 508. 1882. *Baeobotrys ramentacea* Roxb., Hort. Beng. 16. 1814 (*nom. nud.*) & Fl. Ind. 1: 558. 1820.

Shrubs or small trees, 4-8 m high; branches spreading. Leaves lanceolate, elliptic-lanceolate or ovate-lanceolate, subentire, glabrous. Flowers in axillary or terminal, long, slender panicles, white. Fruits globose, brownish when dry.

*Fl. & Fr.*: March - Dec.

*Distrib.*: Siang, Subansiri; 500 - 1000 m, in secondary forests and forest margins.

**Maesa rugosa** C. B. Clarke in Hook. f., Fl. Brit. India 3: 508. 1882.  
var. **rugosa**

Stout shrubs; branches sparingly warty. Leaves lanceolate, subentire, acuminate. Flowers in axillary racemes, white or pale purple. Fruits globose, brownish.

*Fl. & Fr.*: April - Jan.

*Distrib.*: Dibang valley, Kameng; 1000 - 1500 m, along forest margins.

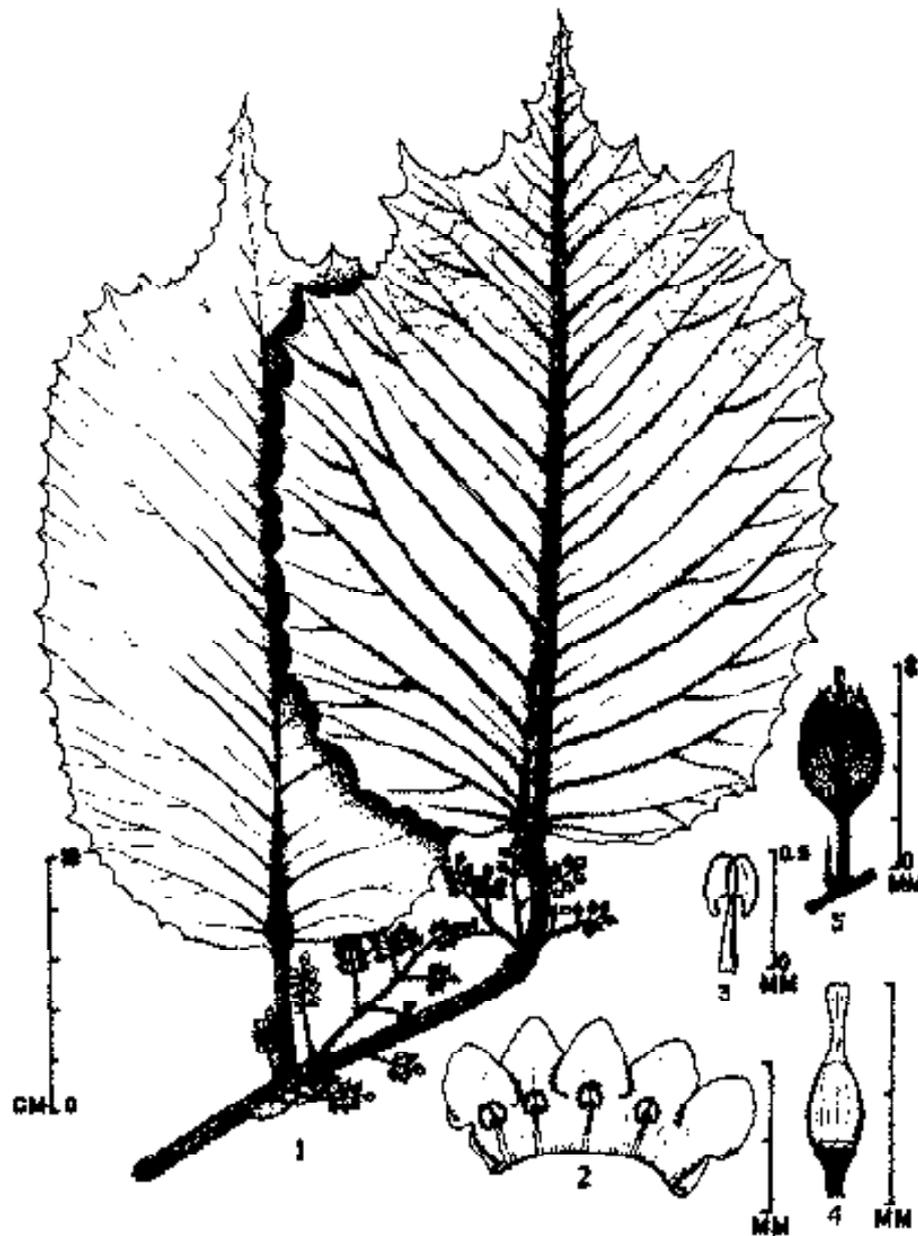


Fig. 12. *Maesa nayarit* G. S. Giri et S. K. Das : 1. Flowering twig; 2. Corolla (split open); 3. Stamen; 4. Gynoecium; 5. Fruit.

**Maesa rugosa** var. **griffithii** C. B. Clarke in Hook. f., Fl. Brit. India 3: 508. 1882.

var. **griffithii** differs from var. **rugosa** by ovate to ovate-oblong leaves with nearly truncate apex and dentate margin.

*Fl. & Fr.*: April - Jan.

*Distrib.*: Siang; 800 - 1000 m, along forest margins.

**Maesa truncata** Sastry in Bull. Bot. Soc. Bengal (J. Sen mem. vol.) 433. 1969.

Scandent shrubs; younger parts densely brownish tomentose or pilose. Leaves nearly rectangular in outline, truncate at base and apex, entire or irregularly denticulate, puberulous beneath. Flowers in axillary racemes, white.

*Fl. & Fr.*: March - Dec.

*Distrib.*: Subansiri.

**Maesa ziroensis** G. S. Giri et G. D. Pal in J. Bombay Nat. Hist. Soc. 87(3): 435. 1990.

*Local name*: Abanchini (Apat.).

Shrubs, 2-2.5 m tall; branches woody, lenticellate, densely rusty pilose. Leaves elliptic to elliptic-lanceolate, remotely dentate, lower surfaces densely hairy. Flowers in axillary, rusty pubescent panicles, yellow.

*Fl. & Fr.*: Sept. - Dec.

*Distrib.*: Subansiri; 1500 - 1700 m, along hilly foot track of moist primary forests.

**Myrsine semiserrata** Wall. in Roxb., Fl. Ind. 2: 293. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 3: 511. 1882; Kanjilal *et al.*, Fl. Assam 3: 166. 1939; H. Hara, Fl. E. Himal. 243. 1966; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 212. 1996. *M. subspinosa* D. Don, Prodr. Fl. Nep. 147. 1825. *M. semiserrata* var. *subspinosa* (D. Don) C. B. Clarke in Hook. f., Fl. Brit. India 3: 512. 1882.

Shrubs or small trees, profusely branched. Leaves elliptic to elliptic-lanceolate, serrate at apex, glabrous. Flowers in axillary fascicles or from fallen leaf axils, pinkish or pinkish green. Fruits globose, pinkish violet.

*Fl. & Fr.*: Oct. - May.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 1600 - 2000 m, along forest edges.

**Rapanea capitellata** (Wall.) Mez in Engl., Pflanzent. 9, 4. 236: 356. 1902. *Myrsine capitellata* Wall. in Roxb., Fl. Ind. 2: 295. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 3: 512. 1882.

Shrubs or small trees, up to 15 m high; branches spreading. Leaves elliptic, lanceolate to oblanceolate, margin entire, recurved, glabrous. Flowers in axillary fascicles, more often from fallen leaf axils, purplish; stamens much exerted. Fruits globose, brownish or purplish.

*Fl. & Fr.*: Nov. - Sept.

*Distrib.*: Kameng, Subansiri.

**Sadiria bourii** Dunn in Bull. Misc. Inform. Roy. Bot. Gard. Kew 1920: 111. 1920; M. P. Nayar & G. S. Giri in Bull. Bot. Surv. India 16: 147. 1977.

Bushy shrubs; branches slender, glabrous. Leaves ovate, margin entire or subentire, glabrous; petioles long. Flowers many, in short, axillary, drooping cymes, pale salmon coloured.

*Fl. & Fr.*: March - June.

*Distrib.*: Siang; 1800 - 2000 m, in open forests.

**Sadiria erecta** Mez var. **longipetiolata** G. S. Giri, G. D. Pal *et* H. J. Chowdhery in Ind. J. For. 15(1): 93. 1992. **Fig. 13.**

Shrubs, up to 1.25 m tall; branches slightly angular with longitudinal ridges and furrows. Leaves long petioled, elliptic-lanceolate to obovate-lanceolate, crenate-dentate, glabrous. Flowers twisted to right in axillary or terminal, pedunculuate umbels, whitish.

*Fl. & Fr.*: Nov. - Dec.

*Distrib.*: Subansiri; 1400 - 1500 m, along forest margins.

**Sadiria eugenifolia** (Wall. ex A. DC.) Mez in Engl., Pflanzent. 9, 4. 236: 182. 1902; M. P. Nayar & G. S. Giri in Bull. Bot. Surv. India 16: 146. 1977. *Ardisia eugenifolia* Wall. ex A. DC. in Trans. Linn. Soc. London 17: 120. 1834. *Pimelandra eugenifolia* (Wall. ex A. DC.) Benth. *et* Hook. f., Gen. Pl. 2: 647. 1876; C. B. Clarke in Hook. f., Fl. Brit. India 3: 530. 1882.

Shrubs or small trees; branches spreading; younger parts rusty pubescent. Leaves lanceolate, elliptic or elliptic-oblong, shortly petiolate, distantly crenate-dentate. Flowers in axillary, rusty pubescent racemes or corymbs, pinkish. Fruits globose, red.

*Fl & Fr.*: April - Sept.

*Distrib.*: Arunachal Pradesh.

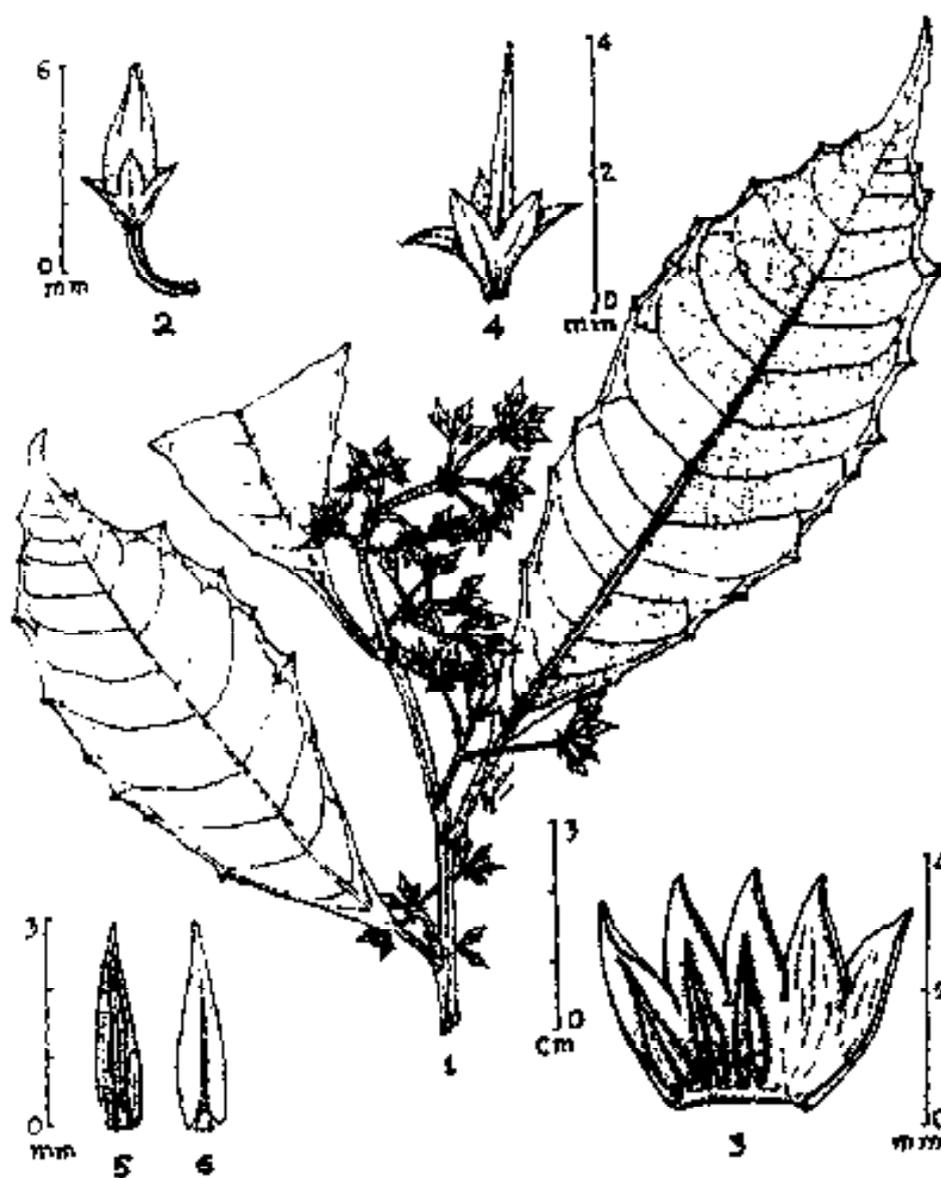


Fig. 13. *Sadiria erecta* Mez var. *longipetiolata* G. S. Giri, G. D. Pal et H. J. Chowdhery : 1. Flowering twig; 2. Flower bud; 3. Corolla (split open); 4. Calyx & Gynoecium; 5. & 6. Stamen (ventral & dorsal view).

**Sadiria griffithii** (C. B. Clarke) Mez in Engl., Pflanzent. 9, 4, 236: 1902; M. P. Nayar & G. S. Giri in Bull. Bot. Surv. India 3: 146. 1977. *Pimelandra griffithii* C. B. Clarke in Hook. f., Fl. Brit. India 3: 531. 1882.

Shrubs; branches rusty pubescent. Leaves elliptic or ovate-lanceolate, margin subentire, rusty pubescent on nerves beneath; petioles short. Flowers in axillary, rusty pubescent corymbs, pinkish. Fruits globose, red.

*Fl. & Fr.*: May - Jan.

*Distrib.*: Kameng, Siang; 1000 - 1500 m, in primary forests.

**Sadiria subsessilifolia** M. P. Nayar et G. S. Giri in Bull. Bot. Surv. India 16 (1-4): 144. 1977.

Woody shrubs; branches terete, glabrous. Leaves subsessile, oblanceolate, margin sinuate denticulate, puberulous along nerves beneath. Flowers in axillary, short paniculate corymbs or subfascicled, pinkish.

*Fl. & Fr.*: Feb. - March.

*Distrib.*: Siang; 1100 - 1600 m.

## SAPOTACEAE

**Aesandra butyracea** (Roxb.) Baehni in Boissiera 11: 29. 1965. *Bassia butyracea* Roxb. in As. Res. 8: 477. 1805; C. B. Clarke in Hook. f., Fl. Brit. India 3: 546. 1882. *Madhuca butyracea* (Roxb.) Macbride in Contrib. Gray Herb. n.s. 53: 18. 1918.

*Local name*: Fiw, Pinshing (Monpa).

Large trees, up to 26 m high. Leaves obovate or obovate-oblong, subobtusate, tomentose to glabrous. Flowers with rusty villous calyx lobes. Berries globose or oblong-ellipsoid, 1-3-seeded. Seeds ellipsoid.

*Fl. & Fr.*: June - Sept.

*Distrib.*: Arunachal Pradesh; up to 2500 m.

**Chrysophyllum lanceolatum** (Blume) DC., Prodr. 8: 162. 1844; Vink in Blumea 9: 28. 1958. *Nycsterisition lanceolatum* Blume, Bijdr. 12: 676. 1826. *Chrysophyllum roxburghii* G. Don, Gen. Syst. 4: 33. 1838; C. B. Clarke in Hook. f., Fl. Brit. India 3: 535. 1882.

*Local name*: Bonpitha (Asm.)

Trees, 13-20 m high. Leaves oblong-lanceolate, acuminate, coriaceous, glabrous. Flowers with rusty pilose corolla lobes. Berries fleshy, globose, 5-6 angled on drying. Seeds hard, compressed.

*Fl. & Fr.*: June - Nov.

*Distrib.*: Arunachal Pradesh; up to 1000 m.

*Use*: Fruits are edible.

**Diploknema butyraceoides** (Schott) Lam. in Bull. Jard. Bot. Buitenz. ser. 3, 8: 453. 1927. *Bassia butyraceoides* Schott in Kew Bull. Misc. Inf. 36. 1916; Calder *et al.* in Rec. Bot. Surv. India 11(1): 17. 1926.

*Local name*: Pai (Abor.).

Small trees; branches dense ferruginous tomentose. Leaves oblong-obovate, margin undulate, membranous, glabrous, nerves subparallel. Flowers pale yellow, numerous; pedicels dense rufous tomentose; calyx densely rufous tomentose; corolla tube hairy at base, lobes about 16; filaments pilose.

*Fl. & Fr.*: Jan. - Mar.

*Distrib.*: Kameng, Siang; 800 - 1200 m. Endemic.

**Madhuca longifolia** (Koenig) Macbride in Contrib. Gray Herb. 53: 17. 1918; P. Royen in Blumea 10: 543. 1960. *Bassia longifolia* Koenig in L., Mant. Pl. 2: 563. 1771; C. B. Clarke in Hook. f., Fl. Brit. India 3: 544. 1882. *B. latifolia* Roxb., Pl. Corom. 1: 20. 1795; C. B. Clarke in Hook. f., Fl. Brit. India 3: 544. 1882.

*Local name*: Fiw (Monpa).

Trees, up to 17 m high; branches ferruginously tomentose to glabrescent. Leaves elliptic, elliptic-obovate or lanceolate, densely woolly on either side when young, ultimately glabrous. Flowers in axillary fascicles, brownish to woolly tomentose. Berries globose, densely hirsute to glabrescent.

*Fl. & Fr.*: March - July.

*Distrib.*: Arunachal Pradesh.

**Minusops elengi** L., Sp. Pl. 349. 1753; C. B. Clarke in Hook. f., Fl. Brit. India 3: 548. 1882.

*Local name*: Bokul, Gokul (Asm.).

Trees, 15 - 25 m high. Leaves elliptic-lanceolate, abruptly acuminate, glabrous, shining above. Flowers in axillary clusters or solitary, white, fragrant; pedicles and calyx rusty tomentose. Berries elliptic, yellow, 1-seeded.

*Fl. & Fr.*: June - Sept.

*Distrib.*: Kameng; often cultivated.

**Palaquium obovatum** (Griff.) Engl., Bot. Jahrb. 12: 511. 1890; Van Royen in Blumea 10: 453. 1960. *Isonandra obovata* Griff., Notul. 4: 293. 1854. *Dichopsis obovata* (Griff.) C. B. Clarke in Hook. f., Fl. Brit. India 3: 542. 1882.

*Local name:* Kathulua (Asim.); Daserchangne (Nishi).

Trees. Leaves obovate-oblong, obtuse to shortly acute, glabrescent or glabrous beneath. Flowers in clusters; corolla glabrescent outside. Berries globose.

*Fl. & Fr:* March - July.

*Distrib.:* Arunachal Pradesh.

**Palaquium polyanthum** (Wall. ex DC.) Baillon, Tr. Bot. Mcd. Phan. 1500 Add. 1884; P. Royen in Blumea 10: 565. 1960. *Bassia polyantha* Wall. ex DC., Prodr. 8. 198. 1844. *Dichopsis polyantha* (Wall.) Benth. in Benth. & Hook f., Gen. Pl. 2: 658. 1876; C. B. Clarke in Hook. f., Fl. Brit. India 3: 542. 1882.

Trees, 10-13 m high. Leaves obovate-oblong, subobtuse, densely silky tomentose to glabrescent beneath. Flowers in lax clustered towards apices of branches, creamish. Berries obovoid, scaly brown, 1-seeded.

*Fl. & Fr:* April - Aug.

*Distrib.:* Arunachal Pradesh.

**Sarcosperma arboreum** Hook. f. in Benth. & Hook. f., Gen. Pl. 2: 655. 1876; C. B. Clarke in Hook. f., Fl. Brit. India 3: 535. 1882; Deb, Fl. Tripura 1: 432. 1981; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 213. 1996.

Trees, 8 - 25 m high. Leaves oblong-lanceolate or rarely obovate with pits in axils of nerves, acute. Flowers in axillary pubescent panicles, yellowish or pale white, fragrant. Fruits ovoid, glaucous, 1-2 seeded.

*Fl. & Fr:* Nov. - July.

*Distrib.:* Changlang, Kameng, Lohit, Siang; up to 1000 m.

**Sarcosperma griffithii** Hook. f. in Benth. & Hook. f., Gen. Pl. 2: 655. 1876; C. B. Clarke in Hook. f., Fl. Brit. India 3: 536. 1882.

Small trees, 5-15 m high. Leaves lanceolate to elliptic-lanceolate, acute, coriaceous without any axillary pits. Flowers in axillary, glabrous racemes, dull white, fragrant. Fruits oblong, brown, fleshy, smooth, sweetish.

*Fl. & Fr:* Nov. - July.

## EBENACEAE

**Diospyros cacharensis** (Das *et* Kanjilal f.) Naithani in Ind. For. 106 (8): 583. 1980. *Maba cacharensis* Das *et* Kanjilal f. in Assam For. Rec. 1: 15. 1934.

Small trees, 9–12 m high. Leaves pilose. Flowers cream coloured; petals 3-lobed, finely pilose on back. Fruits ovoid, beaked.

*Fl. & Fr.*: April–July.

*Distrib.*: Siang.

**Diospyros lanceaefolia** Roxb., Fl. Ind. 2: 537. 1832; C. B. Clarke in Hook. f., Fl. Brit. India 3: 562. 1882.

var. **lanceaefolia**

*Local name*: Kendu (Assm.)

Trees, 10–18 m high. Leaves oblong-elliptic to lanceolate. Male flowers in sessile cluster; female flowers solitary, subsessile; corolla lobes densely fulvous tomentose, margin recurved. Berries ovoid, rusty villous.

*Fl. & Fr.*: Aug.–Sept.

*Distrib.*: Tirap; up to 1500 m.

*Use*: Fruits are said to be used as fish poison.

**Diospyros lanceaefolia** var. **amonea** (Wall. *ex* DC.) C. B. Clarke in Hook. f., Fl. Brit. India 3: 562. 1882. *D. amonea* Wall. *ex* DC., Prodr. 8: 232. 1844.

Trees. Leaves oblong-lanceolate, broader at base. Female flowers with smaller calyx lobes and without recurved margins.

*Fl. & Fr.*: April–Feb.

*Distrib.*: Arunachal Pradesh.

**Diospyros lotus** L., Sp. Pl. 1057. 1753; C. B. Clarke in Hook. f., Fl. Brit. India 3: 555. 1882.

Trees. Leaves elliptic, acute, pubescent beneath. Flowers subsessile; corolla urceolate, glabrous without. Fruits globose.

*Fl. & Fr.*: May–Nov.

*Distrib.*: Kameng.

**Diospyros malabarica** (Desr.) Kostel., Allg. Med.-Pharm. Fl. 3: 1099. 1834; Kosterm. in Ceylon J. Sc. 12(2): 103. 1977. *Garcinia malabarica* Desr. in Lam., Encycl. Meth. Bot. 3: 701. 1792. *Diospyros embryopteris* Pers., Syn. Pl. 2: 624. 1807; C. B. Clarke in Hook. f., Fl.

Brit. India 3: 556, 1882. *D. peregrina* Gurke in Engl. & Prantl, Pflanzenfam. 4(1): 164, 1897, non *Embryopteris peregrina* Gaertn.; Deb, Fl. Tripura State 1: 427, 1981.

Large trees; branchlets glabrous. Leaves oblong, obtuse, coriaceous. Flowers in puberulous or subtomentose cymes. Fruits subglobose, densely red tomentose.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Kameng; up to 1500 m.

*Use*: Fruits are edible.

**Diospyros nigricans** Wall. ex DC., Prodr. 8: 239, 1844; C. B. Clarke in Hook. f., Fl. Brit. India 3: 557, 1882.

*Local name*: Rangkoli (Asm).

Trees, up to 17 m high; branchlets grey pubescent. Leaves elliptic-lanceolate, acuminate, glabrous, chartaceous. Flowers in 3-6-flowered clusters, white; corolla glabrescent outside. Fruits solitary, sessile, ellipsoid, glabrous, 4-celled.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Arunachal Pradesh; up to 1000 m.

**Diospyros toposia** Buch.-Ham. in Trans. Linn. Soc. London 15: 115, 1827; C. B. Clarke in Hook. f., Fl. Brit. India 3: 536, 1882; Wight, Ic. t. 416, 1840.

Medium sized trees, much branched. Leaves oblong-acuminate, coriaceous, glabrous. Flowers in short peduncled cymes, white; calyx irregularly lobed, persistent. Fruits sessile, ellipsoid or subglobose, villous, 1-4-seeded.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Subansiri; up to 1500 m, in primary forests.

**Diospyros variegata** Kurz in J. As. Soc. Bengal 1871, pl. ii. 73, 1871; C. B. Clarke in Hook. f., Fl. Brit. India 3: 557, 1882.

*Local name*: Gab, Koliori, Kolonhi, Kolothi, (Asm.).

Trees, up to 25 m high. Leaves broadly oblong, elliptic-oblong, acute, glabrous. Flowers in 3-8-flowered, crowded, sparingly pubescent cymes, yellowish white. Fruit solitary, globose, ferruginously villous.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Arunachal Pradesh; up to 350 m.

## STYRACACEAE

**Alniphyllum fortunei** (Hemsl.) Makino in Bot. Mag. Tokyo 20: 93. 1906; Sastry in Bull. Bot. Surv. India 9: 297. 1967; Perk. in Engl., Pflanzcnr. 30: 91. 1907, *Halesia fortunei* Hemsl. in J. Linn. Soc. London 26: 75. 1889.

Trees, about 10 m high; younger branches densely stellate tomentose, older glabrous. Leaves elliptic to oblong-elliptic, shortly cordate at apex, callose-denticulate at margin, sparsely to densely stellate-pubescent. Flowers in 6-13-flowered, axillary or terminal, stellate hairy lax panicles, white stellate hairy without. Capsules oblong. Seeds 2-winged.

*Fl. & Fr.*: May - June.

*Distrib.*: Subansiri. Rare.

**Bruinsmia polysperma** (C. B. Clarke) Steenis in Bot. Jahrb. 86: 390-393, f.3, a-g. 1967; Harid. & R. R. Rao, For. Fl. Meghalaya 2: 581. 1987; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 213. 1996. *Styrax polysperma* C. B. Clarke in Hook. f., Fl. Brit. India 3: 590. 1882; Kanjilal *et al.*, Fl. Assam 3: 221. 1939.

Trees. Leaves lanceolate, finely crenate, coriaceous, glabrous. Flowers in terminal corymbs, densely silky. Fruits ellipsoid, subacute, 5-6-seeded, blue.

*Fl. & Fr.*: March - Nov.

*Distrib.*: Changlang, Lohit, Subansiri, Tirap; up to 1500 m.

*Use.*: The decoction of ripe fruits is used as dye.

**Huodendron biaristatum** (W.W.Sm.) Rehder in J. Arn. Arb. 16: 345. 1935; Sastry in Bull. Bot. Surv. India 9: 298. 1967. *Styrax biaristatus* W.W.Sm. in Notes Roy. Bot. Gard. Edinburgh 12: 233. 1920.

Shrubs, up to 3 m high; branches thinly stellate pubescent when young, older glabrous. Leaves elliptic-lanceolate, caudate-acuminate, serrate-denticulate, stellate hairy at nerve axils, finely reticulate. Flowers in axillary, stellate hairy corymbose panicles, white. Capsules ovoid, 3-valved, stellate hairy. Seeds not winged.

*Fl. & Fr.*: June - Nov.

*Distrib.*: Subansiri. Rare.

**Parastyrax lacei** W.W.Sm. in Notes Roy. Bot. Gard. Edinburgh 12: 222. 1920; Kanjilal *et al.*, Fl. Assam 3: 221. 1939. *Styrax lacei* W.W.Sm. in Kew Bull. Misc. Inf. 1911: 344. 1911.

Large, trees, 45–50 m high with girth at breast height ca 7 m. Leaves oblong or elliptic-oblong, acuminate, coriaceous, stellate-tomentose beneath. Flowers in axillary, subpanicked racemes, yellow. Fruits elliptic.

*Fl. & Fr.*: March–May.

*Distrib.*: Siang; up to 1500 m.

***Styrax serrulatum*** Roxb., *Fl. Ind.* 2: 415. 1832; C. B. Clarke in Hook. f., *Fl. Brit. India* 3: 588. 1882, *p.p.*; H. Hara *et al.*, *Enum. Fl. Pl. Nep.* 3: 78. 1982; Kanjilal *et al.*, *Fl. Assam* 3: 219. 1939; A. S. Chauthan in Hajra, *Contrib. Fl. Namdapha* 213. 1996. *S. serrulatum* var. *agrestis* C. B. Clarke in Hook. f., *Fl. Brit. India* 3: 589. 1882.

var. ***serrulatum***

*Local name*: Ragang-asing (Abor.); Bhakulipatol, Phulkat, Phulkut (Asm.); Paye-changne (Daff.); Paya-apug, Yagur-asing (Miri).

Shrubs or small tree, 5–15 m high. Leaves ovate to elliptic-lanceolate, acuminate. Flowers in axillary fascicles or in racemes, white. Fruits ellipsoid with persistent cupular calyx.

*Fl. & Fr.*: March–Nov..

*Distrib.*: Changlang, Lohit, Kameng, Siang, Subansiri, Tirap; up to 1500 m, in primary forests.

***Styrax serrulatum* var. *virgatum*** (DC.) C. B. Clarke in Hook. f., *Fl. Brit. India* 3: 589. 1882. *S. virgatum* DC., *Prodr.* 8: 267. 1844.

Spreading shrubs, ca 3 m high. Leaves elliptic-lanceolate, narrowly acuminate. Flowers white. Fruits ellipsoid.

*Fl. & Fr.*: April–Nov.

*Distrib.*: Subansiri; up to 1500 m, in primary forests.

## SYMPLOCACEAE

***Symplocos cochinchinensis*** (Lour.) S. Moore in *J. Bot.* 52: 148. 1914; Noot. in Steenis, *Fl. Males.* 8(2): 246. 1977. *Dicalix cochinchinensis* Lour., *Fl. Cochinch.* 1: 663. 1790. *Symplocos ferruginea* Roxb., *Fl. Ind.* 2: 542. 1832; C. B. Clarke in Hook. f., *Fl. Brit. India* 3: 574. 1882. *S. javanica* Kurz in *J. As. Soc. Bengal* 46(2): 239. 1877. *S. ferruginea* var. *polystachya* Wall. ex C. B. Clarke in Hook. f., *Fl. Brit. India* 3: 575. 1882. **Fig. 14.**

subsp. ***cochinchinensis***

*Local name*: Garo-bhangra, Mota-bhomlati (Asm.).

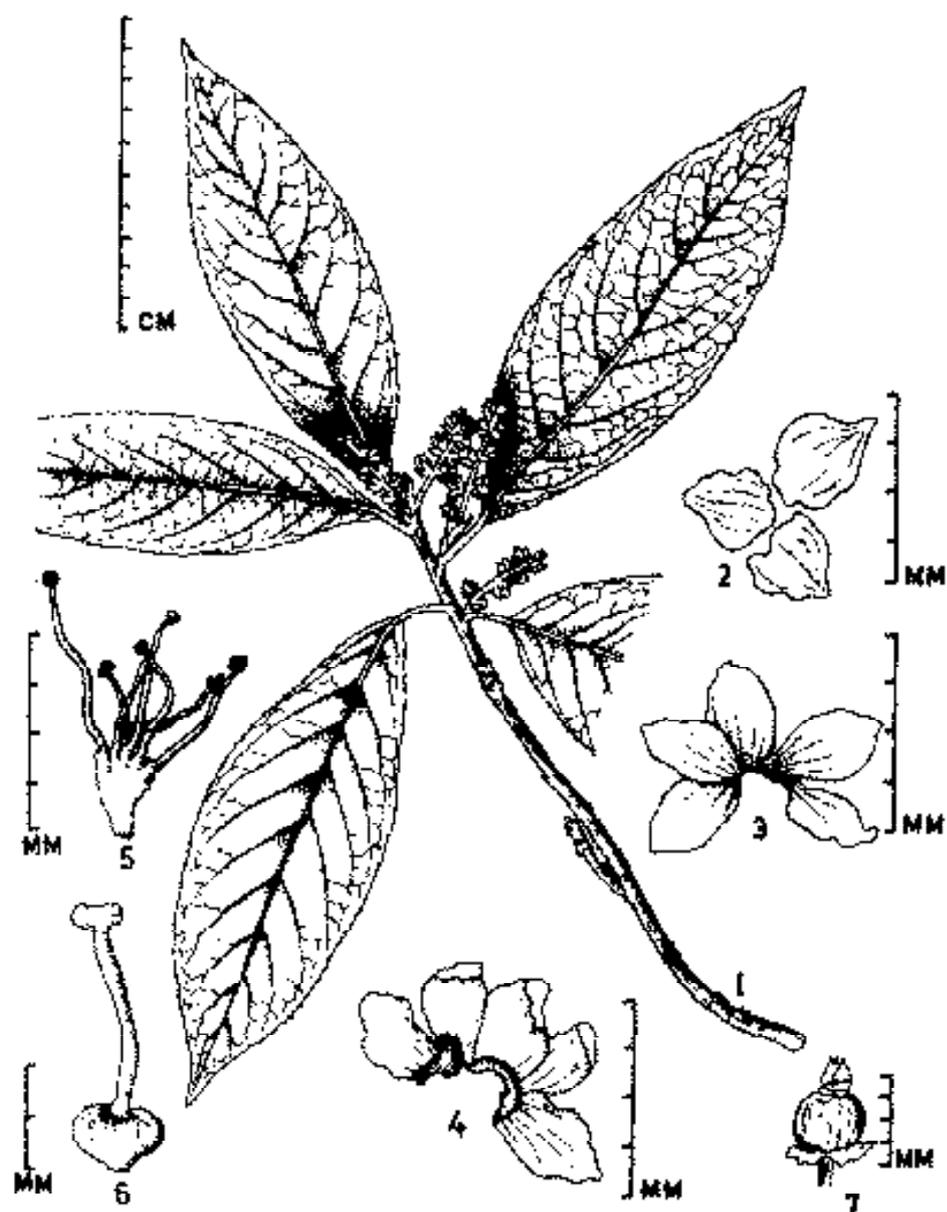


Fig. 14. *Symplocos cochinchinensis* (Lour.) S. Moore. 1. Flowering twig; 2. Bracts; 3. Sepals (split open); 4. Corolla (split open); 5. Androecium; 6. Gynoecium; 7. Fruit.

Trees, ca 15 m high, bark grey; young stems brown hairy. Leaves elliptic to oblong-lanceolate, acute, glabrous above, ferruginously hairy beneath. Flowers usually in branched spikes, white to pale yellow, fragrant; calyx lobes hairy, often enlarged in fruits forming a conical beak. Fruits ovoid, green, black when ripe.

*Fl. & Fr.*: April–Nov.

*Distrib.*: Kameng, Siang, Subansiri, Tirap; up to 2500 m, in dense, moist primary forests.

*Use*: Fruits are used for rosaries.

***Symplocos cochinchinensis*** subsp. ***laurina*** (Retz.) Noot. ex Ramamoorthy in C. J. Saldanha & Nicolson, Fl. Hassan Distr. 198. 1976 (12 July); Nair in Ind. J. For. 1: 142. 1978. *Myrtus laurimys* Retz., Obs. Bot. 4: 26. 1786. *Symplocos spicata* Roxb., Fl. Ind. 2: 542. 1832; C. B. Clarke in Hook. f., Fl. Brit. India 3: 573. 1882. *S. attenuata* DC., Prodr. 8: 256. 1844. *S. spicata* Roxb. var. *malasica* C. B. Clarke in Hook. f., Fl. Brit. India 3: 573. 1882. *S. spicata* var. *attenuata* (DC.) C. B. Clarke in Hook. f., Fl. Brit. India 3: 573. 1882. *S. cochinchinensis* var. *laurina* (Retz.) Rajzada & H. O. Saxena, Fl. Mussoorie 1: 417. 1978.

*Local name*: Konha, Bhoira, Bhomera, Bhomlali, Bhoratmuni, Rotha (Asm.).

Small trees. Leaves broadly lanceolate or elliptic, acute, serrulate. Flowers in long paniced spikes, rusty pubescent; calyx lobes glabrous, often ciliate, not enlarged in fruits.

*Fl. & Fr.*: May–July.

*Distrib.*: Subansiri, in tropical rain forests.

***Symplocos dryophila*** C. B. Clarke in Hook. f., Fl. Brit. India 3: 578. 1882.

Trees; branches grey, glabrous. Leaves oblong-elliptic or narrowly obovate-lanceolate, acuminate, coriaceous, hairy or glabrous. Flowers in axillary, fulvous-hirsute racemes. Fruits subglobose, smooth.

*Fl. & Fr.*: July–Oct.

*Distrib.*: Kameng.

***Symplocos glauca*** (Thunb.) Koidz. in Bot. Mag. Tokyo 39: 313. 1925; Naithani & Bahadur in Ind. For. 107(11): 722. 1981. *Laurus glauca* Thunb., Fl. Jap. 173. 1785. *Symplocos pealii* King ex Das in Assam For. Rec. 1: 19. 1934; Kanjilal *et al.*, Fl. Assam 3: 214. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 214. 1996.

*Local name:* Mota-bhom-lati (Asm.).

Trees, 9-10 m high, bark grey. Leaves elliptic-oblong, shortly acuminate, glandular serrulate, coriaceous, glabrous. Flowers in axillary, tomentose cymes, red. Fruits subcylindric, sparsely puberulous, greenish brown, finely nerved.

*Fl. & Fr.:* July - Dec.

*Distrib.:* Changlang, Lohit, Kameng, Tirap.

*Use:* Timber is used for making roof of huts, while fiber from bark is used in making ropes. Fatty oils and starch is extracted from seeds.

**Symplocos glomerata** King ex C. B. Clarke in Hook. f., Fl. Brit. India 3: 577. 1882; Noot. in Steenis, Fl. Males. 8(2): 260. 1977.

Shrubs, about 3 m tall; young branches tomentellus, soon glabrous. Leaves elongate-lanceolate, elliptic, acuminate, glandular, dentate, coriaceous. Flowers in axillary fascicles, greenish white; calyx lobes glabrous, ciliate. Fruits subcylindric, smooth.

*Fl. & Fr.:* April - Oct.

*Distrib.:* Kameng, Subansiri; up to 2700 m, in forests.

**Symplocos lucida** (Thunb.) Siebold et Zucc., Fl. Jap. 1: 55, t. 24. 1835, *p.p. excl. syn. Myrtus laevis* Thunb.; Noot. in Steenis, Fl. Males. 8(2): 264. 1977. *Laurus lucida* Thunb., Fl. Jap. 174. 1784. *S. theaeifolia* D. Don, Prodr. Fl. Nep. 145. 1825; C. B. Clarke in Hook. f., Fl. Brit. India 3: 575. 1882. Fig. 15.

Trees, about 20 m high. Leaves elliptic-lanceolate, acuminate, obscurely glandular dentate, glabrous. Flowers subsessile, in axillary spikes, pale yellow. Fruits ovoid-elliptic, brownish red, crowned with persistent calyx lobes.

*Fl. & Fr.:* April - Oct.

*Distrib.:* Kameng, Subansiri; 300 - 500 m.

**Symplocos oxyphylla** Wall. ex DC., Prodr. 8: 256. 1844; C. B. Clarke in Hook. f., Fl. Brit. India 3: 574. 1882. *S. pedicellata* Kurz in J. As. Soc. Bengal 42(2): 89. 1873.

*Local name:* Bhomlati, Bhomrati, Tam-tingali (Asm.); Tappor-changne (Daii. & Nishi).

Large, evergreen trees, up to 20 m high; bark greenish brown. Leaves elliptic-lanceolate, caudate-acuminate, sinuately serrate, coriaceous, glabrous, dark green. Flowers small, in simple or compound axillary racemes. Fruits ovoid, beaked.

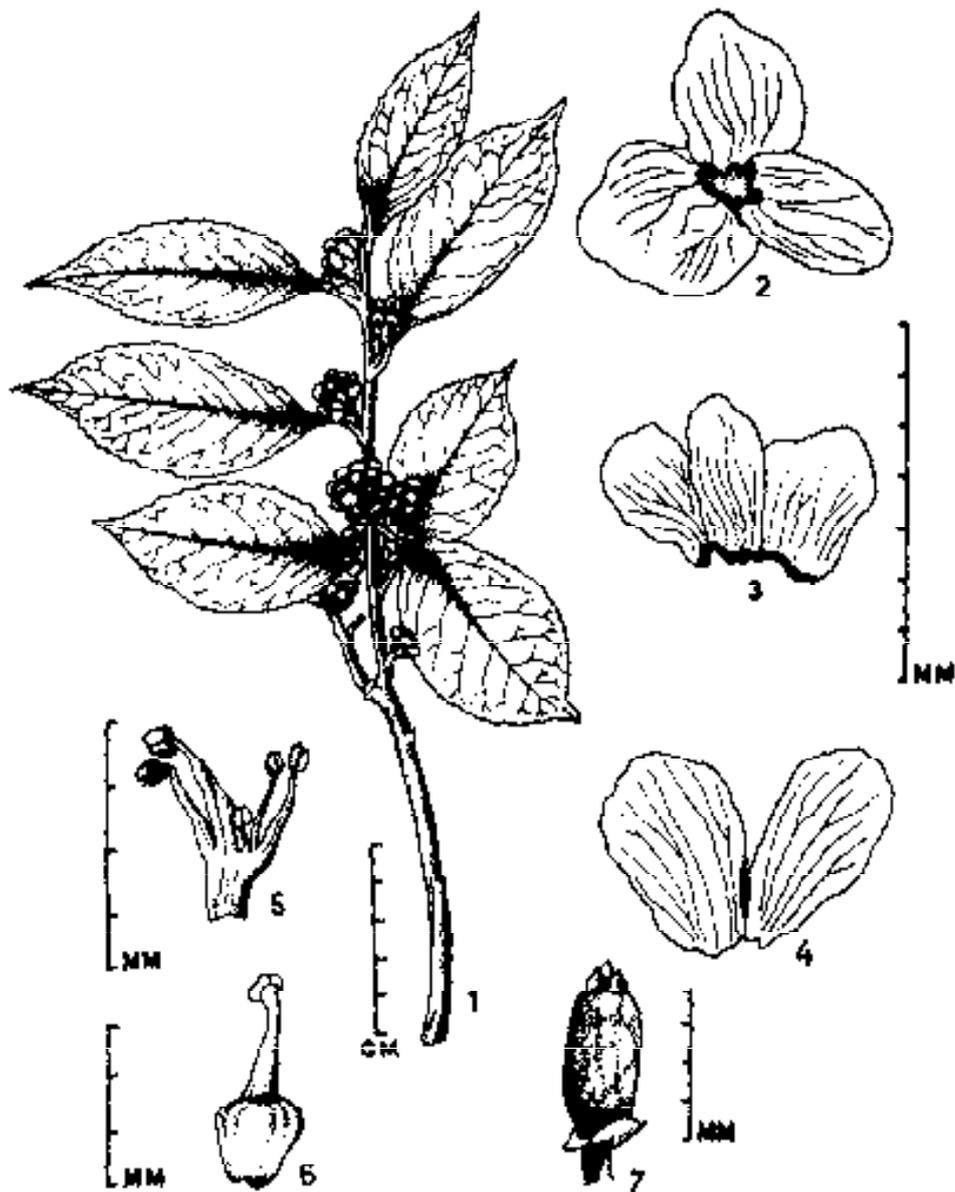


Fig. 15. *Symplocos lucida* (Thunb.) Siebold *et* Zucc. :  
 1. Flowering twig; 2. Bracts; 3. Calyx (partly); 4. Corolla (partly);  
 5. Androecium; 6. Gynoecium.

*Fl. & Fr.*: Aug. March.

*Distrib.*: Kameng.

*Use*: Timber is used in bridge construction.

***Symplocos paniculata*** (Thunb.) Miq., Ann. Mus. Bot. Lugd.-Bat. 3: 102. 1867; Ghafoor in Nasir & Ali, Fl. W. Pakistan 63: 3. 1974. *Prunus paniculatus* Thunb., Fl. Jap. 200. 1784. *Symplocos crataegioides* Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 145. 1825; C. B. Clarke in Hook. f., Fl. Brit. India 3: 573. 1882.

Trees, about 12 m high. Leaves broadly elliptic, acuminate, serrulate, pilose beneath. Flowers in panicles, white; calyx densely hirsute. Fruits obliquely ovoid or obovoid.

*Fl. & Fr.*: April Nov.

*Distrib.*: Kameng; 1000-3000 m.

***Symplocos phyllocalyx*** C. B. Clarke in Hook. f., Fl. Brit. India 3: 575. 1882.

Large shrubs, 4-5 m tall; young branches green. Leaves oblong, acuminate, serrulate, glabrous, coriaceous. Flowers in sparsely hairy, branched short spikes, white. Fruits ellipsoid, crowned by persistent calyx lobes.

*Fl. & Fr.*: April Nov.

*Distrib.*: Kameng, Subansiri; up to 2800 m.

***Symplocos pyrifolia*** Wall. ex G. Don, Gen. Syst. 4: 3. 1837; C. B. Clarke in Hook. f., Fl. Brit. India 3: 579. 1882.

Shrubs or small trees, 5-10 m high; bark rough grey. Leaves elliptic or ovate-lanceolate, acuminate, subserrulate, coriaceous, glabrous. Flowers in glabrous or sparsely hairy, simple spikes; corolla silky hairy without, dull white to pale yellow, fragrant. Fruits ellipsoid, brown, 1-3-seeded.

*Fl. & Fr.*: Oct Jan.

*Distrib.*: Kameng; 1400-2600 m.

***Symplocos racemosa*** Roxb., Fl. Ind. 2: 539. 1832; C. B. Clarke in Hook. f., Fl. Brit. India 3: 576. 1882; N. P. Balakr., Fl. Jowai 1: 299. 1981. *S. racemosa* var. *khasiana* C. B. Clarke in Hook. f., Fl. Brit. India 3: 576. 1882.

*Local name*: Tumble (Adi).

Medium sized trees, ca 12 m high; branches spreading, bark dark grey. Leaves ovate, oblong to oblong-lanceolate, obscurely crenate,

sparsely pilose beneath. Flowers in axillary, spiket compound racemes, white, silky hairy outside. Fruits oblong, brown, crowned by persistent calyx lobes.

*Fl. & Fr.*: Nov. June.

*Distrib.*: Kameng, Subansiri; in primary forests.

*Use*: Used in religious ceremony.

**Symplocos sumuntia** Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 145. 1825; C. B. Clarke in Hook. f., Fl. Brit. India 3: 578. 1882; Chater in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 79. 1982. *S. caudata* G. Don, Gen. Syst. 4: 3. 1837; C. B. Clarke in Hook. f., Fl. Brit. India 3: 577. 1882. *S. sumuntia* var. *floribunda* Wall. ex A. DC. in DC., Prodr. 8: 255. 1844; C. B. Clarke in Hook. f., Fl. Brit. India 3: 579. 1882.

Small to medium sized trees, ca 10 m high. Leaves lanceolate or elliptic lanceolate, caudate acuminate, glandular dentate. Flowers in axillary, zigzag racemes, white or yellow; anthers light yellow. Fruits ellipsoid or ovoid, green to brown, crowned by persistent calyx.

*Fl. & Fr.*: April Nov.

*Distrib.*: Kameng, Subansiri; 500–1500 m, in open scrubs.

**Symplocos ramosissima** Wall. ex G. Don, Gen. Syst. 4: 3. 1837; C. B. Clarke in Hook. f., Fl. Brit. India 3: 577. 1882.

Shrubs or trees, up to 13 m high; branchlets glabrous. Leaves oblong-lanceolate, acuminate, serrulate, glabrous. Flowers in 1 to few flowered, axillary, pubescent, branched racemes, white. Fruits ellipsoid, brown.

*Fl. & Fr.*: Oct. Jan.

*Distrib.*: Kameng; up to 3000 m.

## OLEACEAE

**Chionanthus ramiflorus** Roxb., Fl. Ind. 1: 106. 1820; Panigrahi in Ind. J. For. 8: 53. 1985, *p.p.* *Linociera macrophylla* Wall. ex G. Don, Gen. Syst. 4: 53. 1837; C. B. Clarke in Hook. f., Fl. Brit. India 3: 610. 1882 *incl. var. attenuata* Clarke. *Chionanthus macrophylla* Kurz, For. Fl. Brit. Burma 2: 159. 1877.

*Local name*: Silong-asing (Abor.); Pakikatar-asing, Pareng (Asm.); Silong-asing (Miri).

Medium sized trees, up to 18 m high. Leaves oblong to oblong-lanceolate, acuminate, coriaceous, glabrous. Flowers in axillary, densely flowered, compound panicles, yellowish. Fruits elongate, ellipsoid, glabrous.

*Fl. & Fr.*: Feb. - April.

*Distrib.*: Kameng, Siang; up to 2000 m.

**Chionanthus terniflora** Griff., Notul. 4: 740. 1854; Nair & K. P. Janardh. in J. Bombay Nat. Hist. Soc. 78: 332. 1981. *Linociera terniflora* Wall. ex G. Don, Gen. Syst. 4: 53. 1837; C. B. Clarke in Hook. f., Fl. Brit. India 3: 610. 1882.

*Local name*: Kompone, Silong-asing (Adi).

Medium sized trees. Leaves elliptic to ovate-oblong, acuminate, coriaceous, glabrous. Flowers in pubescent panicles, white. Fruits ellipsoid, minutely hairy.

*Fl. & Fr.*: Dec. - March.

*Distrib.*: Siang.

**Fraxinus floribunda** Wall. in Roxb., Fl. Ind. 1: 150. 1820; C. B. Clarke in Hook. f., Fl. Brit. India 3: 605. 1882.

Large trees; branches warty. Leaves pinnate; leaflets usually 7, elliptic-lanceolate, acuminate, toothed, puberulous on nerves beneath. Flowers in terminal, compound panicles, white. Samaras narrow, oblanceolate, obtuse or emarginate with enlarged calyx.

*Fl. & Fr.*: Sept. - Nov.

*Distrib.*: Kameng; up to 2000 m.

**Jasminum adenophyllum** DC., Prodr. 8: 314. 1884; C. B. Clarke in Hook. f., Fl. Brit. India 3: 596. 1882.

Straggling shrubs, up to 1.5 m high. Leaves elliptic-oblong, acuminate. Flowers in 1 to few flowered cymes, yellowish orange. Fruits creamy-yellow, ellipsoid.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Subansiri; 100 - 1000 m.

**Jasminum amplexicaule** Buch.-Ham. ex G. Don, Gen. Syst. 4: 60. 1837; N. P. Balakt., Fl. Jowai 2: 302. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 214. 1996. *J. undulatum* Ker Gawl. in Bot. Reg. 6: t. 436. 1820, non Willd. 1797; C. B. Clarke in Hook. f., Fl. Brit. India 3: 592. 1882; Kanjilal *et al.*, Fl. Assam 3: 225. 1939.

*Local name*: Injuri-apum-riube (Adi).

Woody, scandent shrubs, 1-2 m tall; branchlets pubescent. Leaves simple, ovate-lanceolate, midrib pubescent beneath. Flowers in few flowered, axillary, subcapitate cymes, white, fragrant. Fruits ellipsoid, red.

*Fl. & Fr.*: Aug. - April.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; up to 1500 m, along forest edges.

**Jasminum attenuatum** Roxb. ex DC., Prodr. 8: 309. 1844; C. B. Clarke in Hook. f., Fl. Brit. India 3: 599. 1882.

Scandent shrubs. Leaves oblong, acuminate, coriaceous, glabrous. Flowers bright red, pink or white in axillary cymes. Fruits ellipsoid, asymmetric.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Tirap.

**Jasminum azoricum** L., Sp. Pl. 7. 1753; Manilal & Sivar., Fl. Calicut 159. 1982; Harid. & R. R. Rao, For Fl. Meghalaya 2: 586. 1987; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 214. 1996. *J. flexile* Vahl, Symb. Bot. 3: 1. 1794; C. B. Clarke in Hook. f., Fl. Brit. India 3: 601. 1882; Kanjilal *et al.*, Fl. Assam 3: 231. 1939. *J. flexile* var. *ovatum* Wall. ex C. B. Clarke in Hook. f., Fl. Brit. India 3: 601. 1882.

Large climbers. Bark grey-white. Leaves 3-foliolate; leaflets ovate-lanceolate, acuminate, glabrescent beneath. Flowers in axillary or terminal, slender, paniculate cymes, white, fragrant. Fruits ellipsoid.

*Fl. & Fr.*: Aug. - April.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri.

**Jasminum caudatum** Wall. ex Lindl. in Bot. Reg. 28: t. 26. 1842; C. B. Clarke in Hook. f., Fl. Brit. India 3: 601. 1882.

Large, woody, climbing shrubs. Leaves 3-foliolate; leaflets oblong-ovate, caudate-acuminate, undulate with tuft of hairs at nerve axils beneath. Flowers white in axillary cymes. Fruits ellipsoid, purplish.

*Fl. & Fr.*: Sept. - March.

*Distrib.*: Kameng, Subansiri; up to 100 m, in moist areas, along primary forests.

**Jasminum coarctatum** Roxb., Fl. Ind. 1: 92. 1820; C. B. Clarke in Hook. f., Fl. Brit. India 3: 593. 1882; Kanjilal *et al.*, Fl. Assam 3: 226. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 214. 1996.

*Local name*: Kharikalata (Asm.).

Woody climbers. Leaves simple, elliptic to oblong-lanceolate, acute, glabrescent with tuft of hairs at nerve axils beneath. Flowers in terminal, pubescent, solitary heads, white, fragrant; bracts foliaceous. Fruits ellipsoid, green.

*Fl. & Fr.*: Nov. - April.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; up to 300 m, in primary forests.

**Jasminum dispernum** Wall. in Roxb., Fl. Ind. 1: 99, 1820; C. B. Clarke in Hook. f., Fl. Brit. India 3: 602, 1882.

Scandent, glabrous, climbing shrubs. Leaves imparipinnate, 3-5-foliolate; leaflets ovate-lanceolate, cordate-acuminate. Flowers white, often with pink tinge in terminal or axillary, densely puberulous, corymbose cymes or panicles. Fruits subglobose, purplish.

*Fl. & Fr.*: April - Nov.

*Distrib.*: Kameng; above 1000 m, in shady places of broad leaved forests.

**Jasminum grandiflorum** L., Sp. Pl. ed. 2, 9, 1762; C. B. Clarke in Hook. f., Fl. Brit. India 3: 603, 1882; Gupta & Chandra in Econ. Bot. 11: 178, 1957.

Climbing shrubs; branches angular, subpendent, glabrous. Leaves pinnate; leaflets 3-7, sessile, ovate, entire. Flowers in crowded cymes, white, often with pink or purple tinge outside, fragrant.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Kameng; often cultivated.

**Jasminum humile** L., Sp. Pl. 7, 1753; C. B. Clarke in Hook. f., Fl. Brit. India 3: 602, 1882, *p.p. excl. syn. J. bignoniaceum* Wall. ex G. Don; Green in Notes Roy. Bot. Gard. Edinburgh 23(3): 362, 1961. *J. pubigerum* D. Don, Prodr. Fl. Nep. 106, 1825; C. B. Clarke in Hook. f., Fl. Brit. India 3: 602, 1882.

Erect or scrambling, glabrous or pubescent shrubs. Leaves 3-foliolate; leaflets suborbicular to oblong, glabrous or pubescent, margin entire, recurved. Flowers yellow or golden yellow in dense, terminal cymes. Fruits ellipsoid.

*Fl. & Fr.*: April - July.

*Distrib.*: Kameng; 1500 - 3400 m.

**Jasminum lanceolarium** Roxb., Fl. Ind. 1: 97, 1820; C. B. Clarke in Hook. f., Fl. Brit. India 3: 601, 1882; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 215, 1996. *J. paniculatum* Roxb., Fl. Ind. 1: 97, 1820.

Scandent shrubs. Leaves trifoliolate; leaflets elliptic or lanceolate, acuminate, pale beneath, thick coriaceous, glabrous and often punctate.

Flowers white in axillary or terminal, trichotomous cymes. Fruits oblong, subglobose or ellipsoid.

*Fl. & Fr.*: Feb. June.

*Distrib.*: Changlang, Kameng, Lohit; up to 2000 m, in primary and secondary forests.

**Jasminum laurifolium** Roxb., Fl. Ind. 1: 91. 1820; C. B. Clarke in Hook. f., Fl. Brit. India 3: 5978. 1882.

*Local name*: Guti-mali, Kirkirilota (Asm.).

Scandent shrubs. Leaves simple, oblong or narrowly elliptic, acuminate, usually 3-nerved, coriaceous. Flowers in 3-5-flowered, terminal cymes, white; calyx lobes filiform, much longer than corolla tubes.

*Fl. & Fr.*: April July.

*Distrib.*: Kameng, Subansiri; up to 500 m.

**Jasminum listeri** Gage in Rec. Bot. Surv. India 1: 349. 1961.

Spreading, scandent shrubs; branches faintly pubescent. Leaves simple, oblong-lanceolate, acuminate, sparsely pubescent on nerves beneath. Flowers greenish white in axillary cymose heads.

*Fl. & Fr.*: April June.

*Distrib.*: Subansiri; up to 3500 m.

**Jasminum multiflorum** (Burm. f.) Andrews, Bot. Repos. 8: t. 496. 1807; Deb, Fl. Tripura 2: 6. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 215. 1996. *Nyctanthes multiflora* Burm. f., Fl. Ind. 5, t. 3, f. 1. 1768. *Jasminum pubescens* (Retz.) Willd., Sp. Pl. 1: 37. 1797; C. B. Clarke in Hook. f., Fl. Brit. India 3: 592. 1882. *J. bracteatum* Wight, Ic. 4: t. 1248. 1848.

*Local name*: Hinjari riube (Adi); Batguwamani, Duamali, Kharnikajar (Asm.).

Scandent, fulvous-villous, hairy shrubs. Leaves simple, ovate-acute, sparsely pubescent beneath. Flowers in dense cymes, white, fragrant; calyx teeth subulate, densely yellowish villose. Fruits globose with persistent, curved calyx teeth, blackish.

*Fl. & Fr.*: April Sept.

*Distrib.*: Changlang, Lohit; up to 1200 m.

**Jasminum nepalense** Spreng. in L., Syst. Veg. 4: 12. 1828; N. P. Balakr., Fl. Jowai 1: 303. 1981; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 215. 1996. *J. glandulosum* G. Don, Gen. Syst. 4: 61. 1837;

C. B. Clarke in Hook. f., Fl. Brit. India 3: 599. 1882; Kanjilal *et al.*, Fl. Assam 3: 229. 1939.

Scandent shrubs. Leaves simple, elliptic, acuminate, membranous, glabrous. Flowers white in 1-3-flowered axillary cymes. Fruits elongated, ellipsoid, purplish.

*Fl. & Fr.*: June - Feb.

*Distrib.*: Changlang, Lohit, Kameng, Tirap.

**Jasminum nervosum** Lour., Fl. Cochinch. 20. 1790; N. P. Balakr., Fl. Jowai 1: 303. 1981; Harid. & R. R. Rao, For. Fl. Meghalaya 2: 587. 1987; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 216. 1996. *J. anastomosans* Wall. ex DC., Prodr. 8: 305. 1844; C. B. Clarke in Hook. f., Fl. Brit. India 3: 596. 1882; Kanjilal *et al.*, Fl. Assam 3: 228. 1939.

Woody climbers. Leaves simple, ovate lanceolate, chartaceous, glabrous or sparsely pubescent on nerves beneath, pair of basal nerves extending to tip of leaves, laterals anastomosing. Flowers white in axillary, lax, capitate cymes. Fruits ellipsoid.

*Fl. & Fr.*: April - Dec.

*Distrib.*: Changlang, Lohit, Kameng, Siang, Subansiri; 300 - 1000 m; along primary forest margins.

**Jasminum sambac** (L.) W. T. Aiton in Hort. Kew. 1: 8. 1810; C. B. Clarke in Hook. f., Fl. Brit. India 3: 591. 1882; Gupta & Chandra in Econ. Bot. 11: 179. 1957; Deb, Fl. Tripura 2: 7. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 216. 1996. *Nyctanthes sambac* L., Sp. Pl. 6. 1753. **Fig. 16.**

*Local name*: Dua-mali (Asm.).

Evergreen, erect or climbing shrubs. Leaves ovate to orbicular, acuminate or obtuse, membranous, pubescent beneath. Flowers in solitary or 3-flowered, axillary cymes, white, fragrant; calyx pubescent, lobes longer than tube. Fruits globose, black.

*Fl. & Fr.*: March - Nov.

*Distrib.*: Changlang, Lohit, Tirap.

**Jasminum subgladulosum** Kurz in Trimen, J. Bot. 329. 1875; C. B. Clarke in Hook. f., Fl. Brit. India 3: 599. 1882.

Twining shrubs, 3-4 m high. Leaves ovate-oblong, coriaceous. Flowers white with strap shaped corolla lobes; calyx tube turbinate, as long as or slightly longer than lobes, glabrous. Fruits ellipsoid, orange-red.



Fig. 16. *Jasminum sambac* (L.) W. T. Aiton : Flowering twig.

*Fl. & Fr.*: Sept. Feb.

*Distrib.*: Kameng, Subansiri; 1200–1500 m, in primary forests.

**Jasminum subtriplinerve** Blume in Mus. Bot. Lugd.-Bat. 1: 272. 1850; C. B. Clarke in Hook. f., Fl. Brit. India 3: 596. 1882; Kanjilal *et al.*, Fl. Assam 3: 228. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 216. 1996.

Scandent, puberulous shrubs. Leaves ovate-elliptic, acuminate, glabrescent along nerves beneath, basal nerves only attain half the length of lamina. Flowers solitary or in 3-flowered, slender cymes, white, fragrant. Fruits ellipsoid or globose.

*Fl. & Fr.*: March–Dec.

*Distrib.*: Changlang, Lohit, Tirap; along rivers and streams.

**Ligustrum compactum** (Wall. ex DC.) Hook. f. & Thomson ex Brandis, For. Fl. N. W. & Cent. India 310. 1874; C. B. Clarke in Hook. f., Fl. Brit. India 3: 616. 1882. *Olea compacta* Wall. ex DC., Prodr. 8: 287. 1844.

Small trees; stems somewhat fluted. Leaves elliptic-lanceolate, acuminate, glabrous, subcoriaceous. Flowers pale white in thyrsoid panicles, subsessile. Fruits ellipsoid, curved, many.

*Fl. & Fr.*: May–Feb.

*Distrib.*: Arunachal Pradesh; up to 2000 m.

**Ligustrum confusum** Decne. in Nouv. Arch. Mus. 2(2): 24. 1879; C. B. Clarke in Hook. f., Fl. Brit. India 3: 616. 1882.

Small trees, 2–5 m high; branchlets pubescent when young. Leaves ovate-elliptic to lanceolate, acute. Flowers in terminal, pubescent panicles, white, subsessile; corolla lobes reflexed. Drupes globose, purplish black.

*Fl. & Fr.*: April–Feb.

*Distrib.*: Kameng; above 1000 m.

**Ligustrum gamblei** Ramamoorthy in C. J. Saldanha & Nicolson, Fl. Hassan Dist. 513. 1973. *L. roxburghii* C. B. Clarke in Hook. f., Fl. Brit. India 3: 615. 1882, *non* Blume 1830.

Small trees. Leaves ovate-lanceolate, acuminate, coriaceous. Flowers white or nearly so, clustered or in whorls. Drupes 1–3-seeded.

*Fl. & Fr.*: June–Jan.

*Distrib.*: Tirap.

**Ligustrum myrsinifolium** Decne. in Nouv. Arch. Mus. 2(2): 33. 1879; C. B. Clarke in Hook. f., Fl. Brit. India 3: 617. 1882.

Bushy shrubs; young branches densely hairy. Leaves broadly elliptic, obtuse, glabrous. Flowers white in few flowered terminal or axillary cymes; corolla lobes lanceolate. Drupes globose.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Kameng.

**Ligustrum nepalense** Wall. in Roxb., Fl. Ind. 1: 150. 1820; C. B. Clarke in Hook. f., Fl. Brit. India 3: 617. 1882.

Small trees; young branches pubescent. Leaves elliptic-oblong, acuminate, subcoriaceous, glabrous. Flowers white in terminal, pubescent, pyramidal panicles; bracts foliaceous. Drupes globose.

*Fl. & Fr.*: May - Jan.

*Distrib.*: Arunachal Pradesh; ascending up to 2000 m.

**Ligustrum robustum** Blume in Mus. Bot. Bot. Lugd.-Bat. 1: 313. 1849; C. B. Clarke in Hook. f., Fl. Brit. India 3: 614. 1882.

*Local name*: Takora, Tukra (Asm.); Dakra (Miri).

Small or medium sized trees, up to 18 m high; branches spreading. Leaves elliptic, elliptic-lanceolate membranous, glabrous. Flowers white, scattered in large, hairy, pyramidal panicles. Drupes cylindrical or ellipsoid, shortly curved, purplish black.

*Fl. & Fr.*: May - Jan.

*Distrib.*: Kameng, Siang, Subansiri, Tirap; 100 - 1500 m, in primary forests.

**Myxopyrum smilacifolium** (Wall.) Blume in Mus. Bot. Lugd.-Bat. 1: 320. 1849; C. B. Clarke in Hook. f., Fl. Brit. India 3: 618. 1882; Kanjilal *et al.*, Fl. Assam 3: 243. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 216. 1996. *Chionanthus smilacifolium* Wall. in Roxb., Fl. Ind. 1: 108. 1820.

*Local name*: Gohora-lata (Asm.).

Large, woody sprawlers; branches quadrangular, glabrous. Leaves oblong to elliptic-ovate, acute, minutely toothed. Flowers yellowish in terminal panicles. Berries subglobose to obovoid, 1-2-seeded, bright orange.

*Fl. & Fr.*: May - Feb.

*Distrib.*: Kameng, Siang, Tirap; up to 500 m.

**Nyctanthes arbor-tristis** L., Sp. Pl. 6. 1753; C. B. Clarke in Hook. f., Fl. Brit. India 3: 603. 1882.

Deciduous trees, 9-10 m high; branchlets scabrid pilose. Leaves ovate, acute, distantly toothed to subentire, scabrid. Flowers in hairy, quadrangular peduncles arranged in cymes, sessile with orange red tubes and white lobes, fragrant. Capsules orbicular, compressed, apex mucronate-emarginate.

*Fl. & Fr.*: Sept. - Nov.

*Distrib.*: Kameng.

*Use*: Flowers are used in perfumery and corolla is used for dyeing. With other ingredients, the leaf-juice is used as medicine and is said to be efficacious for intestinal fever, rheumatism and ascites.

**Olea dentata** Wall. ex DC., Prodr. 8: 286. 1844; C. B. Clarke in Hook. f., Fl. Brit. India 3: 613. 1882.

Trees, 10-20 m high; younger parts pubescent. Leaves oblong-lanceolate or oblong-elliptic, coriaceous, glabrous. Flowers yellowish in axillary, puberulous panicles, nearly glabrous. Drupes ovoid or ellipsoid, glabrous.

*Fl. & Fr.*: May - July.

*Distrib.*: Kameng.

**Olea dioica** Roxb., Fl. Ind. 1: 105. 1820; C. B. Clarke in Hook. f., Fl. Brit. India 3: 612. 1882; Kanjilal *et al.*, Fl. Assam 3: 237. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 217. 1996.

*Local name*: Bonbholuka, Poreng (Asm.).

Trees, dioecious, up to 10 m high. Leaves elliptic or elliptic-lanceolate, coriaceous, glabrous. Flowers white, in axillary or terminal, lax panicles; female flowers apetalous. Drupes ovoid, glabrous, blue when ripe.

*Fl. & Fr.*: April - Dec.

*Distrib.*: Changlang, Lohit, Kameng, Siang.

*Use*: Bark is used as febrifuge. Fruits are edible.

**Osmanthus suavis** King ex C. B. Clarke in Hook. f., Fl. Brit. India 3: 607. 1882.

Large shrubs, dioecious, up to 4 m high. Leaves lanceolate to ovate-lanceolate, crenate-serrate, coriaceous, glabrous. Flowers in axillary fascicles, polygamous; corolla white, nearly divided up to base. Drupes ellipsoid, purple when ripe.

*Fl. & Fr.*: March - Sept.

*Distrib.*: Kameng, Subansiri, Tirap; up to 3100 m, in forest cleared hill top amongst *Rhododendron*.

#### APOCYNACEAE

**Allamanda cathartica** L., Mant. Pl. 2: 241. 1771; Kurz, For. Fl. Brit. Burma 2: 164. 1877; Kanjilal *et al.*, Fl. Assam 3: 247. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 217. 1996.

Scandent shrubs with milky latex. Flowers in axillary panicled cymes, bright yellow, showy. Capsules spiny.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Changlang, Lohit.

**Alstonia neriifolia** D. Don, Prodr. Fl. Nep. 131. 1825; Hook. f., Fl. Brit. India 3: 642. 1882.

Shrubs, 2-2.5 m high; branchlets pubescent. Leaves opposite or 3-4 in whorl, narrowly lanceolate, finely acuminate, coriaceous. Inflorescence subterminal, corymbose cyme. Follicles 2, sessile, beaked. Seeds linear oblong, small, narrow.

*Fl. & Fr.*: Sept. - Dec.

*Distrib.*: Kameng; 900 - 1300 m.

**Alstonia scholaris** (L.) R. Br. in Bot. Mem. Wern. Nat. Hist. Soc. 1: 76. 1810; Hook. f., Fl. Brit. India 3: 642. 1882. *Echites scholaris* L., Mant. Pl. 53. 1767.

*Local name*: Shing-gar (Abor.); Sing-gar-asing (Adi, Miri); Sing-gar-bak (Adi); Souti-asing (Adi, Miri); Chhaiten, Satiana (Asm.).

Large trees, 10-25 m high with whorled branch and often buttressed trunk. Leaves in whorls, oblong lanceolate, obtusely acuminate, thick coriaceous, whitish beneath. Inflorescence subumbellate cyme. Flowers pale green to pale yellow, finely hairy. Follicles 2, pendulous. Seeds oblong, flattened, tufted hairy at both ends.

*Fl. & Fr.*: Sept. - Feb.

*Distrib.*: Dibang valley, Kameng, Siang; 100 - 1000 m, in primary forests.

**Anodendron paniculatum** A. DC. in DC., Prodr. 8: 444. 1844; Hook. f., Fl. Brit. India 3: 668. 1882. *Echites paniculata* Roxb., Fl. Ind. 2: 17. 1832, *non* Poir. 1812.

Large, glabrous, woody climbers. Leaves large, elliptic or oblong, obtusely cuspidate, thinly coriaceous. Inflorescence terminal, paniced cyme, repeatedly trichotomously branched. Flowers yellowish white. Follicles divaricate, glabrous. Seeds compressed, beaked.

*Fl. & Fr.*: Aug. - Sept.

*Distrib.*: Tirap; up to 600 m.

**Beaumontia grandiflora** (Roxb.) Wall., Tent. Fl. Nep. 1: 15, t. 7. 1824; Hook. f., Fl. Brit. India 3: 660. 1882. *Echites grandiflora* Roxb., Fl. Ind. 2: 14. 1832.

Gigantic, woody climbers, younger parts rusty pubescent. Leaves ovate-oblong or elliptic-oblong, glabrous above, often tomentose beneath, abruptly acuminate. Inflorescence terminal cyme. Flowers very large, white. Follicles 2, woody. Seeds compressed, crowned by a coma.

*Fl. & Fr.*: Feb. - April.

*Distrib.*: Dibang valley, Kameng, Siang; up to 1200 m.

*Use*: Cultivated as an ornamental for its large, white, fragrant flowers.

**Catharanthus roseus** (L.) G. Don, Gen. Syst. 4: 95. 1837. *Vinca rosea* L., Syst. Nat. ed. 10, 2: 944. 1759; C. B. Clarke in Hook. f., Fl. Brit. India 3: 640. 1882.

Erect, undershrubs. Leaves opposite, ovate, oblong or obovate, mucronate, glabrous. Flowers in axillary pairs, rose-purple with a reddish eye or white.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Arunachal Pradesh; widely naturalised.

*Use*: Cultivated as an ornamental. Leaves are medicinal.

**Chonemorpha fragrans** (Moon) Alston in Ann. Roy. Bot. Gard. Perad. 11: 203. 1929; N. P. Balakr., Fl. Jowai 2: 308. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 217. 1996. *Echites fragrans* Moon, Cat. Pl. Ceylon 20. 1824. *E. macrophylla* Roxb., Fl. Ind. 2: 13. 1832; *Chonemorpha macrophylla* (Roxb.) G. Don, Gen. Syst. 4: 76. 1837; Hook. f., Fl. Brit. India 3: 661. 1882; Kanjilal *et al.*, Fl. Assam 3: 265. 1939. **Fig. 17.**

Lianas; branches glabrous, puberulous or pubescent. Leaves ovate, elliptic-obovate or orbicular, acute or cuspidate, base acute, rotundate or cordate, glabrous, pubescent or tomentose beneath. Inflorescence terminal cyme. Flowers white, fragrant. Follicles 2, long, straight, divergent. Seeds pale brown, ovoid or oblong, shortly beaked, coma long.

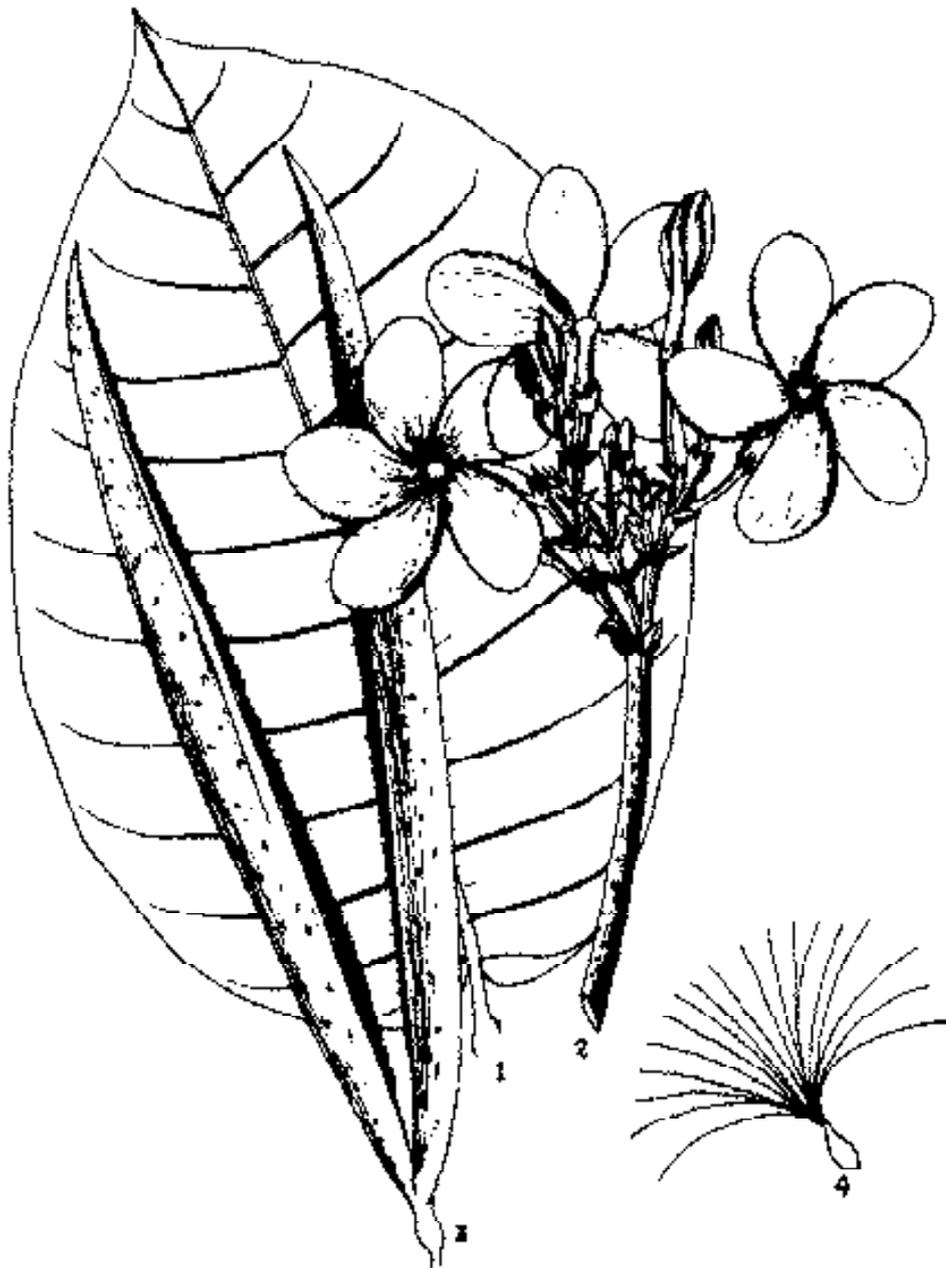


Fig. 17. *Chonemorpha fragrans* (Moon) Alston : 1. Leaf; 2. Inflorescens;  
3. Fruit (split); 4. Seed.

*Fl. & Fr.*: May - Jan.

*Distrib.*: Changlang, Lohit, Kameng, Tirap; up to 1300 m; in moist evergreen and mixed deciduous forests.

**Chonemorpha griffithii** Hook. f., *Fl. Brit. India* 3: 662. 1882; Kanjilal & Das, *Fl. Assam* 3: 265. 1939.

Climbing shrubs; branches often hispid. Leaves ovate-elliptic, obovate or orbicular, acute or cuspidate, base acute, rotundate or cordate, glabrous above, pubescent beneath. Inflorescence terminal, trichotomous cyme, pubescent. Flowers large, white with pale yellow centre. Follicles beaked. Seeds pale brown, crowned by a silky coma.

*Fl. & Fr.*: July - Sept.

*Distrib.*: Subansiri, Tirap; 600 - 1200 m.

**Holarrhena pubescens** (Buch.-Ham.) Wall. ex G. Don, *Gen. Syst.* 4: 78. 1837; Panigrahi in *Taxon* 36(2): 466. 1987; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 218. 1996. *Echites pubescens* Buch.-Ham. in *Trans. Linn. Soc. London* 13: 524. 1822. *Nerium antidysentericum* L., *Sp. Pl.* 209. 1753. *Holarrhena antidysenterica* (L.) Wall. ex DC., *Prodr.* 8: 413. 1844; Hook. f., *Fl. Brit. India* 3: 644. 1882. *Echites antidysenterica* (L.) Roxb. ex Flem. in *As. Res.* 2: 166. 1810. **Fig. 18.**

*Local name*: Dudkhuri (Asm.).

Small deciduous trees; stem and branches glabrous, pubescent or tomentose. Leaves shortly petiolate, elliptic-oblong, ovate or ovate-oblong, obtusely acuminate, coriaceous, glabrous or thinly puberulous. Inflorescence terminal, lax, corymbose cyme. Flowers white, fragrant. Follicles very slender, terete, coriaceous with white, long spots. Seeds narrowly linear-oblong, glabrous.

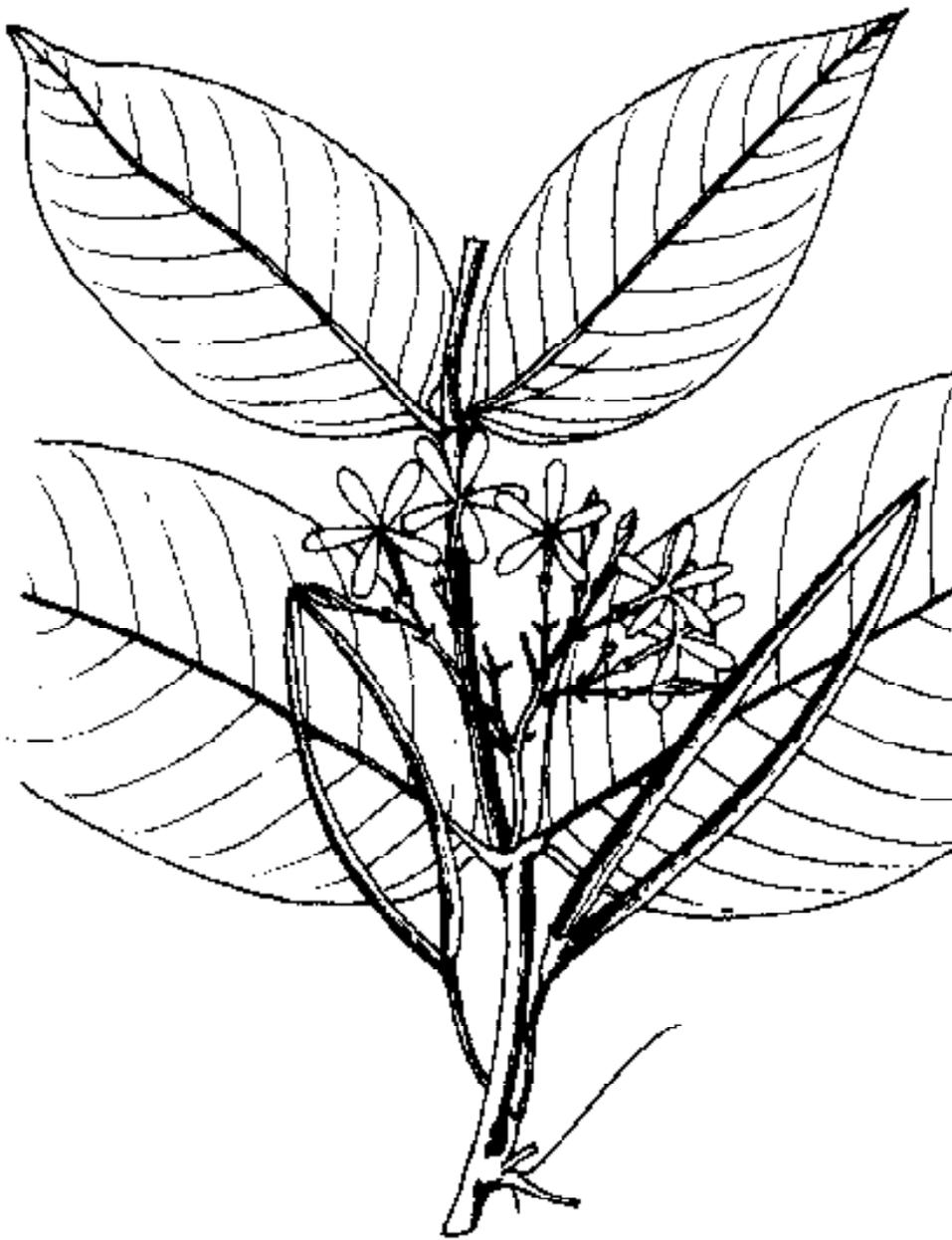
*Fl. & Fr.*: April - Dec.

*Distrib.*: Changlang, Kameng, Lohit; up to 1500 m.

*Use*: Wood is used in furniture. Fruits, leaves and bark have medicinal properties.

**Ichnocarpus frutescens** R. Br. var. *ovatifolius* (A. DC.) Deb, *Fl. Tripura State* 2: 18. 1983. *I. ovatifolius* A. DC. in DC., *Prodr.* 8: 435. 1844.

Twincers, profusely branching. Leaves ovate, acute or acuminate, glabrous above, rusty pubescent beneath. Inflorescence axillary or terminal, paniculate cyme. Flowers white, fragrant. Follicles solitary or in pairs, straight. Seeds numerous, linear with short beak.



**Fig. 18.** *Holarrhena pubescens* (Buch.-Ham.) Wall. ex G. Don :  
Flowering twig.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Kameng, Tirap; 300 - 1200 m.

**Kopsia fruticosa** (Ker) A. DC. in DC., Prodr. 8: 352. 1844; Hook. f., Fl. Brit. India 3: 639. 1882. *Cerbera fruticosa* Ker in Bot. Reg. t. 391. 1819. *Calpicarium roxburghii* G. Don., Gen. Syst. 4: 100. 1838.

Large, evergreen shrubs. Leaves broadly elliptic-lanceolate, entire, glabrous, obtusely caudate. Inflorescence terminal cyme. Flowers pink. Fruits with 2, obovoid or obliquely quadrate, coriaceous, fleshy carpels. Seeds oblong.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Kameng.

**Melodinus khasianus** Hook. f., Fl. Brit. India 3: 629. 1882; Kanjilal *et al.*, Fl. Assam 3: 248. 1939; Deb, Fl. Tripura 2: 19. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 218. 1996.

Large climbers. Leaves elliptic-lanceolate or narrowly lanceolate, cuneate at base, acuminate, membranous. Inflorescence terminal, paniculate cyme. Flowers white, turning yellowish, fragrant. Fruits globose, woody, bony, yellowish white. Seeds numerous.

*Fl. & Fr.*: May - Jan.

*Distrib.*: Changlang, Lohit, Kameng; 200 - 1500 m, in primary forests.

**Melodinus monogynus** Roxb., Fl. Ind. 2: 56. 1832; Hook. f., Fl. Brit. India 3: 629. 1882.

Large, woody climbers. Leaves oblong-elliptic or oblong-lanceolate, acuminate, cuneate or rotundate at base, glabrous, shining above. Inflorescence paniculate cyme. Flowers white, fragrant. Fruits globose, orange.

*Fl. & Fr.*: May - Jan.

*Distrib.*: Siang, Tirap; up to 1300 m.

**Nerium indicum** Mill., Gard. Dict. ed. 8, Nerium 2. 1768. *N. odorum* Soland. in Hort. Kew. 5(1): 297. 1789; Hook. f., Fl. Brit. India 3: 655. 1882. *N. odoratum* Lam., Encycl. Meth. Bot. 3: 456. 1823.

Evergreen shrubs. Leaves in whorl, usually ternate, linear-lanceolate, thickly coriaceous, acuminate, lateral nerves many, nearly parallel. Inflorescence terminal cyme. Flowers red or white with reddish tinge, fragrant. Follicles 2, connate, cylindrical. Seeds linear, villous with brownish hairy coma.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Kameng; up to 2000 m.

*Use*: Cultivated as an ornamental.

**Parabarium micranthum** (A. DC.) Pierre ex Spire, Caoutch. Indo-China 9: 38. 1906; Harid. & R. R. Rao, For Fl. Meghalaya 2: 604. 1987; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 218. 1996. *Ecdysanthera micrantha* A. DC. in DC., Prodr. 8: 442. 1844; Hook. f., Fl. Brit. India 3: 662. 1882; Kanjilal *et al.*, Fl. Assam 3: 266. 1939.

*Local name*: Dhopalat (Asm.).

Large, woody climbers; branches puberulous. Leaves ovate-oblong, apex acuminate or caudate-acuminate; petioles often twisted. Inflorescence paniculate, trichotomous cyme. Flowers yellowish creamy, fragrant. Follicles horizontally spreading, gradually narrowed. Seeds elliptic-lanceolate, compressed, pubescent.

*Fl. & Fr.*: Jan. Dec.

*Distrib.*: Changlang, Dibang valley, Kameng, Lohit, Siang; 900-1500 m, in primary forests.

**Parameria polyneura** Hook. f., Fl. Brit. India 3: 660. 1882.

*Local name*: Uikir-tenga-lata (Asm.).

Evergreen, glabrous, shrubby climbers; young branches puberulous. Leaves elliptic-oblong or elliptic, obtusely acuminate, shining above, membranous, nerves numerous. Inflorescence terminal, hairy, trichotomous cyme. Flowers pinkish with puberulous corolla lobes. Follicles divaricate, slender, glabrous. Seeds crowned by silky coma.

*Fl. & Fr.*: March Oct.

*Distrib.*: Arunachal Pradesh.

**Parsonsia alboflavescens** (Dennst.) Mabb. in Taxon 26: 532. 1977. *Periptoca alboflavescens* Dennst., Schlüssel 12, 23, 35. 1818. *Parsonsia spiralis* Wall. ex G. Don, Gen. Syst. 4: 80. 1837; Hook. f., Fl. Brit. India 3: 650. 1882.

Evergreen, glabrous, twining shrubs. Leaves ovate-oblong or oblong-lanceolate, base acute, rotundate or cordate, coriaceous, glabrous. Inflorescence axillary, corymbose cyme. Flowers yellowish; calyx lobes densely ciliate. Follicles 2, connate, nearly spreading at maturity.

*Fl. & Fr.*: Aug. Sept.

*Distrib.*: Tirap; up to 900 m.

**Plumeria rubra** L. forma **acutifolia** (Poir.) Woodson in Ann. Missouri bot. Gard. 25: 211. 1937. *P. acutifolia* Poir. in Lam., Encycl.

Meth. Bot. Suppl. 2: 667. 1812; Hook. f., Fl. Brit. India 3: 641. 1882. *P. acuminata* Aiton, Hort. Kew. ed. 2., 2: 70. 1811; Roxb., Fl. Ind. 2: 20. 1832.

Small trees. Leaves alternate or scattered, obovate or oblong, obtuse or shortly acuminate, glabrous beneath. Inflorescence terminal cyme. Flowers large, white with yellow centre, fragrant. Follicles linear-oblong or ellipsoid. Seeds oblong or lanceolate, winged.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Kameng; up to 1200 m.

*Use*: Often cultivated for its fragrant, showy flowers.

***Pottsia laxiflora*** (Blume) Kuntze, Rev. Gen. Pl. 416. 1891; Harid. & R. R. Rao, For Fl. Meghalaya 2: 605. 1987; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 219. 1996. *Vallaris laxiflora* Blume, Bijdr. 1043. 1827. *Pottsia cantonensis* Hook. & Arn., Bot. Beech Voy. 199, t. 43. 1837; Hook. f., Fl. Brit. India 3: 652. 1882; Kanjilal *et al.*, Fl. Assam 3: 257. 1939.

Large climbers; younger parts brownish tomentose. Leaves elliptic-ovate or ovate, acuminate, base rotundate or subcordate, sparsely pubescent along nerves beneath. Inflorescence lax, puberulous, dichotomous paniculate cyme. Flowers pinkish. Follicles linear, slender. Seeds linear, elongate, coma deciduous.

*Fl. & Fr.*: May - Dec.

*Distrib.*: Changlang, Lohit, Tirap; up to 1500 m, in deciduous forests.

***Rauvolfia densiflora*** (Wall.) Benth. ex Hook. f., Fl. Brit. India 3: 633. 1882. *Tabernaemontana densiflora* Wall. in Edwards, Bot. Reg. 15, t. 1273. 1830.

Large shrubs. Leaves usually in whorls, obovate or oblanceolate, acuminate, cuneate at base. Inflorescence terminal, densely flowered corymbose cyme. Flowers white or white with pink tinge; corolla tube dilated below middle. Drupes rugose, purplish black, oblong. Seeds ovoid, muricate.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Kameng.

***Rauvolfia serpentina*** (L.) Benth. ex Kurz, For. Fl. Brit. Burma 2: 171. 1877; Hook. f., Fl. Brit. India 3: 632. 1882. *Ophioxylon serpentinum* L., Sp. Pl. 1043. 1753. **Fig. 19.**

Undershrubs, branches glabrous. Leaves elliptic-lanceolate or oblong-lanceolate, acute or acuminate at apex, membranous.



Fig. 19. *Rauvolfia serpentina* (L.) Benth. ex Kurz : Flowering twig.

Inflorescence axillary or terminal, compact corymbose cyme. Flowers white with pinkish tinge; corolla tube dilated above the middle. Drupes smooth, reddish, black when ripe.

*Fl. & Fr.*: March - May.

*Distrib.*: Dibang valley, Kameng, Siang; up to 500 m.

*Use*: Roots are used as sedative and hypotonic for reducing blood pressure. It is also used largely in insanity.

**Rhynchodia wallichii** (A. DC.) Benth. in Benth. & Hook. f., Gen. Pl. 2: 720. 1876; Hook. f., Fl. Brit. India 3: 667. 1882. *Rhynchospermum wallichii* A. DC., Prodr. 8: 431. 1844.

*Local name*: Gohinga (Asm.).

Lofty, evergreen, climbing shrubs, glabrous. Leaves opposite or in whorls of three, elliptic-ovate or oblong, cuspidate or caudate acuminate. Inflorescence loose, puberulous, dichotomous cyme. Flowers white, showy, fragrant. Follicles elongate, narrow, compressed, smooth. Seeds ovate or oblong, compressed, beak slender with deciduous silky coma.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Kameng; up to 600 m.

**Strophanthus wallichii** DC. in Bull. Soc. Philom 3: 12, t. 8. 1802; Hook. f., Fl. Brit. India 3: 655. 1882.

Glabrous climbers. Leaves opposite, elliptic, oblong or obovate, acuminate, cuspidate or obtuse, lateral nerves distinctly anastomosing. Inflorescence many flowered, terminal cyme. Flowers pale yellow, veins purplish red; corolla lobes twisted, distinctly tailed. Follicles 2, divaricate, curved inwards. Seeds compressed, fusiform or subulate-lanceolate, coma silky white.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Tirap.

*Use*: Plant is medicinal. Seeds are poisonous.

**Tabernaemontana divericata** (L.) R. Br. ex Roem. & Schult., Syst. Veg. 4: 427. 1819; N. P. Balakr., Fl. Jowai 2: 311. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 219. 1996. *Nerium divericatum* L., Sp. Pl. 209. 1753. *Nerium coronarium* Jacq., Coll. 1: 138, t. 52. 1786. *Tabernaemontana coronaria* (Jacq.) W. T. Aiton, Hort. Kew ed. 2, 2: 72. 1811; Hook. f., Fl. Brit. India 3: 646. 1882; Kanjilal *et al.*, Fl. Assam 3: 258. 1939. *Ervatamia coronaria* (Jacq.) Stapf in Thiseleton-Dyer, Fl. Trop. Africa 4: 127. 1902.

*Local name:* Kekek, Papi (Abor.); Kekep-asing (Adi); Akhajiphul, Hindurgoch, Kathandaphul, Kathmalati (Asm.).

Bushy, dichotomously branched shrubs, 1-4 m tall. Leaves elliptic or oblong-lanceolate, acute, acuminate or caudate at apex, cuneate at base. Inflorescence axillary or terminal, lax, corymbose cyme. Flowers white, fragrant; corolla tube slender, slightly dilated at middle. Follicles 2, divaricate, 3-ribbed. Seeds enclosed in red aril.

*Fl. & Fr.:* Jan - Dec.

*Distrib.:* Changlang, Dibang valley, Kameng, Lohit, Siang; 100-1400 m, in moist shaded places. Often cultivated as an ornamental.

**Thevetia peruviana** (Pers.) Merr. in Philipp. J. Sci. Bot. 9: 130. 1914; Deb, Fl. Tripura State 2: 23. 1983. *Cerbera peruviana* Pers., Syn. 1: 267. 1805.

Small, evergreen trees or large shrubs with milky latex. Leaves linear, leathery, tapering at both ends. Flowers yellow, fragrant. Drupes compressed, triangular.

*Fl. & Fr.:* March - Nov.

*Distrib.:* Kameng, Tirap.

*Use:* Cultivated for ornamental purpose. Bark and seeds are medicinal, milky latex is poisonous.

**Trachelospermum axillare** Hook. f., Fl. Brit. India 3: 668. 1882.

Glabrous climbers. Leaves oblanceolate, obovate or elliptic-oblong, abruptly caudate-acuminate. Inflorescence axillary, subsessile cyme. Flowers dull purple; corolla tube shorter than calyx. Follicles long, cylindrical, curved, rusty tomentose.

*Fl. & Fr.:* June - Dec.

*Distrib.:* Subansiri, Tirap; 1200 - 1800 m, in moist shady places.

**Trachelospermum lucidum** (D. Don) K. Schum. in Engl. & Prantl, Pflanzenfam. 4: 173. 1895. *Alstonia lucida* D. Don, Prodr. Fl. Nep. 131. 1825. *Trachelospermum fragrans* (Wall. ex DC.) Hook. f., Fl. Brit. India 3: 6678. 1882.

*Local name:* Akahilata (Asm.); Purai-timit (Miri).

Woody climbers, sometimes pubescent. Leaves elliptic-lanceolate, apex obtusely acuminate. Inflorescence trichotomous, lax, long peduncled, paniced cyme. Flowers white, fragrant; corolla tube longer than calyx. Follicles cylindrical, curved.

*Fl. & Fr.:* June - Jan.

*Distrib.*: Siang; up to 1600 m, in dense primary forests.

**Vallaris solanacca** (Roth) Kuntze, Rev. Gen. Pl. 2: 417. 1891. *Peltanthera solanacea* Roth, Nov. Sp. Pl. 132. 1821. *Echites dichotoma* Roxb., Fl. Ind. 2: 19. 1832. *Vallaria heynei* Spreng., Syst. Veg. 1: 635. 1824; Hook. f., Fl. Brit. India 3: 650. 1882.

Large, scandent shrubs; branches pubescent. Leaves oblong-lanceolate or elliptic-oblong, acuminate, glabrescent, acute at base. Inflorescence axillary, dichotomous, paniculate cyme. Flowers white, hairy without, fragrant. Follicles 2, tapering from broad base. Seeds biscriate, beaked with long, white coma.

*Fl. & Fr.*: Jan. Dec.

*Distrib.*: Kameng; up to 1500 m, in primary evergreen forests.

*Use*: It can be grown as ornamental plant.

**Willoughbeia edulis** Roxb., Corom. Pl. 3: t. 280. 1820; Hook. f., Fl. Brit. India 3: 623. 1882.

*Local name*: Bel-lata, Gedraphol, Lalong-tenga (Asm.).

Large, shrubby climbers, glabrous; tendrils long, branched. Leaves oblong or obovate-oblong, obtusely acuminate or caudate, thinly coriaceous, base acute. Inflorescence few flowered, axillary cyme, peduncle short, stout. Flowers pink, fragrant. Fruits pyriform, many seeded, yellowish red.

*Fl. & Fr.*: May - April.

*Distrib.*: Arunachal Pradesh; 200 - 1000 m, in primary forests.

**Wrightia arborea** (Dennst.) Mabb. in Taxon 26: 533. 1977. *Periploca arborea* Dennst., Schlüssel 13, 23 & 25. 1818. *Wrightia tomentosa* Rocrn. & Schult., Syst. Veg. 4: 414. 1819; Hook. f., Fl. Brit. India 3: 653. 1882.

*Local name*: Dud-khori, Horu-dudh-khuri (Asm.).

Small, deciduous trees, up to 12 m high, densely tomentose. Leaves elliptic, caudate-acuminate, base acute, both surfaces sparsely to densely tomentose. Inflorescence many flowered cyme. Flowers white or whitish green, turning yellowish. Follicles connate into a cylinder with rough tubercles. Seeds linear, slender, compressed, coma white.

*Fl. & Fr.*: May Dec.

*Distrib.*: Kameng; up to 600 m, in secondary deciduous forests.

**Wrightia coccinea** Simon, Bot. Mag. t. 2696. 1826; Hook. f., Fl. Brit. India 3: 654. 1882.

*Local name:* Aider-timut (Abor.); Tara-makpong-masing (Adi); Pousit-asing (Miri).

Medium sized or small trees, up to 20 m high, glabrous or pubescent. Leaves elliptic or elliptic-lanceolate, obtusely caudate-acuminate, base acute, sparsely pubescent along nerves. Inflorescence corymbose cyme. Flowers scarlet red. Follicles slightly flattened, tuberculate. Seeds compressed, coma silky, deciduous.

*Fl. & Fr.:* May – Dec.

*Distrib.:* Kameng, Siang; up to 700 m.

Insufficiently known material

**Parameria peduncularis** Benth.

**Rhynchodia verrucosa** (Blume) Woodson.

#### ASCLEPIADACEAE

**Asclepias curassavica** L., Sp. Pl. 215. 1753; Hook. f., Fl. Brit. India 4: 18. 1883.

Perennial herbs. Leaves lanceolate or oblong-lanceolate, acute, shortly petiolate, glabrous. Inflorescence axillary or terminal, umbellate cyme. Flowers orange-red. Coronal scales erect, spatulate. Capsules smooth, beaked.

*Fl. & Fr.:* Aug. – Sept.

*Distrib.:* Kameng, Subansiri, Tirap; 100 – 1500 m. in open places.

**Calotropis gigantea** (L.) Dryand. in Aiton, Hort. Kew. ed. 2, 2: 78. 1811; Hook. f., Fl. Brit. India 4: 17. 1883. *Asclepias gigantea* L., Sp. Pl. 217. 1753.

*Local name:* Akon (Asm.).

Small trees or large shrubs. Leaves sessile or subsessile, oblanceolate, oblong-obovate, acute or obtuse at apex, cordate at base, thick coriaceous, white floccose-tomentose beneath. Inflorescence axillary or terminal, corymbose or umbellate cyme, floccose tomentose throughout. Flowers white or bluish purple. Follicles turgid, recurved. Seeds ovoid, coma silky.

*Fl. & Fr.:* May – Oct.

*Distrib.:* Kameng; up to 1000 m.

*Use:* The milky juice is said to possess various medicinal properties. The fresh leaves are applied as dry fomentation in the treatment of inflammations.

**Calotropis procera** (Aiton) Aiton f. subsp. **hamiltonii** (Wight) Ali in Notes Roy. Bot. Gard. Edinburgh 38: 289, 1980. *C. hamiltonii* Wight, Contrib. Bot. Ind. 53, 1884. *C. procera auct. non* (Aiton) Aiton f.: Hook. f., Fl. Brit. India 4: 18, 1883.

*Local name:* Akang-asing (Miri).

Erect shrubs, 1.5-4.5 m high. Leaves sessile, opposite, cuneate-obovate, base cordate, smooth above. Flowers purple in long peduncled, cottony umbels. Follicles recurved. Seeds ovoid.

*Fl. & Fr.:* May - Oct.

*Distrib.:* Arunachal Pradesh; up to 900 m.

**Ceropegia attenuata** Hook., Ic. Pl. t. 867, 1852; Hook. f., Fl. Brit. India 4: 67, 1883.

Slender, pubescent herbs, 15-30 cm tall; stems stout. Leaves linear or linear-lanceolate. Flowers solitary, axillary, peduncles short.

*Fl. & Fr.:* Aug. - Sept.

*Distrib.:* Tirap.

**Ceropegia longifolia** Wall., Pl. As. Rar. 1: 56, t. 73, 1830. *C. angustifolia* Wight, Contrib. Bot. Ind. 31, 1834; Hook. f., Fl. Brit. India 4: 72, 1883.

Slender climbers or twiners; branches pubescent. Leaves narrowly elongate-lanceolate, pubescent above, ciliate at margin, coriaceous. Inflorescence axillary, pedunculate umbelliform, few flowered cyme. Flowers purplish green; corolla lobes lanceolate, ciliate. Follicles linear, cylindrical, diverging. Seeds comose.

*Fl. & Fr.:* Aug. - Feb.

*Distrib.:* Kameng, Tirap; 1200 to 2000 m, in deciduous and secondary scrub forests.

**Cryptolepis buchananii** Roem. & Schult., Syst. Veg. 4: 409, 1819; Hook. f., Fl. Brit. India 4: 5, 1883; Kanjilal *et al.*, Fl. Assam 3: 277, 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 219, 1996.

*Local name:* Garang-dukha (Asm.).

Large Twining shrubs, glabrous. Leaves oblong, elliptic or oblong-lanceolate, acuminate, cuncate at base, glaucous beneath, coriaceous. Inflorescence shortly peduncled, paniculate cyme. Flowers yellow or pale yellow. Follicles divaricate, stout, pointed, straight, rigid. Seeds oblong-ovate, compressed.

*Fl. & Fr.:* April - Dec.

*Distrib.*: Changlang, Lohit, Tirap; up to 1200 m.

**Cryptolepis sinensis** (Lour.) Merr. in Philipp. J. Sci. Bot. 15: 254. 1919. *Pergularia sinensis* Lour., Fl. Cochinch. 169. 1790. *Cryptolepis elegans* Wall. in G. Don, Gen. Syst. 4: 82. 1837; Hook. f., Fl. Brit. India 4: 6. 1883.

*Local name*: Kinik-riube (Adi).

Slender climbers, glabrous. Leaves oblong, linear-oblong or lanceolate, obtuse at both ends or acuminate, glaucous beneath. Inflorescence axillary or terminal, lax, few flowered cyme. Flowers yellow or pale yellow. Follicles slender, nearly straight. Seeds comose.

*Fl. & Fr.*: July - Feb.

*Distrib.*: Kameng, Tirap; up to 900 m, along deciduous forests margins.

**Cynanchum deltoideum** Hook. f., Fl. Brit. India 4: 24. 1883.

Twining herbs; stems slender, glabrous. Leaves deltoid-cordate, acuminate, membranous. Inflorescence many flowered umbel; peduncles longer than petioles. Flowers small; corona concealing sessile column, larger lobes elliptic, thickened, smaller ones membranous.

*Fl. & Fr.*: Aug. - Sept.

*Distrib.*: Tirap.

**Cynanchum wallichii** Wight, Contrib. Bot. Ind. 56. 1834; Hook. f., Fl. Brit. India 4: 23. 1883.

Twining, shrubby climbers, glabrous. Leaves lanceolate or ovate-lanceolate, base cordate, coriaceous, glossy above, glaucous beneath. Inflorescence short, spreading, umbellate cyme. Flowers greenish or pinkish purple. Corona broadest near base, straight, woody. Seeds oblong-ovate, compressed, narrowed upward.

*Fl. & Fr.*: July - Dec.

*Distrib.*: Kameng, Tirap; in dense evergreen forests.

**Dischidia benghalensis** Colebr. in Trans. Linn. Soc. London 12: 357, t. 15. 1822; Hook. f., Fl. Brit. India 4: 50. 1883.

Epiphytic, fleshy herbs or undershrubs; stems often matted, glabrous. Leaves elliptic, obovate-oblong, lanceolate or spatulate in distinct pairs, subsessile. Inflorescence axillary, subsessile fascicle. Flowers slender, straight, acuminate. Seeds minute, coma large.

*Fl. & Fr.*: April - Nov.

*Distrib.*: Kameng, Subansiri, Tirap.

**Dischidia nummularia** R. Br., Prodr. 461. 1810; Hook. f., Fl. Brit. India 4: 49. 1883.

Epiphytic, slender, creeping shrubs; stems glabrous. Leaves orbicular, obovoid-orbicular, usually obtuse or rotundate at tip, coriaceous, fleshy. Inflorescence axillary, umbellate cluster. Flowers white, whitish or scarlet. Follicles curved, obliquely ellipsoid below middle, spreading. Seeds slender.

*Fl. & Fr.*: March - Dec.

*Distrib.*: Tirap; up to 900 m.

**Dregea volubilis** (L. f.) Benth. ex Hook. f., Fl. Brit. India 4: 46. 1883. *Asclepias volubilis* L. f., Suppl. Pl. 170. 1781. *Wattakaka volubilis* (L. f.) Stapf in Bot. Mag. 148: sub. t. 8976. 1923.

*Local name*: Khamal lota (Asm.).

Climbing shrubs; branches glabrous or tomentose. Leaves ovate or suborbicular, cordate, softly pubescent when young. Inflorescence axillary, umbellate cyme. Flowers greenish; corolla cup shaped, lobes rotate; corolla process stellately pubescent. Follicles thick, hard, winged or ribbed. Seeds comose.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Tirap; up to 1000 m.

**Gongronema nepalense** (Wall.) Decne. in DC., Prodr. 8: 624. 1844; Hook. f., Fl. Brit. India 4: 33. 1883; Kanjilal *et al.*, Fl. Assam 3: 292. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 220. 1996. *Gymnema nepalense* Wall., Tent. Fl. Nep. 49. 1926.

Extensive twiners; stems and branches puberulous. Flowers many in puberulous, umbellate cymes, yellow.

*Fl. & Fr.*: Aug. - Feb.

*Distrib.*: Changlang, Lohit.

**Heterostemma alatum** Wight, Contrib. Bot. Ind. 42. 1834; Hook. f., Fl. Brit. India 4: 47. 1883.

Twining undershrubs, glabrescent; branches with two lines of hairs. Leaves elliptic-ovate, oblong or lanceolate, acuminate, nerves winged beneath. Flowers yellow; corolla lobes valvate; coronal process ovate-lanceolate, acuminate with large, ovate, acute, concave appendages on surfaces. Follicles linear.

*Fl. & Fr.*: June - Feb.

*Distrib.*: Changlang, Kameng, Tirap; 500 - 1500 m, in primary forests.

**Hoya arnottiana** Wight, Contrib. Bot. Ind. 36. 1834; Hook. f., Fl. Brit. India 4: 60. 1883.

Lofty climbers, glabrous. Leaves elliptic or lanceolate, coriaceous, acute or acuminate. Inflorescence axillary umbel. Flowers cream coloured; coronal process white, ovate, subacute with narrower ends outward, concave above, inner angle acute. Follicles slender.

*Fl. & Fr.*: June - Jan.

*Distrib.*: Dibang valley, Siang; 300 - 900 m.

**Hoya edeni** King ex Hook. f., Fl. Brit. India 4: 53. 1883.

Rambling or climbing, slender shrubs. Leaves elliptic or obovate-lanceolate, obtusely caudate-acuminate, base acute, thickly coriaceous, puberulous or glabrate beneath. Inflorescence terminal umbel. Flowers pubescent within. Follicles slender, straight. Seeds long.

*Fl. & Fr.*: April - Dec.

*Distrib.*: Kameng; 900 - 1800 m.

**Hoya fusca** Wall., Pl. As. Rar. 1: 68, t. 75. 1830; Hook. f., Fl. Brit. India 4: 58. 1883.

Climbers, stout, glabrous. Leaves linear-oblong, acuminate, fleshy, midrib very thick. Inflorescence usually axillary, umbellate cyme. Flowers yellowish brown, lobes spreading; coronal process short, very thick, obtuse, concave above, linear, angles ending in an erect or recurved spur. Follicles gradually tapering.

*Fl. & Fr.*: May - Dec.

*Distrib.*: Dibang valley, Siang; 300 - 1900 m, in primary shaded forests.

**Hoya globulosa** Hook. f. in Gard. Chron. 2: 732, t. 115. 1882 & Fl. Brit. India 4: 60. 1883; Kanjilal *et al.*, Fl. Assam 3: 307. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 220. 1996.

Stout, pubescent climbers. Leaves elliptic or linear-oblong, cuspidate, coriaceous, rotundate at base, hairy. Inflorescence axillary or terminal pedunculate cyme. Flowers cream coloured; coronal process pink. Follicles very slender, cylindrical. Seeds long, slender.

*Fl. & Fr.*: March - Feb.

*Distrib.*: Changlang, Lohit, Kameng; 300 - 900 m.

**Hoya lanceolata** Wall. ex D. Don, Prodr. Fl. Nep. 130. 1825; Hook. f., Fl. Brit. India 4: 54. 1883.

Climbing, epiphytic shrubs; stems stout, branches pendulous, nearly glabrous. Leaves subsessile, lanceolate or elliptic-lanceolate, acuminate, base cuneate, fleshy. Inflorescence terminal umbel. Flowers white; corona often purplish spotted, stellately spreading. Follicles long, very slender.

*Fl. & Fr.*: May - Dec.

*Distrib.*: Tirap; 900 - 1200 m, in dense evergreen forests.

**Hoya lobbii** Hook. f., Fl. Brit. India 4: 54, 1883; Kanjilal *et al.*, Fl. Assam 3: 303. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 220. 1996.

Stout climbers or undershrubs. Flowers in long pedunculate umbels, purplish red. Follicles long.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Changlang, Lohit, Tirap; in dense evergreen forests

**Hoya linearis** Wall. ex D. Don, Prodr. Fl. Nep. 130. 1825; Hook. f., Fl. Brit. India 4: 53. 1883.

Rambling shrubs; stems pendulous, flaccids, terminal branches hirsute. Leaves cylindric, terete, acute, straight. Inflorescence terminal, sessile, many-flowered umbel. Flowers white; corona white. Follicles slender, straight, glabrous. Seeds long.

*Fl. & Fr.*: May - Dec.

*Distrib.*: Kameng, Tirap; 900 - 1800 m.

**Hoya longifolia** Wall. ex Wight, Contrib. Bot. Ind. 36. 1834; Hook. f., Fl. Brit. India 4: 56. 1883.

Climbing shrubs; stems stout, pendulous, branches glabrous. Leaves narrowly oblanceolate, acuminate, thickly coriaceous. Inflorescence axillary umbel. Flowers whitish; coronal process stellately spreading. Follicles slender, straight. Seeds lanceolate.

*Fl. & Fr.*: March - Nov.

*Distrib.*: Tirap; up to 2000 m.

**Hoya parasitica** (Roxb.) Wall. ex Wight, Contrib. Bot. Ind. 37. 1834; Hook. f., Fl. Brit. India 4: 57. 1883. *Asclepias parasitica* Roxb., Fl. Ind. 2: 42. 1832. Fig. 20.

Tall climbers; stem and branches stout, glabrous. Leaves very variable, thickly fleshy or coriaceous, ovate-elliptic or lanceolate, acute or acuminate. Inflorescence axillary or terminal, dense umbel. Flowers white, centre purplish; corona pinkish, lobes lanceolate. Follicles long, straight, glabrous.

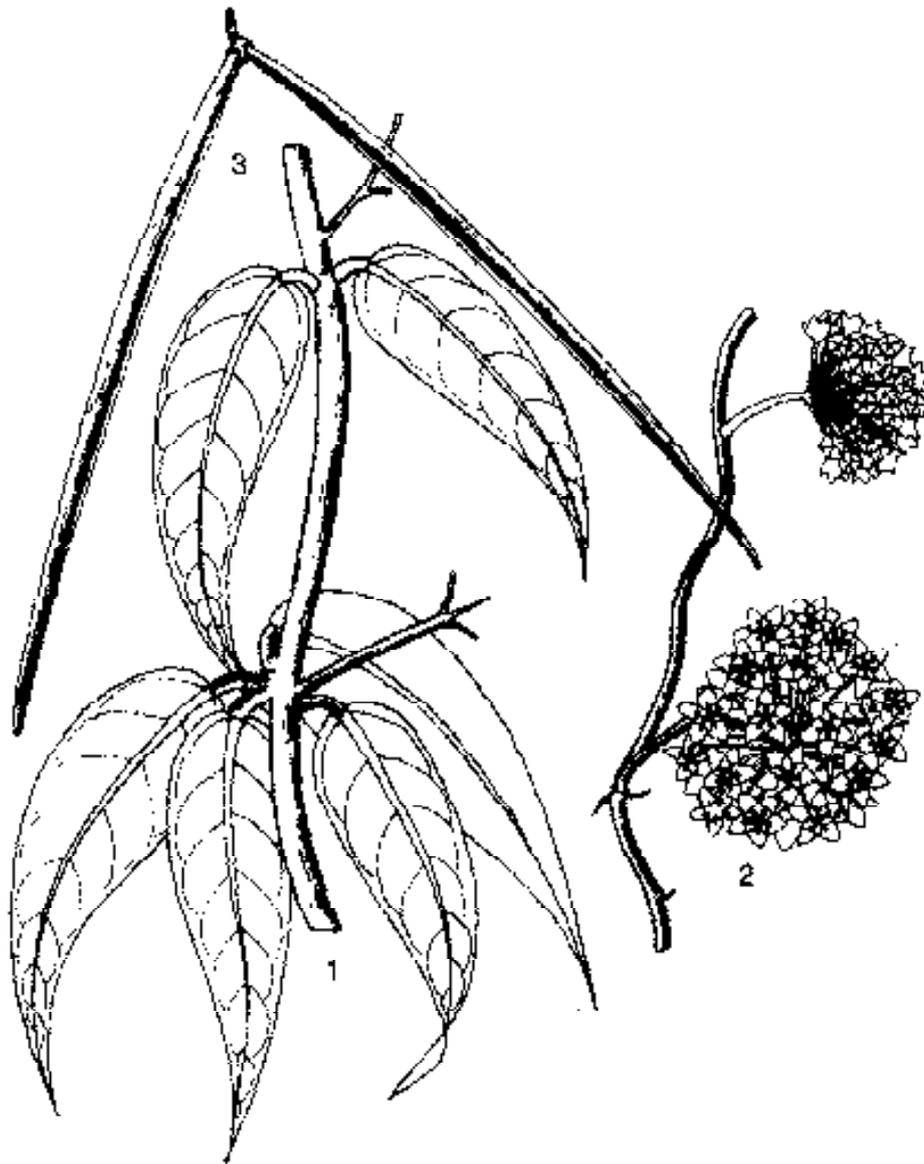


Fig. 20. *Hoya parasitica* (Roxb.) Watt. ex Wight :  
1. Branch, 2. Inflorescence, 3. Fruit.

*Fl. & Fr.*: March - Oct.

*Distrib.*: Kameng, Tirap; up to 600 m, in deciduous forests.

**Hoya pauciflora** Wight, Ic. t. 1269. 1848; Hook. f., Fl. Brit. India 4: 56. 1883.

Climbing shrubs; branches very slender, glabrous. Leaves linear-lanceolate, obtuse, thick coriaceous. Inflorescence terminal or axillary, few-flowered umbel. Flowers white; coronal process pink.

*Fl. & Fr.*: May - Nov.

*Distrib.*: Kameng; 900 - 1500 m.

**Hoya polyneura** Hook. f., Fl. Brit. India 4: 54. 1883.

Climbing shrubs; branches long, glabrous. Leaves subsessile, rhomboid-ovate or lanceolate, acuminate, very fleshy. Inflorescence axillary, umbel, peduncles short. Flowers reddish purple. Follicles slender, falcate, smooth. Seeds long, ovate-lanceolate.

*Fl. & Fr.*: March - Sept.

*Distrib.*: Kameng, Subansiri; 900 - 1500 m.

**Genianasthus laurifolius** (Roxb.) Hook. f., Fl. Brit. India 4: 16. 1883. *Asclepias laurifolia* Roxb., Fl. Ind. 2: 49. 1832.

Twining shrubs, glabrous. Leaves broadly elliptic, obtusely acuminate, base acute, glabrous. Inflorescence rusty tomentose, much branched, many-flowered cyme. Flowers both sessile and pedicellate, one small, bearded and other large. Follicles slender, terete, straight.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Kameng.

**Marsdenia roylei** Wight, Contrib. Bot. Ind. 40. 1834; Hook. f., Fl. Brit. India 4: 35. 1883; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 220. 1996.

Twining shrubs; branches pubescent or tomentose. Leaves ovate, cordate, acuminate, finely pubescent or tomentose beneath. Inflorescence corymbose cyme. Flowers pubescent. Follicles turgid, straight, beaked. Seeds long.

*Fl. & Fr.*: March - Oct.

*Distrib.*: Changlang, Kameng, Lohit; up to 2000 m.

**Marsdenia tinctoria** R. Br. in Mem. Wern. Nat. Hist. Soc. 1: 30. 1809; Hook. f., Fl. Brit. India 4: 34. 1883. *Asclepias tinctoria* Roxb., Fl. Ind. 2: 43. 1832. **Fig. 21.**

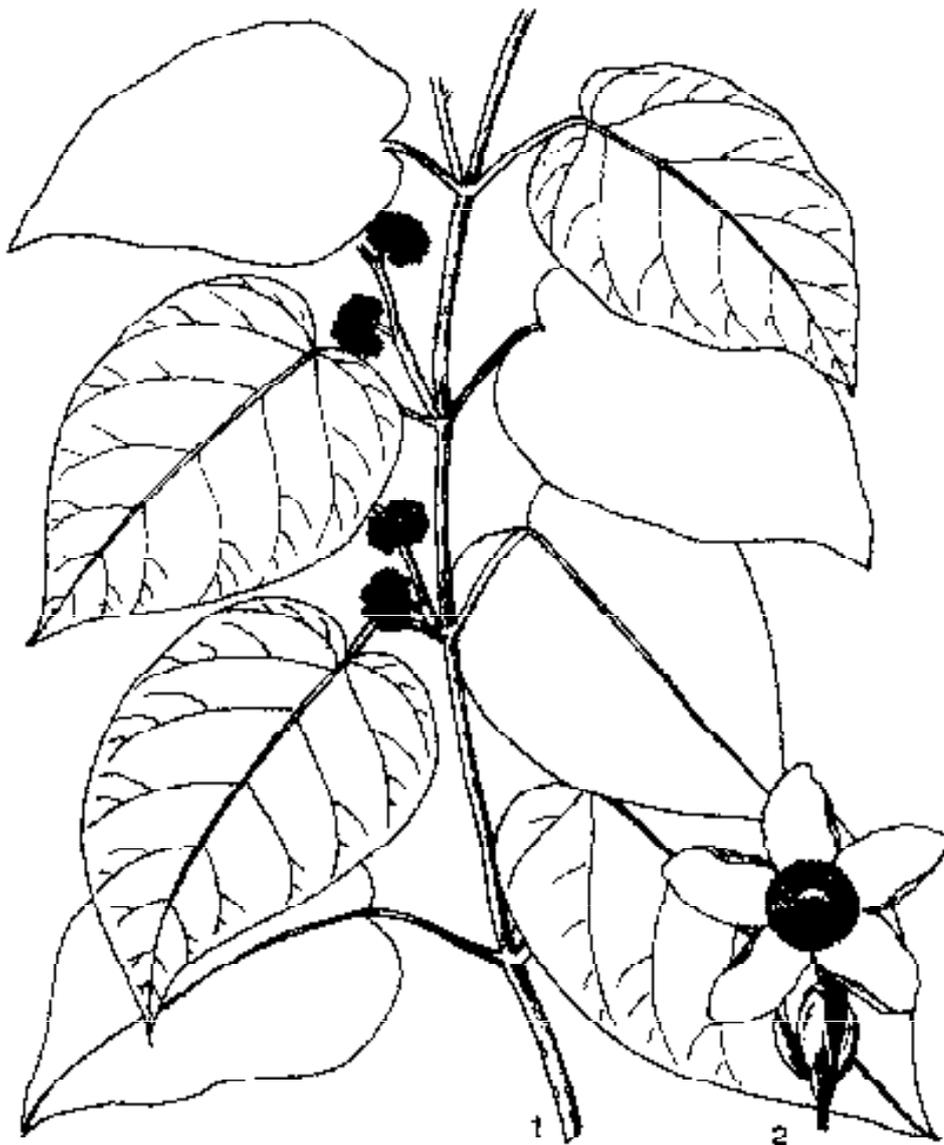


Fig. 21. *Marsdenia tinctoria* R. Br. :  
1. Flowering twig; 2. Flower.

*Local name:* Man-ri (Miri).

Tall climbers; stems erect, stout, nearly glabrous. Leaves ovate or cordate, acuminate or caudate. Inflorescence dense, thyrsoid panicle. Flowers yellow. Follicles narrowed at base, tomentose.

*Fl. & Fr.:* May - Oct.

*Distrib.:* Dibang valley, Kameng, Siang; up to 1200 m.

**Myriopteron paniculatum** Griff. in Calcutta J. Nat. Hist. 4: 385. 1814; Hook. f., Fl. Brit. India 4: 11. 1883.

*Local name:* Chhagal-singa-lata (Asm.).

Climbing shrubs; branches slender, smooth. Leaves ovate, ovate-orbicular or elliptic, abruptly acuminate, base rotundate or cordate, pubescent beneath. Inflorescence paniculate cyme. Flowers dull white. Follicles straight with longitudinal membranous wings.

*Fl. & Fr.:* June - Dec.

*Distrib.:* Arunachal Pradesh; up to 1000 m, in evergreen forest margins and also in deciduous forests.

**Pentanura khasiana** (Benth. et Hook. f.) Kurz ex Hook. f., Fl. Brit. India 4: 4. 1883. *Periploca khasiana* Benth. et Hook. f., Gen. Pl. 2: 740. 746. 1876.

Twining shrubs, glabrous. Leaves elliptic-lanceolate, acuminate at both ends, midrib stout, finely reticulate. Inflorescence axillary fascicled, peduncles short. Flowers purplish; corolla sparsely pubescent within; corona absent. Follicles divaricate.

*Fl. & Fr.:* May - Oct.

*Distrib.:* Tirap; 100 - 1000 m, in primary forests.

*Use:* Infusion of leaves is taken in case of malaria.

**Pentasachme caudatum** Wall. ex Wight, Contrib. Bot. Ind. 60. 1834; Hook. f., Fl. Brit. India 4: 28. 1883; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 221. 1996.

Pendulous herbs; stems very slender, flaccid, densely tufted, glabrous. Leaves linear-lanceolate, caudate-acuminate. Inflorescence sessile, axillary, umbel. Flowers long, yellowish or white.

*Fl. & Fr.:* Aug. - Oct.

*Distrib.:* Changlang, Kameng, Lohit, Subansiri, Tirap; up to 900 m, in running water closely adhering to bare rocks or on moss covered rocks.

**Pentasachme wallichii** Wight, Contrib. Bot. Ind. 60. 1834; Hook. f., Fl. Brit. India 4: 28. 1883; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 221. 1996.

Pendulous herbs; stems stout, glabrous. Leaves elliptic-lanceolate, acuminate, base acute, nerves distinct beneath, setulose. Flowers much longer, yellowish or white.

*Fl. & Fr.*: May - Dec.

*Distrib.*: Changlang, Lohit, Tirap; up to 2000 m.

**Periploca calophylla** (Wight) Falc. in Proc. Lin. Soc. 1: 115. 1841; Hook. f., Fl. Brit. India 4: 12. 1883. *Streptocaulon calophyllum* Wight, Contrib. Bot. Ind. 65. 1834 & Ill. Ind. Or. 2: 230, t. 182. f. 1. 1850.

Twining shrubs; branches slender, glabrous. Leaves narrowly lanceolate, caudate-acuminate. Inflorescence lax cyme, stellate hairy. Flowers yellowish or pinkish; coronal scales connate into a ring; lobes hairy. Follicles straight or curved, smooth, terete. Seeds linear.

*Fl. & Fr.*: Sept. - March.

*Distrib.*: Kameng, Tirap; 900 - 1500 m, often completely masking the supporting trees.

**Raphistemma pulchellum** Wall., Pl. As. Rar. 2: 50, t. 163. 1831; Hook. f., Fl. Brit. India 4: 19. 1883.

Twining shrubs, glabrous. Leaves ovate-cordate, acuminate, membranous, pubescent along nerves beneath. Inflorescence umbelliform cyme, peduncles long. Flowers large, white. Follicles thick, acute, smooth. Seeds comose.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Tirap; up to 1000 m.

**Sarcostemma secamone** (L.) Bennet in Ind. For. 95: 692. 1969. *Peirploca secamone* L., Mant. Pl. 2: 216. 1781. *P. esculenta* L. f., Suppl. Pl. 168. 1781. *Oxystelma esculentum* (L.f.) R. Br. ex Schult., Syst. Veg. 4: 89. 1820; Hook. f., Fl. Brit. India 4: 17. 1883.

Twining or climbing undershrubs; branches slender, glabrous. Leaves lanceolate, linear-lanceolate or linear, finely acuminate, base acute, rotundate or cordate. Inflorescence few-flowered cyme. Flowers rose-coloured, veins purple.

*Fl. & Fr.*: Aug. - Sept.

**Toxicarpus himatensis** Falc. ex Hook. f., Fl. Brit. India 4: 13. 1883.

Twining shrubs, younger parts rusty tomentose. Leaves elliptic-oblong, lanceolate or orbicular, obtusely cuspidate, pubescent beneath, acute or obtuse at apex. Inflorescence axillary, dichotomous cyme. Corolla lobes hairy at base within. Follicles rusty pubescent when young. Seeds ovate.

*Fl. & Fr.*: April - July.

*Distrib.*: Kameng; up to 900 m, in moist evergreen forests.

**Tylophora axilis** Colebr. in Trans. Linn. Soc. London 12: 358, t. 16. 1822; Hook. f., Fl. Brit. India 4: 44. 1883.

Twining herbs; stems and branches slender, pubescent. Leaves ovate-oblong or ovate-lanceolate, acuminate, nearly glabrous; petioles and midribs hairy. Inflorescence a branched, umbellate cyme. Corolla rotate-campanulate.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Siang; 1000 - 1500 m, in primary forests.

**Tylophora belostemma** (Wall.) Benth. in Benth. & Hook. f., Gen. Pl. 2: 771. 1876; Hook. f., Fl. Brit. India 4: 43. 1883. *T. hirsutum* Wall. ex Wight, Contrib. Bot. Ind. 52. 1834.

Twining undershrubs, softly hirsute throughout. Leaves ovate-cordate, acuminate. Inflorescence subsessile cyme or umbel. Flowers dull purple.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Tirap.

**Tylophora himalaica** Hook. f., Fl. Brit. India 4: 42. 1883.

*Local name*: Par-kol (Asm.).

Twining herbs or undershrubs; stems and branches slender, glabrous. Leaves petiolate, ovate-lanceolate, acuminate, base acute or rotundate, glabrous or pubescent. Inflorescence long, umbellate cyme. Flowers large. Follicles narrowly dagger shaped. Seeds broadly ovate.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Arunachal Pradesh; 200 - 1000 m.

**Tylophora hirsuta** (Wall.) Wight, Contrib. Bot. Ind. 49. 1834; Hook. f., Fl. Brit. India 4: 43. 1883. *Gymnema hirsutum* Wall., Tent. Fl. Nep. 50. 1826.

Twining undershrubs; stems stout, densely soft tomentose. Leaves ovate or ovate-lanceolate, acute or acuminate, pubescent or tomentose, base rotundate, obtuse or cordate. Inflorescence few-flowered, umbellate

cyme, peduncles long, pubescent. Corolla rotate, greenish. Follicles glabrous. Seeds narrowly ovate.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Kameng; up to 1500 m.

**Tylophora longifolia** Wight, Contrib. Bot. Ind. 50. 1834; Hook. f., Fl. Brit. India 4: 42. 1883.

Climbers; branches slender, glabrous. Leaves lanceolate or linear-lanceolate, base subcordate, acuminate, glabrous. Inflorescence cyme. Flowers creamy white. Follicles long. Seeds oblong, truncate.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Subansiri; 1000 - 1500 m, in primary forests.

### LOGANIACEAE

**Fagraea cellanica** Thunb., Vet. Acad. Handl. Stockh. 3: 132. 1782; C. B. Clarke in Hook. f., Fl. Brit. India 4: 83. 1883. *F. obovata* Wall. in Roxb., Fl. Ind. 2: 33. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 4: 83. 1883, *p.p.* *F. khasiana* Benth. in J. Linn. Soc. Bot. 1: 99. 1856; C. B. Clarke in Hook. f., Fl. Brit. India 4: 84. 1883.

Shrubs or small trees, sometimes climbing on bushes and rocks, usually with aerial roots. Leaves ovate or oblong-obovate. Flowers yellow in terminal, dichasial, thyrsoid cymes. Berries ovoid, brown to black. Seeds black.

*Fl. & Fr.*: Aug. - April.

*Distrib.*: Kameng, Siang, Tirap; 800 - 2500 m, in shady places of primary forests.

**Gardneria angustifolia** Wall. in Roxb., Fl. Ind. 2: 318. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 4: 93. 1883.

Scandent shrubs or shrubby climbers. Leaves lanceolate, acuminate, glabrous. Flowers axillary, solitary or rarely in pair; corolla hairy within. Berries globose, orange-red. Seeds compressed.

*Fl. & Fr.*: May - Nov.

*Distrib.*: Kameng; 1600 - 2500 m, in open forests.

**Gardneria ovata** Wall. in Roxb., Fl. Ind. 1: 400. 1820; C. B. Clarke in Hook. f., Fl. Brit. India 4: 93. 1883; Kanjilal *et al.*, Fl. Assam 3: 320. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 221. 1996.

Large, woody climbers; stems twisted. Leaves ovate-lanceolate or ovate-elliptic, pale green, oily and shining. Flowers in paniculate cymes, pale yellow. Berries globose, scarlet at maturity. Seeds black.

*Fl. & Fr.*: Mar. - Dec.

*Distrib.*: Changlang, Kameng, Lohit, Tirap; 1400 - 2000 m, in primary and secondary forests.

**Strychnos axillaris** Colebr. in Trans. Linn. Soc. 12: 356. 1819; C. B. Clarke in Hook. f., Fl. Brit. India 4: 89. 1883; Leenhouts in Steenis, Fl. Males. 6(2): 358. 1962. *S. pubescens* C. B. Clarke in Hook. f., Fl. Brit. India 4: 89. 1883. *S. scortechinii* A. W. Hill in Kew Bull. 1917: 168. 1917; Calder *et al.* in Rec. Bot. Surv. India 11(1): 143. 1926. *S. quintuplinervis* A. W. Hill in Kew Bull. 1917: 166. 1917; Calder *et al.* in Rec. Bot. Surv. India 11(1): 143. 1926; Kanjilal *et al.*, Fl. Assam 3: 317. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 223. 1996. *S. penicillata* A. W. Hill in Kew Bull. 1917: 178. 1917; Calder *et al.* in Rec. Bot. Surv. India 11(1): 142. 1926.

Scandent or straggling shrubs, pubescent. Leaves elliptic to ovate, acuminate, tendrils coiled. Flowers in corymbs, greenish. Fruits ovoid, 1-seeded.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Changlang, Lohit.

**Strychnos nux-vomica** L., Sp. Pl. 189. 1753; C. B. Clarke in Hook. f., Fl. Brit. India 4: 90. 1883.

*Local name*: Makurejab, Makukri-okendu (Asm.).

Medium sized to large trees; tendrils axillary, short, clavate. Leaves elliptic, ovate to suborbicular, 3-5 nerved, coriaceous, glabrous. Flowers whitish in terminal, short peduncled cymes. Fruits globose, yellowish orange. Seeds orbicular.

*Fl. & Fr.*: March - April.

*Distrib.*: Changlang, Tirap.

**Strychnos wallichiana** Steud. ex DC., Prodr. 9: 13. 1845; C. B. Clarke in Hook. f., Fl. Brit. India 4: 90. 1883; Bisset & Philcox in Taxon 20: 542. 1971; Kanjilal *et al.*, Fl. Assam 3: 317. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 223. 1996. *S. rheedel* C. B. Clarke in Hook. f., Fl. Brit. India 4: 87. 1883. *S. malaccensis* C. B. Clarke in Hook. f., Fl. Brit. India 4: 89. 1883.

*Local name*: Gonsila-soukhal (Asm.).

Scandent shrubs or lianas, woody, greyish brown. Leaves oblong-lanceolate or elliptic-lanceolate, abruptly acuminate or caudate-acuminate, 3-nerved, shiny green. Flowers in axillary, dense, thyrsoid cymes or corymbs, tubular, 1-5 cm long, yellowish green, often with

purplish tinge; corolla densely villous near throat. Fruits globose, greenish white, beaked.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Changlang, Lohit, Tirap; 1000 - 1500 m, in tropical deciduous forests along river courses.

### BUDDLEJACEAE

**Buddleja asiatica** Lour., Fl. Cochinch. 72. 1790; C. B. Clarke in Hook. f., Fl. Brit. India 4: 82. 1883; Marq. in Kew Bull. 1930: 195. 1930; Kanjilal *et al.*, Fl. Assam 3: 321. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 221. 1996.

*Local name*: Agia-chita, Bonchini, Posutia-bonchini (Asm.); Markong-abang (Miri).

Shrubs, 1-4 m high; younger parts densely, greyish tomentose. Leaves oblong or ovate-lanceolate, entire or serrulate, densely woolly beneath. Flowers white in axillary or terminal, thyrsoid, cylindrical spikelets. Capsules ovoid or ellipsoid, flattened.

*Fl. & Fr.*: Aug. - Jan.

*Distrib.*: Changlang, Lohit, Siang, Subansiri, Tirap; 500 - 1700 m, along roadsides, on dry riverbeds and in rock crevices.

*Use*: Leaves are used for fomentation in case of inflammations.

**Buddleja candida** Dunn in Kew Bull. 1920: 134. 1920; Marq. in Kew Bull. 1930: 204. 1930.

Small herbs or shrubs, 2.5 - 3 m high; branches densely tomentose. Leaves opposite, subcoriaceous, upper surfaces markedly rugose. Flowers violet in narrowly arcuate, spikes or racemes.

*Fl. & Fr.*: Jan. - April.

*Distrib.*: Siang; 300 - 1200m, on rocks in the riverbeds, along road and forest sides.

**Buddleja colvillei** Hook. f. *et* Thomson, in Hook., Ill. Himal. Pl. t. 18. 1855; C. B. Clarke in Hook. f., Fl. Brit. India 4: 81. 1883; Marq. in Kew Bull. 1930: 187. 1930.

Shrubs or small trees up to 7 m high. Leaves oblong, acuminate, rusty woolly when young, nearly glabrous when mature. Flowers rosy red in terminal, paniculate cymes. Capsules ovoid, flattened.

*Fl. & Fr.*: Sept. - Jan.

*Distrib.*: Kameng, Tawang; 1600 - 3200 m, on forest slopes.

**Buddleja griffithii** Marq. in Kew Bull. 1930: 194. 1930.

Shrubs; branches subtetragonous, sparsely tomentose. Leaves lanceolate, finely serrate, lower surfaces clothed with thin tomentum; stipules absent. Flowers in terminal or axillary, spicate, dense panicles, reddish blue with orange throat, tube tomentose without. Fruits 4-5 mm long, tomentose.

*Fl. & Fr.*: Sept.

*Distrib.*: Dibang valley, Lohit.

**Buddleja hookeri** Marq. in Kew Bull. 1930: 191. 1930.

Shrubs, 4-6 m high; branches subterete, drooping, younger parts whitish tomentose. Leaves lanceolate or obovate-lanceolate, subsessile, finely serrate, lower surfaces tomentose; stipules reduced to a ring. Flowers in terminal, lax, tomentose, spicate panicles, deep orange with whitish limb, fragrant, tomentose without. Fruits ovoid, tomentose. Seeds tailed.

*Fl. & Fr.*: Sept. Oct.

*Distrib.*: Arunachal Pradesh.

**Buddleja macrostachya** Benth. in Scroph. Ind. 42. 1835; C. B. Clarke in Hook. f., Fl. Brit. India 4: 81. 1883; Marq. in Kew Bull. 1930: 191. 1930.

Trees, 6-8 m high; branches often 4-angled, younger parts stellate hairy. Leaves oblong, serrate, rusty stellate woolly beneath. Flowers in dense, terminal, paniculate cymes, pinkish white or purplish. Capsules oblong, villous. Seeds elongate.

*Fl. & Fr.*: Aug. Nov.

*Distrib.*: Changlang, Kameng, Tirap; 1500 - 2500 m, along foot tracks in humid forests and in open secondary forests and thickets.

**Buddleja paniculata** Wall. in Roxb., Fl. Ind. 1: 412. 1820; C. B. Clarke in Hook. f., Fl. Brit. India 4: 81. 1883; Marq. in Kew Bull. 1930: 189. 1930.

Shrubs or small trees, up to 6 m high; younger parts rusty tomentose. Leaves ovate or oblong; denticulate or crenate, tomentose above, woolly beneath. Flowers in paniculate interrupted heads, pink, woolly. Capsules ellipsoid, woolly. Seeds ellipsoid.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Kameng; 1400 - 2000 m, along open and dry rocky slopes.

Insufficiently known materials

**Buddleja subherbacca** Keenan in Notes Roy. Bot. Gard. Edinburgh 39: 343. 1969.

**Buddleja yunnanensis** Gagnep. in Lecomte, Not. Syst. 2: 187, 192. 1912.

### GENTIANACEAE

**Canscora androgaraphioides** C. B. Clarke in J. Linn. Soc. Bot. 14: 431. 1875 & in Hook. f., Fl. Brit. India 4: 105. 1883; Kanjilal *et al.*, Fl. Assam 3: 322. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 222. 1996.

Slender herbs, up to 60 cm high; stems 4-angled. Leaves elliptic-lanceolate, 3-nerved. Flowers zygomorphic, in axillary, few-flowered, dichotomous cymes, pale purple with pink nerves, 2-lipped. Capsules oblong.

*Fl. & Fr.*: Oct. March.

*Distrib.*: Changlang, Kameng, Lohit; 100 -1500 m, in grasslands, forest edges and in shady places along streams.

**Canscora decussata** (Roxb.) J. A. & J. H. Schult., Syst. Veg. Mant. 3: 229. 1822; C. B. Clarke in Hook. f., Fl. Brit. India 4: 104. 1883. *Pladera decussata* Roxb., Fl. Ind. 1: 418. 1820.

Herbs, dichotomously branched, up to 40 cm high; stems 4-angled, winged. Leaves oblong-lanceolate. Flowers zygomorphic, in terminal, lax, paniculate cymes, white, 2-lipped. Capsules oblong. Seeds reticulate, brown.

*Fl. & Fr.*: Oct. Feb.

*Distrib.*: Kameng; 1500 - 2500 m, in grasslands along roadsides and slopes.

**Cotylanthera caerulea** Lacc in Kew Bull. 1914 : 154. 1914; H. Hara in J. Jap. Bot. 50: 327. 1975.

Herbs, 4-8 cm long; stems solitary, erect, glabrous. Leaves reduced, deltoid-acuminate. Flowers solitary, terminal, blue; corolla lobes obtuse at apex.

*Fl.*: Aug.

*Distrib.*: Arunachal Pradesh ( Delci valley); 1000 -1250 m.

**Exacum tetragonum** Roxb., Fl. Ind. 1: 413. 1820; C. B. Clarke in Hook. f., Fl. Brit. India 4: 95. 1883; Kanjilal *et al.*, Fl. Assam 3: 322. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 222. 1996.

**var. tetragonum**

Erect herbs, up to 60 cm high; stems 4-angled, winged. Leaves sessile, broadly lanceolate, 5-nerved. Flowers actinomorphic, bluish violet in compound, terminal, paniculate cymes. Capsules subglobose or ellipsoid.

*Fl. & Fr.*: May - Feb.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap; 500 - 1800 m, in open grasslands and marshy places along roadsides.

**Exacum tetragonum** var. **stylosa** (Wall. ex Griseb.) C. B. Clarke in Hook. f., *Fl. Brit. India* 4: 95. 1883. *E. stylosa* Wall. ex Griseb. in DC., *Prodr.* 9: 46. 1845.

Herbs, up to 1.25 m high, unbranched, terete. Leaves narrowly lanceolate. Flowers blue, in upper axils of leaves. Capsules globose.

*Fl. & Fr.*: March - Nov.

*Distrib.*: Kameng, Lohit, Siang, Subansiri, Tirap; 600 - 1500 m, along sandy riverbeds and roadsides.

**Gentiana bryoides** Burkill in J. As. Soc. Bengal n.s. 2: 316. 1906; H. Hara, *Fl. E. Himal.* 254. 1966.

Small herbs; vegetative parts slightly pinkish.

*Fl. & Fr.*: Jan. - June.

*Distrib.*: Kameng, Tawang; 3000 - 4500 m, on moist grassy slopes.

**Gentiana campanulacea** (Wall. et Griff.) Marq. in Kew Bull. 1931: 70. 1931; Kanjilal *et al.*, *Fl. Assam* 3: 323. 1939; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 222. 1996. *Crawfurdia campanulacea* Wall. et Griff. ex C. B. Clarke in Hook. f., *Fl. Brit. India* 4: 106. 1883.

Slender twiners. Leaves elliptic-acuminate, coriaceous, entire. Flowers axillary, solitary on long peduncles, purple or mauve. Seeds winged.

*Fl. & Fr.*: Jan. - June.

*Distrib.*: Changlang, Kameng, Lohit.

**Gentiana cephalodes** Edgew. in Hook., *J. Bot.* 4: 637, t. 20. 1845. *Gentiana capitata* auct. non Buch.-Ham. ex D. Don: C. B. Clarke in Hook. f., *Fl. Brit. India* 4: 113. 1883, *p.p.*

Herbs, up to 15 cm high; stems stout without leaves at base, chocolate-brown. Leaves ovate or oblong. Flowers capitate, bluish. Capsules globose, compressed.

*Fl. & Fr.*: Sept. Jan.

*Distrib.*: Kameng; 2000–3000 m, on black humus rich soil in open pine forests.

*Note*: The plant is without radical leaves at the time of flowering but with cauline leaves crowded close to the flowers.

***Gentiana pedicellata*** (D. Don) Wall. ex Griseb., Gen. Sp. Gent. 273. 1838. *Ericata pedicellata* D. Don in Philos. Mag. Sci. 8: 76. 1836. *Gentiana quadrifaria* auct. non Blume: C. B. Clarke in Hook. f., Fl. Brit. India 4: 111. 1883, *p.p.* *G. squarrosa* auct. non Ledeb.: C. B. Clarke in Hook. f., Fl. Brit. India 4: 111. 1883, *p.p.*

Herbs, annual, up to 15 cm high; stems much branched. Leaves radical and cauline, ovate-lanceolate, reddish. Flowers dark blue or purple, solitary, sessile. Capsules ellipsoid or ovoid.

*Fl. & Fr.*: May–Sept.

*Distrib.*: Kameng, Tawang; 1500–2500 m, on moist grassy slopes and mossy soil covered rocks.

***Gentiana prolata*** Balf. f. in Trans. Proc. Bot. Soc. Edinburgh 27: 26. 1918. *G. ornata* auct. non (D. Don) Griseb.: C. B. Clarke in Hook. f., Fl. Brit. India 4: 116. 1883, *p.p.*

Herbs, up to 10 cm high; branches ascending. Radical leaves inconspicuous during flowering; cauline leaves narrowly oblong. Flowers bright blue, solitary, terminal, large. Capsules shortly stalked.

*Fl. & Fr.*: Sept. Jan.

*Distrib.*: Tawang; 3000–4500 m, on moist and shady soil slopes.

***Gentiana sikkimensis*** C. B. Clarke in Hook. f., Fl. Brit. India 4: 114. 1883.

Prostrate herbs; 1–3 from same root. Radical leaves orbicular or elliptic; cauline leaves oblong. Flowers in terminal clusters, showy, blue. Capsules ellipsoid, stalked.

*Fl. & Fr.*: Sept. March.

*Distrib.*: Changlang, Lohit, Tawang; 4000–4500 m, on rock or in stony, water logged areas.

***Gentiana speciosa*** (Wall.) Marq. in Kew Bull. 1931. 70. 1931; H. Hara, Fl. E. Himal. 255. 1966; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 223. 1996. *Crawfordia speciosa* Wall., Tent. Fl. Nep. 64, t. 48. 1826; C. B. Clarke in Hook. f., Fl. Brit. India 4: 106. 1883.

Herbaceous climbers. Leaves elliptic-acuminate. Flowers axillary, solitary or in 5-flowered cymes, showy, blue-violet; petals twisted to form projecting structure in centre of calyx lobes. Capsules globose, stalked, brownish.

*Fl. & Fr.*: Nov. March.

*Distrib.*: Kameng, Lohit, Siang; 1200 - 3500 m, on bushes in forests and hill slopes.

**Halenia elliptica** D. Don in Trans. Linn. Soc. London 17: 529. 1837; C. B. Clarke in Hook. f., Fl. Brit. India 4: 130. 1883.

Erect or scandent herbs, up to 65 cm high; stems weak, 4-angled, narrowly winged. Leaves sessile, ovate, obtuse. Flowers in axillary cymes, bluish white or bright blue, spurred ca 8 mm in diam. Capsules ovoid.

*Fl. & Fr.*: Sept. Nov.

*Distrib.*: Kameng; 1800 - 2200 m, amidst grasses along hill slopes.

**Sabaea microphylla** (Edgew.) Knob., B. Centralbl. 60: 324. 1894; Chatter in H. Hara *et al.*, Enum. Fl. Pl. Nep. 3: 95. 1982. *Cicendia microphylla* Edgew. in Trans. Linn. Soc. London 20: 83. 1846. *Sabaea khasiana* C. B. Clarke in J. Linn. Soc. Bot. 14: 428. 1875 & in Hook. f., Fl. Brit. India 4: 99. 1883.

Herbs, 2-7 cm high, slender, rarely branched. Leaves sessile; radical leaves disappear on flowering; cauline leaves narrowly lanceolate. Flowers in terminal, 1-6-flowered cymes, often solitary, pale yellow. Capsules globose or ellipsoid.

*Fl. & Fr.*: Oct. March.

*Distrib.*: Kameng; 1500 - 2000 m, along footpath amidst grasses.

*Note*: Probably parasite on grasses.

**Swertia alata** (D. Don) C. B. Clarke in Hook. f., Fl. Brit. India 4: 125. 1883. *Agathotes alata* D. Don in Trans. Linn. Soc. London 17: 523. 1837.

Herbs, annual, much branched, up to 50 cm high; stems angular, winged. Leaves narrowly lanceolate, 5-nerved. Flowers greenish white to greenish yellow with violet patch on petals. Capsules ovoid, greenish.

*Fl. & Fr.*: Sept. Jan.

*Distrib.*: Siang; 700 - 1000 m, in open forests and along roadsides.

**Swertia assamensis** H. Sm. in Bull. Brit. Mus. (Nat. Hist.) Bot. 4(6): 248. 1970.

Herbs, ca 30 cm high. Leaves rosulate, elliptic, margin minutely and irregularly laciniate, margin ciliate. Flowers yellow in axillary, unbranched or moderately branched cymes; petals obtuse, ca 2.5 cm long, apex and margin lacerulate, nectary smooth.

*Fl.*: June July.

*Distrib.*: Arunachal Pradesh; ca 4000 m.

**Swertia bimaculata** (Sieb. et Zucc.) Hook. f. et Thomson ex C. B. Clarke in J. Linn. Soc. Bot. 14: 449. 1875; C. B. Clarke in Hook. f., Fl. Brit. India 4: 123. 1883. *Ophelia bimaculata* Sieb. et Zucc. in Abh. Akad. Wiss. Munchen 4(3): 159. 1846.

Herbs, up to 2 m high; stems stout, quadrangular; branches corymbose upward. Leaves elliptic-lanceolate, 3-nerved. Flowers in panicles, white with black spots. Capsules oblong. Seeds subglobose, obscurely reticulate.

*Fl. & Fr.*: Sept. Dec.

*Distrib.*: Kameng; 2000–3500 m, on grassy hill slopes, along roadsides.

**Swertia chirayita** (Roxb. ex Fleming) Karsten, Deutsche Fl. 1025. 1880-83. *Gentiana chirayita* Roxb. ex Fleming in As. Res. 11: 167. 1812. *Gentiana chirata* Wall., Pl. As. Rar. 3: 33, t. 252. 1832. *Swertia chirata* (Wall.) C. B. Clarke in Hook. f., Fl. Brit. India 4: 124. 1883.

Robust herbs or undershrubs, up to 2 m high; older stems and branches terete. Leaves lanceolate, 5-nerved. Flowers in large panicles, bluish green to greenish yellow, tinged purple with two glands on each corolla lobe; corolla lobes fringed with long hairs. Capsules ovate. Seeds smooth.

*Fl. & Fr.*: Sept. Jan.

*Distrib.*: Kameng; 2000–3000 m, at the edges of forests, amidst grasses.

*Use*: Plant is used medicinally for a wide range of ailments and diseases. The extract is extremely bitter. It is prescribed as a febrifuge, laxative, stomachic, antihelmintic and is also credited with tonic.

**Swertia cordata** (G. Don) C. B. Clarke in Hook. f., Fl. Brit. India 4: 123. 1883; Chatter in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 96. 1982. *Ophelia cordata* G. Don, Gen. Syst. 4: 178. 1837.

Erect herbs, up to 1.25 m high; stems 4-ribbed. Leaves broadly ovate, often cordate at base. Flowers in large panicles, yellowish white with

purple streaks and one circular gland on each petal lobe. Capsules oblong. Seeds subglobose.

*Fl. & Fr.*: Aug. Dec.

*Distrib.*: Tawang; 2500–3500 m, in open grassy slopes amidst low herbs.

**Swertia dilata** C. B. Clarke in Hook. f., *Fl. Brit. India* 4: 122. 1883; Kanjilal *et al.*, *Fl. Assam* 3: 325. 1939.

Erect herbs, up to 1 m high; stems almost terete. Leaves lanceolate or narrowly lanceolate, 3-nerved. Flowers dull green, in divaricated panicles; petals pinkish with a horse-shoe shaped purplish mark; filaments dilated. Capsules subglobose.

*Fl. & Fr.*: Sept. Dec.

*Distrib.*: Kameng, Tawang; 2000–3500m, along hill slopes amidst grasses and in open places.

**Swertia hookeri** C. B. Clarke in Hook. f., *Fl. Brit. India* 4: 127. 1883.

Erect herbs, up to 1.25 m high; stems terete, hollow, pinkish. Radical leaves spatulate-elliptic; cauline leaves elliptic, 5-nerved. Flowers in panicles, dull yellow with violet tip on outer side. Capsules oblong shining brown. Seeds discoid, smooth.

*Fl. & Fr.*: Sept. Nov.

*Distrib.*: Tawang; 3000–3500 m, amidst grasses in open places along hill slopes.

**Swertia splendens** H. Sm. in *Bull. Brit. Mus. (Nat. Hist.) Bot.* 4(6): 250. 1970.

Robust herbs, up to 40 cm high. Leaves spatulate-ovate, 7-nerved, margin lacinate; petioles densely ciliate at base. Flowers brick red, in 2-5-flowered pyramidal cymes, nectary with filamentous projections.

*Fl.*: July.

*Distrib.*: Arunachal Pradesh.

**Swertia tetragona** (Edgew.) C. B. Clarke in Hook. f., *Fl. Brit. India* 4: 122. 1883. *Ophelia tetragona* Edgew., in *Trans. Linn. Soc. London* 20: 86. 1846.

Erect herbs, up to 50 cm high; stems terete or 4-ribbed. Leaves lanceolate. Flowers in paniculate cymes, whitish with two glands on each corolla lobe. Capsules oblong, obtuse. Seeds globose, smooth.

*Fl. & Fr.*: Aug. Nov.

*Distrib.*: Kameng; 1800–3000 m, along grassy hill slopes amidst low herbs.

***Tripterospermum fasciculatum*** (Wall.) Chater in Enum. Fl. Pl. Nepal. 3: 98. 1982. *Crawfordia fasciculata* Wall., Tent. Fl. Nep. 63, t. 47. 1826; C. B. Clarke in Hook. f., Fl. Brit. India 4: 107. 1883. *C. affinis* Wall. ex C. B. Clarke in Hook. f., Fl. Brit. India 4: 107. 1883. *Tripterospermum affine* (Wall. ex C. B. Clarke) H. Sm. in Notes Roy. Bot. Gard. Edinburgh 26: 244. 1965.

Climbers, up to 3 m long. Leaves elliptic to lanceolate, cordate or rotundate at base. Flowers subterminal or axillary, solitary or in 3-flowered cymes, blue or purple. Capsules 2-valved, oblong.

*Fl. & Fr.*: Sept. Feb.

*Distrib.*: Subansiri; 1400–2200 m, along roadsides.

Insufficiently known material

***Veratrilla bailloni*** Franch. in Bull. Soc. Bot. France 46: 311. 1899.

#### HYDROPHYLLACEAE

***Hydrolea zeylanica*** (L.) Vahl, Symb. Bot. 2: 46. 1791; Dalz. & C. B. Clarke in Hook. f., Fl. Brit. India 4: 133. 1883; Deb, Fl. Tripura 2: 310. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 224. 1996. *Nama zeylanica* L., Sp. Pl. 226. 1753.

Annual, procumbent herbs, up to 35 cm high. Leaves lanceolate-acuminate, upper ones smaller, sessile. Flowers in short, lateral, branched racemes or solitary, bluish purple. Capsules globose.

*Fl. & Fr.*: March–Dec.

*Distrib.*: Changlang, Kameng Lohit; 500–1000 m, in wet places.

#### BORAGINACEAE

***Bothriospermum tenellum*** Fisch. & Mey., Ind. Sem. Hort. Petrop. 24. 1835; C. B. Clarke in Hook. f., Fl. Brit. India 4: 167. 1883.

Diffuse herbs, up to 50 cm long, appressed hispid. Leaves ovate-lanceolate. Flowers blue or white, axillary, solitary or in racemes. Nutlets ellipsoid, scabrid.

*Fl. & Fr.*: March–July.

*Distrib.*: Siang; 600–1200 m, in open grassy lands and hill slopes.

**Carmona retusa** (Vahl) Masam. in Trans. Nat. Hist. Soc. Taiwan 30: 61. 1940.; Ramamoorthy in C. J. Saldanha & Nicolson, Fl. Hassan Dist. 477. 1976. *Cordia retusa* Vahl, Symb. Bot. 2: 42. 1791. *Ehretia buxifolia* Roxb., Pl. Corom. 1: 42. t. 57. 1795; C. B. Clarke in Hook. f., Fl. Brit. India 4: 144. 1883.

Profusely branched shrubs, 2-3 m high. Leaves obovate; hairs bulbous based. Flowers white, solitary or in axillary corymbs. Drupes globose, 1-4 seeded, bright red on maturity.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Kameng; 500 - 1000 m, in deciduous tropical forests.

**Cordia dichotoma** Forst. f., Prodr. 18. 1786; Kanjilal *et al.*, Fl. Assam 3: 330. 1939; Johnston in J. Arn. Arb. 32: 8. 1951; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 224. 1996. *Cordia myxa auct. non L.*: C. B. Clarke in Hook. f., Fl. Brit. India 4: 136. 1883, *p.p.*

*Local name*: Goborsuta (Asm.).

Deciduous trees, up to 20 m high; branches drooping. Leaves ovate or orbicular, sinuate or crenate, coriaceous, sparsely hairy when young. Flowers in corymbose or paniculate cymes, white, fragrant. Berries ovoid, 1-seeded, copious viscid pulpy.

*Fl. & Fr.*: Throughout the year.

*Distrib.*: Changlang, Kameng, Lohit; 1300 - 1600 m, in forests.

**Cordia obliqua** Willd., Sp. Pl. 1: 1072. 1798; C. B. Clarke in Hook. f., Fl. Brit. India 4: 137. 1883.

Trees, up to 15 m high with oval crown. Leaves ovate or oblong, 3-nerved, tomentose beneath. Flowers in terminal, many flowered, lax corymbs, yellowish brown. Berries ovoid, 1-seeded.

*Fl. & Fr.*: Sept. - Dec.

*Distrib.*: Siang; 1000 - 1500 m, in forests, often cultivated.

**Cynoglossum glochidiatum** Wall. ex Benth. in Royle, Ill. Bot. Himal. 306. 1836; C. B. Clarke in Hook. f., Fl. Brit. India 4: 156. 1883; Kanjilal *et al.*, Fl. Assam 3: 337. 1939; H. Hara in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 100. 1982; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 224. 1996. *C. vesiculosum* Wall. ex G. Don, Gen. Syst. 4: 354. 1838. *C. denticulatum* A. DC. in DC., Prodr. 10: 150. 1846; C. B. Clarke in Hook. f., Fl. Brit. India 4: 157. 1883. *C. edgeworthii* A. DC. in DC., Prodr. 10: 150. 1846; C. B. Clarke in Hook. f., Fl. Brit. India 4: 158. 1883.

Erect herbs, up to 1 m high; stems hairy, woody at base. Leaves lanceolate, sparsely hispid. Flowers in racemes, bright blue. Nutlets ovate, glochidiate.

*Fl. & Fr.*: July - Jan.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 1200-1800 m, along roadsides in open places and grassy lands.

**Cynoglossum lanceolatum** Forssk., Fl. Aegypt. Arb. 41. 1775; C. B. Clarke in Hook. f., Fl. Brit. India 4: 156. 1883; Kazmi in J. Arn. Arb. 52:243. 1971. *C. micranthum* Desf., Tab. Ecol. Bot. ed. 1: 220. 1804; C. B. Clarke in Hook. f., Fl. Brit. India 4: 156. 1883.

Hispid herbs; stems erect, up to 90 cm high. Leaves lanceolate, crenulate, scabrous, hairs tuberculate at base. Flowers in divaricate racemes, blue. Nutlets ovate.

*Fl. & Fr.*: Aug. - Jan.

*Distrib.*: Siang, Subansiri, Tirap; 1000 - 1600 m, on hill slopes, along roadsides and in forest clearings.

**Cynoglossum zeylanicum** (Vahl ex Hornem.) Thunb. ex Lehm. in Neue Schriften Naturf. Ges. Halle 3(2): 20. 1817; H. Hara in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 100. 1982. *Anchusa zeylanica* Vahl ex Hornem., Enum. Hafn. 3. 1807. *Cynoglossum furcatum* Wall. in Roxb., Fl. Ind. 2: 6. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 4: 155. 1883; Kanjilal *et al.*, Fl. Assam 3: 337. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 225. 1996. *C. denticulatum* A. DC. var. *zeylanica* (Thunb. ex Lehm.) C. B. Clarke in Hook. f., Fl. Brit. India 4: 157. 1883.

Hispid herbs or undershrubs, up to 1.25 m high. Leaves elliptic-lanceolate or oblong-lanceolate, scabrous above, nerves prominent. Flowers in long racemes, purple, blue or bluish violet. Nutlets ovate, glochidiate.

*Fl. & Fr.*: Dec. - June.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 1000-1600 m, in open grasslands, paddy fields, sandy river beds and soil slopes.

**Ehretia acuminata** R. Br. var. *serrata* (Roxb.) I. M. Johnst. in J. Arn. Arb. 32: 23. 1951. *E. serrata* Roxb., Fl. Ind. 2: 340. 1824. *E. acuminata* auct. non R. Br.: C. B. Clarke in Hook. f., Fl. Brit. India 4: 141. 1883, *p.p.*

Trees, up to 20 m high; crown compact. Leaves ovate, ovate-elliptic or oblong, serrate. Flowers in dense pyramidal panicles, white. Drupes ovoid, beaked, yellow when ripe.

*Fl. & Fr.*: April - Dec.

*Distrib.*: Kameng; 200 - 1000 m, in tropical forests and in open places.

**Ehretia laevis** Roxb., Pl. Corom. 42, t. 55. 1795; C. B. Clarke in Hook. f., Fl. Brit. India 4: 141. 1883.

Trees, up to 20 m high; crown spreading. Leaves ovate-elliptic, entire, shining above, fleshy when mature with tuft of hairs at axils of nerves beneath. Flowers in axillary, scorpioid cymes, white. Drupes subglobose, 4-ribbed.

*Fl. & Fr.*: March - Dec.

*Distrib.*: Kameng; 100 - 1000 m, in tropical semi-evergreen forests.

**Ehretia macrophylla** Wall. ex Roxb., Fl. Ind. 2: 343. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 4: 141. 1883.

Trees, up to 15 m high. Leaves broadly elliptic, rhomboid, unequally serrate, rounded at base, pubescent beneath. Flowers in short, terminal panicles, white. Drupes globose, mucronate; pyrenes 2.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Kameng; 500 - 1200 m, in tropical primary forests.

**Ehretia wallichiana** Hook. f. & Thomson ex C. B. Clarke in Hook. f., Fl. Brit. India 4: 143. 1883.

Trees, up to 15 m high. Leaves elliptic or oblong. Flowers in terminal, corymbiform, minutely pubescent, compact cymes, white with pinkish tinge, fragrant. Drupes subglobose, longitudinally ribbed; pyrenes compressed.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Kameng, Siang; 1200 - 1500 m, in semi-evergreen primary forests.

**Heliotropium indicum** L., Sp. Pl. 130. 1753; C. B. Clarke in Hook. f., Fl. Brit. India 4: 152. 1883.

Hirsute herbs, up to 1 m high, woody at base. Leaves ovate, serrate, hispid-pubescent. Flowers in scorpioid, spicate cymes, white or bluish purple. Fruits ovoid, subacutely 4-pointed.

*Fl. & Fr.*: March - Dec.

*Distrib.*: Kameng; 100 - 500 m; in open, moist or dry sandy places, wastelands, roadsides.

**Heliotropium strigosum** Willd., Sp. Pl. 1: 743. 1797; C. B. Clarke in Hook. f., Fl. Brit. India 4: 151. 1883.

subsp. **strigosum**

Diffuse woody herbs, much branched, strigosely hairy. Leaves narrowly lanceolate. Flowers in simple spikes, white or bluish; bracts large. Fruits ovoid, minutely hairy.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Siang; 300 - 500 m, in open places along roadsides.

**Heliotropium strigosum** subsp. **brevifolium** (Wall.) Kazmi in J. Arn. Arb. 51: 153. 1970. *H. brevifolium* Wall. in Roxb., Fl. Ind. 2: 2. 1824.

Procumbent herbs; branches strigose hairy. Leaves small, narrowly lanceolate. Flowers in spikes, blue. Fruits ovoid.

*Fl. & Fr.*: Aug. - Oct.

*Distrib.*: Kameng; 100 - 500 m, in open forests.

**Maharanga emodi** (Wall.) A. DC. in DC., Prodr. 10: 71. 1846. *Onosma emodi* Wall. in Roxb., Fl. Ind. 2: 11. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 4: 179. 1883.

Hirsute herbs, up to 1 m high. Leaves elliptic, lanceolate or oblanceolate, 3-5-nerved, hispid on both surfaces. Flowers in terminal racemes; calyx ovoid, 5-angled, lobes triangular; corolla cylindric, purplish, hairy.

*Fl. & Fr.*: Aug. - Nov.

*Distrib.*: Kameng; 1500 - 2500 m, on hill slopes.

**Rotula aquatica** Lour., Fl. Cochinch. 121. 1790; I. M. Johnst. in J. Arn. Arb. 32: 15. 1951. *Rhabdia lycioides* auct. non Mart. 1827; C. B. Clarke in Hook. f., Fl. Brit. India 4: 145. 1883.

Bushy shrubs, 1-3 m high. Leaves linear-lanceolate to oblong-lanceolate, glabrous on maturity. Flowers solitary or 2-3 in short lateral cymes, pink. Fruits globose, orange-yellow to red when ripe.

*Fl. & Fr.*: Sept. - April.

*Distrib.*: Kameng, Siang; 100 - 800 m, along rocky riverbeds in tropical forests.

**Tournefortia montana** Lour. var. **griffithii** (C. B. Clarke) I. M. Johnst. in J. Arn. Arb. 32: 117. 1953. *T. viridiflora* Wall. var. *griffithii* C. B. Clarke in Hook. f., Fl. Brit. India 4: 146. 1883. *T. candollii* C. B. Clarke in Hook. f., Fl. Brit. India 4: 146. 1883. *T. khasiana* C. B. Clarke in Hook. f., Fl. Brit. India 4: 147. 1883. *T. viridiflora* Wall. in Roxb., Fl. Ind. 1: 5. 1820; C. B. Clarke in Hook. f., Fl. Brit. India 4: 146. 1883;

Kanjilal *et al.*, Fl. Assam 3: 336. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 225. 1996.

*Local name:* Siamsang (Asm.).

Scandent or often erect shrubs, up to 3 m high; younger parts hairy. Leaves ovate to ovate-lanceolate or oblong, hairy, distinctly reticulate beneath. Flowers in axillary or terminal cymes, tubular, greenish white to creamy white. Drupes ovoid, white, crowned by persistent calyx.

*Fl. & Fr.:* April - Feb.

*Distrib.:* Changlang, Kameng, Siang, Subansiri, Tirap; 100 - 800 m, in open tropical forests.

**Tournefortia ovata** Wall. ex G. Don, Gen. Syst. 4: 369. 1838; C. B. Clarke in Hook. f., Fl. Brit. India 4: 147. 1883.

Scandent shrubs, up to 1.5 m high, hairy. Leaves ovate or elliptic, glabrescent beneath. Flowers in cymes. Drupes sessile, subglobose, white.

*Fl. & Fr.:* March - Aug.

*Distrib.:* Kameng; 100 - 1000 m, in forests.

**Trichodesma khasianum** C. B. Clarke in Hook. f., Fl. Brit. India 4: 154. 1883; Kanjilal *et al.*, Fl. Assam 3: 338. 1939; R. N. Banerjee & Pramanik in Bull. Bot. Surv. India 17(1-4): 118. (1975) 1978; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 226. 1996.

Shrubs or small trees, up to 6 m high, sparingly hairy. Leaves elliptic, scabrous, tuberculate above. Flowers in terminal, corymbose racemes, creamy white with light violet tip. Nutlets ellipsoid, 4-ribeed, widely margined.

*Fl. & Fr.:* Oct. - March.

*Distrib.:* Changlang, Lohit, Siang; 500 - 1000 m, in forest clearings.

**Trigonotis microcarpa** (DC.) Benth. ex C. B. Clarke in Hook. f., Fl. Brit. India 4: 172. 1883; R. N. Banerjee in Bull. Bot. Surv. India 8: 320. 1966. *Eritrichium microcarpum* DC., Prodr. 10: 123. 1846.

Herbs, up to 60 cm high, weak, more or less hairy. Leaves ovate, minutely strigose on both surfaces. Flowers axillary, solitary or in terminal racemes, white to bluish. Nutlets tetrahedral, glabrous.

*Fl. & Fr.:* April - Oct.

*Distrib.:* Kameng; 2000 - 2500 m, on moist soil slopes.

**Trigonotis rotundifolia** (Wall. ex Benth.) Benth. ex C. B. Clarke in Hook. f., Fl. Brit. India 4: 172. 1883; R. N. Banerjee in Bull. Bot. Surv.

India 8: 324. 1966. *Myosotis rotundifolia* Wall. ex Benth. in Royle, Ill. Bot. Himal. 305. 1836.

Perennial, diffuse herbs, up to 15 cm long; branches weak, strigose. Leaves elliptic, minutely strigose; cauline leaves sessile, ovate-oblong. Flowers in terminal racemes, white. Nutlets glabrous, trigonous.

*Fl. & Fr.*: July - Aug.

*Distrib.*: Lohit; 400 - 3500 m, on moist slopes.

### CONVOLVULACEAE

***Argyreia argentea*** (Roxb.) Choisy, Convolv. Or. 36. 1834; C. B. Clarke in Hook. f., Fl. Brit. India 4: 185. 1883; N. P. Balakr., Fl. Jowai 2: 328. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 226. 1996. *Lettsomia argentea* Roxb., Fl. Ind. 2: 79. 1824.

Large climbers. Leaves ovate-cordate, silky tomentose beneath. Flowers in dense corymbose cymes, up to 5 cm long, rosy purple, hairy outside on the folds; bracts deciduous. Berries globose, fleshy, orange-yellow.

*Fl. & Fr.*: July - March.

*Distrib.*: Changlang, Lohit, Siang; 100 - 1000 m, along riverbanks and in forest clearings.

***Argyreia capitata*** (Vahl) Choisy in Convolv. Or. 41. 1834; N. P. Balakr., Fl. Jowai 2: 328. 1983. *Convolvulus capitatus* Vahl, Symb. Bot. 3: 28. 1794. *Lettsomia strigosa* Roxb., Fl. Ind. 2: 80. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 4: 193. 1883.

Climbers or twinners; stout, brownish hairy. Leaves ovate-lanceolate, cordate, densely brownish patent hairy. Flowers in axillary clusters, up to 5 cm long, rosy violet; bracts hirsute, persistent. Fruits orange-red.

*Fl. & Fr.*: Sept. - April.

*Distrib.*: Changlang, Lohit, Siang, Subansiri, Tirap; 100 - 3500 m, in open forests, forest edges and along roadsides.

***Argyreia nervosa*** (Burm. f.) Bojer, Hort. Murit. 224. 1837; Kanjilal *et al.*, Fl. Assam 3: 342. 1939; Santapau in J. Bombay Nat. Hist. Soc. 47: 350. 1947; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 226. 1996. *Convolvulus nervosus* Burm. f., Fl. Ind. 48. 1768. *C. speciosus* L. f., Suppl. Pl. 137. 1781. *Argyreia speciosa* (L. f.) Sweet, Hort. Brit. 289. 1827; C. B. Clarke in Hook. f., Fl. Brit. India 4: 185. 1883. *A. wallichii* Choisy, Convolv. Or. 39. 1834; C. B. Clarke in Hook. f., Fl. Brit. India 4: 187. 1883.

Large twiners, spreading on trees, hairy. Leaves ovate-cordate, silvery white grey tomentose beneath. Flowers in axillary clusters, about 4 cm long, pink or whitish, hirsute; bracts persistent. Capsules depressed globose, reddish.

*Fl. & Fr.*: Aug. - Jan.

*Distrib.*: Changlang, Lohit, Subansiri; 1000 - 1500 m, in open forests and along roadsides.

***Argyreia roxburghii*** Arn. ex Choisy in Mem. Soc. Phys. Hist. Nat. Geneve 6: 419. 1834; C. B. Clarke in Hook. f., Fl. Brit. India 4: 185. 1883; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 227. 1996. *A. ampla* Choisy, Convolv. Or. 38. 1834. *A. roxburghii* var. *ampla* (Choisy) C. B. Clarke in Hook. f., Fl. Brit. India 4: 185. 1883.

Spreading climbers, up to 10 m or more long. Leaves ovate-cordate, patently soft villous on both surfaces. Flowers in dense, axillary corymbs, 4-5 cm long, pinkish purple with deep chocolate within, densely silky outside in bud, twisted; bracts large, persistent or deciduous. Fruits subglobose, yellow.

*Fl. & Fr.*: July - Feb.

*Distrib.*: Changlang, Kameng, Lohit, Tirap; 100 - 1400 m, in open grasslands.

***Argyreia sikkimensis*** (C. B. Clarke) Ooststr. in Blumea 7: 178. 1952; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 227. 1996. *Lettsomia sikkimensis* C. B. Clarke in Hook. f., Fl. Brit. India 4: 194. 1883; Kanjilal *et al.*, Fl. Assam 3: 344. 1939.

Climbers, up to 10 m long; stem and branches strigose hairy. Leaves elliptic-acuminate. Flowers in axillary corymbs, pinkish or lilac-red; bracts deciduous. Fruits ovoid, depressed, reddish.

*Fl. & Fr.*: Aug. - April.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 300 - 1000 m, in open forests and scrubs.

***Argyreia splendens*** Sweet, Hort. Brit. 373. 1827; C. B. Clarke in Hook. f., Fl. Brit. India. 4: 186. 1883.

Large climbers; younger parts grey tomentose. Leaves elliptic-oblong or obovate-elliptic, base rounded, shining silky beneath. Flowers in terminal corymbs, 4-8 cm across, sparsely hairy on folds, white or pinkish with purplish centre; bracts deciduous. Capsules 3-seeded.

*Fl. & Fr.*: May - Dec.

*Distrib.*: Kameng, Siang; 500 - 1000 m, in secondary forests.

**Erycibe paniculata** Roxb., Pl. Corom. 2: 31, t. 159, 1798; C. B. Clarke in Hook. f., Fl. Brit. India 4: 180, 1883.

*Local name:* Niguni-boallota (Asm.).

Woody climbers; branches more or less angular. Leaves ovate oblong, abruptly acuminate, brownish tomentose when young. Flowers in terminal paniculate cymes, yellowish, fragrant. Berries ellipsoid, black when ripe.

*Fl. & Fr.:* Feb. May.

*Distrib.:* Siang, Subansiri; 200 - 1000 m, in evergreen tropical forests.

*Use:* Fruits are edible, sweet tasted.

**Erycibe subspicata** Wall. ex G. Don, Gen. Syst. 4: 392, 1838; C. B. Clarke in Hook. f., Fl. Brit. India 4: 181, 1883.

Scandent shrubs; stems angled, rusty tomentose. Leaves elliptic or lanceolate, glabrous. Flowers in subspicate cymes, white or pink. Berries elliptic-oblong, yellowish.

*Fl. & Fr.:* April Sept.

*Distrib.:* Kameng; 1000 - 1500 m, in forests.

**Ipomoea alba** L. var. **grandiflora** C. B. Clarke in Hook. f., Fl. Brit. India 4: 197, 1883. *Ipomoea bonanox* L., Sp. Pl. ed. 2: 228, 1762; C. B. Clarke in Hook. f., Fl. Brit. India 4: 197, 1883.

Twining with milky juice and perennating rootstocks. Leaves ovate or ovate-oblong, cordate. Flowers in axillary cymes, one to many flowered, white, fragrant. Capsules ovoid, 2-celled.

*Fl. & Fr.:* Aug. Nov.

*Distrib.:* Kameng; 100 - 1000 m, in forests.

**Ipomoea aquatica** Forssk., Fl. Aegypt. Arab. 44, 1775; C. B. Clarke in Hook. f., Fl. Brit. India 4: 210, 1883. *I. reptans* Poit. in Lam., Encycl. Meth. Bot. suppl. 3: 460, 1814; C. B. Clarke in Hook. f., Fl. Brit. India 4: 210, 1883.

Herbs with perennating rootstocks; stems fistular, spongy, creeping prostrate or floating, rooting at nodes. Leaves linear or ovate, cordate or hastate. Flowers pedicellate in axillary few flowered cymes, 5 cm long, pink or white. Capsules globose.

*Fl. & Fr.:* March Feb.

*Distrib.:* Kameng; 100 - 500 m, in open places.

*Use:* Leaves and twigs are eaten as vegetable.

***Ipomoea batatas*** (L.) Lam., Tabl. Encycl., 2: 465. 1793; C. B. Clarke in Hook. f., Fl. Brit. India 4: 202. 1883. *Convolvulus batatas* L., Sp. Pl. 154. 1753.

*Local name:* Pagli (Ahor.).

Annual, prostrate herbs; stems green or purple tinged, rooting at nodes; tubers fusiform or elongate. Leaves broadly ovate or orbicular, entire or deeply and palmately lobed. Flowers widely funnel shaped in axillary cymes, purple or violet. Capsules ovoid.

*Fl. & Fr.:* Sept. Feb.

*Distrib.:* Lohit, Siang; 500 - 1200 m, often cultivated along the moist slopes.

*Use:* Tubers are edible. Cultivated.

***Ipomoea kingii*** Prain in J. As. Soc. Bengal 63(2): 110. 1894; Kajjal et al., Fl. Assam 3: 357. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 227. 1996. *I. cymosa* (Desr.) Roem. & Schult. var. *macra* C. B. Clarke in Hook. f., Fl. Brit. India 4: 212. 1883.

Large climbers. Leaves ovate, cordate, hirsute on nerves beneath. Flowers in axillary cymes, white. Capsules subglobose. Seeds brownish grey hairy.

*Fl. & Fr.:* Aug. Dec.

*Distrib.:* Changlang, Lohit, Siang, Tirap; 200 - 1000 m, near forest and open forested areas.

***Ipomoea mauritiana*** Jacq., Coll. 4: 216. 1791; Shah in J. Bombay Nat. Hist. Soc. 66: 232. 1969. *Convolvulus paniculatus* L., Sp. Pl. 223. 1753. *Ipomoea paniculata* (L.) R. Br., Prodr. 486. 1810. *I. digitata auct. plur. non L.*: C. B. Clarke in Hook. f., Fl. Brit. India 4: 202. 1883.

Perennial, large, scandent herbs. Leaves palmately 5-7-lobed. Flowers in many flowered cymes, widely campanulate, purple. Capsules ovoid. Seeds woolly hairy.

*Fl. & Fr.:* July Nov.

*Distrib.:* Kameng; 100 - 1000 m, in open forests and roadsides.

***Ipomoea nil*** (L.) Roth, Cat. Bot. 1: 36. 1797; Ooststr. in Blumea 3: 499. 1940. *Convolvulus nil* L., Sp. Pl. ed. 2, 1: 219. 1762. *Ipomoea hederacea auct. non Jacq.*: C. B. Clarke in Hook. f., Fl. Brit. India 4: 199. 1883.

Large twiners, stem and branches hirsute. Leaves ovate-cordate, 3-lobed, usually densely pubescent beneath. Flowers in axillary, 1-5

flowered umbellate-cymes, blue, purple or pink. Capsules ovoid, 3-celled, 4-6-seeded, smooth. Seeds glabrous.

*Fl. & Fr.*: July - Feb.

*Distrib.*: Kameng; 500 - 1400 m, along forests and roadsides.

***Ipomoea purpurea*** (L.) Roth, Bot. Abh. 27: 1787; C. B. Clarke in Hook. f., Fl. Brit. India 4: 200. 1883. *Convolvulus purpureus* L., Sp. Pl. ed. 2, 1: 219. 1762.

Scandent shrubs; branches hairy. Leaves ovate-cordate. Flowers in axillary, few flowered umbels, peduncles long. Capsules ovoid.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Kameng, Siang, Tirap; 1000 - 2000 m, in open forests, roadsides.

***Merremia hederacea*** (Burm. f.) Hallier f. in Bot. Jahrb. 18: 118. 1894; Ooststr. in Blumea 3: 302. 1939. *Evolvulus hederaceus* Burm. f., Fl. Ind. 77. 1768. *Ipomoea chryseides* Ker Gawl. in Bot. Reg. 4: t. 270. 1818; C. B. Clarke in Hook. f., Fl. Brit. India 4: 206. 1883.

Twiners or prostrate herbs; rooting at nodes. Leaves ovate-cordate, entire or crenate to deeply lobed. Flowers in axillary cymes, yellow, hairy within. Capsules ovoid, transversely wrinkled.

*Fl. & Fr.*: Dec. - May.

*Distrib.*: Kameng; 100 - 1000 m, in open forests and bamboo thickets.

***Merremia hirta*** (L.) Merr. in Philipp. J. Sci. Bot. 7: 244. 1912; Ooststr. in Blumea 3: 307. 1939. *Convolvulus hirtus* L., Sp. Pl. 159. 1753. *Ipomoea limifolia* Blume, Bijdr. 721. 1825; C. B. Clarke in Hook. f., Fl. Brit. India 4: 205. 1883.

Slender twiners; stems sparsely hairy. Leaves narrowly oblong or ovate-oblong, subcordate. Flowers in axillary, many flowered cymes, yellow. Capsules ovoid, papery, 4-seeded.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Kameng; 100 - 1200 m, in forests, thickets and grasslands.

***Merremia mammosa*** (Lour.) Hallier f. in Teysmannia 7: 164. 1879; Ooststr. in Blumea 3: 345. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 227. 1996. *Convolvulus mammosus* Lour., Fl. Cochinch. 1: 108. 1790. *Ipomoea gomezii* C. B. Clarke in Hook. f., Fl. Brit. India 4: 211. 1883; Kajjal et al., Fl. Assam 3: 349. 1939

Large twiners on tall trees; younger parts hairy. Leaves ovate, cordate. Flowers in axillary, corymbose cymes, white. Capsules globose.

*Fl. & Fr.*: Aug. Nov.

*Distrib.*: Changlang, Lohit, Tirap; 100 - 1200 m, in open forests and bamboo thickets.

**Merremia umbellata** (L.) Hallier f. in Bot. Jahrb. 16: 552. 1893; Ooststr. in Blumea 3: 333. 1939. *Convolvulus umbellatus* L., Sp. Pl. 155. 1753. *Convolvulus cymosus* Desr. in Lam., Encycl. 3: 556. 1792. *Ipomoea cymosa* (Desr.) Roem. et Schult., Syst. 4: 241. 1819; C. B. Clarke in Hook. f., Fl. Brit. India 4: 211. 1883.

*Local name*: Kolia-lota (Asm.); Bongki-ripuk (Miri); Appa-take (Nishi).

Climbers or twiners; stems angular or terete. Leaves ovate or oblong-lanceolate, cordate, entire, hairy. Flowers in axillary, many flowered cymes, white. Capsules ovoid, enveloped by persistent calyx.

*Fl. & Fr.*: Feb. Nov.

*Distrib.*: Changlang, Lohit, Subansiri, Tirap; 100 - 1000 m, in deciduous and secondary forests.

**Merremia vitifolia** (Burm. f.) Hallier f. in Bot. Jahrb. 16: 552. 1893; Kanjilal *et al.*, Fl. Assam 3: 357. 1939. *Convolvulus vitifolius* Burm. f., Fl. Ind. 45, t. 18, f. 1. 1768. *Ipomoea vitifolia* (Burm. f.) Blume, Bijdr. 709. 1825; C. B. Clarke in Hook. f., Fl. Brit. India 4: 213. 1883.

Twiners or trailers; branches hairy. Leaves broadly ovate, 5-7-lobed, hairy above. Flowers in 3-4(-7)-flowered cymes, bright yellow. Capsules globose, 4-seeded.

*Fl. & Fr.*: March Sept.

*Distrib.*: Kameng, Siang; 500 - 1500 m, in deciduous forests and roadsides.

**Porana grandiflora** Wall. in Roxb., Fl. Ind. 2: 41. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 4: 221. 1883; Verde. in Kew Bull. 24: 455. 1970. *Ipomoea cuspidata* D. Don, Prodr. Fl. Nep. 98. 1825; C. B. Clarke in Hook. f., Fl. Brit. India 4: 215. 1883.

Extensive climbers; stems slender, glabrous or pubescent. Leaves ovate, deeply cordate, villous beneath, turning glabrous on maturity. Flowers in many flowered racemes, mauve. Capsules subglobose; fruiting sepals 7-9-nerved.

*Fl. & Fr.*: Oct. March.

*Distrib.*: Kameng; 300 - 1000 m, in forests of tropical zones.

**Porana paniculata** Roxb., Pl. Corom. 3: 31. 1819; C. B. Clarke in Hook. f., Fl. Brit. India 4: 222. 1883.

*Local name:* Rikamir (Miri).

Woody climbers; young parts grey tomentose. Leaves ovate, caudate, 3-7-nerved from base, hairy. Flowers in large panicles, white; calyx much enlarged in fruit. Capsules shortly apiculate.

*Fl. & Fr.:* Sept. March.

*Distrib.:* Siang; 200-800 m, in open forests, along riverbanks.

**Porana racemosa** Roxb., Pl. Corom. 3: 31, t. 235. 1819; C. B. Clarke in Hook. f., Fl. Brit. India 4: 222. 1883.

Slender climbers. Leaves ovate-cordate, sparsely hairy or glabrous. Flowers in lax panicles, bright white; bracts foliaceous. Capsules crowned by styles; fruiting calyx oblong, 3-nerved.

*Fl. & Fr.:* Sept. Dec.

*Distrib.:* Kameng, Lohit; 1500-2000 m, along shady hill slopes.

**Rivea ornata** (Roxb.) Choisy, Convolv. Or. 27, t. 3. 1834; C. B. Clarke in Hook. f., Fl. Brit. India 4: 183. 1883. *Lettsomia ornata* Roxb., Fl. Ind. 1: 496. 1820.

*Local name:* Takaria-alu (Asm.).

Straggling shrubs or climbers on tall grasses, ca 10 m long. Leaves orbicular-cordate, white tomentose beneath. Flowers axillary, solitary, pink or lilac-red. Fruits subglobose with persistent calyx, yellowish green.

*Fl. & Fr.:* Aug. Nov.

*Distrib.:* Siang, Tirap; 600-1000 m, in open forests and forest edges.

## CUSCUTACEAE

**Cuscuta reflexa** Roxb., Pl. Corom. 2: 3, t. 104. 1798; C. B. Clarke in Hook. f., Fl. Brit. India 4: 225. 1883.

*Local name:* Honboria loti (Asm.).

Stem-parasites on trees, shrubs or herbs; stems yellow or greenish yellow, terete to subquadrangular, glabrous. Flowers fasciated or in umbellate cymes, white. Capsules fleshy, globose. Seeds black.

*Fl. & Fr.:* Sept. Jan.

*Distrib.:* Kameng, Subansiri; 1000-1800 m, inside forests, near streams and along roadsides.

## SOLANACEAE

**Capsicum annuum** L., Sp. Pl. 188. 1753; Deb in J. Econ. Tax. Bot. 1: 35. 1980. *C. annuum* var. *acuminata* Fingern., Caps. 17, t. 4. 1832. *C. frutescens* auct. non L.: C. B. Clarke in Hook. f., Fl. Brit. India 4: 239. 1883.

var. **annuum**

Annual or perennial herbs, up to 1 m high, much branched. Leaves ovate or lanceolate. Flowers solitary, axillary, white. Berries elongate-oblong, curved or variously shaped, orange-yellow or red when ripe.

*Fl. & Fr.*: April - March.

*Distrib.*: Kameng, Subansiri; 1200 - 2000 m, cultivated, often found as an escape on rocks near forests, sandy riverbeds.

*Use*: Extensively cultivated as the main source of dry chilli of commerce.

**Capsicum annuum** var. **glabriusculum** (Dunal) Heiser f. et Pickers. in Bailey 19: 156. 1975. *C. hispidum* Dun. var. *glabriusculum* Dunal in DC., Prodr. 13(1): 420. 1852. *C. minimum* Roxb., Hort. Beng. 17. 1814 *nom. nud.* & Fl. Ind. 2 : 201. 1824.: C. B. Clarke in Hook. f., Fl. Brit. India 4: 239. 1883, *p.p.*

Annual herbs, ca 1 m high. Flowers 2-3 together, axillary, pale white. Berries elongate-oblong, suberect, red when ripe.

*Fl. & Fr.*: July - Nov.

*Distrib.*: Tirap; 1400 - 2000 m, often cultivated.

**Capsicum annuum** var. **grossum** (Willd.) Sendt. in Flora 28: 122. 1845. *C. grossum* Willd., Sp. Pl. 1: 1051. 1798; C.B. Clarke in Hook. f., Fl. Brit. India 4: 293. 1883.

*Local name*: Marshi, Mirshi (Abot.).

Herbs, up to 1 m high, much branched. Leaves ovate or lanceolate. Flowers axillary, solitary, white. Berries ovoid, red or yellow.

*Fl. & Fr.*: Aug. - Jan.

*Distrib.*: Siang; 1500 - 2500 m, usually cultivated.

*Note*: An American herb, now widely cultivated. Two races are grown, one with short, yellow fruits and the other with red, ovoid, nearly 2 cm long fruits.

**Capsicum frutescens** L., Sp. Pl. 189. 1753; Deb in J. Econ. Tax. Bot. 1: 135. 1980. *C. minimum* auct. non Roxb.: C. B. Clarke in Hook. f., Fl. Brit. India 4: 239. 1883, *p.p.*

Shrubs, up to 3 m high. Leaves ovate-lanceolate. Flowers axillary; pedicels 2 or more at node, pale green. Berries elongate, oblong, blood red when ripe.

*Fl. & Fr.*: March–Feb.

*Distrib.*: Kameng, Subansiri; 1200–3000 m, usually cultivated.

*Use*: Fruit used as a spice and condiment.

**Datura metel** L., Sp. Pl. 179, 1753; Deb in J. Econ. Tax. Bot. 1: 38, 1980. *D. fastuosa* L., Syst. Nat. ed. 10, 932, 1759; C. B. Clarke in Hook. f., Fl. Brit. India 4: 242, 1883. *D. alba* Nees in Trans. Linn. Soc. 17: 73, 1837. *D. fastuosa* var. *alba* (Nees) C. B. Clarke in Hook. f., Fl. Brit. India 4: 243, 1883. **Fig. 22.**

Shrubs, 1–2 m high. Leaves ovate, toothed. Flowers axillary, solitary, large, funnel shaped, ca 15 cm across at mouth, white. Capsules spinous, subglobose or ovoid, 4-valved, irregularly dehiscent at apex.

*Fl. & Fr.*: June–Nov.

*Distrib.*: Tirap; 200–500 m, in open wastelands, roadsides.

**Datura stramonium** L., Sp. Pl. 179, 1753; C. B. Clarke in Hook. f., Fl. Brit. India 4: 242, 1883. *D. tatula* Willd., Sp. Pl. 1: 1008, 1798. *D. stramonium* var. *tatula* (Willd.) C. B. Clarke in Hook. f., Fl. Brit. India 4: 242, 1883. **Fig. 23.**

Annual herbs or undershrubs, up to 1 m high; stems purplish. Leaves ovate, sinuate or lobed. Flowers axillary, solitary, large, funnel shaped, ca 9 cm across at mouth, purple or white. Capsules prickly, globose, erect, splitting regularly.

*Fl. & Fr.*: June–Oct.

*Distrib.*: Kameng; 2000–3000 m, in open places on sandy soil, waste places.

**Datura suaveolens** Humb. et Bonpl. ex Willd., Enum. Hort. Berol. 227, 1809; T. Yamaz. in H. Hara, Fl. E. Himal. 283, 1966.

Shrubs, up to 1.5 m high, much branched. Leaves ovate, acuminate, hairy. Flowers axillary, solitary, pendulous, showy, ca 12 cm across at mouth, pale white. Capsules spinous, ovoid.

*Fl. & Fr.*: July–Nov.

*Distrib.*: Tirap; 500–1200 m, often cultivated as an ornamental for large showy flowers.

**Lycianthes biflora** (Lour.) Bitter subsp. **lysimachioides** (Wall.) Deb in Bot. J. Linn. Soc. 76: 293, 1978. *Solanum lysimachioides* Wall. in

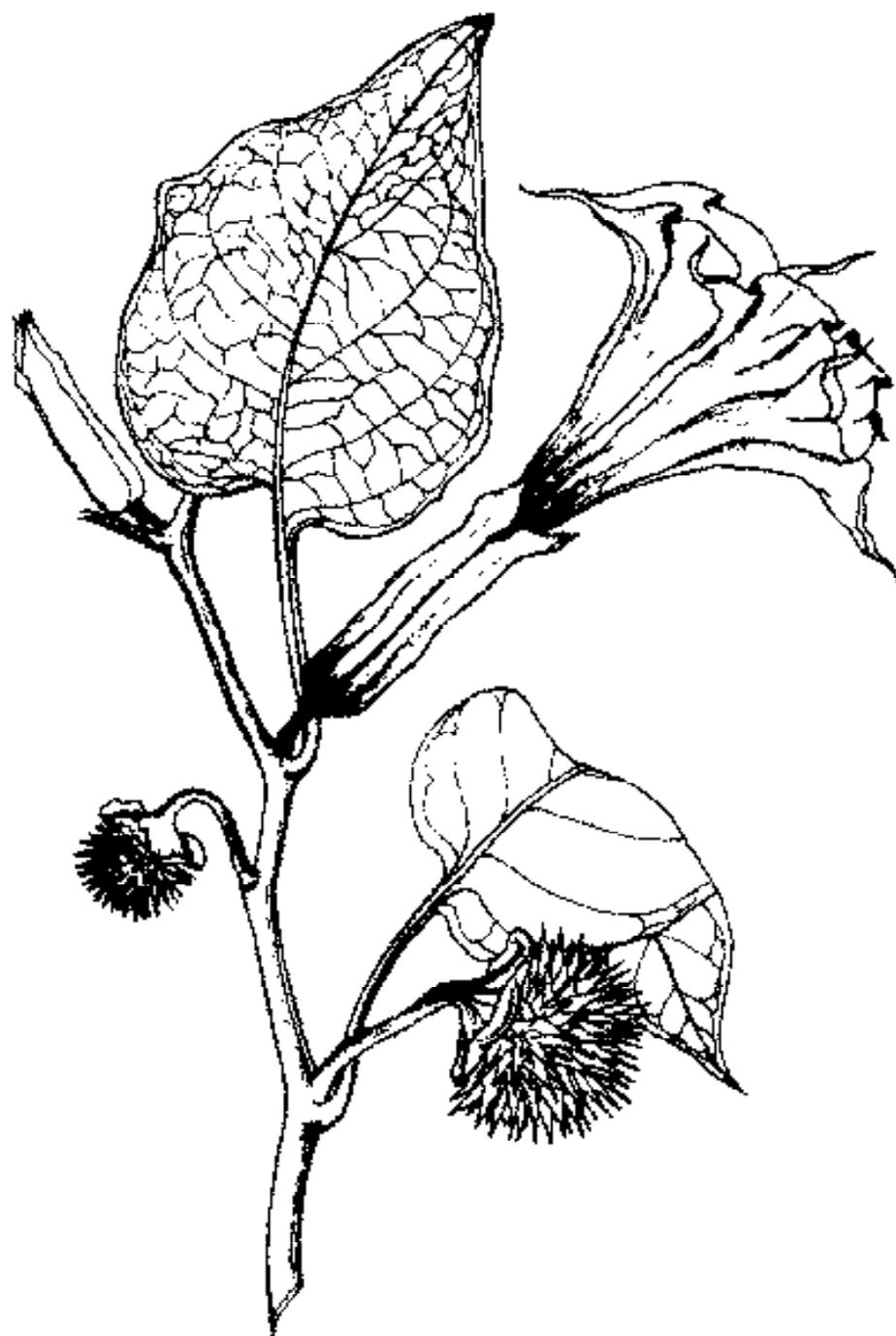


Fig. 22. *Datura metel* L. : Flowering twig.

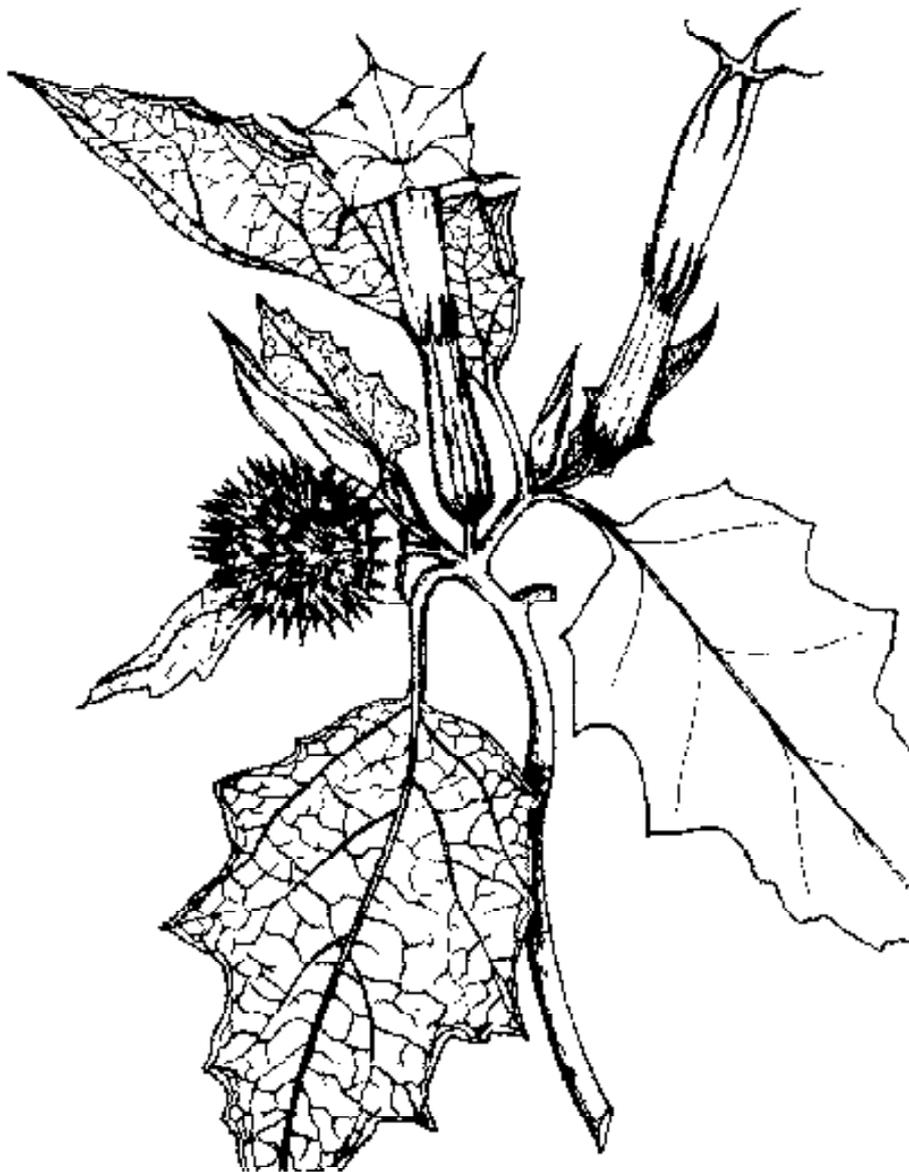


Fig. 23. *Datura stramonium* L. - Flowering twig.

Roxb., Fl. Ind. 2: 257. 1824; N. P. Balakr., Fl. Jowai 2: 332. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 230. 1996. *S. macrodon* Wall ex Nees var. *lysimachioides* (Wall.) C. B. Clarke in Hook. f., Fl. Brit. India 4: 232. 1883.

Undershrubs; branches hispid, often rooting at nodes. Leaves elliptic-lanceolate. Flowers in axillary, 2-flowered cymes or solitary, pinkish white. Berries globose, red when ripe.

*Fl. & Fr.*: July - Nov.

*Distrib.*: Changlang, Kameng, Lohit; 1800 - 2500 m, in slopes under shades.

***Lycianthes biflora* subsp. *macrodon*** (Wall. ex Nees) Deb in Bot. J. Linn. Soc. 76: 293. 1978. *Solanum macrodon* Wall. ex Nees in Trans. Linn. Soc. London 17: 43. 1837; C. B. Clarke in Hook. f., Fl. Brit. India 4: 232. 1883.

Undershrubs; stems and branches setulose with jointed glistening hairs. Flowers in cymes or solitary, purple. Berries globose, blood red when ripe.

*Fl. & Fr.*: Oct. - Jan.

*Distrib.*: Lohit; 600 - 1200 m, in open forest edges and roadsides.

***Lycianthes laevis* (Dunal) Bitter subsp. *crassipetala*** (Wall.) Deb in Bot. J. Linn. Soc. 71: 293. 1978; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 228. 1996. *Solanum crassipetalum* Wall. in Roxb., Fl. Ind. 2: 256. 1824; C. B. Clarke in Hook. f., Fl. Brit. India 4: 232. 1883. *Lycianthes pachypetala* Bitter in Abhj. Nat. Ver Bremen 24: 475. 1920; Kajjal *et al.*, Fl. Assam 3: 372. 1939.

Shrubs, 2-3 m high. Leaves elliptic-lanceolate. Flowers in axillary, 2-8-flowered cymes or solitary, purple. Berries globose, blood red when ripe.

*Fl. & Fr.*: July - Jan.

*Distrib.*: Changlang, Lohit, Siang, Tirap; 200 - 1000 m, along edges of forests, roadsides and in forest clearings.

***Lycianthes laevis* subsp. *subtruncata*** (Wall. ex Dunal) Deb in Bot. J. Linn. Soc. 71: 293. 1978. *Solanum subtruncatum* Wall. ex Dunal in DC., Prodr. 13 (1): 180. 1852; C. B. Clarke in Hook. f., Fl. Brit. India 4: 231. 1883. *S. blumei* auct. non Nees: Subba Rao & Kumari in Bull. Bot. Surv. India 5: 241. 1963.

Suffruticose shrubs; branches spreading, glabrous. Leaves lanceolate, cuneate at base, acuminate at apex, entire, membranous. Flowers in

axillary, solitary or in clusters, bluish white. Berries, globose, smooth, blood red when ripe.

*Fl. & Fr.*: June – Dec.

*Distrib.*: Kameng, Siang, Subansiri, Tirap; 900 – 1500 m, along roadside and preferably on black soil.

*Use*: Leaves are used as vegetable.

**Lycopersicon esculentum** Mill., Gard. Diet. ed. 8. No. 2. 1768; C. B. Clarke in Hook. f., Fl. Brit. India 4: 237. 1883, *p.p.*; Terrell in Taxon 26:129.1977. *Solanum lycopersicum* L., Sp. Pl. 185. 1753. *Lycopersicum lycopersicum* (L.) Kerst., Deutsch. Fl. 966. 1882. *Lycopersicon lycopersicon* (L.) Britton & Br., Ill. Fl. 3:137.1898. *L. lycopersicum* (L.) Farwell, Ann. Rep. Commissioners Parks & Boulevards Detroit 11:84.1900; Saha *et al.* in J. Bombay Nat. Hist. Soc. 74:567.1978.

*Local name*: Baiom, Biloi (Abor.).

Shrubs, 90 – 120 cm high; stems and branches weak, pubescent. Leaves imparipinnate, main leaflets ovate or oblong, irregularly toothed or lyrate. Flowers in axillary cymes or solitary, yellow; pedicels jointed. Berries globose, red or yellow.

*Fl. & Fr.*: Sept. – March.

*Distrib.*: Kameng, Siang, Subansiri, Tirap; 500 - 2000 m, cultivated "Tomato"

**Mandragora caulescens** C. B. Clarke in Hook. f., Fl. Brit. India 4: 242. 1883; Grierson & D. G. Long in Notes Roy. Bot. Gard. Edinburgh 36(1): 142. 1978.

Perennial herbs, hairy, up to 30 cm high; rootstocks thick. Leaves narrowly obovate-oblong, sinuate, whitish hairy on nerves. Flowers in axillary fascicles, many, dark violet. Berries globose.

*Fl. & Fr.*: April – June.

*Distrib.*: Kameng, Tawang; 3500 - 4800 m, on moist grassy slopes.

**Nicotiana plumbaginifolia** Viv., Elench. Pl. Hort. Dincgro 26, t. 1802; C. B. Clarke in Hook. f., Fl. Brit. India 4: 246. 1883.

Annual herbs, up to 1 m high, erect, scabridly hairy. Radical leaves spatulate; cauline leaves alternate, sessile, oblong or elliptic. Flowers in lax racemes, white. Capsules globose.

*Fl. & Fr.*: Jan. – May.

*Distrib.*: Kameng; 1000 – 2100 m, along cultivated fields.

**Nicotiana rustica** L., Sp. Pl. 1: 180. 1753; C. B. Clarke in Hook. f., Fl. Brit. India 4: 245. 1883.

Herbs, viscidly pubescent. Leaves ovate to elliptic, obtuse or cordate at base. Flowers in terminal panicles. Berries globose.

*Fl. & Fr.*: Dec. - April.

*Distrib.*: Kameng; usually cultivated.

**Nicotiana tabacum** L., Sp. Pl. 180. 1753; C. B. Clarke in Hook. f., Fl. Brit., India 4: 235. 1883.

Herb; stems erect, terete, glandular pubescent. Leaves oblong-lanceolate; lower leaves semiamplexicaul. Flowers in paniculate racemes, pink. Capsules longer than accrescent calyx. Seeds brown.

*Fl. & Fr.*: Jan. - July.

*Distrib.*: Siang; up to 1500 m, usually cultivated.

*Use*: Leaves are used for smoking (Tobacco). Oil cake is good manure.

**Pauia belladonna** Deb et R. Dutta in Ind. For. 91(6): 365. 1965.

Perennial herbs; branches dichotomously branched, glabrous. Leaves ovate or ovate-elliptic, membranous, entire. Flowers solitary, axillary, long pedicellate, lurid yellow. Berries oblong. Seeds compressed, ovoid, muricate.

*Fl. & Fr.*: July - Sept.

*Distrib.*: Tirap; 1000 - 1500 m, in open forests.

**Physalis divaricata** D. Don, Prodr. Fl. Nep. 97. 1825; H. Hara et al., Enum. Fl. Pl. Nepal 3: 110. 1982. *Physalis minima* auct. non L.: C. B. Clarke in Hook. f., Fl. Brit. India 4: 238. 1883.

Herbs, up to 1 m high, hairy. Leaves ovate, toothed or lobulate. Flowers axillary, solitary, yellow or white; calyx enlarged, subglobose in fruits. Berries globose, chocolate brown when ripe.

*Fl. & Fr.*: June - Sept.

*Distrib.*: Kameng, Subansiri, Tirap; 200 - 1800 m, along riverbanks and forest clearings.

**Physalis peruviana** L., Sp. Pl. ed. 2, 1670. 1763; C. B. Clarke in Hook. f., Fl. Brit. India 4: 238. 1883; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 228. 1996.

*Local name*: Jorji-belong (Abor.).

Annual herbs, pubescent, stout at base. Leaves obovate, sinuate or scarcely lobed. Flowers axillary, solitary, purple; calyx large, villous. Berries globose.

*Fl. & Fr.*: Oct. - Feb.

*Distrib.*: Changlang, Lohit, Siang; 500 - 1500 m; in forest clearings.

**Scopolia stramonifolia** (Wall.) Shrestha in Bull. Dep. Med. Pl. Nepal 2: 81. 1969; Chatter in H. Hara *et al.*, Enum. Fl. Pl. Nep. 3: 110. 1982. *Physalis stramonifolia* Wall. in Roxb., Fl. Ind. 2: 242. 1824. *Antisodus luridans* Link *et* Otto, Ic. Pl. Sel. 77. 1824, in note. *Scopolia lurida* (Link *et* Otto *ex* Nees) Dunal in DC., Prodr. 13: pt. 1. 555. 1852; C. B. Clarke in Hook. f., Fl. Brit. India 4: 243. 1883. *Nicandra anomala* Link *et* Otto, Ic. Pl. Sel. 77, t. 35. 1824. *S. anomala* (Link *et* Otto) Airy Shaw in J. Bot. 75: 195. 1837; Deb in J. Econ. Tax. Bot. 1: 44. 1980.

Shrubby herbs; branches delicate, succulent, rusty tomentose when young. Leaves ovate-lanceolate, entire, glabrate or glabrous. Flowers at nodes, yellow or purplish, nodding. Capsules globose, ribbed.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Tawang; 3000 - 4500 m, on humus rich forest floor in shades.

**Solanum angulvi** Lam., Tabl. Encycl. Meth. Bot. 2: 23. 1794; Hopper in Bot. J. Linn. Soc. 76: 290. 1978; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 229. 1996. *S. indicum auct. non* L.: C. B. Clarke in Hook. f., Fl. Brit. India 4: 2345. 1883; Kanjilal *et al.*, Fl. Assam 3: 369. 1939.

*Local name*: Bekuri (Asm.).

Prickly shrubs, up to 3 m high; young shoots thickly stellate hairy. Leaves ovate-oblong, shallowly lobed, stellate-tomentose beneath. Flowers in extra-axillary racemose cymes, bluish purple; calyx prickly. Berries orange-yellow when ripe.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; in forest clearings, along river courses and stony slopes.

*Use*: Decoction of roots mixed with salt is given in case of blood vomiting. Dry fruits are eaten.

*Note*: The name *S. angulvi* Lam. is referred here after Hopper (1978) pending further taxonomic work.

**Solanum elliptatum** Lam., Illus. 2: 21. 1793; D. Arce in Ann. Miss. Bot. Gard. 61: 842. 1974; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha

229. 1996. *S. aculeatissimum auct. non* Jacq. 1786 : C. B. Clarke in Hook. f., Fl. Brit. India 4: 237. 1883.

Robust shrubs; branches spreading, prickly; prickles straight or curved. Leaves ovate, cordate at base, acute, shallowly lobed, prickly and hirsute on both surfaces. Flowers in short lateral racemes, white. Berries globose, yellow.

*Fl. & Fr.*: May – Dec.

*Distrib.*: Changlang, Kameng, Lohit.

***Solanum erianthum*** D. Don, Prodr. Fl. Nep. 96. 1825; Deb in J. Econ. Tax. Bot. 1: 46. 1980; Harid. & R. R. Rao, For. Fl. Meghalaya 2: 647. 1987; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 229. 1996. *S. verbascifolium auct. non* L.: C. B. Clarke in Hook. f., Fl. Brit. India 4: 253. 1883; Kanjilal *et al.*, Fl. Assam 3: 367. 1939.

*Local name*: Totnom (Hill Miri).

Trees, up to 8 m high; branches white or buff stellate-tomentose. Leaves ovate or ovate-lanceolate, stellately woolly on both surfaces. Flowers in terminal cymes or corymbose cymes, white. Berries globose, yellow when ripe.

*Fl. & Fr.*: Throughout the year.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri; 600 - 1200 m, along roadsides, rocky slopes amidst boulders.

***Solanum ferox*** L., Sp. Pl. ed. 2, 267. 1763; C. B. Clarke in Hook. f., Fl. Brit. India 4: 233. 1883.

Shrubs, up to 2 m high; branches spreading, thorny. Leaves ovate or suborbicular, hairs velvety white. Flowers in short lateral cymes, white. Berries globose, hispid.

*Fl. & Fr.*: Aug. – Dec.

*Distrib.*: Kameng, Siang; 500 – 1000 m, along roadsides on black humus soil.

***Solanum kurzii*** Brace ex Prain in J. As. Soc. Bengal 65(2): 541. 1896; Kanjilal *et al.*, Fl. Assam 3: 368. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 230. 1996. *S. pubescens* Willd. var. *lobata* C. B. Clarke in Hook. f., Fl. Brit. India 4: 231. 1883.

Perennial herbs, densely stellate-tomentose. Leaves ovate, densely hairy beneath. Flowers in subterminal racemose cymes, white. Berries globose, glabrous, yellowish red when ripe.

*Fl. & Fr.*: Aug. – Dec.

*Distrib.*: Changlang, Lohit, Siang; 600–1000 m, in open forests.

*Use*: Fruits are used by local people as medicine in diarrhoea.

**Solanum melongena** L., Sp. Pl. 186. 1753; C. B. Clarke in Hook. f., Fl. Brit. India 4: 225. 1883.

*Local name*: Baiom (Abor).

Undershrubs, bushy, more or less prickly; younger parts densely tomentose. Leaves elliptic, subentire or shallowly lobed, glabrescent to sparsely stellate-pubescent. Flowers solitary or several in cymes, blue. Fruits large, globose or elongate, violet green, rarely white.

*Fl. & Fr.*: Sept.–July.

*Distrib.*: Kameng, Siang; 100–3000 m, widely cultivated.

*Use*: Fruits are used as vegetable 'Brinjal'

**Solanum myriacanthum** Dunal, Hist. Solan. 218, t. 19. 1813 & DC, Prodr. 13: 243. 1852; Babu & Hepper in Kew Bull. 34: 410. 1979; Harid. & R. R. Rao, For. Fl. Meghalaya 2: 648. 1987; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 231. 1996. *S. khasianum* C. B. Clarke in Hook. f., Fl. Brit. India 4: 234. 1883; Kanjilal *et al.*, Fl. Assam 3: 371. 1939.

Undershrubs, up to 5 m high; stems aculeate with stout, compressed hooked prickles, base woody; younger parts hirsute or glandular hairy. Leaves ovate, sinuate or pinnatifid, hairy on lower surfaces. Flowers in lateral cymes, white. Berries globose, yellow, muricate.

*Fl. & Fr.*: March–Oct.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap; 200–1500 m, along roadsides and forest clearings.

*Use*: Berries are used in manufacture of oral contraceptives.

**Solanum nigrum** L., Sp. Pl. 186. 1753; C. B. Clarke in Hook. f., Fl. Brit. India 4: 229. 1883.

Annual herbs, up to 1 m high, unarmed. Leaves ovate-lanceolate or oblong-ovate. Flowers in long peduncled, subumbellate cymes, ca 2 cm across, white. Berries globose, reddish yellow to black when ripe.

*Fl. & Fr.*: March–Nov.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 500–1500 m, along roadsides in shaded or partially shaded places.

**Solanum sisymbriifolium** Lam., Tabl. Encycl. 1(2): 25. 1792; N. P. Balakr., Fl. Jowai 2: 331. 1983.

Viscid undershrubs, up to 1 m high. Leaves pinnatifid or bipinnatifid, stellate-pubescent. Flowers in racemes, ca 3.5 cm across, white or purplish; calyx prickly. Berries globose, shiny, orange-yellow when ripe.

*Fl. & Fr.*: July - May.

*Distrib.*: Kameng; 600 - 1500 m, in open rocky places.

**Solanum spirale** Roxb., *Fl. Ind.* 1: 564. 1832; C. B. Clarke in Hook. f., *Fl. Brit. India* 4: 230. 1883; Kanjilal *et al.*, *Fl. Assam* 3: 367. 1939; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 231. 1996.

*Local name*: Tita kucli (Asm.).

Herbs or undershrubs, up to 3 m high. Leaves elliptic or lanceolate, entire. Flowers in extra-axillary racemes, ca 1.5 cm across, white. Berries globose, smooth, orange-yellow when ripe.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Changlang, Kameng, Lohit, Tirap; 500 - 1000 m, along foot tracks.

*Use*: Boiled leaves are given in asthmatic trouble.

**Solanum torvum** Sw., *Prodr.* 47. 1788; C. B. Clarke in Hook. f., *Fl. Brit. India* 4: 234. 1883; Kanjilal *et al.*, *Fl. Assam* 3: 369. 1939; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 231. 1996. *S. stramonifolium auct. non Jacq.*: Roxb., *Fl. Ind.* 1: 572. 1832.

*Local name*: Bako (Adi).

Shrubs, up to 3 m high; branches prickly. Leaves ovate, serrate or shallowly lobed, stellate-pubescent. Flowers in extra-axillary racemes, white; calyx unarmed; corolla pubescent outside. Berries globose, yellow.

*Fl. & Fr.*: April - Dec.

*Distrib.*: Changlang, Kameng, Lohit, Tirap; 400 - 1200 m, on shady moist soil, in open places near forests.

*Use*: Fruits are cooked as vegetable. The paste of pounded fruits is applied as a cure for skin diseases.

**Solanum viarum** Dunal in DC., *Prodr.* 13: 240. 1852; Babu & Hepper in *Kew Bull.* 34: 409. 1979. *S. khasianum* C. B. Clarke var. *chatterjeeanum* Sengupta in *Bull. Bot. Surv. India* 3 (3-4): 413. 1961.

Undershrubs, up to 1 m high; much branched, prickly. Leaves ovate, shallowly lobed with soft pilose indumenta. Flowers in axillary cymes, ca 2 cm across, white; calyx prickly. Berries globose, covered with green and white lines, yellow when ripe.

*Fl. & Fr.*: Throughout the year.

*Distrib.*: Kameng, Lohit, Subansiri; 100 - 1500 m, along roadsides and wastelands.

Insufficiently known material

**Mandragora caulescens** subsp. **purpurescens** Grierson & D. G. Long in Notes Roy. Bot. Gard. Edinburgh 36: 143. 1978.

### SCROPHULARIACEAE

**Adenosma indianum** (Lour.) Merr. in Trans. Amer. Philos. Soc. n.s. 24(2): 351. 1935; H. Hara in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 112. 1982. *Manulea indiana* Lour., Fl. Cochinch. 386. 1790. *Pterostigma capitatum* Benth., Scroph. Ind. 21. 1835. *Adenosma capitatum* (Benth.) Hance in J. Linn. Soc. Bot. 13: 114. 1873; Hook. f., Fl. Brit. India 4: 264. 1884.

Herbs, up to 50 cm high, glandular villous throughout. Leaves ovate or oblong, serrate. Flowers in axillary, dense, cylindric spikes or globose heads, blue. Capsules ovoid, smaller than calyx.

*Fl. & Fr.*: Aug. - Oct.

*Distrib.*: Kameng; 500 - 1500 m, in open moist places along roadsides and forest clearings.

**Brandisia rosea** W.W.Sm. var. **flava** C. E. C. Fisch. in Kew Bull. 1934: 10. 1934.

Shrubs, 1-2 m high; branches densely white stellate-tomentose. Leaves lanceolate, lower surfaces sparsely stellate tomentose. Flowers solitary, axillary or in pair, pale yellow; bracts 2, tomentose; corolla curved, densely tomentose outside, glabrous inside.

*Fl.*: Oct.

*Distrib.*: Arunachal Pradesh (Delci valley), on rocks along open ridges.

**Centranthera indica** (L.) Gamble, Fl. Pres. Madras 971. 1924; Manilal & Sivar., Fl. Calicut 206. 1982. *Rhinanthus indicus* L., Sp. Pl. 603. 1753. *Centranthera procumbens* Benth. in DC., Prodr. 10: 525. 1846; Hook. f., Fl. Brit. India 4: 301. 1884.

Diffuse herbs, 15-30 cm long, hairy; branched at very base and seems many stems arising from roots. Leaves oblong. Flowers in axillary racemes, purplish. Capsules ovoid or subglobose.

*Fl. & Fr.*: Sept. - Jan.

*Distrib.*: Kameng, Lohit, Siang, Subansiri, Tirap; 500 - 1500 m, on open grassy slopes.

**Centranthera grandiflora** Benth., Scroph. Ind. 50. 1835; Hook. f., Fl. Brit. India 4: 301. 1884.

Herbs, 20 - 75 cm high; unbranched or rarely branched above. Leaves oblong-elliptic or linear. Flowers in axillary racemes, yellow. Capsules globose.

*Fl. & Fr.*: Sept. - Oct.

*Distrib.*: Subansiri; 200 - 500 m, in open forest edges amidst low grasses.

**Centranthera nepalensis** D. Don, Prodr. Fl. Nep. 88. 1825; H. Hara in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 113. 1982. *C. hispida auct. non* R. Br.: Hook. f., Fl. Brit. India 4: 301. 1884.

Annual herbs, up to 50 cm high; branches hispid. Leaves oblong. Flowers in terminal spikes, purple. Capsules subglobose.

*Fl. & Fr.*: Sept. - Nov.

*Distrib.*: Siang; 500 - 1500 m, in grasslands.

**Dopatrium junceum** (Roxb.) Buch.-Ham. *ex* Benth., Scroph. Ind. 3. 1835; Hook. f., Fl. Brit. India 4: 274. 1884. *Gratiola juncea* Roxb., Corom. Pl. 2. 16, t. 129. 1799.

Slender herbs, up to 30 cm high; branched at base. Leaves radical, oblong. Flowers axillary, solitary or in pair, pink. Capsules globose.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Siang, Subansiri; 1200 - 2000 m, in open marshy places, along paddy fields.

**Ellislophyllum pinnatum** (Wall. *ex* Benth.) Makino in Bot. Mag. Tokyo 20: 91. 1906. *Ourisia pinnata* Wall. *ex* Benth., Scroph. Ind. 47. 1835. *Sibthorpia pinnata* (Wall. *ex* Benth.) Benth. *et* Hook. f., Gen. Pl. 2: 959. 1874; Hook. f., Fl. Brit. India 4: 288. 1884.

Creeping, hairy herbs, up to 25 cm long; rooting at base. Leaves 5-7 lobed, oblong or ovate; lobes obovate, crenate or lobulate at tip. Flowers axillary, solitary or in fascicles, whitish or yellowish. Capsules compressed.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Subansiri; 1800 - 2500 m, in moist shady places on alluvial soil.

**Hemiphragma heterophyllum** Wall. in Trans. Linn. Soc. London 13: 612. 1822; Hook. f., Fl. Brit. India 4: 289. 1884.

Prostrate herbs, up to 50 cm long; stems and branches delicate, hairy. Leaves dimorphic, orbicular-cordate, ovate or reniform, shortly stalked, ciliate, sessile. Bracts linear, tufted. Flowers axillary, solitary, pinkish white. Fruits ovoid, fleshy, turning yellow to chocolate or red.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Kameng; 500 - 1500 m, in open wet places along roadsides.

**Limnophila chinensis** (Osbeck) Merr. in Amer. J. Bot. 3: 581. 1916; Philcox in Kew Bull. 24: 151. 1970; Kanjilal *et al.*, Fl. Assam 3: 379. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 231. 1996. *Columnea chinensis* Osbeck, Dagbok Ostind. Res. 230. 1757. *Limnophila hirsuta* Benth. in DC., Prodr. 10: 388. 1846; Hook. f., Fl. Brit. India 4: 268. 1884.

Herbs, up to 30 cm long, erect or prostrate, hirsute or pubescent. Leaves verticillate, obovate or elliptic. Flowers solitary or in cymes, violet-blue. Capsules orbicular. Seeds angular.

*Fl. & Fr.*: Aug. - Jan.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri; 500 - 1000 m, in paddy fields and in open marshes.

**Limnophila connata** (Buch. - Ham. ex D. Don) Hand.-Mazz., Symb. Sin. 7: 837. 1936; Philcox in Kew Bull. 24: 133. 1970. *Cybbanthera connata* Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 87. 1825. *Limnophila hypericifolia* Benth. in DC., Prodr. 10: 386. 1846; Hook. f., Fl. Brit. India 4: 269. 1884.

Perennial, erect herbs, up to 50 cm high. Leaves elliptic or ovate-oblong, sessile. Flowers in axils of leafy bracts, pinkish violet, showy. Capsules broadly elliptic.

*Fl. & Fr.*: Sept. - Nov.

*Distrib.*: Subansiri; 1500 - 2000 m, on sandy alluvial soil in open places.

**Limnophila indica** (L.) Druce in Rep. Exch. Club. Brit. Is. 3: 420. 1914; Kanjilal *et al.*, Fl. Assam 3: 379. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 232. 1996. *Hottonia indica* L., Syst. Nat. (ed. 10) 919. 1759. *Limnophila gratioloides* R. Br., Prodr. 442. 1810; Hook. f., Fl. Brit. India 4: 271. 1884.

Herbs, slender, glabrous. Leaves crowded at apices of branches in pinnatifid whorls. Flowers axillary, solitary, whitish or yellowish white.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Changlang, Lohit.

***Limnophila repens*** (Benth.) Benth. in DC., Prodr. 10: 387. 1846; Philcox in Kew Bull. 24: 154. 1970. *Stemodia repens* Benth. in Lindl., Bot. Reg. 17, sub. t. 1470. sp. 11. 1832. *Limnophila conferta* Benth. in DC., Prodr. 10: 387. 1846; Hook. f., Fl. Brit. India 4: 266. 1884.

Herbs, up to 30 cm high; erect or procumbent. Leaves sessile, elliptic-oblong, punctate beneath. Flowers axillary, solitary or in cymes, purple. Capsules ellipsoid. Seeds oblong, shining.

*Fl. & Fr.*: Aug. - Oct.

*Distrib.*: Kameng; 1000 - 1500 m, in marshy and wet places.

***Limnophila sessiliflora*** (Vahl) Blume, Bijdr. 749. 1826; Hook. f., Fl. Brit. India 4: 270. 1884. *Hottonia sessiliflora* Vahl, Symb. Bot. 2: 36. 1791.

Herbs, up to 30 cm high, sparingly branched, hairy. Leaves verticillate, lobulate or pinnatisect, serrate or dentate. Flowers axillary, solitary, purple. Capsules orbicular.

*Fl. & Fr.*: Sept. - Oct.

*Distrib.*: Kameng; 500 - 1500 m; in wet places and paddy fields.

***Lindenbergia griffithii*** Hook. f., Fl. Brit. India 4: 262. 1884.

Scandent shrubs, up to 2 m high; stems silky villous. Leaves ovate-lanceolate, velvety beneath. Flowers yellowish in axillary or terminal, brownish racemes. Capsules ovoid.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Kameng; 1600 - 2500 m; in open forest and forest edges.

***Lindenbergia hookeri*** C. B. Clarke in Hook. f., Fl. Brit. India 4: 261. 1884.

Shrubs, up to 5 m high. Leaves elliptic-lanceolate, coarsely serrate. Flowers in terminal, lax flowered spikes, ca 2.5 cm long, yellow. Capsules subglobose.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Kameng, Lohit, Subansiri; 500 - 1500 m, along forest edges.

***Lindenbergia indica*** (L.) Vatke in Oesterr. Bot. Zeitschr. 25: 10. 1875; H. Hara in H. Hara *et al.*, Enum. Fl. Nepal 3: 115. 1982. *Dodartia indica* L., Sp. Pl. 883. 1753. *Lindenbergia urticifolia* Lehm. in Link & Otto, Ic. Pl. Rar. 95, t. 48. 1831; Hook. f., Fl. Brit. India 4: 262. 1884.

*L. polyantha* Royle ex Benth., Scroph. Ind. 22. 1835; Hook. f., Fl. Brit. India 4: 262. 1884.

Herbs, up to 40 cm high, erect or decumbent; stems glandular hairy, purple tinged. Leaves ovate, crenate-serrate. Flowers axillary, solitary or in spikes, yellow with rosy red patches within, glandular hairy. Capsules hairy.

*Fl. & Fr.*: Aug. Oct.

*Distrib.*: Kameng, Tawang, Tirap; 1800 - 4000 m, in rock crevices near streams and riverbanks.

***Lindernia anagallis*** (Burm. f.) Pennell in J. Arn. Arb. 24: 252. 1943; Philcox in Kew Bull. 17: 484. 1964. *Ruellia anagallis* Burm. f., Fl. Ind. 135. 1768. *Gratiola cordifolia* Colms. Prodr. Descr. Grat. 15. 1793. *Vandellia pedunculata* Benth., Scroph. Ind. 37. 1835; Hook. f., Fl. Brit. India 4: 282. 1884. *V. angustifolia* Benth., Scroph. Ind. 37. 1835; Hook. f., Fl. Brit. India 4: 282. 1884. *Lindernia cordifolia* (Colms.) Merr., Enum. Philipp. Pl. 3: 437. 1923; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 232. 1996.

var. ***anagallis***

Diffuse herbs, up to 30 cm long; branching from base, tinged with purple, often rooting at nodes. Leaves ovate to ovate-oblong. Flowers axillary, solitary, white or bluish violet. Capsules ovoid or oblong, twice as long as calyx.

*Fl. & Fr.*: July Dec.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri; 200 - 1000 m. along roadsides.

***Lindernia antipoda*** (L.) Alston in Trim., Handb. Fl. Ceylon 6. suppl. 214. 1931. *Ruellia antipoda* L., Sp. Pl. 635. 1753. *Bonnaya veronicaefolia* (Retz.) Spreng., Syst. Veg. 1: 41. 1824; Hook. f., Fl. Brit. India 4: 285. *Bonnaya veronicaefolia* var. *grandiflora* (Roxb.) Hook. f., Fl. Brit. India 4: 285. 1884.

Decumbent herbs, up to 30 cm long; branches slender, rooting at lower nodes. Leave narrowly elliptic or lanceolate. Flowers axillary, solitary, white, purplish blue or pink. Capsules erect.

*Fl. & Fr.*: May Dec.

*Distrib.*: Kameng, Siang, Subansiri, Tirap; 100 - 1000 m, in open grasslands, marshes and streamside.

***Lindernia ciliata*** (Colsm.) Pennell in Brittonia 2: 182. 1936; Philcox in Kew Bull. 22: 51. 1968. *Gratiola ciliata* Colsm., Prodr. Decsr. Grat.

14. 1793. *Bonnaya brachiata* Link et Otto, Ic. Pl. Sel. 25, t. 11. 1820; Hook. f., Fl. Brit. India 4: 284. 1884.

Erect herbs; stems 4-angled. Leaves oblong, aristate, serrate. Flowers in terminal racemes, pink or white with purplish blue spots. Capsules oblong, erect.

*Fl. & Fr.*: Sept. - Nov.

*Distrib.*: Subansiri; 200 - 1000 m, amidst grasses.

**Lindernia crustacea** (L.) F. Muell., Syst. Cens. Austral. Pl. 1: 97. 1882; Philcox in Kew Bull. 22: 17. 1968. *Capraria crustacea* L., Mant. Pl. 1: 87. 1767. *Vandellia crustacea* (L.) Benth., Scroph. Ind. 35. 1835; Hook. f., Fl. Brit. India 4: 279. 1884.

Herbs, up to 20 cm high, erect or creeping; rooting at nodes. Leaves elliptic or ovate-lanceolate. Flowers in axillary racemes, bright mauve; pedicels up to 2 cm long in fruits. Capsules oblong-ovoid.

*Fl. & Fr.*: June - Nov.

*Distrib.*: Kameng, Siang, Tirap; 100 - 1000 m, in open marshy places, along paddy fields.

**Lindernia montana** (Blume) Koord., Exkursionsfl. Java 3: 178. 1912; Philcox in Kew Bull. 22: 44. 1968; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 232. 1996. *Diceros montanus* Blume, Bijdr. 752. 1826, p.p. *Vandellia mollis* Benth., Scroph. Ind. 37. 1835; Hook. f., Fl. Brit. India 4: 281. 1884.

Procumbent herbs, up to 45 cm long, villous. Leaves ovate or ovate-oblong, crenate-serrate. Flowers in axillary or terminal racemes, white. Capsules oblong, smaller than calyx.

*Fl. & Fr.*: July - Nov.

*Distrib.*: Changlang, Kameng, Lohit, Tirap; 400 - 1200 m, in open sandy soil, along roadside and forest clearings.

**Lindernia ruelloides** (Colms.) Pennell in Brittonia 2: 1182. 1936; Mukherjee in J. Ind. Bot. Soc. 24 (3): 133. 1954; Deb, Fl. Tripura 2: 276. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 233. 1996. *Gratiola ruelloides* Colms., Prodr. Decsr. Grat. 12. 1793. *Diceros montanus* Blume, Bijdr. 752. 1826, p.p. *Bonnaya reptans* Spreng., Syst. 1: 410. 1825; Hook. f., Fl. Brit. India 4: 284. 1884.

Small herbs, prostrate, creeping. Leaves opposite, petiolate, obovate-oblong, serrate, red. Flowers in racemes, white. Capsules slender.

*Fl. & Fr.*: Oct. - Feb.

*Distrib.*: Changlang, Lohit.

**Lindernia sessiliflora** (Benth.) Wettst. in Engl. et Prantl, Pflanzenfam. 4, 38. 79. 1891. *Vandellia sessiliflora* Benth., Scroph. Ind. 37. 1835; Hook. f., Fl. Brit. India 4: 282. 1884.

Annual herbs, up to 40 cm high. Leaves rotund or broadly ovate. Flowers sessile or shortly pedicellate, white or purple. Capsules ellipsoid, longer than calyx.

*Fl. & Fr.*: Oct. Dec.

*Distrib.*: Subansiri, Tirap; 500 - 1200 m, on humus rich soil among boulders.

**Lindernia viscosa** (Hornem.) Bold., Zakfl. Landb. Java 165. 1916; Philcox in Kew Bull. 22: 38. 1968. *Gratiola viscosa* Hornem., Enum. Pl. Hort. Hafn. 19. 1807. *Vandellia hirsuta* Buch.-Ham. ex Benth., Scroph. Ind. 36. 1835; Hook. f., Fl. Brit. India 4: 280. 1884.

Succulent herb; stems erect, pubescent. Leaves ovate or oblong. Flowers in axillary or terminal racemes, white or pinkish. Capsules globose, smaller than calyx.

*Fl. & Fr.*: Sept. Oct.

*Distrib.*: Kameng; 100 - 1000 m, in open sandy soils and grasslands.

**Mazus dentatus** Wall. ex Benth., Scroph. Ind. 27. 1835; Hook. f., Fl. Brit. India 4: 260. 1884.

Erect herbs, up to 50 cm high. Leaves radical, elliptic-oblong. Flowers in axillary or terminal racemes, bluish violet. Capsules globose.

*Fl. & Fr.*: Aug. Nov.

*Distrib.*: Subansiri; 500 - 1200 m, in moist places near water sources and along roadsides.

**Mazus pumilus** (Burm. f.) Steenis in Nov. Guinea n.s. 9: 31. 1958; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 233. 1996. *Lobelia pumila* Burm. f., Fl. Ind. 186, t. 60, f. 3. 1768. *Mazus rugosus* Lour., Fl. Cochinch. 385. 1790; Hook. f., Fl. Brit. India 4: 259. 1884.

Herbs, up to 50 cm long; stems ascending, tufted. Basal leaves obovate; upper leaves spatulate, crenate-dentate. Flowers in axillary or terminal racemes, pale blue or white with two yellow blotches within. Fruits globose.

*Fl. & Fr.*: Dec. July.

*Distrib.*: Changlang, Kameng, Lohit, Siang; 500 - 1200 m, on moist soil slopes along foot tracks.

**Mazus surculosus** D. Don, Prodr. Fl. Nep. 87. 1825; Hook. f., Fl. Brit. India 4: 260. 1884.

Prostrate herbs. Leaves radical, obovate-spathulate, coarsely crenate. Flowers in racemes, bluish white. Capsules globose.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Kameng, Siang, Subansiri; 500 - 1500 m, in forest clearings and along roadsides.

**Melasma avense** (Benth.) Hand.-Mazz., Symb. Sin. 7: 843. 1936; Yamazaki in H. Hara, Fl. E. Himal. 288. 1966. *Glossostylis avense* Benth., Scroph. Ind. 49. 1835. *Alectra indica* Benth. in DC., Prodr. 10: 339. 1846; Hook. f., Fl. Brit. India 4: 297. 1884.

Herbs, up to 35 cm high; stems erect, scaberulous, purplish green. Leaves ovate-lanceolate, coarsely toothed or lobed. Flowers in terminal spikes, yellow. Capsules subglobose, 4-lobed. Seeds linear.

*Fl. & Fr.*: Sept. - Oct.

*Distrib.*: Kameng, Subansiri; 1500 - 2500 m, on moist forest floor, hilly slopes and along paddy fields.

**Mimulus nepalensis** Benth., Scroph. Ind. 29. 1835; Hook. f., Fl. Brit. India 4: 258. 1884.

**var. nepalensis**

Prostrate herbs, up to 25 cm long. Leaves ovate, coarsely serrate. Flowers axillary, solitary, yellow; pedicels usually longer than leaves. Capsules ovate-lanceolate.

*Fl. & Fr.*: March - May.

*Distrib.*: Siang; 1000 - 1500 m, in forest clearings, grasslands and in marshy places near water sources.

**Mimulus nepalensis** var. **procerus** Grant in Ann. Missouri Bot. Gard. 11: 207. 1924.

Calyx larger, hairy; pedicels usually shorter than leaves.

*Fl. & Fr.*: July - Sept.

*Distrib.*: Kameng, Lohit, Siang, Tirap; 1500 - 2000 m, along roadsides in moist places.

**Pedicularis bifida** (Buch.-Ham. ex D. Don) Pennell in Monogr. Acad. Nat. Sci. Philad. 5: 144. 1943; Yamazaki in H. Hara *et al.*, Enum. Fl. Pl. Nep. 3: 122. 1982. *Rhinanthus bifidus* Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 94. 1825. *Pedicularis carnosus* Wall., Pl. As. Rar. 2: 44, t. 154. 1831; Hook. f., Fl. Brit. India 4: 313. 1884.

Ascending herbs, up to 30 cm high, pubescent. Leaves ovate, doubly incise-dentate. Radical leaves elliptic, persistent. Flowers in laxly scattered racemes, bright pink; corolla two times as long as calyx with a distinct beak. Capsules broadly oblong.

*Fl. & Fr.*: Aug. Oct.

*Distrib.*: Kameng; 2500 - 5000 m, on open slopes, grasslands and in rock crevices

***Pedicularis gracilis*** Wall. ex Benth., *Scroph. Ind.* 52. 1835; Hook. f., *Fl. Brit. India* 4: 307. 1884.

Annual herbs, up to 60 cm high; stems much branched, prostrate, slender, pubescent. Leaves in whorls, pinnatifid; lobes oblong-lanceolate. Flowers in axillary racemes, pink or purple with brownish white dots; calyx lobes orbicular.

*Fl. & Fr.*: Aug. Dec.

*Distrib.*: Kameng; 2000 - 2500 m, along waysides and edges of forests.

***Pedicularis rex*** C. B. Clarke ex Maxim. in *Bull. Acad. Petersb.* 32: 589. 1888.

Herbs, up to 1 m high. Flowers yellow, brick-red within.

*Fl. & Fr.*: June Oct.

*Distrib.*: Kameng; 1800 - 2500 m, on moist soil slopes.

***Pedicularis schizorrhyncha*** Prain in *J. As. Soc. Bengal* 58: 260. 1889.

Small herbs with deep taproots. Leaves usually opposite, rarely verticillate. Flowers in short, terminal racemes, pinkish, galea with a straight or slightly curved, narrow distinct beak.

*Fl. & Fr.*: Aug. Oct.

*Distrib.*: Tawang; 4000 - 5000 m; in rock crevices and on moist hill slopes.

***Picrorhiza kurrooa*** Royle ex Benth., *Scroph. Ind.* 47. 1835; Hook. f., *Fl. Brit. India* 4: 290. 1884.

Small herbs, hairy; rootstocks woody, clothed with leaf bases. Leaves spatulate; petioles sheathing. Flowers on ascending scapes, white or bluish. Capsules ovoid, turgid.

*Fl. & Fr.*: June Sept.

*Distrib.*: Tirap; 2000 - 2500 m, in open moist places.

*Use:* The rootstock is highly potential and used for the preparation of various medicines. It is useful in fever, urinary discharges, asthma, hiccough, leucoderma and jaundice.

**Scoparia dulcis** L., Sp. Pl. 116. 1753; Hook. f., Fl. Brit. India 4: 289. 1884.

Herbs or undershrubs, up to 1 m high; stems angular. Leaves elliptic or rhomboid. Flowers axillary, solitary or in pair, white with dark centre. Capsules oblong-ovoid, 4-valved.

*Fl. & Fr.:* March–Dec.

*Distrib.:* Changlang, Lohit, Siang, Subansiri, Tirap; 200–800 m., in forest clearings and wastelands.

**Scrophularia elatior** Benth., Scroph. Ind. 18. 1835; Hook. f., Fl. Brit. India 4: 255. 1884.

Herbs or undershrubs, up to 2 m high; stems 4-winged. Leaves ovate or lanceolate. Flowers in many flowered cymes, yellow or white. Capsules globose-ovoid, beaked.

*Fl. & Fr.:* Aug.–Oct.

*Distrib.:* Kameng; 1600–2200 m, along forest edges.

**Scrophularia pauciflora** Benth., Scroph. Ind. 17: 1835; Hook. f., Fl. Brit. India 4: 253. 1884, *p.p.*; Yamazaki in J. Jap. Bot. B. 37: 264. 1962.

Herbs, up to 70 cm high, sparsely pubescent. Leaves long petiolate, ovate-cordate. Flowers crowded in distant leafless cymes, greenish. Capsules ovoid.

*Fl. & Fr.:* March–May.

*Distrib.:* Kameng; 1200–1800 m, in open forests along roadsides.

**Scrophularia urticaefolia** Wall. ex Benth., Scroph. Ind. 18. 1835; Hook. f., Fl. Brit. India 4: 254. 1884.

Herbs, up to 1 m high. Leaves ovate with distinct nerves. Flowers in lax cymes, greenish white. Capsules ovoid. Seeds oblong, furrowed.

*Fl. & Fr.:* May–June.

*Distrib.:* Kameng; 1500–2000 m, in open forests, forest edges and along roadsides.

**Sopubia trifida** Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 88. 1825; Hook. f., Fl. Brit. India 4: 302. 1884.

Erect herbs, 30–70 cm high. Leaves linear-filiform; lower leaves trifid. Flowers axillary, solitary, yellow with purple centre. Capsules ovoid.

*Fl. & Fr.*: May–Nov.

*Distrib.*: Kameng, Tawang; 2500–3500 m, amidst grasses on black humus soil, grasslands.

***Striga asiatica*** (L.) Kuntze, Rev. Gen. Pl. 2: 466. 1891; Yamazaki in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 127. 1982. *Buchnera asiatica* L., Sp. Pl. 630. 1753. *Striga lutea* Lour., Fl. Cochinch. 22. 1790; Hook. f., Fl. Brit. India 4: 299. 1884, *p.p.*

Herbs, up to 40 cm high. Leaves linear, hispid. Flowers axillary, solitary, white or yellow; calyx 10-ribbed. Capsules oblong.

*Fl. & Fr.*: Jan.–June.

*Distrib.*: Kameng; 100–500 m, along roadsides and grasslands.

***Torenia asiatica*** L., Sp. Pl. 619. 1753; Hook. f., Fl. Brit. India 4: 277. 1884, *p.p.*; Yamazaki in H. Hara *et al.*, Enum. Fl. Pl. Nep. 3: 127. 1982; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 233. 1996. *T. cordata* (Griff.) Dutta in Bull. Bot. Soc. Bengal 19: 25. 1966. *Treisteria cordata* Griff., Notul. 4: 109. 1854.

Herbs, up to 20 cm high; stems non-bulbiferous. Leaves ovate-cordate or lanceolate. Flowers in axillary, subumbellate racemes, ca 4 cm long, dark violet. Fruiting calyx winged.

*Fl. & Fr.*: April–Oct.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 1000–2000 m, along roadsides, near streams, forming mat on open grounds and grasslands.

***Torenia diffusa*** D. Don, Prodr. Fl. Nep. 86. 1825; Yamazaki in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 127. 1982; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 234. 1996. *T. vagans* Roxb., Fl. Ind. 3: 96. 1832; Hook. f., Fl. Brit. India 4: 277. 1884.

Bulbiferous herbs, up to 30 cm long; rooting at nodes. Leaves ovate or oblong-ovate, chocolate green. Flowers axillary, solitary, dark blue, 2–3 cm long. Capsules linear.

*Fl. & Fr.*: July–Dec.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 200–1200 m, in grasslands, along roadsides and forest clearings.

***Torenia thouarsii*** (Cham. *et* Schl.) Kuntze, Rev. Gen. Pl. 2: 468. 1891; C. J. Saldanha in Bull. Bot. Surv. India 8: 128. 1966. *Nortenia*

*thouarsii* Cham. et Schl. in *Linnaea* 3: 18. 1828. *Torenia parviflora* Buch.-Ham. ex Benth., *Scroph. Ind.* 39. 1835; Hook. f., *Fl. Brit. India* 4: 278. 1884.

Annual herbs, up to 20 cm high; rooting at nodes; branching from base. Leaves ovate or ovate-lanceolate. Flowers in axillary racemes, reddish violet. Capsules oblong, fruiting calyx not winged.

*Fl. & Fr.*: Aug. - Oct.

*Distrib.*: Changlang, Tirap; 500 - 1500 m, along forest edges and roadsides.

***Torenia violacea*** (Azaolo ex Blanco) Pannell in *J. Arn. Arb.* 24: 255. 1943; Yamazaki in H. Hara *et al.*, *Fl. Pl. Nep.* 3: 127. 1982. *Mimulus violaceus* Azaolo ex Blanco, *Fl. Filip.* ed. 2, 357. 1845. *Torenia peduncularis* Benth. ex Hook. f., *Fl. Brit. India* 4: 279. 1884.

Erect or decumbent herbs, up to 50 cm long; stems angular, hairy, purple tinged. Leaves ovate. Flowers solitary, violet, ca 3 cm long; calyx 5-angled.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Kameng, Lohit, Siang, Tirap; 300 - 3500 m, along roadsides, moist forest clearings and streams.

***Verbascum thapsus*** L., *Sp. Pl.* 177. 1753; Hook. f., *Fl.*, *Brit. India* 4: 250. 1884.

**var. *thapsus***

Erect herbs, up to 1.5 m high, densely stellate-tomentose. Basal leaves in rosette, oblanceolate, densely tomentose. Flowers in dense, tomentose, spicate racemes, yellow. Capsules globose. Seeds rugose.

*Fl. & Fr.*: April - July.

*Distrib.*: Kameng, Tawang; 2500 - 4000 m; in forests.

***Verbascum thapsus*** var. ***thapsiforme*** Hook. f., *Fl. Brit. India* 4: 250. 1884.

Bracts much longer than flowers.

*Fl. & Fr.*: May - June.

*Distrib.*: Kameng; 2000 - 2500 m, in moist places along roadsides.

***Veronica anagallis-aquatica*** L., *Sp. Pl.* 12. 1753; Hook. f., *Fl. Brit. India* 4: 293. 1884.

Perennial herbs, up to 40 cm long; stems succulent, creeping. Leaves sessile, oblong-lanceolate or linear-oblong. Flowers in lax racemes, pale purple or white. Capsules ovoid, notched.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Tirap; 1800 - 3000 m, on moist hill slopes and along roadsides.

**Veronica javanica** Blume, Bijdr. 742. 1826; Hook. f., Fl. Brit. India 4: 296. 1884.

Annual herbs, up to 10 cm long; branches many from base, prostrate, pubescent. Leaves ovate. Flowers in axillary racemes, bluish white. Capsules heart shaped, notched.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Kameng, Siang; 1000 - 2000 m, in forest clearings, along roadsides and river beds.

**Wightia speciosissima** (D. Don) Merr. in J. Arn. Arb. 19: 67. 1938; Maheshw. in Bull. Bot. Surv. India 3: 32. 1962. *Gmelina speciosissima* D. Don, Prodr. Fl. Nep. 104. 1825. *Wightia gigantea* Wall., Pl. As. Rar. 1: 71, t. 81. 1830; Hook. f., Fl. Brit. India 4: 257. 1884.

Large, evergreen, hemi-epiphytes or lianas, up to 20 m long. Leaves ovate-elliptic, minutely stellate pubescent beneath. Flowers in axillary thyrs, pinkish. Capsules ovoid.

*Fl. & Fr.*: Oct. - Jan.

*Distrib.*: Siang; 1600 - 2200 m, in forests.

*Use*: Soft wood is used to make idols; bark is scratched and boiled with water to trap birds.

Insufficiently known materials

**Brandisia rosea** W.W.Sm. in Notes Roy. Bot. Gard. Edinburgh 10: 10. 1917.

**Pedicularis cephalanthoides** Tsoong in Kew Bull. 1954: 447. 1954.

**Pedicularis fragilis** Prain ex Maxim. in Bull. Acad. Petersb. 32: 582. 1888 & in J. As. Soc. Bengal 58(2): 263. 1889 & in Ann. Bot. Gard. Calcutta 11: 16, t. 22 c. 1890.

**Pedicularis gammieana** Prain in J. As. Soc. Bengal 58(2): 260. 1889.

**Pedicularis gibbera** Prain in J. As. Soc. Bengal 58(2): 262. 1889.

**Pedicularis platychila** Tsoong in Acta Phytotax. Sin. iii. 301, 328. 1955.

## OROBANCHIACEAE

**Aeginetia acaulis** (Roxb.) Walp., Repert. 3: 481. 1844-45; Erady & Rajappan in J. Bombay Nat. Hist. Soc. 55: 127. 1958. *Orobanche acaulis* Roxb., Pl. Corom. t. 292. 1819. *Aeginetia pedunculata* Hook. f., Fl. Brit. India 4: 320. 1884, non Wall.

Leafless herbs, up to 15 cm high, yellow. Scapes very short, stout, many flowered, scaly at base. Flowers yellow; corolla lobes violet. Capsules ovoid. Seeds brown.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Kameng; 1000 - 1500 m, in open forests floor.

**Aeginetia indica** L., Sp. Pl. 632. 1753; Hook. f., Fl. Brit. India 4: 320. 1884. *Orobanche aeginetia* L., Sp. Pl. ed. 2, 883. 1763.

Leafless, parasitic herbs; root system consisting of fleshy interlaced fibers. Scapes few or solitary, yellow or reddish brown with scales at base. Flowers solitary, terminal, purple or whitish violet. Fruits ovoid. Seeds yellowish.

*Fl. & Fr.*: July - Dec.

*Distrib.*: Changlang, Tirap; 1000 - 1500 m, parasitic on grass roots, among grasses on hill slopes.

**Boschniakia himalaica** Hook. f. et Thomson in Hook. f., Fl. Brit. India 4: 327. 1884.

Fleshy, tuberous root parasites, 20 - 40 cm high, pale brown. Scale many, rigid, oblong-ovate, brown. Flowers in axils of bracts on stout racemes, many, erect, white. Capsules oblong.

*Fl. & Fr.*: Oct. - Jan.

*Distrib.*: Yawang; 4000 - 5000 m, root parasite on various species of *Rhododendron* and other stunted shrubs, in snow covered areas.

## LENTIBULARIACEAE

**Pinguicula alpina** L., Sp. Pl. 17. 1753; C. B. Clarke in Hook. f., Fl. Brit. India 4: 335. 1884.

Herbs. Leaves radical, sessile, elliptic, sparsely hairy above. Flowers solitary on scapes, white, yellow spotted; spur cylindrical. Capsules ellipsoid.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Arunachal Pradesh; 2500 - 4000 m, in open moist places along slopes.

**Utricularia bifida** L., Sp. Pl. 18. 1753; C. B. Clarke in Hook. f., Fl. Brit. India 4: 332. 1884; Taylor in Steenis, Fl. Males. 8(2): 281. 1977. *U. ramosa* Vahl, Enum. 1: 204. 1804; C. B. Clarke in Hook. f., Fl. Brit. India 4: 335. 1884.

Erect herbs, up to 15 cm high. Leaves absent at anthesis. Flowers in scapes, 1-10-flowered, bright yellow; spur funnel shaped, curved. Seeds obovoid.

*Fl. & Fr.*: Sept. - Jan.

*Distrib.*: Subansiri; 1500 - 2000 m; in swampy soils, rice field and on moist hill slopes.

**Utricularia brachiata** Oliv. in J. Linn. Soc. Bot. 3: 187. 1859; C. B. Clarke in Hook. f., Fl. Brit. India 4: 333. 1884.

Small herbs, up to 15 cm long. Leaves at base of scape, reniform, petiolate. Flowers in scapes, white, yellow spotted; calyx purple; spur linear, cylindric, obtuse at apex.

*Fl. & Fr.*: July - Sept.

*Distrib.*: Arunachal Pradesh; 2500 - 3800 m, in moist exposed areas of forests.

**Utricularia scandens** Benj. var. *firmula* (Oliv.) Subr. et Banerji in Rec. Bot. Surv. India 20(2): 160. 1973. *U. wallichiana* Wight var. *firmula* Oliv. in J. Linn. Soc. Bot. 3: 182. 1859; C. B. Clarke in Hook. f., Fl. Brit. India 4: 333. 1884.

Terrestrial herbs, up to 20 cm high. Leaves linear, up to 1 cm long, absent at anthesis. Flowers in erect or twining, filiform scapes, yellow; spur projecting downward, apex slightly curved. Seeds ellipsoid.

*Fl. & Fr.*: June - Oct.

*Distrib.*: Kameng, Subansiri; 1600 - 2200 m, in moist and marshy open places.

#### GESNERIACEAE

**Aeschynanthus acuminata** Wall. ex DC., Prodr. 9: 263. 1845; C. B. Clarke in Hook. f., Fl. Brit. India 4: 341. 1884; Kanjilal *et al.*, Fl. Assam 3: 391. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 234. 1996.

Epiphytic shrubs, up to 3 m high. Leaves elliptic. Flowers in axillary, few flowered cymes, ca 1 cm long, yellowish green or brownish yellow with reflexed corolla lobes. Bracts ovate. Fruits cylindric, peduncles long with persistent sepals.

*Fl. & Fr.*: Oct. - March.

*Distrib.*: Changlang, Lohit, Siang; 500 - 1000 m, in moist dense tropical forests.

**Aeschynanthus bracteatus** Wall. ex DC., Prodr. 9: 261. 1845; Mathew, Fl. Pl. Kurseong 74. 1981; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 234. 1996. *A. hookeri* C. B. Clarke in DC., Monogr. Phan. 5: 21. 1883 & in Hook. f., Fl. Brit. India 4: 338. 1884; Kanjilal *et al.*, Fl. Assam 3: 388. 1939

Woody, epiphytic shrubs. Leaves oblong or elliptic, acuminate at apex, dark green above. Flowers in terminal umbels or clusters, ca 5 mm long, scarlet red or orange red. Calyx lobes unequal, obtuse, deciduous. Seeds with single hair at base.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Changlang, Kameng, Lohit, Tirap; 1000 -1800 m, in primary forests.

**Aeschynanthus chiritooides** C. B. Clarke in Hook. f., Fl. Brit. India 4: 341. 1884.

Epiphytic, slender herbs. Leaves broadly lanceolate, pubescent. Flowers 1-3 in terminal peduncles, white, pilose. Capsules linear.

*Fl. & Fr.*: Aug. - Nov.

*Distrib.*: Kameng; 1000 - 1500 m, hanging from rocks or from trees trunks in damp shady places.

**Aeschynanthus deleiensis** C.E.C. Fisch. in Kew Bull. 1935: 320. 1935.

Epiphytic herbs; branchlets slender, pale brown, glabrous. Leaves thick coriaceous, broadly lanceolate, margin cartilaginous, revolute. Flowers solitary, axillary, subtended by 3-4 linear bracts, scarlet with a short black stripe down on each lobe; pedicels and calyx gland tipped hairy. Capsules linear, glabrous, strongly curved. Seeds oblong, granulate, silky hairy at apex.

*Fl. & Fr.*: July - Aug.

*Distrib.*: Arunachal Pradesh (Delei valley), 1400 - 1650 m.

**Aeschynanthus gracilis** Parish ex C. B. Clarke, Comm. & Cyrt. Beng. 75, t. 48. A. 1874; C. B. Clarke in Hook. f., Fl. Brit. India 4: 340. 1884; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 235. 1996.

Epiphytic herbs, slender, hairy; rooting at nodes. Leaves lanceolate or obovate, pendent, pubescent. Flowers scattered, scarlet, villous. Capsules linear, up to 15 cm long.

*Fl. & Fr.*: Jan.- Sept.

*Distrib.*: 1400 m, in dense forests on tree trunks and on moist hill slopes.

***Aeschynanthus linearifolia*** C. E. C. Fisch. in Kew Bull. 1935: 321. 1935.

Epiphytes, branches slender, fistular. Leaves coriaceous, linear-oblongate, margin cartilaginous and slightly revolute. Flowers terminal or axillary, solitary or fasciated, subtended by 2 broadly ovate bracteoles, lower half of corolla bright yellow, upper half scarlet, lip spotted. Capsules linear, curved.

*Fl. & Fr.*: July - Aug.

*Distrib.*: Arunachal Pradesh (Delci valley); 2500 - 2800 m, epiphytes in rain forests.

***Aeschynanthus maculata*** Lindl. var. ***stenophylla*** Hook. f. et Thomson ex C. B. Clarke in Hook. f., Fl. Brit. India 4: 239. 1884.

Epiphytic herbs. Leaves linear. Flowers in axillary, capitate cymes, red; calyx deeply divided, often pubescent. Capsules linear.

*Fl. & Fr.*: June - Aug.

*Distrib.*: Changlang; 500 - 1000 m, on tree trunks in dense moist forests.

***Aeschynanthus micrantha*** C. B. Clarke in Hook. f., Fl. Brit. India 4: 340. 1884.

Woody epiphytes, purplish on drying. Leaves elliptic-lanceolate. Flowers in axillary or terminal clusters, ca 6 cm long, red. Capsules linear, shallowly channelled with single hair at either end.

*Fl. & Fr.*: July - Dec.

*Distrib.*: Siang; 500 - 1200 m, in dense tropical forests.

***Aeschynanthus monetaria*** Dunn in Kew Bull. 1920: 135. 1920; Burkill in Rec. Bot. Surv. India 10: 328. 1925.

Woody herbs or undershrubs, younger parts puberulous, glabrous when old. Leaves opposite, elliptic, entire. Flowers axillary, solitary, bright scarlet. Capsules linear.

*Fl. & Fr.*: Nov. - Feb.

*Distrib.*: Siang; 200 - 1000 m, on tree trunks in primary forests.

***Aeschynanthus parasiticus*** (Roxb.) Wall., Cat., no. 796. 1829; Bernardi in Candollea 18: 263. 1963. *Incarvillea parasitica* Roxb., Pl.

Corom. 3: 88, t. 291. 1819. *Trichosporum grandiflorum* D. Don in Edinburgh Philos. J. 7: 85. 1822 & Prodr. Fl. Nepal 125. 1825. *Aeschynanthus grandiflorus* (D. Don) Spreng., Syst. Veg. 4(2): 238. 1827; C. B. Clarke in Hook. f., Fl. Brit. India 4: 338. 1884.

Epiphytic herbs, glabrous. Leaves lanceolate. Flowers in terminal clusters; corolla tube orange-red with black-purple dots, glandular hairy. Capsules nearly 15 cm long. Seeds with 2 hairs at base.

*Fl. & Fr.*: June - Jan.

*Distrib.*: Changlang, Kameng, Subansiri, Tirap; 1000 - 1800 m, on large tree trunks in dense moist forests.

***Aeschynanthus parviflorus*** (D. Don) Spreng., Syst. Veg. 4(2): 238. 1827; H. Hara in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 133. 1982. *Trichosporum parviflorum* D. Don in Edinburgh Philos. J. 7: 85. 1822. *Aeschynanthus ramosissima* Wall., Pl. As. Rar. 1: 55, t. 71. 1829; C. B. Clarke in Hook. f., Fl. Brit. India 4: 339. 1884; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 235. 1996.

Woody epiphytes. Leaves broadly lanceolate. Flowers in terminal clusters, ca 3 cm long, red. Capsules linear.

*Fl. & Fr.*: July - Dec.

*Distrib.*: Changlang, Kameng, Lohit, Tirap; 1000 - 1500 m, on moist tree trunks in dense forests.

***Aeschynanthus philippensis*** C. B. Clarke in DC., Monogr. Phan. 5: 39. 1883.

Epiphytic herbs. Leaves elliptic-lanceolate, dark green above. Flowers solitary, blood-red, peduncles long.

*Fl. & Fr.*: Aug.- Oct.

*Distrib.*: Tirap; 500-1500 m, on tree trunk in dense forests.

***Aeschynanthus sikkimensis*** (C. B. Clarke) Stapf in Curtis, Bot. Mag. 148: t. 8938. 1922; Kanjilal *et al.*, Fl. Assam 3: 392. 1939. *A. maculatus* Lindl. var. *sikkimensis* C. B. Clarke in DC., Monogr. Phan. 5: 24. 1883. *A. maculatus auct. non Lindl.*: C. B. Clarke in Hook. f., Fl. Brit. India 4: 339. 1884, *p. p.*

Epiphytic undershrubs. Leaves oblong-lanceolate, caudate-acuminate. Flowers in axillary or terminal cymes, funnel-shaped, scarlet, glandular hairy inside, yellowish outside. Bracts linear-lanceolate. Calyx-lobes linear-lanceolate.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Changlang, Lohit, Tirap; in primary forests.

**Aeschynanthus superba** C. B. Clarke, *Comm. & Cyrtandr. Beng.* t. 46. 1874 & in Hook. f., *Fl. Brit. India* 4: 342. 1884; Kanjilal *et al.*, *Fl. Assam* 3: 391. 1939; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 235. 1996.

Epiphytes. Leaves elliptic-oblong. Flowers in terminal umbellate; corolla pinkish red; calyx reddish, oblong, obtuse. Bracts ovate-oblong, pink. Seeds with one hair at base.

*Fl. & Fr.*: July-Jan.

*Distrib.*: Changlang, Kameng, Lohit, Tirap, 100-1000m in tropical evergreen forests.

**Beccarinda cordifolia** (Anthony) B. L. Burt in *Notes Roy. Bot. Gard. Edinburgh* 22: 63. 1955; Rao & Ahuja in *Bull. Bot. Surv. India* 10: 361. 1968. *Petrodoxa cordifolia* Anthony in *Notes Roy. Bot. Gard. Edinburgh* 18: 204. 1934.

Perennial, scapigerous herbs, hairy. Leaves radical, ovate-cordate, crenate, densely rufous tomentose. Flowers in scapes, pink to creamy yellow. Fruits follicular, brownish.

*Fl. & Fr.*: Sept. - Nov.

*Distrib.*: Siang, Subansiri; 1600-2500 m, in forests.

**Boea herbacea** C. B. Clarke in Hook. f., *Fl. Brit. India* 4: 365. 1884.

Herbs, up to 20 cm high, hairy. Leaves sessile, elliptic, acuminate, pilose on both surfaces. Flowers in axillary racemes, lilac. Capsules linear, ca 1 cm long.

*Fl. & Fr.*: April - July.

*Distrib.*: Changlang, Siang, Tirap; 200-1000 m, underneath primary forests on humus rich soil.

**Boea multiflora** R. Br. in Benn. & Brown, *Pl. Jav. Rar.* 120. 1840; C. B. Clarke in Hook. f., *Fl. Brit. India* 4: 365. 1884.

Herbs, up to 15 cm high, tomentose upward. Leaves crowded, elliptic, tomentose beneath. Flowers in cymes, blue or white, pubescent. Capsules linear.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Tirap; 1200 - 1500 m, on moist humus rich soil.

**Boeica filiformis** C. B. Clarke, *Comm. & Cyrt. Beng.* t. 87. 1874 & in Hook. f., *Fl. Brit. India* 4: 362. 1884; Kanjilal *et al.*, *Fl. Assam* 3: 398. 1939; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 235. 1996.

*Local name:* Byon-kot (Abor.).

Shrubs, up to 1 m high. Leaves lanceolate. Flowers in axillary cymes, purple. Peduncles filiform. Capsules linear, beaked.

*Fl. & Fr.:* Feb. – Oct.

*Distrib.:* Changlang, Lohit, Siang; 500-1500 m, underneath primary forests on thick humus rich soil and along river banks.

**Boeica fulva** C. B. Clarke, *Comm. & Cyrt. Beng.* t. 85. 1874 & in Hook. f., *Fl. Brit. India* 4: 362. 1884; Kanjilal *et al.*, *Fl. Assam* 3: 398. 1939; A. S. Chauhan in Hajra, *Contrib. Fl. Nandapha* 236. 1996.

Undershrubs, up to 1 m high, innovations fulvous woolly. Leaves lanceolate, fulvous villous beneath. Flowers in axillary cymes, purple. Capsules linear.

*Fl. & Fr.:* June – Nov.

*Distrib.:* Changlang, Lohit, Siang, Subansiri; 500-1200 m, on roadsides and along edges of forest clearings or in dense forest floor.

**Briggsia muscicola** (Diels) Craib in *Notes Roy. Bot. Gard. Edinburgh* 11: 264. 1919. *Didissandra muscicola* Diels in *Notes Roy. Bot. Gard. Edinburgh* 5: 225. 1912.

Acaulis herbs. Leaves lanceolate to oblong-spathulate, hairy beneath. Flowers orange-yellow.

*Fl. & Fr.:* July – Sept.

*Distrib.:* Kameng; 1500-3000 m, on moist soil in open forests.

**Chirita adenocalyx** Chatterjee in *Kew Bull.* 1948: 63. 1948.

Herbs; stems succulent, minutely tomentose with yellowish brown spots. Leaves ovate, base oblique, margin serrate, softly hairy on both surfaces. Flowers in terminal 3-flowered cymes, lemon yellow, peduncles long with golden brown hairs; calyx thinly hairy outside and glandular within. Capsules linear.

*Fl. & Fr.:* Sept. – Dec.

*Distrib.:* Arunachal Pradesh.

**Chirita bifolia** D. Don, *Prodr. Fl. Nep.* 90. 1825; C. B. Clarke in Hook. f., *Fl. Brit. India* 4: 357. 1884.

Herbs, up to 10 cm high, 2-leaved. Leaves orbicular, villous on both surfaces. Flowers in axillary cymes, white, yellow tinged within; corolla throat purple. Capsules linear.

*Fl. & Fr.:* Aug. – Oct.

*Distrib.*: Kameng; 2000-4000 m, on moist humus rich soil in forests.

**Chirita dibangensis** B. L. Burtt, Srivatava *et* Mehrotra in Notes Roy. Bot. Gard. Edinburgh 45 (3): 469. 1988.

Erect herbs, up to 60 cm high; stems subquadrangular, glabrous. Leaves ovate or ovate-elliptic, glabrous. Flowers axillary, solitary, pinkish white outside with 2 yellow lines on lower part of palate and in throat.

*Fl.*: April.

*Distrib.*: Dibang valley (Mishmi Hills), on moist grassy slopes.

**Chirita hookeri** C. B. Clarke, Comm. & Cyrt. Beng. t. 70. 1874 & in Hook. f., Fl. Brit. India 4: 359. 1884.

Herbs, up to 35 cm high, hairy. Leaves elliptic, pubescent. Flowers in many flowered axillary cymes or sometimes solitary, yellowish white with grey lines within. Capsules elongate-linear.

*Fl. & Fr.*: Nov. -- March.

*Distrib.*: Siang, Tirap; 500-1200 m, on rocky surfaces in forests.

**Chirita macrophylla** Wall., Pl. As. Rat. 1: 56, t. 72. 1830; C. B. Clarke in Hook. f., Fl. Brit. India 4: 358.

var. **macrophylla**

Herbs, up to 50 cm tall, prostrate, succulent, pubescent. Radical leaves ovate or elliptic, densely hairy on nerves beneath. Flowers in axillary cymes, white at base, sky blue upward. Capsules ca 12 cm long.

*Fl. & Fr.*: March – Sept.

*Distrib.*: Changlang, Tirap; 500-1200 m, on moist soil slopes and humus soil covered rocks.

**Chirita macrophylla** var. **tirapensis** Deb *et* R. M. Dutta in J. Bombay Nat. Hist. Soc. 71(2): 271. 1974. *C. macrophylla* subsp. *tirapensis* Panigrahi in Bull. Bot. Soc. Bengal 21: 32. 1967.

Herbs, stems glabrous. Flowers bluish purple or violet tinged.

*Fl. & Fr.*: Aug. – Oct.

*Distrib.*: Tirap; 800-1200 m, within forests on moist thick humus soil.

**Chirita mishmiensis** Debb. *et* Biswas in Assam For. Rec. Bot. 1: 21. 1934; Kanjilal *et al.*, Fl. Assam 3: 396. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 236. 1996.

Herbs; rootstocks very small with leaves arising from base. Leaves elliptic-oblong, crenate-serrate, densely woolly beneath. Flowers solitary, about 1 cm across, purplish. Capsules elongate.

*Fl. & Fr.*: Oct. – Jan.

*Distrib.*: Changlang, Lohit; 500-1500 m, on moist rocks.

**Chirita oblongifolia** (Roxb.) Sinclair in Bull. Bot. Soc. Bengal 9: 102. 1957; Wood in Notes Roy. Bot. Gard. Edinburgh 33: 174. 1974; N. P. Balakr., Fl. Jowai 2: 347. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 236. 1996. *Incarvillea oblongifolia* Roxb., Fl. Ind. 3: 113. 1832. *Chirita acuminata* Wall. ex R. Br. in Benn. & Brown, Pl. Java. Rar. 117. 1840, *nom. superfl.*; C. B. Clarke in Hook. f., Fl. Brit. India 4: 359. 1884.; Kanjilat *et al.*, Fl. Assam 3: 396. 1939.

Succulent herbs, 50-100 cm high, villous above. Leaves subequal, elliptic or ovate, white hairy beneath. Flowers in axillary cymes, many flowered, creamy white; corolla tube ventricose, ca 3 cm long.

*Fl. & Fr.*: Sept. – Dec.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 100-1500 m, in shaded moist places of forests.

**Chirita primulacea** C. B. Clarke, Comm. & Cyrt. Beng. 114, t. 82. 1874 & in Hook. f., Fl. Brit. India 4: 360. 1884.

Herbs, up to 50 cm high, villous. Leaves oblong, inciso-serrate. Flowers in axillary, many flowered cymes, pink with violet tinge along corolla lobes. Capsules linear, ca 6 cm long.

*Fl. & Fr.*: Oct. – March.

*Distrib.*: Lohit; 300-1000 m, in primary forests over moist humus soil.

**Chirita pumila** (Dietr.) D. Don, Prodr. Fl. Nep. 90. 1825; C. B. Clarke in Hook. f., Fl. Brit. India 4: 357. 1884. *Henckelia pumila* Dietr. in L., sp. Pl. ed. 6. 1: 554. 1831.

Herbs, 30-50 cm high, erect, fleshy. Leaves unequal, elliptic-oblong, closely serrate, hirsute above. Flowers axillary, solitary or in 5-flowered cymes, white at base, dark purple above. Capsules linear, violet.

*Fl. & Fr.*: Aug. – Jan.

*Distrib.*: Kameng, Lohit, Siang, Tirap; 500-1400 m, in shaded moist places of dense forests and on hill slopes.

**Chirita reptans** B. I. Buru *et* Panigrahi in Notes Roy. Bot. Gard. Edinburgh 26: 265. 1965.

Acaulis herbs, hairy. Leaves radical, ovate or elliptic, hairy. Flowers glandular-villous outside. Capsules elongate, linear.

*Fl. & Fr.*: March – May.

*Distrib.*: Changlang; 1000-1500 m, underneath primary forests on thick humus soil.

**Chirita urticaefolia** Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 90. 1825; C. B. Clarke in Hook. f., Fl. Brit. India 4: 358. 1884.

Herbs, up to 1 m high. Leaves elliptic, pubescent. Flowers in axillary cymes, yellow or mauve, pubescent within. Capsules linear, ca 12 cm long.

*Fl. & Fr.*: Sept. – Feb.

*Distrib.*: Kameng, Siang, Tirap; 400-1000 m, in shady places over moist humus soil.

**Didymocarpus pedicellatus** R. Br. in Henn. & Brown, Pl. Jav. Rar. 118. 1840; C. B. Clarke in Hook. f., Fl. Brit. India 4: 345. 1884.

Acaulis herbs with 2 to 3 pairs of cauline leaves. Radical leaves broadly ovate, glandular-punctate above. Flowers in many flowered cymes, purple. Stalk of capsules filiform.

*Fl. & Fr.*: April – June.

*Distrib.*: Arunachal Pradesh; 500 – 2000 m.

**Didymocarpus pulchra** C. B. Clarke in DC., Monogr. Phan. 5: 79. 1883 & in Hook. f., Fl. Brit. India 4: 348. 1884.

Herbs, up to 30 cm high. Leaves oblong, densely pubescent above, whitish beneath. Flowers in cymes, ca 3 cm long, purple.

*Fl. & Fr.*: Aug. – Nov.

*Distrib.*: Siang; 500 – 1500 m, in dense forests over thick humus soil.

**Didymocarpus punduana** DC., Prodr. 9: 267. 1845; C. B. Clarke in Hook. f., Fl. Brit. India 4: 349. 1884.

Herbs, up to 40 cm high. Leaves oblong, pubescent above, whitish green beneath. Flowers in subumbellate cymes, 2-5 cm long, white. Capsules curved.

*Fl. & Fr.*: Aug. – Dec.

*Distrib.*: Tirap; 1000-1800 m, in moist shaded forests and on rocks, amidst grasses.

**Epithema carnosum** Benth., Scroph. Ind. 57. 1835; C. B. Clarke in Hook. f., Fl. Brit. India 4: 369. 1884.

Herbs, up to 40 cm high, pubescent. Leaves ovate-cordate, sinuate-crenate, pubescent. Flowers in axillary racemes, blue or white. Capsules globose.

*Fl. & Fr.*: Aug. – Nov.

*Distrib.*: Kameng; 500 – 1500 m, in dense forests.

**Hemiboea henryi** C. B. Clarke in Hook., Ic. Pl. 18, t. 1798. 1888.

Annual herbs; stems succulent. Flowers axillary, solitary, yellow.

*Fl. & Fr.*: Nov. – Feb.

*Distrib.*: Siang; 400 – 1000 m, on moist slopes.

**Loxostigma griffithii** (Wight) C. B. Clarke in DC., Monogr. Phan. 5: 60. 1883 & in Hook. f., Fl. Brit. India 4: 344. 1884; Kanjilal *et al.*, Fl. Assam 3: 394. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 237. 1996. *Didymocarpus griffithii* Wight, Ill. Ind. Bot. 2: 182, t. 159. 1850.

Herbs, 40-60 cm high, erect, pubescent. Leaves elliptic, oblique at base. Flowers in lax cymes, yellow with brownish tinge on corolla tube; calyx pinkish green. Capsules linear, hairy.

*Fl. & Fr.*: Oct. – Feb.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap; 1000 – 1800 m, on tree trunks and over moist humus soil.

**Loxostigma kurzii** (C. B. Clarke) B. L. Burt in Notes Roy. Bot. Gard. Edinburgh 34: 104. 1975. *Didymocarpus kurzii* C. B. Clarke, Comm. & Cyrt. Beng. 96, t. 66. 1874. *Chirita kurzii* C. B. Clarke in J. Linn. Soc. Bot. 15: 145. 1876 & in Hook. f., Fl. Brit. India 4: 358. 1884.

Succulent herbs, up to 35 cm high, hairy. Leaves elliptic or lanceolate. Flowers in axillary cymes, pink with purple dots within, hairy. Capsules sessile, villous.

*Fl. & Fr.*: April – Oct.

*Distrib.*: Kameng; 500 – 1500 m, along moist forest edges.

**Lysionotus atropurpurea** H. Hara in J. Jap. Bot. 48: 358, f. 4. 1973 & H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 135. 1982; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 237. 1996. *L. serrata auct. non* D. Don: C. B. Clarke in Hook. f., 3: 393. 1939.

Herbs. Leaves ternate, elliptic, acuminate, crenate-serrate. Flowers in lax cymes; corolla tubular, inflated at middle, whitish with purplish nerves; peduncles 8-10 cm long; bracts ovate. Capsules reddish brown.

*Fl. & Fr.*: July- Feb.

*Distrib.*: Changlang, Lohit, in primary forests.

**Lysionotus palmensis** G. D. Pal in J. Bombay Nat. Hist. Soc. 97 (1): 131. 2000.

Shrubby herbs, 30-40 cm tall, rooting at lower nodes; stems finely ridged, pubescent above. Leaves ternate, lanceolate to linear-lanceolate, spinulose crenate-serrate at margin, coriaceous, hairy on nerves beneath. Inflorescence laxly cymose, many flowered; peduncles 3-7 cm long. Flowers bluish purple; calyx lobes lanceolate, cuspidate-acuminate; corolla lobes broadest at middle, upper lips 3-lobed, longer than lower lips.

*Fl. & Fr.*: Aug. – Sept.

*Distrib.*: Lower Subansiri (Palin ), ca 1400 m, in moist shady places of subtropical primary forest floor on rich humus soil.

**Lysionotus serratus** D. Don in Edinburgh Phil. J. 7: 85. 1822; C. B. Clarke in Hook. f., Fl. Brit. India 4: 344. 1884, *p.p.*

Herbs, 30-40 cm high; woody at base. Leaves in whorls, elliptic, crenate-serrate, whitish green beneath. Flowers in lax cymes, purple or white with purplish nerves. Capsules linear, reddish brown.

*Fl. & Fr.*: July – Nov.

*Distrib.*: Lohit, Siang, Subansiri, Tirap; 700-1200 m, in moist shaded forests on humus rich soil, on tree trunks and over moss covered rocks.

**Rhynchoglossum lazulinum** A. S. Rao et J. Joseph in Bull. Bot. Surv. India 9(1-4): 280. 1967.

Succulent herbs, 50 – 100 cm high. Leaves broadly elliptic, subcordate or decurrent at base. Flowers in terminal racemes, bluish violet. Capsules ellipsoid, ca 2 cm long. Seeds ovoid.

*Fl. & Fr.*: Aug. – Nov.

*Distrib.*: Subansiri; 500 - 1200 m along hill slopes and in moist forests on thick humus rich soil.

**Rhynchoglossum obliquum** Blume, Bijdr. 741. 1826; C. B. Clarke in Hook. f., Fl. Brit. India 4: 367. 1884; Kanjilal *et al.*, Fl. Assam 3: 398. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 237. 1996. *R. obliquum* var. *parviflora* C. B. Clarke in DC., Monogr. Phan. 5: 162. 1883 & in Hook. f., Fl. Brit. India 4: 367. 1884.

Herbs, 30 – 80 cm high; stems terete, fleshy. Leaves broadly elliptic, unequal at base, pale green beneath. Flowers in axillary cymes, white. Berries globose, creamy white when ripe.

*Fl. & Fr.*: July. Dec.

*Distrib.*: Changlang, Lohit, Tirap; 200 – 1000 m, in primary forests.

**Rhyncholechum calycinum** C. B. Clarke in Hook. f., Fl. Brit. India 4: 374. 1884; G. D. Pal & Thoth. in Bull. Bot. Surv. India 30(1-4): 173. 1990.

Shrubs or undershrubs, 80 – 125 cm high ; stems corky, whitish green. Leaves broadly elliptic, whitish green beneath. Flowers in axillary cymes, white, deciduous; sepals and bracts white, persistent. Berries globose, milky white when ripe.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Siang, Subansiri; 300 – 600 m, along primary forest edges and in shady places along streams.

*Use*: Leaves are used in rituals and ceremonies.

**Rhyncholechum ellipticum** (Dietr.) A. DC. in DC., Prodr. 9: 285. 1845; C. B. Clarke in Hook. f., Fl. Brit. India 4: 373. 1884; Kanjilal *et al.*, Fl. Assam 3: 399. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 237. 1996. *Corysanthera elliptica* Dietr., Syn. Pl. 3: 582. 1843.

Shrubs, 1-2 m high; young parts villous. Leaves broadly elliptic-ovate. Flowers in trichotomously paniculate cymes, pink or red. Berries globose, white.

*Fl. & Fr.*: June – Feb.

*Distrib.*: Changlang, Lohit, Siang, Subansiri, Tirap; 500 - 1000 m, in shaded forests.

**Rhyncholechum vestitum** C. B. Clarke, Comm. & Cyrt. Beng. 132, t. 92. 1974 & in Hook. f., Fl. Brit. India 4: 373. 1884; Kanjilal *et al.*, Fl. Assam 3: 399. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 238. 1996.

Shrubs, 1-1.5 m high. Leaves elliptic. Flowers in trichotomously paniculate cymes on leafless lower nodes, pink. Berries globose, white.

*Fl. & Fr.*: Aug. – Feb.

*Distrib.*: Changlang, Lohit, Siang; 100 – 1200 m, in shaded forests on moist humus soil.

**Stauranthera grandiflora** Benth., Scroph. Ind. 57. 1835; C. B. Clarke in Hook. f., Fl. Brit. India 4: 371. 1884.

Succulent herbs, up to 40 cm high; dusky pubescent. Leaves opposite, broadly elliptic. Flowers in axillary cymes, pendent, blue, spurred at base. Capsules depressed globose.

*Fl. & Fr.*: June – Sept.

*Distrib.*: Tirap; 300 – 800 m, in shaded moist forests.

**Stauranthera umbrosa** C. B. Clarke, *Comm. & Crypt. Beng.* t. 89. 1874 & in *Hook. f., Fl. Brit. India* 4: 371. 1884.

Succulent herbs, up to 35 cm high, dusky pubescent. Leaves alternate, ovate-elliptic. Flowers in cymes, white, without spur at base. Capsules depressed globose.

*Fl. & Fr.*: Sept. – Feb.

*Distrib.*: Siang; 200 – 500 m, in shady places within dense forest.

**Tetraphyllum bengalense** C. B. Clarke in *Hook. f., Fl. Brit. India* 4: 363. 1884; Burkill in *Rec. Bot. Surv. India* 10(2): 330. 1925; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 238. 1996.

*Local name*: Go-long (Abor).

Woody herbs, up to 35 cm high. Leaves scaly; innovations fulvous silky woolly. Flowers in cymes. Capsules lanceolate. Seeds ellipsoid.

*Fl. & Fr.*: Sept. – Feb.

*Distrib.*: Siang; 200-500 m, in shady places within dense forests.

Insufficiently known materials

**Aeschynanthus angustilobus** W. T. Wang in *Acta. Phytotax. Sin.* 13(2): 64. 1975.

**Aeschynanthus levipes** C. B. Clarke in *DC., Monogr. Phan.* 5: 28. 1883.

**Aeschynanthus masoniae** Kurz ex C. B. Clarke in *DC., Monogr. Phan.* 5: 29. 1883.

**Aeschynanthus stenosepalus** Anthony *Notes Roy. Bot. Gard. Edinburgh* 18: 191. 1934.

**Boeica porosa** C. B. Clarke in *DC., Monogr. Phan.* 5: 136. 1883.

## BIGNONIACEAE

**Fernandoa adenophylla** (G. Don) Steenis in *Blumea* 23: 135. 1976. *Bignonia adenophylla* G. Don. *Gen. Syst.* 4: 221. 1838. *Heterophragma adenophyllum* Seem. ex Benth. et Hook. f., *Gen. Pl.* 2: 1047. 1875; C. B. Clarke in *Hook. f., Fl. Brit. India* 4: 381. 1884. *Haplophragma adenophyllum* (DC.) D. Don in *Bull. Soc. Bot. France* 72: 890. 1925; Kanjilal *et al.*, *Fl. Assam* 3: 402. 1939.

*Local name*: Dhopa-paruli (Asm.)

Trees, up to 25 m high. Leaflets elliptic, rusty pubescent underneath. Flowers in dense, terminal, tomentose panicles, yellowish brown. Capsules cylindrical, twisted, up to 1 m long.

*Fl. & Fr.*: March – Aug.

*Distrib.*: Kameng, Subansiri, Tirap; 500-1200 m in semi-evergreen primary forests.

**Oroxylum indicum** (L.) Vent., *Dec. Gen.* Nov. 8. 1808; C. B. Clarke in Hook. f., *Fl. Brit. India* 4: 378. 1884; Kanjilal *et al.*, *Fl. Assam* 3: 401. 1939; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 238. 1996. *Bignonia indica* L., *Sp. Pl.* 625. 1753.

*Local name*: Bhatghila, Dingari, Paroli, Toguna, (Asm.)

Deciduous trees, 10-15 m high; crown spreading. Leaves ternately bipinnate. Leaflets broadly ovate. Flowers in terminal lax racemes, ca 8 cm long, purplish, fleshy. Capsules erect, stipitate.

*Fl. & Fr.*: June – Feb.

*Distrib.*: Changlang, Iohit, Siang; 500-1000 m, in semi-evergreen forests.

**Pauldopia ghorta** (Buch.-Ham. ex G. Don) Steenis in *Acta Bot. Neerl.* 18(3): 425, t. 1. f. 1. 1969. *Bignonia ghorta* Buch.-Ham. ex G. Don, *Gen. Syst.* 4: 222. 1838. *Stereospermum ghorta* (Buch.-Ham. ex G. Don) C. B. Clarke in Hook. f., *Fl. Brit. India* 4: 384. 1884. *Tecoma bipinnata* Coll. et Hemsl. in *J. Linn. Soc. Bot.* 28: 102. 1890. *Radermachera bipinnata* (Coll. et Hemsl.) Steenis ex Chatterjee in *Bull. Bot. Soc. Bengal* 2: 71. 1948.

Climbers or scandent shrubs. Leaves bipinnate; rachis winged; leaflets ovate. Flowers in axillary racemes, yellow, violet within, very showy.

*Fl. & Fr.*: June – July.

*Distrib.*: Tirap; 1200-1600 m, in forests.

**Radermachera gigantea** (Blume) Miq., *Ann. Mus. Bot. Lugd.-Bat.* 3: 250. 1867; Steenis in *Blumea* 23: 126. 1976. *Spathodea gigantea* Blume, *Bijdr.* 761. 1826. *Stereospermum hypostictum* Miq., *Fl. Ind. Bot.* 565. 1861; C. B. Clarke in Hook. f., *Fl. Brit. India* 4: 384. 1884.

Trees, 10-40 m high; branchlets lenticellate. Leaves bi- or tripinnate; leaflets elliptic or lanceolate. Flowers in branched panicles, white with pinkish tinge. Capsules tomentose. Seeds flat.

*Fl. & Fr.*: May – Nov.

*Distrib.*: Kameng, Tirap; 100-1000 m, in forests.

**Radermachera glandulosa** (Blume) Miq., Ann. Bot. Lugd.-Bat. 3: 250. 1867; Steenis, Fl. Males., 8(2): 152. 1977; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 238. 1996. *Spathodea glandulosa* Blume, Bijdr., 762. 1826. *Stereospermum glandulosum* Miq., Fl. Ind. Bat. Suppl. 565. 1860; C. B. Clarke in Hook. f., Fl. Brit. India 4: 383. 1884; Kanjilal *et al.*, Fl. Assam 3: 404. 1939.

Large trees; branches spreading. Leaves imparipinnate. Flowers in few flowered, axillary or terminal panicles. Capsules slender.

*Fl. & Fr.*: May - Feb.

*Distrib.*: Changlang, Iohit.

**Radermachera sinica** (Hance) Hemsl. in Hook., Ic. Pl. 28: t. 2728. 1902; Steenis in Blumea 23: 130. 1976.

Deciduous trees. Leaves bi- or tripinnate; leaflets small, long acuminate. Flowers in terminal thyse, white or yellow; calyx tubular, split into 2 blunt lobes. Capsules with woody valves.

*Fl. & Fr.*: May - Nov.

*Distrib.*: Arunachal Pradesh.

**Stereospermum chelonoides** (L. f.) DC. in Bibl. Univ. Geneve 2, 17 (Rev. Bignon. 8): 125. 1838; Steenis, Fl. Males. 1, 8: 147. 1977. *Bignonia chelonoides* L. f., Suppl. Pl. 282. 1781, *p.p.* *Stereospermum suaveolens* (Roxb.) DC., Prodr. 9: 211. 1845; C. B. Clarke in Hook. f., Fl. Brit. India 4: 382. 1884. *Bignonia suaveolens* Roxb., Fl. Ind. 3: 104. 1832. **Fig. 24.**

*Local name*: Siser (Adi); Paroli (Asm.); Mono (Hill-Miri).

Trees, up to 20 m high; crown spreading. Leaves pinnate; leaflets elliptic-oblong. Flowers in lax terminal panicles, yellow with purple tinge. Capsules curved, angular. Seeds trigonous, winged.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Tirap; 300-1000 m, in primary semi-evergreen tropical forests.

**Stereospermum colais** (Buch.-Ham. ex Dillw.) Mabberley in Taxon 27: 553. 1978; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 239. 1996. *Bignonia colais* Buch.-Ham. ex Dillw., Rev. Ref. Hort. Mat. 28. 1839. *Stereospermum chelonoides auct. non* (L. f.) DC. 1838; C. B. Clarke in Hook. f., Fl. Brit. India 4: 382. 1884; Kanjilal *et al.*, Fl. Assam 3: 404. 1939. *Dipterosperma personatum* Hassk. in Flora 25(2). Biebl. 28. 1842. *Stereospermum personatum* (Hassk.) Chatterjee in Bull. Bot. Soc. Bengal 2: 70. 1948.

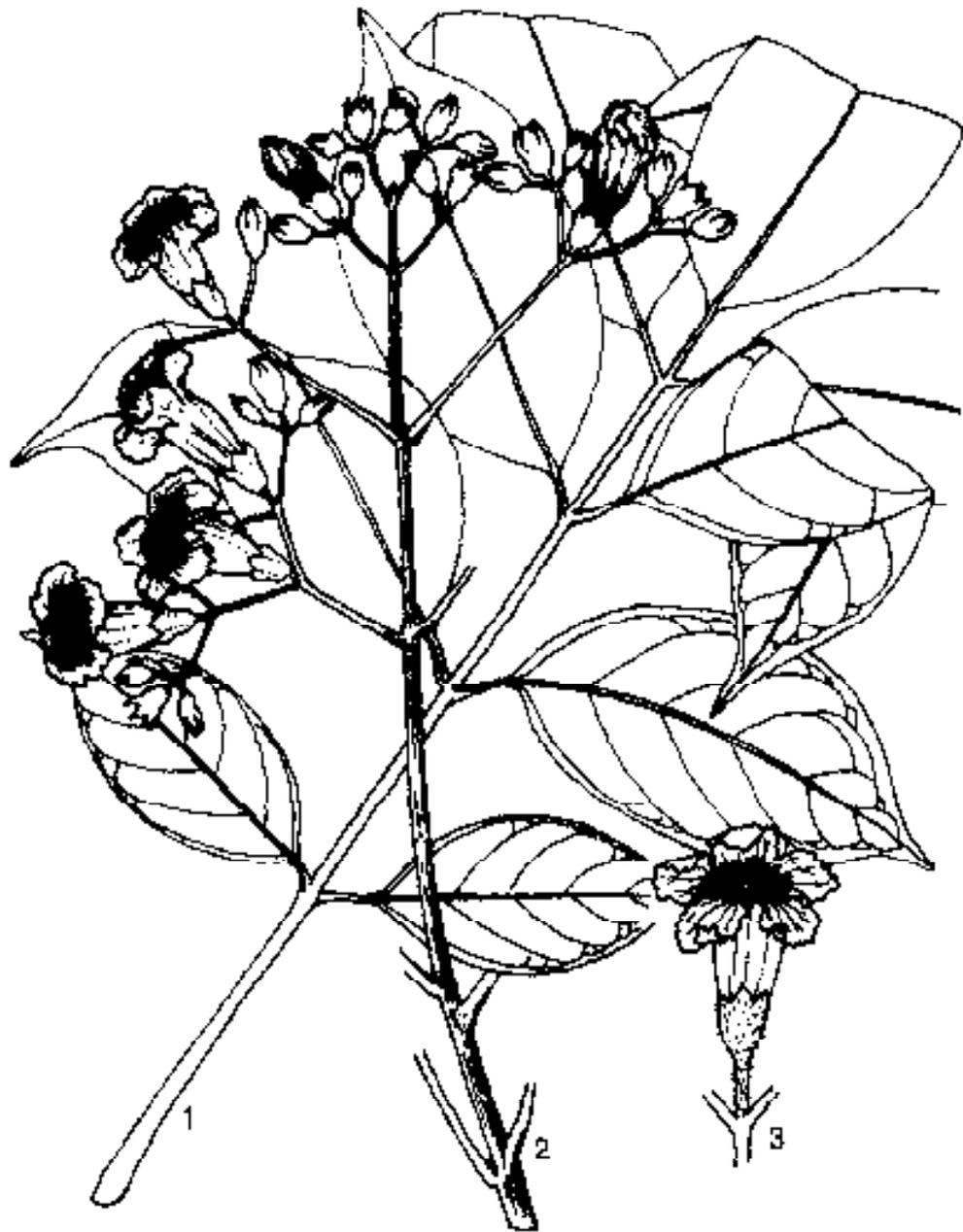


Fig. 24. *Stereospermum chelonoides* (L. f.) DC. :  
1. Leaves; 2. Inflorescens; 3. Flower.

*Local name:* Dhapatita, Paroli (Asm.).

Trees, 15-25 m high. Leaves pinnate; leaflets elliptic, caudate-acuminate. Flowers in terminal, paniculate racemes, yellowish pink, hairy. Capsules smooth or speckled.

*Fl. & Fr.:* April - Nov.

*Distrib.:* Changlang, Lohit, Tirap; 500-1200 m, in primary semi-evergreen tropical forests.

### PEDALIACEAE

**Sesamum orientale** L., Sp. Pl. 634.1753; Steenis, Fl. Males. 7: 829. 1976. *S. indicum* L., Sp. Pl. 634. 1753; C. B. Clarke in Hook. f., Fl. Brit. India 4: 387. 1884.

Annual herbs, up to 1 m high, glandular hairy. Lower leaves palmately 3-foliolate; upper leaves oblong-lanceolate with mucilaginous hairs beneath. Flowers axillary, solitary, white. Capsules 4-angled.

*Fl. & Fr.:* Aug.- Nov.

*Distrib.:* Lohit, Subansiri, Tirap; 500-1500 m, often cultivated and also found as escape.

*Use:* Edible oil 'Til oil' is extracted from seeds. Seeds are also used in making sweets.

### ACANTHACEAE

**Acanthus leucostachyus** Wall. ex Nees in Wall., Pl. As. Rat. 3: 98.1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 480.1884; Kanjilal *et al.*, Fl. Assam 3: 440. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 239. 1996.

Decumbent herbs; stems 15-30 cm long, woolly. Leaves elliptic or oblong, spinous-serrate, slightly hairy beneath; petioles short. Flowers in hairy spikes, white. Capsules ellipsoid. Compressed, glabrous, shining brown, 4-seeded.

*Fl. & Fr.:* June - Nov.

*Distrib.:* Changlang, Kameng, Lohit, Siang, Subansiri; in shady places within deep forests.

*Use:* Decoction of the whole plant is used as oral contraceptive.

**Aechmanthera leiosperma** C. B. Clarke in Hook. f., Fl. Brit. India 4: 429. 1884.

Small shrubs, 60-90 cm tall, hairy. Leaves ovate or elliptic, acute. Flowers in one sided panicles, pale violet or purplish. Capsules 6-seeded.

*Fl. & Fr.*: Aug.- Feb.

*Distrib.*: Kameng; 900-1200 m.

**Andrographis laxiflora** (Blume) Lindau ex Hochr. in *Candollea* 5:237. 1934; Sreem. in *Bull. Bot. Surv. India* 11:183.1969. *Justicia laxiflora* Blume, *Bijdr.* 789. 1826. *Andrographis tenuiflora* T. Anderson in *J. Linn. Soc. Bot.* 9: 502.1867; C. B. Clarke in *Hook. f., Fl. Brit. India* 4: 502. 1884.

Perennial, trailing herbs, 30-60 cm tall. Leaves ovate or lanceolate, glabrous or pubescent on nerves. Flowers in lax, simple or compound spikes, very small, pink-violet. Capsules pubescent, ultimately glabrous, 6-12 seeded.

*Fl. & Fr.*: Sept.- Nov.

*Distrib.*: Kameng, Subansiri; 150-1500 m.

**Asystasia neesiana** Nees in *Wall., Pl. As. Rar.* 3:89. 1832; Clarke in *Hook. f., Fl. Brit. India* 4: 496. 1884.

Undershrubs; branches spreading. Leaves large, broadly elliptic, acute, sparingly pubescent, lower long petiolate, uppermost sessile. Flowers in elongate, very lax, pubescent racemes, pink. Capsules pubescent. 4-seeded.

*Fl. & Fr.*: Sept.- Dec.

*Distrib.*: Kameng, Subansiri; up to 900 m.

**Barleria cristata** L., *Sp. Pl.* 636. 1753; C. B. Clarke in *Hook. f., Fl. Brit. India* 4:488.1884.

Perennial undershrubs, up to 1 m high; branches diffused. Leaves oblong or elliptic, acute, yellowish hairy beneath. Flowers in capitate spikes, purplish blue or white. Capsules 4-seeded.

*Fl. & Fr.*: Sept.- Dec.

*Distrib.*: Kameng, Subansiri; up to 1800 m, in sandy soil.

**Condonacanthus pauciflorus** (Nees) Nees in *DC., Prodr.* 11:103. 1847; C. B. Clarke in *Hook. f., Fl. Brit. India* 4:500. 1884. *Asistasia pauciflora* Nees in *Wall., Pl. As. Rar.* 3: 90.1832.

Erect herbs. Leaves elliptic, acuminate at both ends, pubescent on nerves beneath or glabrate. Flowers in terminal, slender, lax, paniculate racemes, white, sometimes with pink flush inside. Capsules 4-seeded.

*Fl. & Fr.*: Aug.-Dec.

*Distrib.*: Dibang valley, Kameng, Siang, Tirap; up to 1000 m.

**Dicliptera bupleuroides** Nees in Wall., Pl. As. Rar. 3:111, 1832; H. Hara in J. Jap. Bot. 55: 324, 1980. *D. roxburghiana* Nees var. *bupleuroides* (Nees) C. B. Clarke in Hook. f., Fl. Brit. India 4:554, 1885. *D. roxburghiana auct. non* Nees 1832 : C. B. Clarke in Hook. f., Fl. Brit. India 4:553, 1885.

Diffuse herbs or undershrubs, 30-90 cm high. Leaves elliptic, acute, pubescent or glabrate, base cuneate. Flowers in axillary or terminal clusters, mauve. Capsules clavate, puberulous or glabrous, 4-seeded.

*Fl. & Fr.*: Sept. - Dec.

*Distrib.*: Kameng; 500-2000 m.

**Difflugosa colorata** (Nees) Bremek. in Nederl. Akad. Wed. Verh. 41(1): 237, 1944; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 240, 1996. *Goldfussia colorata* Nees in Wall., Pl. As. Rar. 3: 89, 1832. *Strobilanthes coloratus* (Nees) T. Anderson in J. Linn. Soc. Bot. 9: 481, 1867; Clarke in Hook. f., Fl. Brit. India 4: 473, 1884; Kanjilal *et al.*, Fl. Assam 3: 434, 1939.

Shrubs or undershrubs, 1-2 m high, glabrous. Leaves ovate or elliptic, acuminate, glabrous. Flowers in terminal panicles, pink or purple. Capsules 4-seeded.

*Fl. & Fr.*: Aug. - Feb.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 600-1500 m, on slopes under the shade of trees and bushes.

**Ecbolium linneanum** Kurz in J. As. Soc. Bengal 40(2): 75, 1871; C. B. Clarke in Hook. f., Fl. Brit. India 4: 544, 1885. *Justicia ecbolium* L., Sp. Pl. 15, 1753.

Gregarious herbs or undershrubs; stems much branched. Leaves ovate or lanceolate, petiolate, puberulous or pubescent on nerves. Flowers in spikes, sometimes softly hairy, pinkish violet. Capsules long stalked, 4-seeded.

*Fl. & Fr.*: Sept. - Dec.

*Distrib.*: Kameng; up to 1250 m.

**Eranthemum pulchellum** Andrews, Bot. Repos. 2: t. 88, 1800; H. Hara in H. Hara *et al.*, Enum. Fl. Pl. Nep. 3:140, 1982. *Justicia nervosa* Vahl, Enum. Pl. 1:164, 1804. *Eranthemum nervosum* (Vahl) Br. ex Roem. & Schult., Syst. Veg. 1:174, 1817. *Daedalacanthus nervosus* (Vahl) T. Anderson in J. Linn. Soc. Bot. 9: 487, 1867; C. B. Clarke in Hook. f., Fl. Brit. India 4:418, 1884.

Undershrubs, 1-2.5 m high; branches quadrangular, younger parts puberulous. Leaves ovate, ovate-elliptic, ovate-lanceolate, acute or acuminate at apex, cuneate at base, obscurely crenate. Flowers in panicle spikes, bluish or pinkish. Capsules solid, cylindrical, base short.

*Fl. & Fr.*: Jan. – July.

*Distrib.*: Kameng; 300-900 m, along streams.

**Goldfussia discolor** Nees in DC., Prodr. 11: 172, 1847; N. P. Balakr., Fl. Jowai 2: 355, 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 240, 1996. *Strobilanthes discolor* (Nees) T. Anderson in J. Linn. Soc. Bot. 9: 477, 1968; Clarke in Hook. f., Fl. Brit. India 4: 462, 1884; Kanjilal *et al.*, Fl. Assam 3: 426, 1939.

Shrubs, up to 2 m high, nearly glabrous. Leaves lanceolate or elliptic, acuminate at both ends, glabrous. Flowers in axillary or terminal spikes, violet. Capsules 4-seeded.

*Fl. & Fr.*: June – Dec.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Tirap; 1500-3000 m.

**Goldfussia glabrata** (Nees) N. P. Balakr., Fl. Jowai 2: 355, 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 240, 1996. *Strobilanthes glabrata* Nees in Wall., Pl. As. Rar. 3: 85, 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 447, 1884; Kanjilal *et al.*, Fl. Assam 3: 420, 1939.

Shrubs, ca 2 m tall. Leaves elliptic, cuneate at base, acuminate, serrulate, glabrous. Flowers in ovoid pedunculate heads, white; bracts white or pale yellowish white. Capsules ca 2 cm long. Seeds silky hairy.

*Fl. & Fr.*: June – Dec.

*Distrib.*: Changlang, Lohit.

**Hygrophila erecta** (Burm. f.) Hochr. in Candollea 5: 230, 1934; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 241, 1996. *Ruellia erecta* Burm. f., Fl. Ind. 135, 1784. *Hygrophila quadrivalvis* Nees in Wall., Pl. As. Rar. 3: 80, 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 408, 1884.

Erect herbs. Leaves elliptic or lanceolate, tapering at both ends, undulate at margin. Calyx deeply lobed. Capsules longer than calyx, linear, many seeded.

*Fl. & Fr.*: June - Oct.

*Distrib.*: Changlang, Lohit.

**Hygrophila phlomoides** Nees in Wall., Pl. As. Rar. 3: 80, 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 408, 1884.

Herbs or undershrubs, 3-60 cm high; stems erect, hirsute upward. Leaves subsessile, elliptic or oblong, hairy. Flowers in axillary whorls, sessile, bluish purple. Capsules linear or narrowly oblong, many seeded. Seeds ovoid, compressed.

*Fl. & Fr.*: July -- Oct.

*Distrib.*: Kameng; up to 300 m, near streams.

**Hygrophila polysperma** (Roxb.) T. Anderson in J. Linn. Soc. Bot. 9: 456, 1867; C. B. Clarke in Hook. f., Fl. Brit. India 4: 406, 1884; H. Hara in H. Hara *et al.*, in Enum. Fl. Pl. Nepal 3:141, 1982. *Justicia polysperma* Roxb., Fl. Ind. 1:119, 1820. *Hemiadelphis polysperma* Nees var. *joshianus* Rao & Biswas in Ind. for. 94: 657, 1968.

Annual herbs, 15-45 cm high; rooting at nodes. Leaves oblong or ovate, nearly entire, glabrous or puberulous. Flowers in terminal spikes, pale blue or white, pubescent. Capsules linear, narrowly oblong, 20-32 seeded.

*Fl. & Fr.*: Nov.- Jan.

*Distrib.*: Kameng; 1000-1500 m.

**Hygrophila salicifolia** (Vahl) Nees in Wall., Pl. As. Rar. 3:81, 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 407, 1884; H. Hara in J. Jap. Bot. 53: 237, 1978; N. P. Balakr., Fl. Jowai 2: 351, 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 241, 1996. *Ruellia salicifolia* Vahl, Symb. Bot. 3: 84, 1794.

Erect herbs, 40-60 cm high. Leaves subsessile, linear-lanceolate, tapering at both ends, glabrous. Flowers in axillary whorls, pale purple. Capsules linear, short, many seeded.

*Fl. & Fr.*: May - Dec.

*Distrib.*: Changlang, Kameng, Lohit; up to 300 m, near streams in moist places.

**Hypoestes triflora** (Forssk.) Roem. et Schult., Syst. Veg. 1: 141, 1817; C. B. Clarke in Hook. f., Fl. Brit. India 4: 557, 1885; Kanjilal *et al.*, Fl. Assam 3: 540, 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 241, 1996. *Justicia triflora* Forssk., Fl. Aegypt. Arab. 4, 1775.

Herbs or undershrubs, up to 50 cm high; much branched. Leaves ovate, acuminate at apex, acute or subacute at base, crenulate or wavy, sparsely puberulous. Inflorescences axillary or terminal clusters, heads or umbels. Flowers pink or pale pink to white. Capsules ellipsoid or ovoid, 4-seeded. Seeds verrucose.

*Fl. & Fr.*: May – Jan.

*Distrib.*: Changlang, Kameng, Lohit; 1000-1500 m, in shaded primary forests.

**Justicia adhatoda** L., Sp. Pl. 1: 15. 1753; Roxb., Fl. Ind. 1:127. 1820; Stearn in J. Arn. Arb. 52: 640.1971. *Adhatoda zeylanica* Medicus in Hist. Comm. Acad. Theod. Palat. Phys 393. 1790. *A. vasica* Nees in Wall., Pl. As. Rar. 3:103.1832; C. B. Clarke in Hook. f., Fl. Brit. India 4:540. 1885.

Bushy shrubs, 1-1.25 m high. Leaves elliptic, acute at both ends, entire, minutely pubescent. Flowers in short spikes, white. Capsules clavate, pubescent, 4-seeded.

*Fl. & Fr.*: July – Dec.

*Distrib.*: Kameng, Subansiri; 100-500 m, in moist places.

*Use*: Decoction of leaves is used in cough and cold.

**Justicia collina** T. Anderson in J. Linn. Soc. Bot. 9: 516. 1867. *Dianthera collina* (T. Anderson) C. B. Clarke in Hook. f., Fl. Brit. India 4:543. 1885.

Diffused herbs or undershrubs, 30-60 cm tall; branches puberulous. Leaves ovate, nearly glabrous, acute at apex, cuneate at base. Flowers in axillary or terminal panicles, white. Capsules clavate, glabrous, 4-seeded.

*Fl. & Fr.*: Aug. – Nov.

*Distrib.*: Kameng; 1500-2100 m, in open places of forests.

**Justicia gendarussa** Burm. f., Fl. Ind. 10. 1768; C. B. Clarke in Hook. f., Fl. Brit. India 4: 532. 1885. *Gendarussa vulgaris* Nees in Wall., Pl. As. Rar. 3: 104. 1832; Bremek., Dansk Bot. Arkiv. 20: 81.1961.

Herbs or undershrubs, 60-120 cm tall. Leaves lanceolate, glabrous; petioles short. Flowers in spikes, often in panicles, white or rose with purple spots. Capsules glabrous, 4-seeded.

*Fl. & Fr.*: Jan. – May.

*Distrib.*: Siang.

*Use*: Leaves are made into paste and applied in the form of plaster in case of boils, fracture of bones and swellings of joints.

**Justicia japonica** Thunb., Fl. Jap. 20. 1784. *Rostellularia japonica* (Thunb.) J. L. Ellis in Bull. Bot. Surv. India 22: 196.1982.

Herbs; stems branched, hairy. Leaves ovate or oblong, petiolate. Flowers in spikes, very hairy, blue. Capsules cylindrical.

*Fl. & Fr.*: Aug. – Sept.

*Distrib.*: Tirap; up to 600 m.

**Justicia khasiana** C. B. Clarke in Hook. f., Fl. Brit. India 4:537. 1885.

Herbs, 50-90 cm tall; stems much branched, hispid. Leaves sessile, oblong, hispid on both surfaces. Flowers in spikes, blue. Capsules ellipsoid.

*Fl. & Fr.*: Aug. – Feb.

*Distrib.*: Subansiri; 300-1500 m, on slopes along roadsides.

**Justicia procumbens** L. var. **simplex** (D. Don) Yamazaki in H. Hara, Fl. E. Himal. 302. 1966. *J. simplex* D. Don, Prodr. Fl. Nep. 118. 1825; C. B. Clarke in Hook. f., Fl. Brit. India 4:539. 1885. *Rostellularia mollissima* Nees in Wall., Pl. As. Rar. 3: 101. 1832, p.p.

Herbs, up to 30 cm high; much branched, hairy. Leaves ovate or oblong, hairy, petiolate. Flowers in cylindric, densely hairy spikes, blue or pale pink. Capsules ovoid or ellipsoid, 4-seeded. Seeds ovoid, nearly compressed.

*Fl. & Fr.*: Oct. – Feb.

*Distrib.*: Tirap; up to 600 m.

**Justicia quinqueangularis** Koenig ex Roxb., Fl. Ind. 1: 134. 1820; C. B. Clarke in Hook. f., Fl. Brit. India 4: 536. 1885.

Herbs, up to 50 cm high; branches rigid, 4-5 angled. Leaves linear or linear-lanceolate, glabrous. Flowers in axillary or terminal, elongate spikes, yellowish. Capsules stout. Seeds much longer.

*Fl. & Fr.*: Aug. – Nov.

*Distrib.*: Kameng.

**Justicia vasculosa** (Nees) T. Anderson in J. Linn. Soc. Bot. 9:515. 1867; C. B. Clarke in Hook. f., Fl. Brit. India 4:533. 1885. *Gendarussa vasculosa* Nees in Wall., Pl. As. Rar. 3: 104. 1832.

Perennial herbs, up to 60 cm high, fleshy. Leaves ovate, attenuate at both ends, minutely crisped pubescent on midrib beneath. Flowers solitary, yellowish, slightly pink spotted.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Kameng, Lohit, Siang, Subansiri; 500-1500 m, amidst grasses.

**Justicia virgata** T. Anderson in J. Linn. Soc. Bot. 91: 516. 1867. *Dianthera virgata* (T. Anderson) Benth. ex C. B. Clarke in Hook. f., Fl. Brit. India 4: 542. 1885.

Herbs or small shrubs, 60-90 cm high; branches slender. Leaves elliptic, narrowed at both ends, pubescent on nerves beneath. Flowers in spikes or sometimes in panicles, white or creamy white, sometimes yellow tinged. Capsules clavate, puberulous, 4-seeded.

*Fl. & Fr.*: Nov. - Jan.

*Distrib.*: Kameng, Lohit; 300-900 m, in moist shady places.

**Lepidagathis incurva** Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 119. 1825; H. Hara in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 142. 1982; Kanjilal *et al.*, Fl. Assam 3: 451. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 241. 1996. *L. hyalina* Nees in Wall., Pl. As. Rar. 3: 95. 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 521. 1885. *L. riparia* Nees in DC., Prodr. 11: 253. 1847.

Perennial herbs, 30-60 cm high. Leaves ovate or oblong, minutely viscid pubescent. Flowers in axillary or terminal, dense spikes, white with brown spots. Capsules oblong, 4-seeded.

*Fl. & Fr.*: April - Dec.

*Distrib.*: Changlang, Kameng, Lohit; up to 1200 m.

**Nelsonia canescens** (Lam.) Spreng., Syst. Veg. 1: 42. 1825; Bremek. in Reinwardtia 3: 248. 1955. *Justicia canescens* Lam., Tab. Encycl. Meth. Bot. 1: 41. 1791. *Nelsonia campestris* R. Br., Prodr. 481. 1810; C. B. Clarke in Hook. f., Fl. Brit. India 4: 395. 1884.

Diffused herbs, softly villous. Leaves elliptic-oblong, lower leaves large, long petiolate, upper ones smaller, sessile. Flowers in spikes, small, purple. Capsules oblong, acute or conical. Seeds globose, small.

*Fl. & Fr.*: Sept. - Jan.

*Distrib.*: Kameng; up to 1200 m, in shady places.

**Peristrophe fera** C. B. Clarke in Hook. f., Fl. Brit. India 4: 556. 1885.

Erect, spreading herbs. Leaves ovate-lanceolate; petioles long, acuminate at apex, more or less pubescent. Flowers rose or purple. Capsules ellipsoid, stalked, 4-seeded.

*Fl. & Fr.*: Nov. - March.

*Distrib.*: Kameng, Siang; 300-1200 m, in waste places.

**Peristrophe roxburghiana** (Schult.) Bremek. in Acta bot. Neerl

4:656. 1955. *Justicia roxburghiana* Schult. Mant. 1:140. 1822. *J. tinctoria* Roxb., Fl. Ind. 1:124. 1820, non Lour. 1790. *Peristrophe tinctoria* Nees in Wall., Pl. As. Rar. 3:113. 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4:556. 1885.

Herbs, dusky pubescent. Leaves ovate or oblong, entire, pubescent, petiolate. Flowers rose or purple, sessile in involucre, filiform. Capsules shortly stalked.

*Fl. & Fr.*: Nov. - Feb.

*Distrib.*: Kameng, Siang, Subansiri; 800-1200 m, in forests and wastelands.

***Peristrophe speciosa*** (Roxb.) Nees in Wall., Pl. As. Rar. 3:13. 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4:556. 1885. *Justicia speciosa* Roxb., Fl. Ind. 1: 123. 1820.

Perennial herbs, ca 1 m high. Leaves ovate-cordate, ovate-lanceolate or elliptic, acute, nearly glabrous. Bracts foliaceous. Inflorescence subcapitate, terminal or axillary, few flowered. Flowers reddish violet, tube curved. Capsules stalked, 4-seeded.

*Fl. & Fr.*: Nov.- March.

*Distrib.*: Kameng, Siang; up to 1200 m.

***Phaulopsis imbricata*** (Forssk.) Sweet, Hort. Brit. ed. 1,327. 1827; Bennet in Ind. J. For. 1: 24. 1978. *Ruellia imbricata* Forssk., Fl. Aegypt. Arab. 113.1775. *Phaulopsis parviflora* Willd., Sp. Pl. 3:342. 1800; C. B. Clarke in Hook. f., Fl. Brit. India 4: 417. 1884.

Prostrate herbs, hairy. Leaves opposite, unequal, ovate. Bracts orbicular or reniform, membranous. Flowers in densely or sparsely hairy spikes, white. Capsules clavate, 4-seeded. Seeds compressed, discoid, densely hairy.

*Fl. & Fr.*: Nov. - March.

*Distrib.*: Kameng; up to 900 m, in moist shady places.

***Phlogacanthus asperulus*** Nees in Wall., Pl. As. Rar. 3: 99. 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 512. 1884; Kanjilal *et al.*, Fl. Assam 3: 444. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 242. 1996.

Undershrubs or shrubs, up to 90 cm high, nearly glabrous. Leaves elliptic, acuminate at both ends, glabrous. Inflorescence linear, thyrsoid panicle, nearly pubescent. Flowers pinkish purple, often with yellow marks. Capsules glabrous, many seeded.

*Fl. & Fr.*: Nov. - Jan.

*Distrib.*: Changlang, Lohit, Siang; up to 1500 m, in moist places near water sources.

**Phlogacanthus curviflorus** Nees in Wall., Pl. As. Rar. 3: 99. 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 511. 1884; Kanjilal *et al.*, Fl. Assam 3: 443. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 242. 1996.

*Local name*: Dhapatita (Asm.).

Herbs or shrubs, 2-3.5 m high. Leaves large, elliptic or obovate, nearly glabrous. Inflorescence thyrse, nearly villous. Flowers brick red or orange. Capsules glabrous, 12-14-seeded.

*Fl. & Fr.*: Sept.- April.

*Distrib.*: Changlang, Lohit, Siang, Subansiri; 800-1500 m, along edges of forests.

**Phlogacanthus gracilis** T. Anderson ex Burkill in Rec. Bot. Surv. India 10(1): 336. 1924.

Herbs, up to 1 m high. Flowers in terminal spikes, lilac or at times white, sometimes darker in colour.

*Fl. & Fr.*: Nov. - Jan.

*Distrib.*: Siang; 1000-2000 m, in forest clearings near roadsides in deep shady places.

**Phlogacanthus guttatus** Nees in Wall., Pl. As. Rar. 3: 99. 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 512. 1884; Kanjilal *et al.*, Fl. Assam 3: 443. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 242. 1996.

Herbs or shrubs, 3-5 m tall, glabrous. Leaves large, oblong or elliptic, acuminate at both ends, glabrous. Flowers purple, dull violet with pinkish tinge in linear, dense, terminal, pubescent spikes. Capsules 12-seeded.

*Fl. & Fr.*: Nov. - March.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Tirap; 300-1200 m, in moist, shady places of forests.

**Phlogacanthus parviflorus** T. Anderson in J. Linn. Soc. Bot. 9: 506. 1867; C. B. Clarke in Hook. f., Fl. Brit. India 4: 512. 1884; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 243. 1996.

Undershrubs or shrubs. Leaves large, broadly lanceolate, glabrous, acuminate at both ends, subentire, obscurely puberulous above, paler and glabrous beneath. Flowers in panicles, blood red.

*Fl. & Fr.*: Nov. - June.

*Distrib.*: Changlang, Lohit, Siang; growing in shady places.

**Phlogacanthus thyrsiflorus** (Roxb.) Nees in Wall., Pl. As. Rar. 3: 99. 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 512. 1884. *Justicia thyrsiflora* Roxb., Fl. Ind. 1: 116. 1820.

*Local name*: Banheka, Ram-bahonka, Titaphul (Asm.).

Undershrubs or shrubs, 1-2.5 m high. Leaves large, lanceolate, glabrous, subentire, acuminate at both ends. Inflorescence thyrses. Flowers in terminal, pubescent spikes, orange. Capsules glabrous, 12-14 seeded.

*Fl. & Fr.*: Nov. - Jan.

*Distrib.*: Siang; 300-1200 m.

**Phlogacanthus tubiflorus** Nees in Wall., Pl. As. Rar. 3: 99. 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 511. 1884; Kanjilal *et al.*, Fl. Assam 3: 443. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 243. 1996.

*Local name*: Bhatia-tita (Asm.).

Shrubs, up to 1 m high. Leaves large, elliptic or ovate, narrowed at both ends, softly pubescent beneath. Inflorescence panicle, nearly pubescent. Flowers rosy red or yellowish red. Capsules glabrous, 12-seeded.

*Fl. & Fr.*: Nov. - May.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 400-1200 m, in moist shady places of primary forests.

**Phlogacanthus wallichii** C. B. Clarke in Hook. f., Fl. Brit. India 4: 511. 1884.

Herbs. Leaves large, elliptic-lanceolate or oblanceolate, acuminate at both ends, undulate at margin, glabrous, subentire. Inflorescences thyrses, villous. Flowers coral-red, densely hairy. Capsules many seeded.

*Fl. & Fr.*: Jan. - March.

*Distrib.*: Siang; 200-1500 m, in shaded places of primary forests.

**Pseuderanthemum indicum** (Nees) A. M. et J. M. Cowan, Trees Bengal 98. 1929; Kanjilal *et al.*, Fl. Assam 3: 448. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 243. 1996. *Thyrsacanthus indicus* Nees in DC., Prodr. 9: 325. 1845. *Eranthemum indicum* (Nees) C. B. Clarke in Hook. f., Fl. Brit. India 4: 497. 1884.

Diffuse herbs or undershrubs, up to 1 m high. Leaves lanceolate or subovate, acuminate at both ends, glabrous. Flowers in racemes, glabrous or puberulous, white, profusely purple veined. Capsules long, cylindric, solid, 4-seeded.

*Fl. & Fr.*: Dec. - March.

*Distrib.*: Changlang, Kameng, Lohit; 300-1500 m.

***Pseuderanthemum leptanthus*** (C. B. Clarke) Lindau in Engl. & Prantl, *Pflanzenfam.* 4:36. 1895. *Eranthemum leptanthus* C. B. Clarke in Hook. f., *Fl. Brit. India* 4:500. 1884.

Large, glabrous herbs. Leaves elliptic, acuminate at both ends, glabrous. Flowers in terminal or subterminal, many flowered, elongate racemes, bluish or yellowish purple.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Lohit.

***Pseuderanthemum palatiferum*** (Wall.) Radlk. in Sitzb. Math.-phys. Cl. Acad. Wiss. Muench. 13(2): 286. 1884; Kanjilal *et al.*, *Fl. Assam* 3: 449. 1939; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 243. 1996. *Justicia palatifera* Wall., *Pl. As. Rar.* 1: 80, t. 92. 1830. *Eranthemum palatiferum* (Wall.) Nees in Wall., *Pl. As. Rar.* 3: 108. 1832; C. B. Clarke in Hook. f., *Fl. Brit. India* 4: 498. 1884.

Shrubs, ca 2 m high. Leaves elliptic, acuminate at both ends, coriaceous, pubescent on midrib beneath or glabrate. Flowers in long, pubescent racemes, purple with a yellowish spot on the middle lobe of lower lip. Capsules pubescent, 4-seeded.

*Fl. & Fr.*: March - Oct.

*Distrib.*: Changlang, Dibang valley, Lohit, Kameng, Siang, Subansiri; 300-900 m, in shady moist soil.

***Pteracanthus nobilis*** (C. B. Clarke) Bremek. in Verh. Ned. Acad. Wet. Afd. Nat. Sect. 2, 41(1): 199. 1944; N. P. Balakr., *Fl. Jowai* 2: 357. 1983; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 244. 1996. *Strobilanthes nobilis* C. B. Clarke in Hook. f., *Fl. Brit. India* 4: 471. 1884; Kanjilal *et al.*, *Fl. Assam* 3: 432. 1939.

Small shrubs, much branched. Leaves elliptic, cuneate at base, acute or acuminate at apex, glabrous beneath. Flowers in axillary paniced spikes, purple. Capsules ca 2 cm in diameter.

*Fl. & Fr.*: Oct. - April.

*Distrib.*: Changlang, Lohit.

**Rhinacanthus calcaratus** Nees in Wall., Pl. As. Rar. 3: 109, 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 541, 1885.

Shrubs. Leaves large, elliptic or narrowly obovate, acuminate at both ends, glabrous. Flowers in dense, terminal panicles, creamy white with violet tinge along corolla lobes. Capsules clavate, 4-seeded.

*Fl. & Fr.*: Nov. – Jan.

*Distrib.*: Lohit.

**Rhinacanthus grandiflorus** Dunn in Kew Bull. 1920: 135, 1920.

Herbs, up to 1 m high; rooting at nodes. Leaves ovate, chartaceous, glabrous. Flowers in dense, sessile, terminal cymes, white, corolla-tube cylindrical, lobes linear, cordate. Capsules oblong. Seeds 4, rugose.

*Fl. & Fr.*: Dec. – Feb.

*Distrib.*: Siang (Abor hills).

**Rungia latior** Nees in DC., Prodr. 11: 472, 1847; C. B. Clarke in Hook. f., Fl. Brit. India 4: 546, 1885.

Herbs, scabrous-pubescent. Leaves ovate or broadly lanceolate, cuneate at both ends, petiolate. Inflorescence ovoid or oblong, dense, often clustered spike. Flowers bluish or white, small. Capsules ovoid or oblong, shortly stalked, 4-seeded. Seeds orbicular, compressed.

*Fl. & Fr.*: Oct. – Feb.

*Distrib.*: Kameng.

**Rungia parviflora** (Retz.) Nees in Wall., Pl. As. Rar. 3: 110, 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 550, 1885. *Justicia parviflora* Retz., Obs. Bot. 5: 9, 1788.

Small herbs. Leaves small, ovate or lanceolate, nearly glabrous, upper ones narrow, sometimes linear. Flowers in dense, terminal or axillary spikes, blue or white. Capsules ovoid, 4-seeded.

*Fl. & Fr.*: Dec. – Feb.

*Distrib.*: Kameng, Siang; 300 - 2000 m, in wastelands and along forest margins.

**Rungia repens** Nees in Wall., Pl. As. Rar. 3: 110, 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 549, 1885.

Procumbent herbs; rooting at nodes; branches pubescent or nearly glabrous. Leaves sessile, oblong-lanceolate, scabrid-puberulous. Flowers white with rose or purple spots. Capsules minutely and thinly hairy, 4-seeded.

*Fl. & Fr.*: Nov. – Feb.

*Distrib.*: Siang; 500-1500 m, in moist places.

**Rungia stolonifera** C. B. Clarke in Hook. f., Fl. Brit. India 4: 547. 1885.

Procumbent herbs, up to 50 cm high, much branched; rooting at nodes. Leaves ovate minutely scabrid-pubescent, petiolate. Flowers in terminal or axillary, 2-4 ranked spikes, blue. Capsules nearly glabrous, 4-seeded.

*Fl. & Fr.*: Oct. – July.

*Distrib.*: Kameng.

**Staurogyne glauca** (Nees) Kuntze, Rev. Gen. Pl. 497. 1891. *Ebermaiera glauca* Nees in Hook., Comp. Bot. Mag. 2: 310. 1836; C. B. Clarke in Hook. f., Fl. Brit. India 4: 395. 1884.

Herbs or undershrubs, 20-35 cm high; stems patent, viscosely pubescent upward. Leaves spatulate-oblong, upper alternate, petiolate. Flowers in elongate, lax spikes, purplish with rose or yellow stripes. Capsules oblong, 15-30-seeded.

*Fl. & Fr.*: April – Sept.

*Distrib.*: Kameng.

**Staurogyne polybotrya** (Nees) Kuntze, Rev. Gen. Pl. 497. 1891. *Ebermaiera polybotrya* Nees in DC., Prodr. 11: 74. 1847; Clarke in Hook. f., Fl. Brit. India 4: 396. 1884.

Herbs, 30-70 cm high; branched from base, adpressedly grey pubescent upward. Leaves opposite, elliptic, subentire, pubescent on nerves beneath. Flowers in cylindric spikes, purplish with rose or yellowish stripe. Capsules oblong.

*Fl. & Fr.*: April – Sept.

*Distrib.*: Kameng.

**Strobilanthes aborensis** Dunn in Kew Bull. 1920: 208. 1920; Burkill in Rec. Bot. Surv. India 10(1): 332. 1924. *S. mastersii* Burkill in J. As. Soc. Bengal 12: 253. 1916, *non* T. Anderson.

Shrubs, up to 3.5 m high, sometimes weak, glabrous. Leaves sessile, lanceolate, base rotund, obscurely crenate. Flowers pale yellow in lax panicles. Capsules oblong. Seeds rugulose, glabrous.

*Fl. & Fr.*: Nov. – Feb.

*Distrib.*: Dibang valley, Siang; up to 1000 m, in open and shady places.

***Strobilanthesacrocephalus*** T. Anderson in J. Linn. Soc. Bot. 9: 473. 1868; C. B. Clarke in Hook. f., Fl. Brit. India 4: 454. 1884.

Undershrubs, 60 cm high; stems hirsute. Leaves ovate, acute, crenate, hirsute. Flowers in densely hairy spikes, violet. Capsules hairy, 4-seeded.

*Fl. & Fr.*: Oct. - Dec.

*Distrib.*: Kameng; 1200-1500 m.

*Note*: The genus *Strobilanthes* Blume have been splitted into many genera by Bremekamp and a good number of species from *Strobilanthes* have been transferred to *Pteracanthus* Bremek. (Bremek. in Verh. Ned. Akad. Wetens. Sect. 2. 91: 198-199. 1944). The segregation require critical study of all Indian specimens which is not carried out by the present authors and as such, they are kept under *Strobilanthes* only.

***Strobilanthesboerhavioides*** T. Anderson in J. Linn. Soc. Bot. 9: 479. 1867; C. B. Clarke in Hook. f., Fl. Brit. India 4:469. 1884.

Shrubs, up to 1.5 m high. Leaves roundate at base, acuminate, lanceolate or elliptic, glabrous. Inflorescence lax flowered, axillary paniced spike. Flowers bluish purple. Capsules oblanceolate.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Kameng; 1000-1500 m, in shady places and along streams in primary forests.

***Strobilanthesburkilli*** Dunn in Kew Bull. 1920: 208. 1920.

Small shrubs; branches zigzag. Leaves subsessile, oblong-lanceolate, obtuse at base, oblique, dentate-serrate. Flowers 1-4 in capitate cymes, violet, hooded, narrower part of tube slightly twisted. Capsules oblanceolate. Seeds 2, rugulose, glabrous.

*Fl. & Fr.*: Dec. - March.

*Distrib.*: Siang.

***Strobilanthescapitatus*** T. Anderson in J. Linn. Soc. Bot. 9: 475. 1867; Clarke in Hook. f., Fl. Brit. India 4: 459. 1884.

Shrubs, 30-90 cm high. Leaves ovate, acuminate at both ends, nearly glabrous. Flowers in many flowered heads, bright violet. Capsules slightly clavate, pubescent, 4-seeded.

*Fl. & Fr.*: Oct. - Dec.

*Distrib.*: Lohit; 400-1500 m, on moist soil.

***Strobilanthesfimbriatus*** Nees in Wall., Pl. As. Rar. 3: 85. 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 447. 1884.

Undershrubs, glabrous. Leaves oblong, acuminate at both ends, glabrous, lineolate on both surfaces. Inflorescence capitate. Bracts obovate-oblong, acuminate, inciso-serrate, rufous hairy. Capsules oblong, 4-seeded. Seeds ovate.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Kameng.

**Strobilanthes flaccidifolius** Nees in DC., Prodr. 11: 194. 1847; C. B. Clarke in Hook. f., Fl. Brit. India 4: 468. 1884.

Shrubs; stems and branches glabrous. Leaves elliptic, acute at both ends. Flowers in dense, paniced spikes, white. Capsules not constricted at base.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Tirap; 300-1200 m.

**Strobilanthes furcatus** Biswas in Assam For. Rec. bot. 1: 23. 1934.

Shrubs or undershrubs; branches scandent. Leaves oblong to oblong-elliptic, cuneate at base, acuminate at apex, crenate, finely lineolate on both surfaces, glaucescent beneath. Flowers in spicate racemes, small, white.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Kameng, Subansiri, Tirap; 1200-1500 m.

**Strobilanthes glomeratus** T. Anderson in J. Linn. Soc. Bot. 9: 475. 1868; C. B. Clarke in Hook. f., Fl. Brit. India 4: 448. 1884.

Shrubs, 1-5 m high; rooting at base. Leaves ovate, acute, serrate, hairy. Flowers violet in ovoid, hairy heads. Capsules broadly oblong, 4-seeded.

*Fl. & Fr.*: Nov. - Jan.

*Distrib.*: Siang; 300-1000 m.

**Strobilanthes gracilis** Bedd. in Trans. Linn. Soc. 25: 222. 1872 & Ic. Pl. Ind. Or. t. 207. 1874, non T. Anderson; C. B. Clarke in Hook. f., Fl. Brit. India 4: 474. 1884.

Large shrubs, glabrous. Leaves sessile, lanceolate, attenuate at both ends, glabrous. Flowers on glabrous panicles, rosy-white with violet tinge or white with lilac tinge. Capsules glabrous.

*Fl. & Fr.*: Oct. - Dec.

*Distrib.*: Lohit; ca 1200 m.

**Strobilanthes helictus** T. Anderson in J. Linn. Soc. Bot. 9: 479. 1868; C. B. Clarke in Hook. f., Fl. Brit. India 4: 469. 1884.

Herbs or shrubs, up to 3 m high. Leaves lanceolate or elliptic, acuminate at both ends, glabrous. Flowers in elongate, zigzag-twisted, glabrous or hairy spikes, creamy white. Capsules white, glabrous, 4-seeded.

*Fl. & Fr.*: Aug. – Dec.

*Distrib.*: Siang, Tirap; 1200-2200 m.

**Strobilanthes inflatus** T. Anderson in J. Linn. Soc. Bot. 9: 476. 1867; C. B. Clarke in Hook. f., Fl. Brit. India 4: 471. 1884.

Shrubs or undershrubs; stems and branches villous. Leaves elliptic or subovate, acuminate, serrate, hairy on both surfaces. Inflorescence twisted, one-sided spike. Flowers much curved, pubescent without. Capsules narrowly elliptic, glabrous, 4-seeded. Seeds subquadrate.

*Fl. & Fr.*: May – Nov.

*Distrib.*: Kameng.

**Strobilanthes macrostegius** C. B. Clarke in Hook. f., Fl. Brit. India 4: 456. 1884.

Straggling shrubs; branches pubescent when young. Leaves elliptic, subentire, glabrous or sparsely pubescent beneath. Flowers in elongate, more or less interrupted axillary spikes. Capsules oblong, hairy, 4-seeded.

*Fl. & Fr.*: Dec. – Feb.

*Distrib.*: Siang; up to 1000 m.

**Strobilanthes maculata** (Wall.) Nees in DC., Prodr. 11: 190. 1884; C. B. Clarke in Hook. f., Fl. Brit. India 4: 457. 1884. *Ruellia maculata* Wall., Pl. As. Rar. 3: 33, t. 250. 1832.

Shrubs, up to 1.2 m high. Leaves ovate, acuminate at both ends, nearly glabrous. Flowers in erect, linear spikes, pale blue or lavender. Capsules oblong, pubescent, 4-seeded. Seeds orbicular, hairy.

*Fl. & Fr.*: July – Oct.

*Distrib.*: Kameng; 300-900 m.

**Strobilanthes multident** C. B. Clarke in Hook. f., Fl. Brit. India 4: 461. 1884.

Shrubs, up to 3 m high. Leaves ovate, shortly acuminate at both ends, minutely and sparsely hairy on both surfaces. Flowers in panicle hairy heads, violet at throat. Capsules pubescent, 4-seeded.

*Fl. & Fr.*: March – May.

*Distrib.*: Kameng; 1500-2400 m.

***Strobilanthes pauper*** C. B. Clarke in Hook. f., Fl. Brit. India. 4: 463. 1883.

Shrubs, 30-60 cm high. Leaves lanceolate, acuminate at both ends, puberulous beneath or glabrate. Flowers in paniced heads, violet. Capsules pubescent, 4-seeded.

*Fl. & Fr.*: Oct. – Dec.

*Distrib.*: Kameng; 1200-1800 m.

***Strobilanthes pectinatus*** T. Anderson in J. Linn. Soc. Bot. 9: 474. 1867; C. B. Clarke in Hook. f., Fl. Brit. India. 4: 447. 1884.

Spreading shrubs. Leaves elliptic, acuminate at both ends, hairy, serrate, villous or subtomentose beneath. Flowers in short peduncled, hairy, ellipsoid heads, pale purple. Capsules small, 4-seeded. Seeds thin, ovate.

*Fl. & Fr.*: May – Feb.

*Distrib.*: Subansiri; 900-1500 m.

***Strobilanthes pentitemonoides*** T. Anderson in J. Linn. Soc. Bot. 9: 477. 1868; C. B. Clarke in Hook. f., Fl. Brit. India 4: 460. 1884.

Perennial herbs or shrubs, 1-2.5 m high, much branched, glabrous. Leaves elliptic, acuminate at both ends, glabrous. Inflorescences glandular or hairy heads, 1-3 together. Flowers deep violet. Capsules oblong, clavate, glandular pubescent, 4-seeded.

*Fl. & Fr.*: Aug. – Sept.

*Distrib.*: Subansiri, Tirap; 300-1500 m, amidst grasses.

***Strobilanthes rhombifolius*** C. B. Clarke in Hook. f., Fl. Brit. India 4: 461. 1884.

Herbs, up to 1 m high. Leaves ovate, shortly acuminate at both ends, minutely and sparsely hairy on both surfaces. Inflorescence paniced head, viscous hairy. Flowers deep violet or purple. Capsules viscous pubescent, 4-seeded.

*Fl. & Fr.*: Oct. – Dec.

*Distrib.*: Kameng, Lohit, Siang, Subansiri; 500-1500 m.

***Strobilanthes secundus*** T. Anderson in J. Linn. Soc. Bot. 9: 480. 1867; C. B. Clarke in Hook. f., Fl. Brit. India 4: 468. 1884; Kanjilal *et al.*, Fl. Assam 3: 429. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 244. 1996.

*Local name:* Ta-gam (Aboi.).

Perennial herbs or shrubs, up to 2 m high. Leaves elliptic, acute at both ends, nearly glabrous. Flowers in long, lax spikes, brownish purple, tube without yellow. Capsules 4-seeded.

*Fl. & Fr.:* Dec. – March.

*Distrib.:* Changlang, Lohit, Tirap.

***Strobilanthes tenax*** Dunn in Kew Bull. 1920: 209. 1920; Burkill in Rec. Bot. Surv. India 10(1): 3345. 1924.

Shrubs. Leaves lanceolate, acute at base, acuminate or acute at apex, serrate, glabrous. Inflorescence lax panicle; bracts linear, foliaceous, persistent. Capsules oblanceolate, long, 2-seeded.

*Fl. & Fr.:* Dec. – March.

*Distrib.:* Siang.

***Strobilanthes urophyllus*** Nees in DC., Prodr. 11: 192. 1847; C. B. Clarke in Hook. f., Fl. Brit. India 4: 472. 1884.

Small shrubs, glabrous. Leaves lanceolate, acuminate at both ends, glabrous. Flowers scattered, alternate and subopposite on small leafy branches. Capsules 4-seeded.

*Fl. & Fr.:* Aug. – Sept.

*Distrib.:* Tirap.

***Strobilanthes wallichii*** Nees in Wall., Pl. As. Rar. 3: 87. 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 471. 1884.

Herbs or undershrubs, villous. Leaves elliptic, acuminate, nearly glabrous. Inflorescence lax, one sided, spike. Flowers pale yellow or blue. Capsules glabrous, 4-seeded.

*Fl. & Fr.:* Oct. – Dec.

*Distrib.:* Lohit; 500-1200 m.

***Sympagis petiolaris*** (Nees) Bremck. in Verh. Ned. Acad. Wet. Sect. 2, 41(1): 255. 1944; Srinivasan & Agarwal in Bull. Bot. Surv. India 5: 85. 1963; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 244. 1996. *Strobilanthes petiolaris* Nees in DC., Prodr. 11: 185. 1847; C. B. Clarke in Hook. f., Fl. Brit. India 4: 458. 1884.

Shrubs. Leaves ovate, acuminate, glabrous above, hairy beneath. Flowers in panicle spikes, purplish or violet. Fruits hairy.

*Fl. & Fr.:* June – Dec.

*Distrib.:* Changlang, Lohit.

**Thunbergia alata** Bojer in Hook., Exot. Fl. T. 177. 1825; C. B. Clarke in Hook. f., Fl. Brit. India 4: 391. 1884.

Scandent climbers, softly villous. Leaves ovate, caudate; petioles often winged. Flowers orange-yellow with a brown eye in crest. Capsules glabrous, shining.

Fl. & Fr.: Aug. – Dec.

*Distrib.*: Kameng.

*Note*: African origin, often cultivated, now naturalized.

**Thunbergia coccinea** Wall. ex D. Don, Prodr. Fl. Nep. 120. 1825; C. B. Clarke in Hook. f., Fl. Brit. India 4: 393. 1884; Kanjilal *et al.*, Fl. Assam 3: 411. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 244. 1996.

*Local name*: Chonga-lota (Asm.)

Moderate sized woody climbers. Leaves elliptic, acuminate, toothed, palmately 3-5-nerved. Inflorescence pendent, elongate raceme. Flowers red; calyx purple. Capsules minutely pubescent or nearly glabrous.

Fl. & Fr.: Sept. – May.

*Distrib.*: Changlang, Dibang valley, Kameng, Lohit, Siang, Subansiri, Tirap; 600-1200 m, on shrubs or small trees.

**Thunbergia grandiflora** Roxb. in Edgew., Bot. Reg. 6: t. 495. 1820; C. B. Clarke in Hook. f., Fl. Brit. India 4: 392. 1884. *Flemingia grandiflora* Roxb. ex Rottl. in Ges. Naturf. Fr. Neue Schr. 4: 202. 1803.

*Local name*: Kukua-loti (Asm.)

Large climbers, 13-14 m long. Leaves ovate, uppermost lanceolate, often angular or lobed, scabrid or pubescent, palmately 3-7-nerved. Flowers in stout, pubescent, angular racemes, bluish white. Capsules pubescent or glabrous.

Fl. & Fr.: Aug. – Sept.

*Distrib.*: Changlang, Kameng, Siang, Subansiri, Tirap; 300-1200 m, near edges of streams, amidst bushes or on low shrubs.

Insufficiently known material

**Eranthemum griffithii** (T. Anderson) Bremek. *et* Nann.-Bremek. in Verh. Nederl. Akad. Wetens. Afdel. Naturk. sec. 2, 45. No. 1, 354. 1948.

**Mackaya neesiana** (Wall.) Das in Kanjilal *et al.*, Fl. Assam 3: 448. 1939.

**Staurogyne agrestis** Leonard in J. Wash. Acad. Sci. 27: 400. 1937.

**Strobilanthes pterygorrhachis** C. B. Clarke in J. Linn. Soc. Bot. 25: 54, t. 25. 1889.

### VERBENACEAE

**Callicarpa arborea** Roxb., Fl. Ind. 1: 405. 1820; C. B. Clarke in Hook. f., Fl. Brit. India 4: 567. 1885; Kanjilal *et al.*, Fl. Assam 3: 463. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 245. 1966.

*Local name:* Bon-mola, Gun-mola, Mach-peluka (Assm.); Selu (Miri); Yarphuchangne (Nishi).

Evergreen trees or shrubs, up to 15 m high. Leaves elliptic to ovate-oblong, acute, entire, dark green above, whitish tomentose beneath. Flowers small, greenish white or reddish. Berries green, turning to greenish brown when ripe.

*Fl. & Fr.:* Almost throughout the year.

*Distrib.:* Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 300-800 m, along edges of forests.

**Callicarpa longifolia** Lam., Ill. 1: 563, t. 69. 1785; C. B. Clarke in Hook. f., Fl. Brit. India 4: 570. 1885.

var. **longifolia**

Shrubs; branches stellately tomentose. Leaves broadly lanceolate, acuminate at both ends, serrulate, thinly stellate hairy beneath. Inflorescence dense cyme, peduncles short. Flowers purple, pink or white. Berries white.

*Fl. & Fr.:* Aug. - Sept.

*Distrib.:* Tirap.

**Callicarpa longifolia** var. **lanceolaria** (Roxb.) C. B. Clarke in Hook. f., Fl. Brit. India 4: 570. 1885. *C. lanceolaria* Roxb., Fl. Ind. 1: 395. 1820.

Undershrubs or shrubs; up to 3 m high. Leaves narrowly lanceolate, acuminate at both ends, serrulate, coriaceous, glabrate beneath. Inflorescence axillary panicle. Flowers white. Berries white.

*Fl. & Fr.:* Aug. - Oct.

*Distrib.:* Kameng, Tirap; 300-900 m, along forest edges.

**Callicarpa macrophylla** Vahl, Symb. Bot. 3: 13, t. 53. 1794; C. B. Clarke in Hook. f., Fl. Brit. India 4: 568. 1885.

*Local name:* Bonmala, Tang-loti (Asm.).

Shrubs, 1.5-2.5 m tall. Leaves elliptic-oblong to lanceolate or ovate to ovate-lanceolate, acute at apex, cuneate at base, nearly crenate, densely stellate-tomentose beneath. Inflorescence axillary corymbose-cyme. Flowers purplish. Fruits white, drupes or berries.

*Fl. & Fr.:* June - Dec.

*Distrib.:* Kameng, Tirap; up to 1300 m.

*Use:* Roots and leaves are medicinal.

**Callicarpa tomentosa** (L.) Murray, Syst. Veg. ed. 13: 130. 1774; Meuse in Blumea 5: 71. 1942. *Tomex tomentosa* L., Sp. Pl. 118. 1753. *Callicarpa lanata* L., Mant. Pl. 2: 331. 1771; C. B. Clarke in Hook. f., Fl. Brit. India 4: 567. 1885. *C. lobata* C. B. Clarke in Hook. f., Fl. Brit. India 4: 566. 1885.

Deciduous trees, 5-14 m high. Leaves cordate-ovate or ovate-lanceolate, stellate-tomentose beneath, glabrate on maturity. Inflorescence stellately dense cyme, tomentose. Flowers purple or red. Drupes small.

*Fl. & Fr.:* Aug. - Sept.

*Distrib.:* Tirap; up to 1200 m.

**Callicarpa rubella** Lindl. in Bot. Reg. 11: t. 833. 1825; C. B. Clarke in Hook. f., Fl. Brit. India 4: 569. 1885; Kanjilal *et al.*, Fl. Assam 3: 464. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 245. 1966.

Shrubs or diffuse, bushy undershrubs, up to 1 m high; stem erect, single; branches horizontal. Leaves cordate-oblong, acuminate, crenate-serrate, softly pubescent above, tomentose beneath. Inflorescence stellately tomentose cyme. Flowers red or purple. Berries purple, bright violet.

*Fl. & Fr.:* June - Jan.

*Distrib.:* Changlang, Kameng, Lohit, Subansiri, Tirap; up to 600 m.

**Callicarpa vestita** Wall. ex C. B. Clarke in Hook. f., Fl. Brit. India 4: 567. 1885.

*Local name:* Yaphu-changne (Nishi).

Trees, up to 15 m high. Leaves obovate, obovate-elliptic, acute or acuminate at apex, narrowed or rotundate at base, usually dentate-serrate on upper half, tomentose. Inflorescence axillary, brownish tomentose cyme. Flowers pinkish. Drupes purplish.

*Fl. & Fr.:* April - Oct.

*Distrib.*: Subansiri; up to 1200 m.

*Use*: Leaves are used as catalyst in fermentation for the preparation of country liquor 'Apong'

**Caryopteris bicolor** (Hardw.) Mabberley in Bot. & Hist. Hort. Mal. 83. 1980. *Volkameria bicolor* Hardw. in As. Res. 6. 366. 1799. *Clerodendron odoratum* D. Don, Prodr. Fl. Nep. 102. 1825. *Caryopteris wallichiana* Schauer in DC., Prodr. 11: 625. 1847, *nom. illeg.*; C. B. Clarke in Hook. f., Fl. Brit. India 4: 597. 1885. *Caryopteris odorata* (D. Don) B. L. Robinson in Proc. Amer. Acad. Arts & Sci. 40: 531. 1916.

Spreading shrubs, 1-3.5 m high. Leaves elliptic, acuminate at apex, cuneate at base, toothed or subentire, ashly pubescent or puberulous. Inflorescence terminal, thyrsoid cyme. Flowers white, lower lip blue. Capsules globose, puberulous.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Kameng; up to 1200 m.

**Caryopteris foetida** (D. Don) Thell. in Viert. Nat. Ges. Zurich 64: 782. 1919; N. P. Balakr., Fl. Jowai 2: 336. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 245. 1966. *Clerodendron foetidum* D. Don, Prodr. Fl. Nep. 103. 1825. *Clerodendron gratum* Wall. ex Schauer in DC., Prodr. 11: 674. 1847, *non* Kurz 1877. *Caryopteris grata* (Wall. ex Schauer) Benth. in Benth. & Hook. f., Gen. Pl. 2: 1158. 1876; C. B. Clarke in Hook. f., Fl. Brit. India 4: 597. 1885.

Rambling shrubs; branches pubescent or tomentose. Leaves elliptic, acuminate at apex, pubescent. Inflorescence axillary, small, corymbose cyme, rosy-red to violet. Flowers white, glandular pubescent. Capsules globose, finely ribbed.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Changlang, Lohit; up to 500 m, in primary forests.

**Caryopteris paniculata** C. B. Clarke in Hook. f., Fl. Brit. India 4: 597. 1885.

Spreading shrubs, up to 2 m high; branches slender, pubescent. Leaves elliptic, acuminate at apex, glabrate. Inflorescence many flowered, dense, axillary panicle. Flowers deep red. Capsules globose.

*Fl. & Fr.*: Dec. - March.

*Distrib.*: Kameng, Siang; 300-1800 m.

**Clerodendrum bracteatum** Wall. ex Walp., Repert. 4: 114. 1845; C. B. Clarke in Hook. f., Fl. Brit. India 4: 593. 1885; Kanjilal *et al.*, Fl.

Assam 3: 484. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 246. 1966.

*Local name:* Dom-bhetai (Asm.).

Shrubs, 2-2.5 m high. Leaves ovate, acuminate at apex, entire. Flowers in capitate cyme, white, fragrant; calyx greenish white, red in fruit. Drupes purple.

*Fl. & Fr.:* Aug. Dec.

*Distrib.:* Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 1200-1700 m.

**Clerodendrum colcbrookianum** Walp., Repert. 4: 114. 1845; C. B. Clarke in Hook. f., Fl. Brit. India 4: 594. 1885; Kanjilal *et al.*, Fl. Assam 3: 488. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 246. 1966.

*Local name:* Tapen (Adi).

Shrubs, 1-2.5 m high. Leaves shallowly cordate-ovate, acute, entire. Inflorescence compact, terminal, corymbose panicle. Flowers white; calyx pubescent, scarlet-red in fruit. Drupes bluish green.

*Fl. & Fr.:* Aug. Dec.

*Distrib.:* Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 500-800 m. along forest edges, roadsides and in moist, shady places amidst bushes.

**Clerodendrum fragrans** Willd., Enum. Hort. Berol. 659. 1809; Harid. & R. R. Rao, For. Fl. Meghalaya 2: 676. 1987.

Shrubs or undershrubs, 1-2.5 m high; branches tomentose. Leaves ovate, ovate-orbicular, acuminate or acute at apex, truncate or shallowly subcordate at base, irregularly dentate, sparsely pubescent above. Flowers in corymbs, white, turning purplish pink or bright red. Fruits ovoid, purplish.

*Fl. & Fr.:* Feb. Dec.

*Distrib.:* Kameng.

**Clerodendrum griffithianum** C. B. Clarke in Hook. f., Fl. Brit. India 4: 590. 1885.

Shrubs, up to 2 m high; branches viscous pubescent. Leaves oblong-acuminate, minutely toothed, pubescent beneath on midrib. Inflorescence lax, subterminal corymbose panicle. Flowers greenish white or white, fragrant. Drupes with much enlarged calyx-tube, even almost enclosing.

*Fl. & Fr.*: Nov. - March.

*Distrib.*: Kameng, Dibang valley, Siang; up to 400 m. on moist rocky soil slopes.

**Clerodendrum hastatum** (Roxb.) Lindl. in Bot. Reg. 16: t. 1307. 1830; C. B. Clarke in Hook. f., Fl. Brit. India 4: 595. 1885; Kanjilal *et al.*, Fl. Assam 3: 493. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 247. 1966. *Siphonanthus hastata* Roxb., Fl. Ind. 3: 67. 1832.

Small trees or large shrubs; branches pubescent or villous. Leaves opposite, hastate-ovate or oblong, sometimes angular or sublobate. Inflorescence terminal, densely corymbose panicle. Flowers white. Drupes black-purple with dark red, much enlarged calyx.

*Fl. & Fr.*: May - Dec.

*Distrib.*: Changlang, Kameng, Lohit, Tirap; up to 1000 m.

**Clerodendrum indicum** (L.) Kuntze, Rev. Gen. Pl. 506. 1891; Yamazaki in H. Hara, Fl. E. Himal. 269. 1966. *Siphonanthus indica* L., Sp. Pl. 109. 1753. *Clerodendrum siphonanthus* R. Br. in Ait. f., Hort. Kew 4: 65. 1812; C. B. Clarke in Hook. f., Fl. Brit. India 4: 595. 1885.

*Local name*: Akalbi (Asm.).

Shrubs, 1-2.5 m high. Leaves in whorls, subsessile, narrowly lanceolate, subentire, shortly acuminate at apex, tapering at base, entire or sinuate, sometimes crenately lobed. Flowers white or creamy in opposite or whorled, large, drooping panicles. Fruits of 4 drupelets, bluish; calyx enlarged on fruiting.

*Fl. & Fr.*: July - Jan.

*Distrib.*: Arunachal Pradesh; up to 1300 m; also cultivated as ornamental.

*Use*: Roots and leaves are medicinal.

**Clerodendrum japonicum** (Thunb.) Sweet, Hort. Brit. 322. 1827; Yamazaki in H. Hara, Fl. E. Himal. 269. 1966. *Volkameria japonica* Thunb. in Nov. Act. Reg. Soc. Sci. Upsal. 3: 208. 1780. *Clerodendrum squamatum auct. non Vahl*, Symb. Bot. 2: 74. 1791; C. B. Clarke in Hook. f., Fl. Brit. India 4: 593. 1885.

Small shrubs. Leaves ovate, acuminate at apex, cordate at base, denticulate, membranous, scaberulous above and gland dotted beneath. Inflorescence terminal, pyramidal, thyrsoid panicle. Flowers scarlet. Drupes bluish black with accrescent calyx, divided to the base.

*Fl. & Fr.*: Oct. - March.

*Distrib.*: Kameng; up to 1500 m.

*Use*: Cultivated as an ornamental.

**Clerodendrum lasiocephalum** C. B. Clarke in Hook. f., Fl. Brit. India 4: 594, 1885; Kanjilal *et al.*, Fl. Assam 3: 489, 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 247, 1966.

Shrubs, up to 2 m high; branches pubescent upward. Leaves ovate-acuminate, dentate, pubescent. Inflorescence subcapitate panicle. Flowers green; calyx red, hairy. Fruits red.

*Fl. & Fr.*: May- Jan.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 300-1200 m.

**Clerodendrum panigrahianum** A. Rajendran *et* P. Daniel in J. Bombay Nat. Hist. Society 95 (1): 99-101, 1998.

Shrubs, ca 3m high; branches subterete, younger parts yellowish pubescent. Leaves opposite-decussate, ovate, distantly serrate. Peduncle with one capitulum. Flowers in condensed heads, white with pink tinge, tube campanulate, slightly divided.

*Fl.*: March- June.

*Distrib.*: Kameng, ca 1960 m, in evergreen forests.

**Clerodendrum serratum** (L.) Moon, Cat. Ceylon Pl. 46, 1824; Tebbs in H. Hara *et al.*, Enum. Fl. Pl. Nepal 146, 1982. *Clerodendrum serratum* (L.) Spreng. Syst. Veg. 2: 758, 1825; C. B. Clarke in Hook. f., Fl. Brit. India 4: 592, 1885; Kanjilal *et al.*, Fl. Assam 3: 490, 1939. *Volkameria serrata* L., Mant. Pl. 90, 1767. *Clerodendrum divaricatum* Jack, Mal. Misc. 1: 48, 1820; Yamazaki in H. Hara, Fl. E. Himal. 268, 1966; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 246, 1966.

*Local name*: Nangal-bhanga (Asm.); Beja-oti-asiang, Pumi-aye (Miri).

Shrubs, 1.5-3 m high. Leaves subsessile, oblong or elliptic, acuminate, serrate. Inflorescence panicle, pubescent, often villous. Flowers white. Fruits purple-black or green.

*Fl. & Fr.*: June- Nov.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap; up to 1500 m, along roadsides.

**Clerodendrum squamatum** Vahl var. **urticifolia** (Roxb.) C. B. Clarke in Hook. f., Fl. Brit. India 4: 594, 1885. *Volkameria urticifolia* Roxb., Fl. Ind. 3: 61, 1832.

Perennial shrubs, ca 3 m high, glabrous. Leaves ovate, shortly acuminate, denticulate, patent hairy throughout. Inflorescence panicle. Flowers scarlet or bright red. Drupes blue-black with enlarged calyx.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Subansiri; up to 1300 m, near streams amidst ferns and grasses.

**Clerodendrum umbralite** King *et* Gamble in Kew Bull. 1908: 110. 1908; Panigrahi & J. Joseph in Bull. Bot. Surv. India 8: 151. 1966.

Annual herbs, ca 1 m high; branches fistulose. Leaves oblong, obovate-oblong or oblanceolate, entire, glabrous. Flowers in axillary, elongate, lax panicles, white with reddish tinge or yellowish. Drupes globose, flesh coloured.

*Fl. & Fr.*: July - Sept.

*Distrib.*: Tirap.

**Clerodendrum venosum** Wall. *ex* C. B. Clarke in Hook. f., Fl. Brit. India 4: 592. 1885.

Trees or shrubs, 3-16 m high. Leaves opposite, elliptic, glabrescent. Inflorescence panicle, often farinose tomentose. Flowers whitish purple with greenish tinge. Drupes purplish black or green.

*Fl. & Fr.*: Aug. - Nov.

*Distrib.*: Subansiri; up to 1300 m, along roadsides.

**Clerodendrum villosum** Blume, Bijdr. 811. 1826; C. B. Clarke in Hook. f., Fl. Brit. India 4: 595. 1885; Kanjilal *et al.*, Fl. Assam 3: 488. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 247. 1966.

Shrubs or small trees, 1-7 m high. Leaves cordate-ovate, entire, villous. Inflorescence silky hairy panicle. Flowers greenish white. Drupes black.

*Fl. & Fr.*: Nov. - June.

*Distrib.*: Changlang, Lohit, Subansiri; up to 1300 m.

**Clerodendrum viscosum** Vent, Gard. Malm. 1. 25. 1803; Santapau in Bull. Bot. Surv. India 3: 14. 1961. *C. infortunatum auct. non L.*: C. B. Clarke in Hook. f., Fl. Brit. India 4: 594. 1885, *p. p.*

*Local name*: Bhat-tita, Dhopat-tita (Asm.).

Shrubs, 1-5 m high; terminal branches yellow or white villous. Leaves ovate-acuminate, entire or serrulate, pubescent. Inflorescence villous panicle. Flowers white with pink tinge or red. Drupes black with enlarged, deeply 5- partite calyx, bright red.

*Fl. & Fr.*: March - Nov.

*Distrib.*: Kameng, Siang; up to 1500 m, in moist and water logged areas within forests.

**Clerodendrum wallichii** Merr. in J. Arn. Arb. 33: 220, 1952; Tebbs in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 146, 1982; N. P. Balakr., Fl. Jowai 2: 369, 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 247, 1966. *C. nitans* Wall. ex D. Don, Prodr. Fl. Nep. 103, 1825, *non* Jack 1820; C. B. Clarke in Hook. f., Fl. Brit. India 4: 591, 1885; Kanjilal *et al.*, Fl. Assam 3: 491, 1939.

*Local name*: Bon thesabul (Asm.).

Shrubs, 2.5-3.5 m high; stems dark violet, glabrous. Leaves narrowly ovate or lanceolate, subentire; petioles short, glabrous. Inflorescence axillary or terminal, lax, thyrsoid panicle. Flowers white; calyx brownish violet or deep red in fruit. Drupes dark purple, fleshy.

*Fl. & Fr.*: Sept. - March.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Tirap; 500-1700 m.

**Gmelina arborea** Roxb., Pl. Corom. 3: 41, t. 246, 1815; C. B. Clarke in Hook. f., Fl. Brit. India 4: 581, 1885; Kanjilal *et al.*, Fl. Assam 3: 466, 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 248, 1966.

*Local name*: Gomari (Asm.).

Deciduous trees, up to 30 m high. Leaves ovate, acute or acuminate at apex, subtruncate at base, glaucous or tomentose beneath. Flowers in paniced cymes; corolla pubescent, yellow or yellowish brown. Drupes ovoid, succulent, yellow.

*Fl. & Fr.*: July - Feb.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; up to 1000 m.

*Use*: Wood is durable; used for making doors, windows and other household furniture.

**Holmskioldia sanguinea** Retz., Obs. Bot. 6: 31-32, 1791; C. B. Clarke in Hook. f., Fl. Brit. India 4: 596, 1885.

*Local name*: Manu-kata-phul (Asm.).

Sprawling or straggling shrubs; stems woody. Leaves ovate, acuminate at apex, obtuse at base, pubescent, crenate-serrate. Flowers in cymes, dark red. Fruits globose, brown with enlarged calyx.

*Fl. & Fr.*: Nov. - March.

*Distrib.*: Siang; up to 1300 m.

**Lantana camara** L. var. *aculeate* (L.) Moldenke in Bull. Torrey Bot. Club 34: 9. 1934; N. P. Balakr., Fl. Jowai 2: 364. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 248. 1966. *L. aculeate* L., Sp. Pl. 627. 1753; Kanjilal *et al.*, Fl. Assam 3: 460. 1939. *L. camara auct. non L.*: Prain, Bengal Pl. 825. 1903.

Bushy shrubs; stem and branches erect or straggling, quadrangular, prickly, prickles stout, recurved; bark grey or grayish brown. Leaves ovate, ovate-oblong or ovate-lanceolate, crenate, hispid-rugose above. Flowers in capitate spikes, pinkish or pinkish white.

*Fl. & Fr.*: Almost throughout the year.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Tirap.

**Lantana indica** Roxb., Fl. Ind. 3: 89. 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 562. 1885.

Shrubs, 1-3 m high; branches pubescent. Leaves lanceolate to ovate-lanceolate, acute at apex, cuneate at base, crenate, pubescent. Flowers in spikes, purple or pink with yellow throat. Drupes purple.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Kameng; up to 3000 m, common along forest margins, streams, paddy fields and roadsides.

**Lippia geminata** H. B. K., Nov. Gen. & Sp. Pl. 2: 266. 1818; C. B. Clarke in Hook. f., Fl. Brit. India 4: 563. 1885.

Gregarious shrubs, strongly aromatic; branches hairy. Leaves ovate-lanceolate or lanceolate, acute, crenulate or crenate-serrate, rugose, pubescent beneath. Inflorescence subcapitate spike. Flowers pink, fragrant. Fruits dry, splitting into 1-2 seeded pyrenes.

*Fl. & Fr.*: Throughout the year.

*Distrib.*: Arunachal Pradesh.

**Lippia javanica** (Burm. f.) Spreng., Syst. 2: 752. 1825. *Verbena javanica* Burm. f., Fl. Ind. 12, t. 6. f. 2. 1768. *Lippia alba* (Mill.) N.E. Br. ex Britt. et Wilson in Sci. Surv. Porto Rico Virgin Islands 6: 141. 1925. *Lantana alba* Mill., Dict. ed. 8, no. 8. 1768.

Gregarious aromatic shrubs; branches pubescent. Leaves ovate-oblong, lanceolate, crenate-serrate, softly strigose. Inflorescence axillary, capitate spike. Flowers pink, fragrant. Fruits splitting into 1-2 seeded pyrenes.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Kameng; up to 600 m.

**Lippia nodiflora** (L.) Rich. in Michx., Fl. Bor. Amer. 2: 15. 1803; C. B. Clarke in Hook. f., Fl. Brit. India 4: 563. 1885. *Verbena nodiflora* L., Sp. Pl. 20. 1753.

Rambling shrubs, much branched, rooting from nodes. Leaves crenate, spatulate, serrate. Flowers in axillary spikes, pinkish purple to white. Fruits separating into 2, 1-seeded pyrenes.

*Fl. & Fr.*: March–Oct.

*Distrib.*: Kameng; up to 1200 m.

**Premna barbata** Wall. ex Schauer in DC., Prodr. 11: 636. 1847; C. B. Clarke in Hook. f., Fl. Brit. India 4: 579. 1885.

var. **barbata**

Trees or shrubs, up to 5 m high. Leaves oblong or ovate, acuminate, more or less toothed, minutely pubescent beneath. Inflorescence corymb. Drupes globose or obovoid.

*Fl. & Fr.*: April–July.

*Distrib.*: Kameng, Subansiri; 150–1500 m.

**Premna barbata** var. **anodon** C. B. Clarke in Hook. f., Fl. Brit. India 4: 579. 1885.

Small trees or shrubs. Leaves oblong or obovate, acuminate, very sparingly toothed, nearly glabrous when young, minutely pubescent beneath when mature. Inflorescence villous corymb. Flowers small, white or greenish white. Drupes blackish purple.

*Fl. & Fr.*: April–July.

*Distrib.*: Kameng; 300–1500 m.

**Premna bengalensis** C. B. Clarke in Hook. f., Fl. Brit. India 4: 577. 1885.

*Local name*: Lalo-asing (Adi); Gohora (Asm.); Nanji-asing, Situ-asing (Miri).

Trees or large shrubs, up to 10 m high. Leaves elliptic, acuminate, entire, nerves stellately tomentose. Inflorescence branched panicle; branches elongate raceme like. Flowers creamy white. Drupes globose.

*Fl. & Fr.*: May–Dec.

*Distrib.*: Kameng; up to 900 m.

**Premna coriacea** C. B. Clarke in Hook. f., Fl. Brit. India 4: 573. 1885.

Large shrubs or small trees. Leaves cordate-ovate or orbicular, shortly acuminate at apex, glabrous, coriaceous. Inflorescence large, compound corymb. Flowers greenish yellow, throat hairy. Drupes narrowly obovoid, one seeded.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Kameng, Subansiri; up to 600 m.

**Premna corymbosa** Rottl. *et* Willd., Neue Schr. Ges. Naturf. Fr. Berl. 4: 187. 1803; C. B. Clarke in Hook. f., Fl. Brit. India 4: 573. 1885; Meeuse in Blumea 5: 72. 1942. *P. integrifolia* L., Mant. Pl. 252. 1771, *nom. illeg.*; C. B. Clarke in Hook. f., Fl. Brit. India 4: 574. 1885. *P. obtusifolia* R. Br., Prodr. 512. 1810. *Cornutia corymbosa* *auct. non* Lam.: Burm. f., Fl. Ind. 133, t. 41, f. 1: 1768. *P. corymbosa* (Burm. f.) Miq., Fl. Ind. Bat. 2: 894. 1856, *nom. illeg.*; Meeuse in Blumea 5: 72. 1942.

**Fig. 25.**

*Local name*: Garioli, Genderi (Asm.); Pitang-aring (Miri); Parta-pipi (Nishi).

Small trees or shrubs. Leaves subcordate-ovate, undulate, young ones woolly, mature nearly glabrous. Flowers white in dense, pyramidal panicles. Drupes obovoid, 3-4-seeded.

*Fl. & Fr.*: March - Sept.

*Distrib.*: Arunachal Pradesh; up to 1000 m.

**Premna interrupta** Will. *ex* Schauer in DC., Prodr. 11: 633. 1847; C. B. Clarke in Hook. f., Fl. Brit. India 4: 572. 1885.

Trees, up to 12 m high. Leaves subsessile, ovate or obovate, very shortly acuminate. Inflorescence spike or paniced cyme, densely villous. Flowers white, fragrant.

*Fl. & Fr.*: June - Aug.

*Distrib.*: Kameng, Tirap; 1500-2400 m.

**Premna latifolia** Roxb. var. **mucronata** (Roxb.) C. B. Clarke in Hook. f., Fl. Brit. India 4: 578. 1885. *P. mucronata* Roxb., Fl. Ind. 3: 635. 1832.

*Local name*: Gonderi, Gunaru (Asm.).

Shrubs, up to 8 m tall; stems woody. Leaves cordate-ovate, cuneate at both ends, minutely pubescent on midrib beneath. Inflorescence broad, rusty-pubescent corymb. Flowers white, villous; calyx subpatently pubescent. Drupes globose, black.

*Fl. & Fr.*: April - Dec.

*Distrib.*: Kameng.

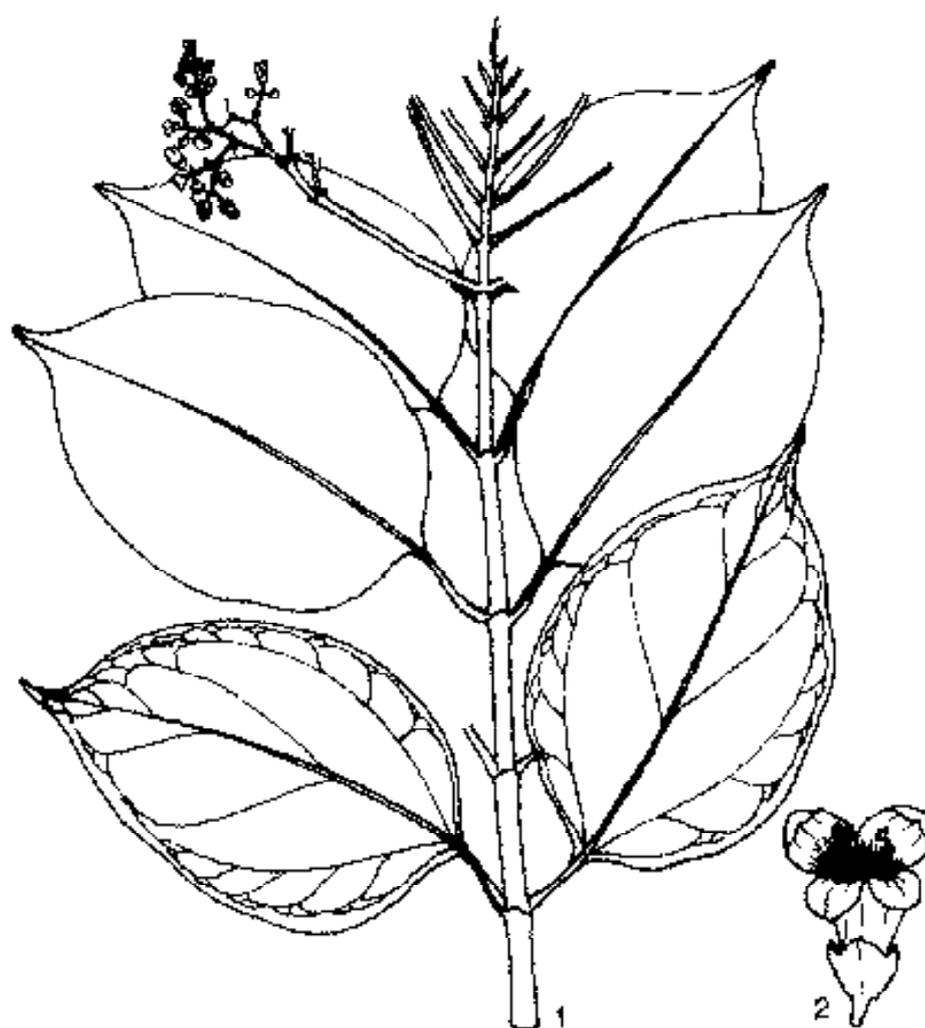


Fig. 25. *Premna corymbosa* Rottl. et Willd. : 1. Flowering twig;  
2. Flower.

**Premna longifolia** Roxb., Fl. Ind. 3: 79. 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 575. 1885.

*Local name:* Gobra-bhodia (Asm.).

Trees. Leaves large, ovate, acute, entire, mature glabrate; petioles long. Flowers in compound, pubescent, terminal, short-peduncled corymbs, greenish white, hairy at throat. Drupes 4-seeded.

*Fl. & Fr.:* Oct. Feb.

*Distrib.:* Arunachal Pradesh; up to 1200 m.

**Premna milleflora** C. B. Clarke in Hook. f., Fl. Brit. India 4: 576. 1885; Kanjilal *et al.*, Fl. Assam 3: 475. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 248. 1966.

*Local name:* Gohara, Gohora (Asm.).

Trees. Leaves large, ovate, acute at apex, rhomboid at base, entire, minutely crisped pubescent on nerves, long petioled. Flowers small in elongate, many flowered corymbs. Drupes globose.

*Fl. & Fr.:* April Dec.

*Distrib.:* Changlang, Kameng, Lohit, Tirap; up to 1600 m.

**Premna punduana** Wall. ex Schauer in DC., Prodr. 11: 637. 1847; C. B. Clarke in Hook. f., Fl. Brit. India 4: 577. 1885.

*Local name:* Gohora (Asm.).

Large shrubs; branches scandent. Leaves elliptic, acuminate, entire, nerves stellate-tomentose. Inflorescence panicle; branches elongate, raceme like. Flowers greenish yellow, yellow or greenish white. Drupes globose.

*Fl. & Fr.:* July Oct.

*Distrib.:* Tirap.

**Premna racemosa** Wall. ex Schauer in DC., Prodr. 11: 633. 1847; C. B. Clarke in Hook. f., Fl. Brit. India 4: 571. 1885.

Small trees, 5-15 m high. Leaves ovate, obovate or elliptic-oblong, cuneate at base, acute or acuminate at apex, glabrous or sparsely pubescent on nerves. Flowers white in spikes. Drupes obovoid.

*Fl. & Fr.:* April Nov.

*Distrib.:* Kameng, Tirap; 1000-1600 m, in primary and secondary forests.

**Premna scandens** Roxb., Fl. Ind. 3: 82. 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 573. 1885.

Scandent or climbing shrubs, 6-12 m high. Leaves oblong-elliptic to oblong-lanceolate, rounded, truncate or subcordate at base, glabrous. Flowers greenish white or white in corymbs. Drupes obovoid, black.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Kameng; up to 300 m, in dense evergreen forests and along forest path.

**Pygmaeopremna herbacea** (Roxb.) Moldenke in *Phytologia* 2: 54. 1941; Santapau & Wagh in *Bull. Bot. Surv. India* 5: 108. 1964. *Premna herbacea* Roxb., *Fl. Ind.* 3: 80. 1832; C. B. Clarke in *Hook. f., Fl. Brit. India* 4: 581. 1885.

*Local name*: Matia-jam (Asm.).

Small undershrubs with perennial rootstocks. Leaves sessile, obovate, obtuse, coarsely serrate, pubescent on nerves, coriaceous. Flowers in axillary panicles, white or greenish white. Drupes globose.

*Fl. & Fr.*: Jan. - July.

*Distrib.*: Kameng; 150-900 m, outskirts of forests.

**Sphenodesma pentandra** Jack var. **wallichiana** (Schauer) Munir in *Gard. Bull. Singapore* 21: 360. 1966. *S. wallichiana* Schauer in *DC., Prodr.* 11: 622. 1847. *S. pentandra auct. non* Jack 1820 : C. B. Clarke in *Hook. f., Fl. Brit. India* 4: 602. 1885.

Large climbers; stems twisted, younger parts tomentose. Leaves ovate-elliptic, oblong-elliptic or obovate, acuminate at apex, obtuse at base. Flowers greenish white or pale green in fascicled heads. Drupes ovoid.

*Fl. & Fr.*: Dec. - April.

*Distrib.*: Arunachal Pradesh; up to 1000 m.

**Stachytarpheta jamaicensis** (L.) Vahl, *Enum. Pl.* 1: 206. 1805; Mccuse in *Blumea* 5: 70. 1942. *Verbena jamaicensis* L., *Sp. Pl.* 19. 1753. *Stachytarpheta indica auct. non* Vahl 1805 : C. B. Clarke in *Hook. f., Fl. Brit. India* 4: 564. 1885, *p. p.*

Herbs, up to 60 cm high; stems angular. Leaves ovate to elliptic-oblong, serrate, nearly glabrous, rugose, veins prominent below. Flowers in spikes, white, deep blue or bluish violet.

*Fl. & Fr.*: July - Dec.

*Distrib.*: Kameng.

**Tectona grandis** L. f., *Suppl. Pl.* 151. 1781; C. B. Clarke in *Hook. f., Fl. Brit. India* 4: 570. 1885.

*Local name:* Segun (Asm.).

Deciduous trees, 25-45 m high. Leaves large, elliptic or obovate, scabrid above, stellate-tomentose beneath, cuneate at base. Flowers in large, terminal, paniced, dichotomous cymes, white. Drupes covered with matted hairs.

*Fl. & Fr.:* July - Feb.

*Distrib.:* Kameng; 150-1200 m.

*Use:* The valuable wood is used for various construction work as well as for prized furniture.

**Verbena officinalis** L., Sp. Pl. 20. 1753; C. B. Clarke in Hook. f., Fl. Brit. India 4: 565. 1885.

Annual herbs, 30-60 cm high; branches decumbent, quadrangular, puberulous. Leaves oblong or ovate, coarsely toothed. Flowers in slender paniced spikes, pink or blue. Fruits separating into 4 oblong pyrenes, included in calyx.

*Fl. & Fr.:* April - July.

*Distrib.:* Kameng, Subansiri, Tirap; 300-1800 m, in open places.

*Use:* Infusion of roots is given in the treatment of enlarged liver.

**Vitex altissima** L. f., Suppl. Pl. 293. 1781; C. B. Clarke in Hook. f., Fl. Brit. India 4: 584. 1885.

*Local name:* Ahoi (Asm.).

Large trees, up to 40 m high. Leaflets lanceolate or oblanceolate, long acuminate at apex, acute at base, entire. Flowers in pyramidal panicles, greenish or purplish, tinged with white. Drupes globose, purplish black.

*Fl. & Fr.:* April - Oct.

*Distrib.:* Arunachal Pradesh; up to 900 m.

**Vitex canescens** Kurz in J. As. Soc. Bengal 2: 101. 1873; C. B. Clarke in Hook. f., Fl. Brit. India 4: 586. 1885.

*Local name:* Teta (Asm.).

Trees, 6-10 m high. Leaves 3-5-foliolate; leaflets petiolulate, ovate or elliptic, entire, young ones fulvous-villous. Flowers in terminal, compound, fulvous-pubescent panicles, dull white. Drupes globose.

*Fl. & Fr.:* April - Oct.

*Distrib.:* Changlang.

**Vitex glabrata** R. Br., Prodr. 512. 1810; C. B. Clarke in Hook. f., Fl. Brit. India 4: 588. 1885.

*Local name:* Kaping-asing (Adi); Bhodia, Gohera, Pani-amora (Asm.).

Large trees, up to 25 m high. Leaves 3-5-foliolate; leaflets obovate, broadly elliptic, elliptic-lanceolate, elliptic-oblong, acuminate at apex, cuncate at base, glabrous. Flowers white or dull white with pink throat in cymes. Fruits oblong, ovoid, shining, purplish.

*Fl. & Fr.:* April - Sept.

*Distrib.:* Arunachal Pradesh; up to 1000 m, in deciduous open forests.

**Vitex heterophylla** Roxb., Fl. Ind. 3: 75. 1832; C. B. Clarke in Hook. f., Fl. Brit. India 4: 585. 1885.

var. **heterophylla**

Large trees. Leaves 5-foliolate; leaflets elliptic or elliptic-oblong, entire, acuminate, membranous, glabrous. Inflorescence terminal, paniced cyme. Flowers dull white with deep purple veins and dots on lip and throat, fading to yellow, faintly fragrant. Drupes globose.

*Fl. & Fr.:* May - Jan.

*Distrib.:* Changlang, Siang, Tirap; up to 1100 m.

**Vitex heterophylla** var. **undulata** Wall. ex C. B. Clarke in Hook. f., Fl. Brit. India 4: 585. 1885.

Differs only in smaller leaves, upper ones 3-foliolate; leaflets shining, undulate.

*Fl. & Fr.:* May - Jan.

*Distrib.:* Kameng.

**Vitex negundo** L., Sp. Pl. 638. 1753; C. B. Clarke in Hook. f., Fl. Brit. India 4: 583. 1885.

*Local name:* Aggia-chita, Pasutia (Asm.).

Shrubs, ca 3 m high. Leaves 3-5-foliolate; leaflets oblanceolate or lanceolate, entire or crenate, glabrate. Inflorescence terminal or axillary panicle. Flowers purple or violet. Drupes glabrous.

*Fl. & Fr.:* April - Dec.

*Distrib.:* Tirap; up to 1200 m.

**Vitex peduncularis** Wall. ex Schauer in DC., Prodr. 11: 687. 1847; C. B. Clarke in Hook. f., Fl. Brit. India 4: 587. 1885; Moldenke in Dassan. & Fosberg, Rev. Handbook Fl. Ceylon 4: 370. 1983.

*V. peduncularis* var. *roxburghiana* C. B. Clarke in Hook. f., Fl. Brit. India 4: 587. 1885. *V. roxburghiana* (C. B. Clarke) Kanjilal in Kanjilal et al., Fl. Assam 3: 485, 561. 1939.

*Local name:* Ashoi, Khoidoi, Sila, Sila-tita (Asm.).

Trees, 6-12 m high; young shoots pubescent. Leaves 3-foliolate; leaflets petiolulate, lanceolate or narrowly elliptic, entire, long acuminate at apex, glabrous, minutely yellowish gland dotted. Flowers in axillary paniced cymes, yellow. Drupes ovoid.

*Fl. & Fr.:* April - Sept.

*Distrib.:* Kameng.

*Vitex pinnata* L., Sp. Pl. 638. 1753; Harid. & R. R. Rao, For. Fl. Meghalaya 2: 693. 1987. *V. pubescence* Vahl, Symb. Bot. 3: 85. 1794, non Heyne 1829; C. B. Clarke in Hook. f., Fl. Brit. India 4: 585. 1885.

*Local name:* Ahoi (Asm.).

Lofty trees, 20-40 m high; branchlets pubescent. Leaves 3-foliolate; leaflets broadly lanceolate to ovate-lanceolate or ovate-oblong, acuminate at apex, often subacute, rounded or obtuse at base, pubescent beneath. Flowers in brown tomentose panicles, yellowish, brownish yellow or pale blue without, violet within. Drupes depressed globose, black.

*Fl. & Fr.:* Throughout the year.

*Distrib.:* Arunachal Pradesh; up to 1000 m, in forests.

## LAMIACEAE

*Achyropermum densiflorum* Blume, Bijdr. 841. 1826; Hook. f., Fl. Brit. India 4: 673. 1885, in note; Murata in Acta Phytotax. Geobot. 25: 106. 1973; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 249. 1996. *Teucrium wallichianum* Benth. in Wall., Pl. As. Rar. 2: 19. 1831. *Achyropermum wallichianum* (Benth.) Benth. ex Hook. f., Fl. Brit. India 4: 673. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 154. 1940.

Woody herbs or undershrubs, up to 60 cm high, pubescent. Leaves, elliptic or elliptic-ovate, sparsely pubescent; petioles long. Flowers white or purple in terminal, dense, cylindrical spikes. Nutlets trigonous, rugose, hairy.

*Fl. & Fr.:* Aug. - Jan.

*Distrib.:* Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 500-3500 m, common in plains close to foot hills and in forests as undergrowth.

**Acrocephalus hispidus** (L.) Nicolson *et* Sivad. in *Taxon* 29: 324. 1980. *Gomphrena hispida* L., *Sp. Pl.* ed. 2, 326. 1762. *Acrocephalus capitatus* (Roth) Benth., *Bot. Reg.* 15, t. 1300. 1830; Hook. f., *Fl. Brit. India* 4: 611. 1885. *Prunella indica* Burm. f., *Fl. Ind.* 130. 1763. *Acrocephalus indicus* (Burm. f.) Kuntze, *Rev. Gen. Pl.* 511. 1891; Mukerjee in *Rec. Bot. Surv. India* 14(1): 29. 1940.

Annual, ascending herbs. Leaves ovate or lanceolate, sparingly pubescent, margin serrate. Flowers in axillary or terminal globose heads, pale purple. Nutlets smooth.

*Fl. & Fr.*: May–Oct.

*Distrib.*: Kameng, 1500-1800 m, on moist hill slopes.

**Ajuga bracteosa** Wall. *ex* Benth. in Wall., *Pl. As. Rar.* 1: 59. 1830; Hook. f., *Fl. Brit. India* 4: 702. 1885; Mukerjee in *Rec. Bot. Surv. India* 14(1): 224. 1940.

Herbs; branches many from same rootstock, erect or ascending, softly pubescent to strigose. Leaves oblanceolate to subspathulate, cuneate at base, toothed to subentire, hairy. Flowers in axillary whorls or crowded spikes, white, blue or pale blue; corolla tube straight; stamens exerted. Nutlets ellipsoid, rugosely pitted.

*Fl. & Fr.*: Nov.–May.

*Distrib.*: Kameng, Siang, Tirap; 600-1500 m, on sandy soil along roadsides.

**Ajuga lobata** D. Don, *Prodr. Fl. Nep.* 108. 1825; Hook. f., *Fl. Brit. India* 4: 702. 1885; Mukerjee in *Rec. Bot. Surv. India* 14(1): 224. 1940.

Prostrate or creeping herbs; branches and leaves with reddish tinge, softly hairy. Leaves broadly oblong-cordate to suborbicular, sinuately lobed, pubescent; petioles long. Flowers in short, axillary spikes or whorls, blue or violet, pubescent outside, stamens exerted.

*Fl. & Fr.*: May–Dec.

*Distrib.*: Subansiri; 1500-2000 m, in moist places.

**Ajuga macrosperma** Wall. *ex* Benth. in Wall., *Pl. As. Rar.* 1: 58. 1830; Hook. f., *Fl. Brit. India* 4: 704. 1885; Mukerjee in *Rec. Bot. Surv. India* 14(1): 225. 1940.

*var. macrosperma*

Procumbent herbs, up to 1 m high; pubescent below. Leaves ovate, oblong or obovate, sinuate-toothed, crenate. Flowers in terminal or axillary, pubescent, spicate whorls, blue; corolla inflated at base, geniculate above. Nutlets conspicuously rugose, pitted.

*Fl. & Fr.*: Nov. - April.

*Distrib.*: Kameng, Lohit, Subansiri; 1000-1500 m, in meadows and open hill slopes.

*Use*: Whole plant is used as vegetable.

***Ajuga macrosperma* var. *breviflora*** Hook. f., *Fl. Brit. India* 4: 704. 1885; Mukerjee in *Rec. Bot. Surv. India* 14(1): 226. 1940.

Smaller in habit than the var. *macrosperma*, flowers larger, corolla tube shorter or as long as the calyx, often hairy.

*Fl. & Fr.*: Nov. - April.

*Distrib.*: Kameng; 1000-1500 m, on hill slopes.

***Anisochilus carnosus*** (L.f.) Wall. ex Benth. in Wall., *Pl. As. Rar.* 2: 18. 1831; Hook. f., *Fl. Brit. India* 4: 627. 1885; Mukerjee in *Rec. Bot. Surv. India* 14(1): 58. 1940. *Lavandula carnosus* L.f., *Suppl. Pl.* 273. 1781. *Plectranthus strobiliferus* Roxb., *Fl. Ind.* 3: 23. 1832.

Herbs, 20-60 cm tall; erect, quadrangular, glabrous or softly pubescent. Leaves leathery, petiolate, broadly ovate or ovate-oblong, crenate. Flowers in cylindric, softly pubescent or glabrous spikes, light violet or purple; upper lip of calyx entire.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Kameng, Tirap; 1500-2000 m, on open hill slopes.

***Anisochilus polystachyus*** Benth. in Wall., *Pl. As. Rar.* 2: 19. 1831; Hook. f., *Fl. Brit. India* 4: 630. 1885.

Herbs or undershrubs, up to 3 m tall, softly tomentose. Leaves subsessile, crowded at base, lanceolate. Flowers in much branched, tomentose, paniculate spikes, creamy; upper lip of calyx 5-toothed. Nutlets ellipsoid.

*Fl. & Fr.*: Oct. - April.

*Distrib.*: Kameng; 400-1500 m in primary forests.

***Anisomeles indica*** (L.) Kuntze, *Rev. Gen. Pl.* 512. 1891; Mukerjee in *Rec. Bot. Surv. India* 14(1): 152. 1940. *Nepeta indica* L., *Sp. Pl.* 571. 1753. *Anisomeles ovata* R. Br. in Aiton, *Hort. Kew.* ed. 2, 2: 364. 1811; Hook. f., *Fl. Brit. India* 4: 672. 1885.

*Local name*: Narutami (Apat.).

Aromatic herbs, up to 2 m high, pubescent or tomentose. Leaves broadly ovate, crenate-serrate, softly pubescent on both surfaces. Flowers in terminal, dense whorls, pink or pale purple. Nutlets ovoid, smooth.

*Fl. & Fr.*: Aug. Dec.

*Distrib.*: Siang, Subansiri, Tirap; 500-1500 m, common weed on roadsides, waste places, in clearings and amidst grasses on slopes.

*Use*: The whole plant made into paste is applied to relieve muscular pain.

**Calamintha gracilis** Benth. in DC., Prodr. 12: 232. 1848; Prain in J. As. Soc. Bengal 74: 711. 1908; Mukerjee in Rec. Bot. Surv. India 14(1): 99. 1940.

Prostrate herbs, up to 30 cm high; branches slender, faintly puberulous. Leaves ovate, rounded or shortly cuneate at base, margin serrate or serrulate, puberulous. Flowers in lax whorls, in axillary or terminal racemes, purplish. Nutlets pale brown, smooth.

*Fl. & Fr.*: June Oct.

*Distrib.*: Siang, Lohit, Tirap; 600-3600 m, along moist hill slopes.

*Use*: The whole plant made into paste is applied to relieve headache.

**Clinopodium umbrosum** (M. Bieb.) C. Koch in Linnaea 21: 673. 1848; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 249. 1996. *Melissa umbrosa* M. Bieb., Fl. Taur.-Cauc. 2: 63. 1808. *Calamintha umbrosa* (M. Bieb.) Fisch. et Mey., Ind. Sem. Hort. Petrop. 6: 6. 1840; Hook. f., Fl. Brit. India 4: 650. 1885.

Erect or procumbent herbs, 30-80 cm high, pubescent, much branched. Leaves ovate, rounded at base, margin crenate or serrate, laxly long hairy. Flowers in axillary, subcapitate whorls, white, purplish or violet; bracts shorter than calyx. Nutlets subglobose.

*Fl. & Fr.*: June Feb.

*Distrib.*: Changlang, Lohit, Kameng, Subansiri, Tirap; 1000-1500 m, common along roadsides, meadows, in open shaded places of forests.

**Coleus rotundifolius** (Poir.) A. Chev. et Perr. in A. Chev. Veg. Util. Afr. Trop. Franc. 1: 101. 1905; Cramer in Kew Bull. 32: 555. 1978. *Germania rotundifolia* Poir. in Lam., Encycl. Meth. Bot. suppl. 2: 763. 1788. *Coleus parviflorus* Benth. in DC., Prodr. 12: 72. 1848; Hook. f., Fl. Brit. India 4: 625. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 54. 1940.

Succulent herbs, up to 60 cm tall; roots tuberous. Leaves ovate-rotund to orbicular, coarsely crenate, glandular beneath, glabrous. Flowers in whorls, red, gland dotted; calyx glandular, glabrous within.

*Fl. & Fr.*: June - Aug.

*Distrib.*: Siang.

**Colquhounia coccinea** Wall. var. **mollis** (Schlecht) Prain in J. As. Soc. Bengal 62: 37. 1893; Mukerjee in Rec. Bot. Surv. India 14(1): 155. 1940. *Colquhounia mollis* Schlecht in Linnæa 24: 681. 1851.

Stout shrubs, up to 4 m high; stem and branches dense, stellate, rusty tomentose. Leaves ovate to ovate-lanceolate, crenulate, pubescent. Flowers in axillary or terminal, subspicate racemes or spikes, large, orange-red. Nutlets with short wings.

*Fl. & Fr.*: July - Sept.

*Distrib.*: Lohit; 1600-2200 m, common in open forests.

**Craniotome furcata** (Link) Kuntze, Rev. Gen. Pl. 2: 516. 1891; Vautier in Candollea 17: 42. 1959. *Ajuga furcata* Link, Enum. Pl. Hort. Berol. 2: 99. 1822. *Craniotome versicolor* Rehb., Ic. Exot. 1: 39, t. 54. 1824; Hook. f., Fl. Brit. India 4: 671. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 151. 1940.

Erect, perennial herbs, 40-80 cm high; softly hairy. Leaves ovate, cordate, crenate dentate, hairy on both surfaces. Flowers small, crowded in subsecund cymes, arranged in terminal panicles, white, pink or yellow. Nutlets minute, subglobose.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Kameng; 1000-2000 m, common along roadsides jungles and forest edges.

**Elsholtzia blanda** (Benth.) Benth., Lab. Gen. & Sp. 162. 1833; Hook. f., Fl. Brit. India 4: 643. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 89. 1940; Kanjilal *et al.*, Fl. Assam 3: 516. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 249. 1996. *Aphanochilus blandus* Benth. in Wall., Pl. As. Rar. 1: 29. 1830. *Perilla elata* D. Don, Prodr. Fl. Nep. 115. 1825.

Perennial, bushy, aromatic undershrubs, 1-2 m high; branches quadrangular, pubescent. Leaves elliptic to elliptic-lanceolate, serrate; petioles short. Flowers in whorls, on axillary or terminal paniculate spikes, white or pinkish, pubescent; calyx glandular pubescent. Nutlets ellipsoid.

*Fl. & Fr.*: Sept. - April.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 600-1500 m, fairly common on hill slopes and along forest edges.

*Use*: Tender leaves with salt is used to old wounds of cattles to clear pus and maggot.

**Elsholtzia ciliata** (Thunb.) Hyland in Bot. Notiser 1941: 129, 1941; Murata in Acta Phytotax. Geobot. 24: 79, 1969. *Sideritis ciliata* Thunb., Fl. Jap. 245, 1784. *Elsholtzia cristata* Willd. in Roem. & Usteri, Mag. Bot. 4: 5, t. 1, 1790; Hook. f., Fl. Brit. India 4: 645, 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 92, 1940.

Erect, simple or branched aromatic herbs or undershrubs, 20-60 m tall, glabrous. Leaves ovate to lanceolate, coarsely serrate, petioles long. Flowers in pubescent axillary or terminal spikes, pink, pale violet or mauve. Nutlets oblong, smooth.

*Fl. & Fr.*: Sept. Dec.

*Distrib.*: Kameng, Lohit, Subansiri; 1400-1600 m, common along forest margin and on hill slopes.

**Elsholtzia flava** (Benth.) Benth., Lab. Gen. & Sp. 161, 1833; Hook. f., Fl. Brit. India 4: 642, 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 88, 1940. *Aphanochilus flavus* Benth. in Wall., Pl. As. Rat. 1: 28, t. 34, 1830.

Aromatic undershrubs, up to 2 m high; branches scaberulous, quadrangular, golden spotted. Leaves ovate, caudate-cuminate, coarsely serrate or crenate, petioles long. Flowers in dense interrupted whorls, in axillary or terminal spikes, yellow, puberulous without. Nutlets oblong, reddish.

*Fl. & Fr.*: Sept. Dec.

*Distrib.*: Kameng; 2200-2800 m, along roadsides and forest edges.

**Elsholtzia fruticosa** (D. Don) Rehder in Sarg., Pl. Wilson. 3: 381, 1916; Banerjee in Rec. Bot. Surv. India 19(2): 76, 1966. *Perilla fruticosa* D. Don, Prodr. Fl. Nep. 115, 1825; Hook. f., Fl. Brit. India 4: 646, 1885. *Elsholtzia polystachya* Benth., Lab. Gen. & Sp. 161, 1833; Hook. f., Fl. Brit. India 4: 643, 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 89, 1940.

*Local name*: Larip (Mompā).

Bushy shrubs; branches long, slender, subquadrangular, puberulous or hoary. Leaves subsessile, elliptic to elliptic-lanceolate, serrate or deeply toothed, hairy. Flowers in long terminal spicate racemes, white or creamy yellow. Nutlets narrow.

*Fl. & Fr.*: Sept. Dec.

*Distrib.*: Kameng; in shady and moist situation as forest undergrowth at higher elevation.

**Elsholtzia pilosa** (Benth.) Benth., Lab. Gen. & Sp. 163. 1833; Hook. f., Fl. Brit. India 4: 644. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 88. 1940. *Aphanochilus pilosus* Benth. in Wall., Pl. As. Rar. 1: 30. 1830.

Herbs or undershrubs, 30-70 cm tall; branches subquadrangular, coarsely hairy. Leaves ovate, coarsely crenate. Flowers in short, stout, dense flowered, hispid spikes, pink or purplish violet, lobes hairy; calyx densely hispid.

*Fl. & Fr.*: Sept. Dec.

*Distrib.*: Kameng; 2000-2800 m, in moist situation, often along streams.

**Elsholtzia stachyodes** (Link) Raizada et H. O. Saxena in Ind. For. 92: 309. 1960; Wu in Acta Phytotax. Sin. 12: 340. 1974. *Hyptis stachyodes* Link, Enum. Pl. Hort. Berol. 2: 106. 1822. *Aphanochilus foetens* Benth. in Wall., Pl. As. Rar. 1:29. 1830. *A. paniculatus* Benth. in Wall., Pl. As. Rar. 1: 29. 1830 *Mentha paniculata* Roxb., Fl. Ind. 3: 4. 1832. *Elsholtzia incisa* Benth., Lab., Gen. & Sp. 162. 1833; Hook. f., Fl. Brit. India 4: 644. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 89. 1940.

Herbs, up to 1 m high, glabrous or puberulous. Leaves broadly ovate, coarsely crenate or toothed, puberulous, glands conspicuous beneath; petioles long, equalling blade. Flowers in slender paniculate spikes, greenish white; calyx glandular pubescent. Nutlets oblong-ellipsoid, brown.

*Fl. & Fr.*: Sept. Oct.

*Distrib.*: Kameng, Subansiri; along pathways and also in cultivated field.

**Elsholtzia strobilifera** (Benth.) Benth., Lab. Gen. & Sp. 163. 1833; Hook. f., Fl. Brit. India 4: 645. 188; Mukerjee in Rec. Bot. Surv. India 14(1): 92. 1940. *Cyclostegia strobilifera* Benth. in Wall., Pl. As. Rar. 1: 30. 1830, *p.p. excl. syn. Elsholtzia exigua* Hand.-Mazz., Symb. Sin. 7: 936. 1936.

Erect herbs, up to 60 cm high; often much branched, sparsely hairy. Leaves ovate, coarsely crenate or serrate. Flowers in terminal, ovoid or ellipsoid, villous or pubescent spikes, pale purple or pink. Bracts broadly ovate, concealing the flowers. Nutlets oblong, reddish brown.

*Fl. & Fr.*: Sept. Dec.

*Distrib.*: Kameng; 1500-2000 m, in wastelands amidst grasses.

**Eusteralis linearis** (Benth.) Prain in Phytologia 32: 476. 1976; R. B. Majumdar in J. Bombay Nat. Hist. Soc. 74: 385. 1938. *Dysophylla*

*linearis* Benth. in DC., Prodr. 12: 157. 1848; Hook. f., Fl. Brit. India 4: 639. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 82. 1940. *Amragia linearis* (Benth.) Raizada, Suppl. Fl. Upper Gang. Plains 218. 1976.

Annual, erect herbs, up to 1 m high; sparsely hairy or glabrous. Leaves sessile, 4 in whorls, linear or linear-lanceolate, entire, hairy. Flowers in dense terminal spikes, pink, rose or bluish violet, villous. Nutlets orbicular, compressed.

*Fl. & Fr.*: Sept. Dec.

*Distrib.*: Kameng, Subansiri; 1500-1200 m, common in damp situation under shades.

**Geniosporum coloratum** (D. Don) Kuntze, Rev. Gen. Pl. 2: 517. 1891; Mukerjee in Rec. Bot. Surv. India 14(1): 32. 1940; Vautier in Candollea 17: 47. 1959, *ut Geniospermum. Plectranthus colorata* D. Don, Prodr. Fl. Nep. 116. 1825. *Geniosporum strobiliferum* Benth. in Wall., Pl. As. Rar. 2: 18. 1831; Hook. f., Fl. Brit. India 4: 610. 1885.

*Local name*: Bontulsi (Astm.).

Herbs, 60-90 m tall; branches angled, puberulous. Leaves lanceolate, coarsely serrate, puberulous; petioles long. Flowers in whorls or in long racemes or spikes, white with purple tinge; calyx with 2 black glands on lower lip. Nutlets ellipsoid, black.

*Fl. & Fr.*: Sept. Feb.

*Distrib.*: Arunachal Pradesh: 1000-1800 m, in dry forests.

**Gomphostemma aborensis** Dunn in Kew Bull. 1920: 135. 1920; Mukerjee in Rec. Bot. Surv. India 14(1): 210. 1940.

Perennial, decumbent herbs; stems obtusely quadrangular, pubescent. Leaves broadly ovate, obtuse, crenate-serrate, tomentose beneath. Flowers 4-8, in axillary sessile whorls, yellow, pubescent without. Nutlets usually 1, fleshy.

*Fl. & Fr.*: Nov. Feb.

*Distrib.*: Siang; 500-800, Abor hills, Janakmukh.

**Gomphostemma lucidum** Wall. ex Benth. in Wall., Pl. As. Rar. 2: 12. 1831; Hook. f., Fl. Brit. India 4: 697. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 211. 1940.

Undershrubs, up to 3 m high; younger parts ferruginously tomentose. Leaves elliptic to oblanceolate, serrate, hispidly hairy when young, older pubescent. Flowers verticillate, in dense axillary clusters, yellow, densely villous without. Nutlets ellipsoid, white, glabrous.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Siang; 500-1500 m, in moist and shady areas of primary forests.

**Gomphostemma mastersii** Benth. ex Hook. f., Fl. Brit. India 4: 699. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 213. 1940.

Ascending herbs; branches stout, slightly grooved, scabrid; roots tuberous. Leaves in whorls, broadly elliptic or ovate, crenate-serrate, hairy above, sparingly tomentose beneath. Flowers in whorls, on short, axillary peduncles, yellow, pubescent. Nutlets glabrous, black.

*Fl. & Fr.*: June - Oct.

*Distrib.*: Tirap; 800-1200 m, along forest margins.

**Gomphostemma niveum** Hook. f., Fl. Brit. India 4: 697. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 207. 1940.

Perennial, erect herbs, up to 1.5 m high; branches stout, obtusely tetragonous, tomentose. Leaves obovate or oblanceolate, serrate, white tomentose beneath. Flowers in sessile axillary whorls, yellow. Nutlets oblong, white or brown, glabrous.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Kameng, Siang; 500-1500 m, along roadsides and hill slopes on sandy soil.

**Gomphostemma ovatum** Wall. ex Benth. in Wall., Pl. As. Rar. 2: 12. 1831; Hook. f., Fl. Brit. India 4: 699. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 213. 1940.

Herbs, 20-35 cm high; softly tomentose. Leaves broadly elliptic to oblong, crenate, pubescent. Flowers in axillary, many flowered verticillasters, yellow or orange, pubescent. Nutlets glabrous, brown.

*Fl. & Fr.*: May - June.

*Distrib.*: Kameng; 1000-1500 m, in shaded moist places.

**Gomphostemma parviflorum** Wall. ex Benth. in Wall., Pl. As. Rar. 2: 12. 1831; Hook. f., Fl. Brit. India 4: 697. 1885; Kanjilal *et al.*, Fl. Assam 3: 528. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 250. 1996.

var. **parviflorum**

Robust herbs or undershrubs, up to 2 m high, densely tomentose. Leaves elliptic-ovate to elliptic-lanceolate, serrate, upper surfaces tomentose. Flowers in axillary, crowded racemes. Nutlets ellipsoid, brown.

*Fl. & Fr.*: Aug. Dec.

*Distrib.*: Changlang, Lohit, Subansiri, Tirap; 100-600 m, in tropical primary forests.

**Gomphostemma parviflorum** var. **farinosa** Prain in Ann. Roy. Bot. Gard. Calcutta 3: 253, t. 87. 1891; Mukerjee in Rec. Bot. Surv. India 14(1): 208. 1940.

Low shrubs, up to 1 m high. Leaves orange-yellow, irregularly serrate; calyx teeth much long.

*Fl. & Fr.*: Aug. Dec.

*Distrib.*: Changlang, Tirap; in primary forests at lower elevations.

**Gomphostemma thomsonii** Benth. ex Hook. f., Fl. Brit. India 4: 698. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 209. 1940.

Woody herbs or undershrubs, up to 2.5 m high; stem and branches hoary. Leaves oblong or ovate-orbicular, tomentose beneath. Flowers in axillary crowded whorls, pale yellow, crenulate. Nutlets oblong, rugose, hairy.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Kameng; 1000-1700 m, in primary forests.

**Isodon macranthus** (Hook. f.) Kudo, Lab. Sino-Jap. 138. 1929. *Plectranthus macranthus* Hook. f., Fl. Brit. India 4: 616. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 40. 1940.

Herbs, up to 40 cm high, sparingly hairy. Leaves ovate-lanceolate, coarsely serrate, sparsely hairy or glabrescent. Flowers in axillary racemes, white or purplish. Nutlets globose.

*Fl. & Fr.*: Sept. Feb.

*Distrib.*: Kameng; 1200-1800 m, in moist shady localities.

**Lamium amplexicaule** L., Sp. Pl. 579. 1753; Hook. f., Fl. Brit. India 4: 679. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 161. 1940.

Annual, decumbent herbs, up to 40 cm high; stems sparsely hairy or glabrous. Leaves orbicular, inciso-crenate, minutely hairy; petioles long. Flowers in axillary, distant whorls, rosy, pubescent. Nutlets scaly, brown.

*Fl. & Fr.*: March May.

*Distrib.*: Kameng; 1500-2000 m, in moist shady places.

**Leonurus japonicus** Houtt., Nat. Hist. Pl. 9: 366, t. 57. f. 1. 1778; H. Hara in J. Jap. Bot. 51: 226. 1976. *L. sibiricus auct. non L.* Hook. f., Fl. Brit. India 4: 678. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 193. 1940.

Annual herbs; stems erect, branches bluntly quadrangular, grooved, finely hairy. Leaves pinnate or palmati-partite, segments linear, incised, pubescent; petioles long. Flowers in axillary, dense, congested whorls forming interrupted spikes, red or pink. Nutlets truncate, smooth.

*Fl. & Fr.*: Oct. June.

*Distrib.*: Kameng; along pathways and in waste places at lower elevations.

**Leucas ciliata** Benth. in Wall., Pl. As. Rar. 1: 61. 1830; Hook f., Fl. Brit. India 4: 687. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 174. 1940.

Aromatic, decumbent herbs or undershrubs, up to 1 m tall; branches obtusely quadrangular, hirsute. Leaves lanceolate to elliptic-lanceolate, serrate, pubescent. Flowers in axillary or terminal, globose heads or verticillasters, white; bracts ciliate, spinulose. Nutlets oblong, brown.

*Fl. & Fr.*: Aug. Dec.

*Distrib.*: Kameng, Subansiri, Tirap; 1000-2000 m, along roadsides on sandy soil and on hill slopes amidst grasses.

**Leucas indica** (L.) R. Br. ex Vatke in Oesterr. Bot. Zeits. 25: 95. 1875; Press in H. Hara *et al.*, Enum. Fl. Pl. Nep. 3: 156. 1982. *Leonurus indicus* L., Syst. ed. 10, 1101. 1760. *Leucas lavandulaefolia* Smith in Rees, Cyclop. 20: 2. 1819; Mukerjee in Rec. Bot. Surv. India 14(1): 167. 1940. *Phlomis linifolia* Roth, Nov. Sp. 260. 1821. *Leucas linifolia* (Roth) Spreng., Syst. Veg. 2: 743. 1825; Hook. f., Fl. Brit. India 4: 690. 1885.

Annual, erect herbs, up to 2.5 cm high; stem and branches quadrangular, puberulous. Leaves linear-lanceolate, subentire, finely pubescent. Flowers large, subsessile in axillary or terminal, dense whorls, white. Nutlets oblong, pale brown.

*Fl. & Fr.*: May Dec.

*Distrib.*: Kameng, Siang, Tirap; 200-500 m, in moist places.

*Use*: Plants have febrifugal properties; leaves are roasted and eaten with salt.

**Leucas mollissima** Wall. ex Benth. in Wall., Pl. As. Rar. 1: 62. 1830; Hook. f., Fl. Brit. India 4: 682. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 183. 1940.

Slender herbs or undershrubs, 40-75 cm long; branches often straggling. Leaves ovate to lanceolate, serrate or crenate, strigosely

villous above, pubescent beneath. Flowers in axillary, distant whorls, white. Nutlets ellipsoid, flattened.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Kameng, Subansiri; 400-1500 m, along roadsides on sandy soil and in forests margins amidst grasses.

**Leucosceptrum canum** Smith, Exot. Bot. 2: 113, t. 116, 1805; Hook. f., Fl. Brit. India 4: 699, 1885; Kanjilal *et al.*, Fl. Assam 3: 529, 1939; Mukerjee in Rec. Bot. Surv. India 14(1): 214, 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 250, 1996. *Clerodendron leucosceptrum* D. Don, Prodr. Fl. Nep. 103, 1825. *Comanthosphace nepalensis* Kitam. *et* Murata in Acta Phytotax. Geobot. 15: 109, 1954; M. P. Nayar & Ramam. in Bull. Bot. Surv. India 15:221,1976.

*Local name*: Titi (Adi).

Shrubs or small trees, up to 10 m high; branches terete, younger parts hoary tomentose. Leaves elliptic or elliptic-lanceolate, subentire, grey-tomentose beneath. Flowers in terminal, cylindrical spikes, dull white, yellowish or light mauve. Nutlets ovoid-trigonous, brown.

*Fl. & Fr.*: Oct. - March.

*Distrib.*: Changlang, Kameng, Lohit, Siang; 1000-1500 m, in open jungles and forest edges.

**Melissa axillaris** (Benth.) Bakh. f. in Backer & Bakh. f., Fl. Java 2: 629, 1865; Murata in Acta Phytotax. Geobot. 24: 84, 1969; N. P. Balakr., Fl. Jowai 2: 382, 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 251,1996. *Geniosporum axillare* Benth. in Wall., Pl. As. Rar. 2: 18, 1831. *Melissa parviflora* Benth. in Wall., Pl. As. Rar. 1: 65, 1830, *non* Salisb. 1796; Hook. f., Fl. Brit. India 4: 651, 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 100, 1940; Kanjilal *et al.*, Fl. Assam 3: 518, 1939.

Erect or diffuse herbs or undershrubs, up to 1 m high; branches grooved, pubescent or glabrescent. Leaves ovate-lanceolate to elliptic-lanceolate, cordate, crenate, purplish beneath. Flowers in axillary whorls, white or pale pink. Nutlets ovoid to obovoid.

*Fl. & Fr.*: May - Jan.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap; 1000-1500 m, on black humus soil along dry hill slopes.

**Microtoena griffithii** Prain in J. As. Soc. Bengal 59: 310, 1890; Mukerjee in Rec. Bot. Surv. India 14(1): 186, 1940.

Erect herbs; stem and branches more or less glabrous. Leaves ovate, cuneate at base, doubly crenate, glabrous. Flowers in short, thyrsoid, dense cymes. Nutlets minute, apices ovate, triquetrous.

*Fl. & Fr.*: June - Oct.

*Distrib.*: Kameng.

**Mosla dianthera** (Buch.-Ham. ex Roxb.) Maxim. in Bull. Acad. Sci. St.-Petersb. 20: 457. 1865; Hook. f., Fl. Brit. India 4: 647. 1885; Kanjilal *et al.*, Fl. Assam 3: 517. 1939; Press in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 158. 1982; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 250. 1996. *Lycopus diantherus* Buch.-Ham. ex Roxb., Fl. Ind. 1: 144. 1820. *Cunila nepalensis* D. Don, Prodr. Fl. Nep. 107. 1825. *Melissa nepalensis* (D. Don) Benth. in Wall., Pl. As. Rar. 1: 66. 1830. *Mosla ocymoides* Buch.-Ham. ex Benth. in Wall., Pl. As. Rar. 1: 66. 1830; Mukerjee in Rec. Bot. Surv. India 14(1): 101. 1940.

Aromatic herbs, up to 1.5 m tall, erect; stem and branches quadrangular. Leaves ovate to ovate-rhomboid, gland dotted beneath. Flowers in slender, terminal racemes or spikes, white or bluish purple; calyx minute in flower and enlarged in fruit. Nutlets ellipsoid, reticulate, brown or black.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Changlang, Lohit, Siang, Tirap; 500-1500 m, in marshy, shady places along grassy slopes and forest edges.

**Notochaeta hamosa** Benth. in Bot. Reg. 15: sub. t. 1289. 1829 & in Wall., Pl. As. Rar. 1: 63. 1830; Hook. f., Fl. Brit. India 4: 694. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 202. 1940.

Herbs, up to 1.5 m high; often creeping at base, glabrous or pubescent. Leaves broadly ovate, subcordate at base, sparingly hairy; petioles long. Flowers in axillary, globose, dense heads, white. Fruiting calyx with hooked spines. Nutlets oblong, triquetrous, smooth.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Kameng, Tirap; 1500-2500 m, common in warm, temperate forests.

**Ocimum basilicum** L., Sp. Pl. 597. 1753; Hook. f., Fl. Brit. India 4: 608. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 18. 1940.

*Local name*: Kobo (Abot.).

Herbs or undershrubs; stem and branches slender, glabrescent, scented. Leaves ovate or ovate-lanceolate, glabrous. Flowers in whorls

or in simple or branched racemes, white or pale purple; calyx villous within. Nutlets ellipsoid, pitted, black.

*Fl. & Fr.*: Oct. Dec.

*Distrib.*: Siang, Tirap; 200-1200 m, in moist places.

*Use*: Cultivated frequently as a sacred plant. Leaves are used in the treatment of bronchitis. Leaf juice is said to cure ringworm, relieves pain from scorpion stings, and is also said to be used in stomach pain, chronic diarrhoea and dysentery.

**Ocimum tenuiflorum** L., Sp. Pl. 597. 1753; Deb, Fl. Tripura State 2: 332. 1983. *O. sanctum* L., Mant. Pl. 1: 85. 1767; Hook. f., Fl. Brit. India 4: 609. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 19. 1940.

Aromatic herbs, erect, much branched; stem and branches purplish, softly hairy. Leaves elliptic oblong, distantly serrate, pubescent. Flowers in whorls on paniculate racemes, purplish; calyx glabrous within. Nutlets ellipsoid, pale brown or reddish with black markings.

*Fl. & Fr.*: Jan. Sept.

*Distrib.*: Changlang, Tirap; in shady moist places.

*Use*: Widely cultivated for various domestic use and sacred belief. Leaf juice with honey is used in throat pain; paste of leaves and roots is used in snake bite.

**Orthosiphon incurvus** Benth. in Wall., Pl. As. Rar. 2: 15. 1831; Hook. f., Fl. Brit. India 4: 614. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 24. 1940.

Herbs or undershrubs with tuberous roots, up to 1 m tall; stem rarely branched, quadrangular, hairy. Leaves ovate or ovate-lanceolate, cuneate at base, hairy on both surfaces, often purplish beneath. Flowers in verticillasters or whorls of 4-6, arranged in terminal racemes, blue, pink or purple. Nutlets ovoid, compressed.

*Fl. & Fr.*: June Nov.

*Distrib.*: Kameng, Subansiri; 1000-2000 m, on humus soil in open jungles and along forest edges.

**Orthosiphon wattii** Prain in J. As. Soc. Bengal 66: 520. 1897; Kanjilal *et al.*, Fl. Assam 3: 503. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 251.1996.

Erect herbs; stem and branches quadrangular, puberulous. Leaves puberulous. Flowers in simple racemes, pinkish. Calyx persistent, puberulous.

*Fl. & Fr.*: Aug. – Dec.

*Distrib.*: Changlang, Lohit.

**Paraphlomis javanica** (Blume) Prain in Ann. Roy. Bot. Gard. Calcutta 9: 59. 1901; Keng in Gard. Bull. Singapore 24: 136. 1969. *Leonurus javanicus* Blume, Bijdr. 828. 1826. *Phlomis rugosa* Benth. in Wall., Pl. As. Rar. 1: 63. 1830; Hook. f., Fl. Brit. India 4: 693. 1885. *Paraphlomis rugosa* (Benth.) Prain in Ann. Roy. Bot. Gard. Calcutta 9: 60. 1901; Mukerjee in Rec. Bot. Surv. India 14(1): 191. 1940.

Shrubs, up to 1.5 m tall; stems quadrangular, glabrous. Leaves elliptic or ovate-oblong, scattered hairy above. Flowers in dense axillary distant whorls, white or yellowish, faintly pubescent; corolla tube annulate within. Nutlets obovoid, triquetrous, brown.

*Fl. & Fr.*: July – Jan.

*Distrib.*: Siang, Tirap; 200-500 m, in moist and shady places.

**Perilla frutescens** (L.) Britton in Mem. Torrey Bot. Club 5: 277. 1894; Murata in Acta Phytotax. Geobot. 24: 85. 1969. *Ocimum frutescens* L., Sp. Pl. 597. 1753. *Perilla ocimoides* L., Gen. Pl. ed. 6, 578. 1764; Hook. f., Fl. Brit. India 4: 646. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 85. 1940.

Aromatic, bushy herbs, 30-10 cm tall, hairy or shaggy. Leaves ovate to broadly ovate; coarsely serrate, hairy above and along nerves beneath. Flowers in whorls of 2, on terminal and axillary racemes, white. Nutlets globose, pale brown.

*Fl. & Fr.*: Oct. – Jan.

*Distrib.*: Lohit, Siang, Subansiri, Tirap; 500-1000 m, common in forest edges and in waste places.

*Use*: Often cultivated for oil extracted from nutlets.

**Plectranthus assamicus** Mukerjee in J. Ind. Bot. Soc. 19: 82. 1940.

Erect herbs; stems quadrangular, grooved, minutely hairy. Leaves broadly ovate, entire from base to middle of lamina, upper margin serrate, glandular punctate, sparsely hairy. Flowers in axillary cymes and in lax flowered terminal cymose racemes, pinkish; bracts foliaceous. Nutlets globose, compressed, deep brown.

*Fl. & Fr.*: Sept. – Jan.

*Distrib.*: Kameng.

**Plectranthus griffithii** Hook. f., Fl. Brit. India 4: 623. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 50. 1940. *P. cremulatus* Hook. f., Fl. Brit. India 4: 623. 1885.

Erect herbs, hirsutely tomentose. Leaves ovate, acuminate, toothed. Flowers in short slender cymes, white or pale purple. Nutlets orbicular, black.

*Fl. & Fr.*: Nov. March.

*Distrib.*: Kameng, Lohit, Siang, Subansiri, Tirap; 500-1500 m, common in steep hill face.

**Plectranthus hispidus** Benth. in Wall., Pl. As. Rar. 2: 17. 1831; Hook. f., Fl. Brit. India 4: 618. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 42. 1940.

Erect shrubs; stem and branches stout, hispid or densely villous. Leaves sessile, ovate, tomentose beneath. Flowers in slender, terminal or axillary, villous racemes, white speckled with red. Nutlets minute, ellipsoid.

*Fl. & Fr.*: Sept. Jan.

*Distrib.*: Kameng; 1500-2000 m, in moist places.

**Plectranthus melissoides** Benth., Lab. Gen. & Sp. 39: 1833 & in DC., Prodr. 12: 62. 1848; Hook. f., Fl. Brit. India 4: 620. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 46. 1940.

Erect herbs, up to 60 cm high; tomentose or puberulous. Leaves sessile or subsessile, ovate-rounded, usually densely tomentose beneath. Flowers in lax, slender racemes, pink. Nutlets globose.

*Fl. & Fr.*: Oct. Dec.

*Distrib.*: Siang; 500-800 m, in moist places.

**Plectranthus stracheyi** Benth. ex Hook. f., Fl. Brit. India 4: 618. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 44. 1940.

Erect or ascending herbs, up to 2 m high; branches angled, puberulous. Leaves narrowly lanceolate, serrate above middle, puberulous beneath. Flowers in slender, terminal, cymose panicles, yellow. Nutlets narrowly ovoid.

*Fl. & Fr.*: Oct. Feb.

*Distrib.*: Kameng; in damp shades of tree along river.

**Pogostemon amarantoides** Benth. in DC., Prodr. 12: 153. 1848; Hook. f., Fl. Brit. India 4: 634. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 71. 1940.

Herbs, up to 1 m tall, glabrous or minutely pubescent. Leaves ovate or oblong, incised. Flowers in axillary or terminal, paniculate racemes or spicate whorls, white or pink; calyx teeth white hairy inside.

*Fl. & Fr.*: Oct. Jan.

*Distrib.*: Kameng, Siang, Subansiri; 800-1500 m, on moist slopes.

**Pogostemon auricularius** (L.) Hassk. in Tijdsch. Nat. Geschied. 10: 127. 1843; Press in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 162. 1982. *Mentha auricularia* L., Mant. Pl. 1: 81. 1767. *Dysophylla auricularia* (L.) Blume, Bijdr. 826. 1826; Hook. f., Fl. Brit. India 4: 638. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 79. 1940.

Erect herbs, up to 60 cm high, villous, hirsute or often shaggy. Leaves oblong or elliptic-oblong, hairy. Flowers in verticillasters on simple, dense, uninterrupted terminal racemes, pale purple. Nutlets ellipsoid.

*Fl. & Fr.*: July Dec.

*Distrib.*: Kameng, Siang, Subansiri, Tirap; 500-1000 m, common in primary forest edges.

**Pogostemon benghalensis** (Burm. f.) Kuntze, Rev. Gen. Pl. 529. 1891; Murata in H. Hara, Fl. E. Himal. 3: 95. 1975; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 251. 1996. *Ocimum benghalensis* Burm. f., Fl. Ind. 128, t. 38. f. 3. 1768. *Pogostemon plectranthoides* Desf. in Ann. Mus. Paris 2: 155. 1875; Hook. f., Fl. Brit. India 4: 632. 1885.

Herbs; branches spreading. Flowers in axillary or terminal spikes or verticillasters, pinkish white.

*Fl. & Fr.*: Dec. – June.

*Distrib.*: Changlang, Lohit.

**Pogostemon brachystachyus** Benth. in DC., Prodr. 12: 156. 1848; Hook. f., Fl. Brit. India 4: 637. 1885; Kanjilal *et al.*, Fl. Assam 3: 512. 1939; Mukerjee in Rec. Bot. Surv. India 14(1): 77. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 251. 1996.

Procumbent or straggling herbs, up to 80 cm long; much branched. Leaves ovate to oblong, finely tomentose. Flowers in dense flowered whorls of narrow, densely villous terminal racemes, pale purple. Nutlets ellipsoid.

*Fl. & Fr.*: March Dec.

*Distrib.*: Changlang, Lohit valley; 1400-1600 m, in moist places of primary forests and forest edges.

**Pogostemon elsholtzioides** Benth. in DC., Prodr. 12: 153. 1848; Hook. f., Fl. Brit. India 4: 634. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 72. 1940.

Erect, branched herbs; younger parts tomentose. Leaves lanceolate, serrulate, glabrous or puberulous above. Flowers in verticillasters on long, terminal, tomentose spikes, purple or creamy white.

*Fl. & Fr.*: Nov. Feb.

*Distrib.*: Kameng, Lohit, Siang; 500-1200 m, in damp but open places and along forest clearings.

**Pogostemon glaber** Benth. in Wall., Pl. As. Rar. 1: 31. 1830; Hook. f., Fl. Brit. India 4: 633. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 72. 1940.

Erect herbs or undershrubs, glabrous or sparsely hairy. Leaves ovate or ovate-lanceolate, doubly toothed or serrate, sparsely hairy. Flowers in whorls on slender spikes, white. Nutlets ovate or oblong, smooth.

*Fl. & Fr.*: Oct. Dec.

*Distrib.*: Kameng, Siang, Tawang; 900-1500 m, on moist hill slopes.

**Pogostemon menthoides** Blume, Bijdr. 825. 1826; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 252. 1996. *P. fraternus* Miq., Fl. Ind. Bat. 2: 963. 1859; Hook. f., Fl. Brit. India 4: 635. 1885; Kanjilal *et al.*, Fl. Assam 3: 512. 1939 Mukerjee in Rec. Bot. Surv. India 14(1): 74. 1940.

Straggling, much branched herbs, younger parts glandular tomentose. Leaves ovate, cordate, crenate or serrate, hirsute on both surfaces. Flowers in glandular tomentose racemes. Nutlets ovoid or oblong, smooth.

*Fl. & Fr.*: Aug. Feb.

*Distrib.*: Changlang, Lohit, Kameng; 800-1500 m, in moist places.

**Pogostemon parviflorus** Benth. in Wall., Pl. As. Rar. 1: 31. 1830; Hook. f., Fl. Brit. India 4: 632. 1885; Deb, Fl. Tripura State 2: 337. 1983.

Herbs or undershrubs; branches glabrous or pubescent, purple. Leaves ovate or ovate-lanceolate, glabrous. Flowers in short, cylindrical or pyramidal panicles, whorls close, white with purple spots. Nutlets ellipsoid.

*Fl. & Fr.*: Aug. Jan.

*Distrib.*: Kameng, Siang, Tirap; 1000-1500 m, in moist places.

**Pogostemon tuberosus** Benth. in Wall., Pl. As. Rar. 1: 31. 1830; Hook. f., Fl. Brit. India 4: 633. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 70. 1940.

Erect herbs or undershrubs, up to 2 m tall, scabrid or stellately hairy. Leaves ovate or ovate-deltoid, doubly toothed, scabrid. Flowers in verticillasters, on slender paniculate spikes, purple.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Kameng; 800-1500 m, along roadsides, forest fringes and riverbanks.

**Pogostemon villosus** Benth., Lab. Gen. & Sp. 153. 1833 and in DC., Prodr. 12: 152. 1848; Hook. f., Fl. Brit. India 4: 632. 1885.

Erect herbs, up to 1.5 m tall; stems stout, villous. Leaves ovate, crenulate; petioles long. Flowers in whorls on densely crowded panicled spikes, pink. Nutlets ovoid or oblong, smooth.

*Fl. & Fr.*: Jan. - April.

*Distrib.*: Siang; in moist places.

**Prunella vulgaris** L., Sp. Pl. 600. 1753; Hook. f., Fl. Brit. India 4: 670. 1885 (under *Brunella*); Mukerjee in Rec. Bot. Surv. India 14(1): 148. 1940.

var. **vulgaris**. Fig. 26.

Perennial, glabrous herbs with creeping rootstock. Leaves ovate or ovate-lanceolate, glabrous or sparingly hairy. Flowers in dense whorls of 6 in terminal cylindrical spikes, purplish or bluish purple. Nutlets oblong, smooth.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Kameng; 1500-2000 m, in open places amidst grasses.

**Prunella vulgaris** var. **hispida** (Benth.) Benth. in DC., Prodr. 12: 410. 1848; Hook. f., Fl. Brit. India 4: 671. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 149. 1940. *P. hispida* Benth. in Wall., Pl. As. Rar. 1: 66. 1830.

var. **hispida** is characterised by hispidly hairy habit. Other characters as var. *vulgaris*.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Lohit, Tawang; in open places amidst grasses at higher elevations.

**Rabdosia coetsa** (Buch.-Ham. ex D. Don) H. Hara in J. Jap. Bot. 47: 194. 1972. *Plectranthus coetsa* Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 117. 1825; Hook. f., Fl. Brit. India 4: 619. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 44. 1940. *Isodon coetsa* (Buch.-Ham. ex D. Don) Kudo in Mem. Fac. Sci. Agr. Taihoku Univ. 2: 113. 1929; Srinivasan &



Fig. 26. *Prunella vulgaris* L. : 1. Habit; 2. Flower.

Agarwal in Bull. Bot. Surv. India 5: 86. 1963. *Plectranthus menthoides* Benth. in Wall., Pl. As. Rar. 2: 17. 1831; Hook. f., Fl. Brit. India 4: 620. 1885.

Strongly aromatic, perennial herbs, up to 2 m high; stems erect, pubescent. Leaves ovate or ovate-lanceolate, serrate, sparsely pubescent. Flowers in axillary or terminal, pubescent, paniculate cymes, light blue with violet tinge, pubescent without. Nutlets oblong or subglobose.

*Fl. & Fr.*: Nov. - April.

*Distrib.*: Kameng, Lohit, Siang, Subansiri; 400-1000 m, in moist shady places.

***Rabdosia lophanthoides*** (Buch.-Ham. ex D. Don) H. Hara in J. Jap. Bot. 47: 197. 1972. *Hyssopus lophanthoides* Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 110. 1825; Hook. f., Fl. Brit. India 4: 618. 1885. *Plectranthus striatus* Benth. in Wall., Pl. As. Rar. 2: 17. 1831; Hook. f., Fl. Brit. India 4: 618. 1885. *Isodon striatus* (Benth.) Kudo in Mem. Fac. Sci. Agr. Taihoku Univ. 2: 134. 1929.

**var. *lophanthoides***

Herbs or undershrubs, up to 2 m high, pubescent. Leaves ovate, scaberulous; petioles winged. Flowers in verticillasters on terminal or axillary paniculate racemes, white with purplish tinge. Nutlets oblong, brown.

*Fl. & Fr.*: Sept. - Feb.

*Distrib.*: Kameng, Lohit, Siang, Subansiri; 600-1200 m, scattered in open forests amidst grasses and on moist hill slopes.

***Rabdosia lophanthoides* var. *gracilliflora*** (Benth.) H. Hara in J. Jap. Bot. 47: 197. 1972. *Plectranthus gracilliflorus* Benth. in DC., Prodr. 12: 56. 1848. *P. gerardianus* Benth. var. *gracilliflora* (Benth.) Hook. f., Fl. Brit. India 4: 618. 1885. *P. striatus* Benth. var. *gracilliflora* (Benth.) Mukerjee in Rec. Bot. Surv. India 14(1): 43. 1940.

Small herbs, usually pubescent. Leaves ovate, subcordate, crenate, scabrous above, usually reddish brown on drying. Flowers in long, slender, paniculate cymes, white or purplish. Nutlets oblong or ellipsoid.

*Fl. & Fr.*: Oct. - Feb.

*Distrib.*: Arunachal Pradesh.

***Rabdosia repens*** (Wall. ex Benth.) H. Hara in J. Jap. Bot. 47: 199. 1972. *Plectranthus repens* Wall. ex Benth. in Wall., Pl. As. Rar. 2: 17. 1831; Hook. f., Fl. Brit. India 4: 619. 1885; Mukerjee in Rec. Bot. Surv.

India 14(1): 46. 1940. *Isodon repens* (Wall. ex Benth.) Murata in Acta Phytotax. Geobot. 22: 21. 1966.

Small herbs; lower parts often prostrate, pubescent or villous. Leaves ovate to suborbicular, sparsely hairy. Flowers in terminal or axillary racemes, white. Nutlets broadly oblong, minute.

*Fl. & Fr.*: Oct. - Feb.

*Distrib.*: Kameng; 800-1800 m, along forests margins.

**Rabdosia scrophularioides** (Wall. ex Benth.) H. Hara in J. Jap. Bot. 47: 200. 1972. *Plectranthus scrophularioides* Wall. ex Benth. in Wall., Pl. As. Rar. 2: 16. 1831; Hook. f., Fl. Brit. India 4: 616. 1885; Mukerjee in Rec. Bot. Surv. India 14 (1): 41. 1940. *Isodon scrophularioides* (Wall. ex Benth.) Murata in Acta Phytotax. Geobot. 22: 21. 1966.

Herbs, up to 1.5 m tall; branches slender, glabrous. Leaves ovate, long petiolate, sparsely hairy. Flowers in slender, paniculate cymes, pale rose. Nutlets subglobose, smooth.

*Fl. & Fr.*: Sept. - Jan.

*Distrib.*: Kameng; 1000-1500 m, occasional in roadside jungles.

**Rabdosia ternifolia** (D. Don) H. Hara in J. Jap. Bot. 47: 201. 1972. *Plectranthus ternifolius* D. Don, Prodr. Fl. Nep. 117. 1825; Hook. f., Fl. Brit. India 4: 621. 1885. *Elsholtzia thompsoni* Hook. f., Fl. Brit. India 4: 643. 1885. *Isodon ternifolius* (D. Don) Kudo in Mem. Fac. Sci. Agr. Taihoku Univ. 2: 140. 1929.

Bushy shrubs, up to 2 m high; branches densely tomentose. Leaves in whorls of 3-4, lanceolate or elliptic-lanceolate, subsessile, densely tomentose. Flowers in verticillasters on dense, terminal, cylindrical spikes, white with pinkish tinge. Nutlets ovoid-trigonous.

*Fl. & Fr.*: Sept. - March.

*Distrib.*: Kameng, Subansiri; 500-1200 m, in open secondary forests amidst grasses.

*Use*: Leaves are used for smoking.

**Salvia mecongensis** Peter Stibál var. **assamensis** Peter Stibál, Sond aus Fedd. Repert. 39: 181. 1936.

Perennial herbs, 25-60 cm high; branches pubescent above. Leaves ovate-lanceolate, crenate-dentate, glandular punctate, puberulous above, finely tomentose beneath. Flowers in lax, branched racemes, yellow.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Subansiri; in moist places.

**Scutellaria assamica** Mukerjee in Notes Roy. Bot. Gard. Edinburgh 19: 305. 1983; Kanjilal *et al.*, Fl. Assam 3: 541. 1939.

Annual, unbranched herbs, 30-70 cm high, glabrescent or sparsely pilose. Leaves narrowly ovate, serrate, sparsely pilose. Flowers in terminal, lax racemes, pinkish or purplish white. Nutlets tubercled, black.

*Fl. & Fr.*: Aug. Dec.

*Distrib.*: Tirap.

**Scutellaria discolor** Colebr. in Wall., Pl. As. Rar. 1: 66. 1830; Hook. f., Fl. Brit. India 4: 667. 1885.

Annual herbs, 30-60 cm high; rarely branched, pubescent. Leaves mostly radical, elliptic to suborbicular; petioles long. Flowers in verticillasters on simple, terminal racemes, bluish. Nutlets granulate, brownish black.

*Fl. & Fr.*: Aug. Dec.

*Distrib.*: Kameng; 1800-2200 m, on moist rocky hill slopes.

**Scutellaria violacea** Heyne ex Benth. in Wall., Pl. As. Rar. 1: 66. 1830; Hook. f., Fl. Brit. India 4: 668. 1885; Press in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 165. 1982. *S. violacea* var. *sikkimensis* Hook. f., Fl. Brit. India 4: 668. 1885.

Herbs, sometimes rambling; much branched, pubescent or glabrescent. Leaves ovate, cordate, long petiolate, regularly crenate, glabrous. Flowers opposite, secund, white with reddish tinge. Nutlets spinulose.

*Fl. & Fr.*: Sept. Dec.

*Distrib.*: Kameng.

**Solenostemon scutellarioides** (L.) Codd in Bothalia 11: 439. 1975; McKean in Notes Roy. Bot. Gard. Edinburgh 40: 186. 1982. *Ocimum scutellarioides* L., Sp. Pl. ed. 2, 833. 1762. *Coleus scutellarioides* (L.) Benth. in Wall., Pl. As. Rar. 2: 16. 1831; Hook. f., Fl. Brit. India 4: 626. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 54. 1940. *C. atropurpureus* Benth. in Wall., Pl. As. Rar. 2: 16. 1831; Hook. f., Fl. Brit. India 4: 626. 1885.

Herbs; branches slender, finely pubescent or glabrous. Leaves ovate to ovate-lanceolate, long petiolate, regularly crenate, glabrous. Flowers in distant, lax whorls on paniculate racemes, white or bluish. Nutlets spinulose.

*Fl. & Fr.*: July Dec.

*Distrib.*: Tirap.

**Stachys melissaefolia** Benth., Lab. Gen. Sp. 538. 1834; Hook. f., Fl. Brit. India 4: 675. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 188. 1940.

Annual herbs, up to 60 cm tall, erect, pubescent or villous. Leaves oblong or oblong-lanceolate, cordate, densely hairy or villous. Flowers in distant whorls, pale purple, pink or bluish pink. Nutlets oblong.

*Fl. & Fr.*: Aug. Sept.

*Distrib.*: Kameng, Siang.

**Teucrium quadrifarium** Buch.-Ham. in D. Don, Prodr. Fl. Nep. 108. 1825; Hook. f., Fl. Brit. India 4: 701. 1885; Burkill in Rec. Bot. Surv. India 4: 127. 1910; Mukerjee in Rec. Bot. Surv. India 14(1): 218. 1940.

Herbs, up to 70 cm tall, erect, villous. Leaves ovate or oblong-ovate, cordate, serrate or serrulate, tomentose beneath; petioles short. Flowers in terminal paniculate spikes, purple or pink; bracts deltoid-ovate. Nutlets ovoid, rugose, dark brown.

*Fl. & Fr.*: Aug. Dec.

*Distrib.*: Kameng: 1600-2000 m, in primary forests.

**Teucrium viscidum** Blume, Bijdr. 14: 827. 1825; Hook. f., Fl. Brit. India 4: 700. 1885; Mukerjee in Rec. Bot. Surv. India 14(1): 218. 1940. *T. stoloniferum* Roxb., Fl. Ind. 3: 3. 1832; Hook. f., Fl. Brit. India 4: 700. 1885.

Stoloniferous herbs or shrubs, up to 5 m tall, erect, glabrous or sparsely pubescent. Leaves ovate-cordate, deeply crenate, pubescent on both surfaces. Flowers in simple or paniculate racemes, white with purple tinge, pink or purple. Nutlets smooth; enclosed by globose fruiting calyx.

*Fl. & Fr.*: May Oct.

*Distrib.*: Kameng, Subansiri, Tirap; 200-1000 m, in primary forests.

**Teucrium wattii** Prain in J. As. Soc. Bengal 59: 317. 1890; Mukerjee in Rec. Bot. Surv. India 14(1): 221. 1940.

Straggling herbs; branches diffuse, rusty villous. Leaves oblong-ovate, sharply and irregularly toothed, entire, hirsute on both surfaces. Flowers in terminal or axillary racemes, yellow; calyx unequal, densely hairy outside, hispid at throat. Nutlets globose, dark brown.

*Fl. & Fr.*: May Oct.

*Distrib.*: Arunachal Pradesh.

## PLANTAGINACEAE

**Plantago erosa** Wall. in Roxb., Fl. Ind. 1: 423. 1820; Yamazaki in H. Hara, Fl. E. Himal. 306. 1966; Kanjilal *et al.*, Fl. Assam 3: 531. 1939; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 252. 1996. *P. major auct. non L.*: Hook. f., Fl. Brit. India 4: 705. 1885, *p.p.*

Herbs; glabrous or sparsely pubescent; rootstock erect. Leaves radical, ovate-oblong or obovate, decurrent at base. Flowers in axillary, slender spikes, white. Capsules circumscissile, 4-8-seeded.

*Fl. & Fr.*: April - Dec.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 600-1500 m, common along forest edges, roadsides and waste places in moist situation.

**Plantago ovata** Forssk., Fl. Aegypt. Arab. 31. 1775; Hook. f., Fl. Brit. India 4: 707. 1885.

Annual herbs; stems very short, sparsely to densely hairy. Leaves narrowly linear, long acuminate at apex, 3-nerved. Flowers in short, ovoid or cylindric spikes, white. Capsules 1-2-seeded.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Tirap; in moist, shady places.

*Use*: Crushed plants in the form of paste are applied in case of nerve injuries. Used medicinally as 'Ishapgul'

Insufficiently known material

**Plantago major** L. (*P. major auct. non L.*: Hook. f., Fl. Brit. India 4: 705. 1885, *p.p.*).

## NYCTAGINACEAE

**Boerhavia diffusa** L., Sp. Pl. 3. 1753; Steud. in Steenis, Fl. Males. 6(3): 451. 1964. *B. repens* L., Sp. Pl. 3. 1753; Hook. f., Fl. Brit. India 4: 709. 1885. *B. repens* var. *diffusa* (L.) Hook. f., Fl. Brit. India 4: 709. 1885. *B. procumbens* Banks ex Roxb., Fl. Ind. 1: 146. 1832. *B. repens* var. *procumbens* (Roxb.) Hook. f., Fl. Brit. India 4: 709. 1885.

Diffuse herbs; branches ascending, rootstocks woody. Leaves broadly ovate, cordate, coriaceous, whitish beneath. Flowers in axillary, long peduncled umbels, pink. Nutlets clavate, glandular.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Kameng, Siang, Subansiri; 200-1200 m, in marshy waste places.

*Use:* Leaves and roots are used in urinogenital disorders. It is useful in cough, rheumatism and also act as an anti-inflammatory agent.

**Mirabilis jalapa** L., Sp. Pl. 177. 1753; Deb, Fl. Tripura State 1: 242. 1981.

Succulent herbs; branches swollen at nodes, often pinkish, roots tuberous. Leaves ovate, cordate. Flowers surrounded by involucre of bracts, campanulate, purple, yellow or white. Nuts ellipsoidal, black.

*Fl. & Fr.:* June - Dec.

*Distrib.:* Tirap; in waste places, probably an escape. Commonly grown as a garden plant for its showy flowers.

#### AMARANTHACEAE

**Achyranthes aspera** L., Sp. Pl. 204. 1753; Hook. f., Fl. Brit. India 4: 730. 1885; Kanjilal *et al.*, Fl. Assam 4: 6. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 252. 1996.

*Local name:* Ultihot (Asm.).

Perennial herbs or undershrubs, up to 1 m tall. Leaves elliptic to ovate or obovate, adpressed pubescent. Flowers in terminal, simple or paniculate spikes, green with pinkish tinge; bracteoles ovate. Seeds cochleate, reddish brown.

*Fl. & Fr.:* July - Feb.

*Distrib.:* Changlang, Lohit, Siang, Subansiri, Tirap; 500-1500 m, in wasteland, forest clearings and as weed in cultivated fields.

**Achyranthes bidentata** Blume, Bijdr. 545. 1825; Hook. f., Fl. Brit. India 4: 730. 1885; Kanjilal *et al.*, Fl. Assam 4: 7. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 253. 1996.

Herbs, up to 1.5 m tall; branches erect or ascending, slender, often rambling. Leaves elliptic to ovate-lanceolate, glabrous or sparsely pubescent, lower surfaces pink. Flowers in terminal, slender spikes, pink; bracteoles spiny.

*Fl. & Fr.:* June - Dec.

*Distrib.:* Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 500-2500 m, in shady places along forest fringes.

**Aerva sanguinolenta** (L.) Blume, Bijdr. 547. 1825; Backer in Steenis, Fl. Malcs, 4: 85. 1949. *Achyranthes sanguinolenta* L., Sp. Pl. ed.2, 294. 1762. *A. scandens* Roxb., Fl. Ind. 2: 503. 1824. *Aerva scandens*

(Roxb.) Moq. in DC., Prodr. 13(2): 302. 1849; Hook. f., Fl. Brit. India 4: 727. 1885.

Perennial herbs, up to 1.5 m high; branches sometimes straggling, whitish tomentose. Leaves ovate to lanceolate, glabrous or hoary. Flowers in woolly or tomentose, cylindric or subglobose spikes, whitish.

*Fl. & Fr.*: April–Sept.

*Distrib.*: Kameng, Lohit, Siang, Subansiri; on sandy soil along roadsides or in forest clearings at lower altitudes.

**Alternanthera paronichioides** St. Hil., Voy. Bres. 2, 2: 439. 1833; Santapau in J. Bombay Nat. Hist. Soc. 54: 476. 1956.

Prostrate herbs, up to 20 cm long; younger parts villous. Leaves ovate to oblong-lanceolate, lilac, red or dark brown. Flowers in axillary sessile heads; tepals stiff, whitish chaffy.

*Fl. & Fr.*: July–Dec.

*Distrib.*: Tirap; in marshy but open places.

**Alternanthera pungens** H. B. K., Nov. Gen. Sp. 2: 206. 1818; Naithani & Bennet in Ind. J. Forestry 4(2): 160. 1981.

Prostrate herbs, often spreading and rooting at nodes. Leaves lanceolate or elliptic-lanceolate. Flowers white in axillary heads or clusters; tepals spine-tipped.

*Fl. & Fr.*: Sept.–Feb.

*Distrib.*: Kameng; 200–1200 m, among grasses in cultivated fields.

**Alternanthera sessilis** (L.) R. Br. ex DC. in Cat. Hort. Monosp. 77. 1813; Hook. f., Fl. Brit. India 4: 731. 1885; Melville in Kew Bull. 1958: 172. 1958; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 253. 1996. *Gomphrena sessilis* L., Sp. Pl. 225. 1753. *Alternanthera nodiflora* R. Br., Prodr. 417. 1810; Hook. f., Fl. Brit. India 4: 732. 1885. *Achyranthes triandra* Roxb., Fl. Ind. 2: 505. 1824.

Prostrate herbs, up to 1 m long. Leaves linear-lanceolate to oblong-lanceolate, glabrous. Flowers in heads from axils of fallen leaves, white or pinkish; tepals scarious. Seeds orbicular-cochleate, reddish-brown.

*Fl. & Fr.*: June–Feb.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap; 200–1500 m, along roadsides, in cultivated fields or inside forests, on black humus rich soil.

**Amaranthus blitum** L., Sp. Pl. 990. 1753; Hook. f., Fl. Brit. India 4: 721. 1885; Fillias *et al.*, in Taxon 29: 149. 1980. *A. lividus* L., Sp. Pl. 990. 1753.

Annual herbs, erect or procumbent, glabrous. Leaves ovate-oblong, bilobed; petioles long. Flowers in axillary clusters. Utricles orbicular, indehiscent.

*Fl. & Fr.*: Aug. Jan.

*Distrib.*: Subansiri, Tirap; in moist places.

**Amaranthus graecizans** L., subsp. **thellungianus** (Nevski) Gusev, in Bot. Zhurn. 57: 462. 1972. *A. thellungianus* Nevski in Act. Acad. Sci. U.R.S.S. 1(4): 11. 1937. *A. polygonoides auct. non L.*: Roxb., Fl. Ind. 3: 602. 1832. *A. polygamus auct. non L.*: Hook. f., Fl. Brit. India 4: 721. 1885, *p.p.*

Herbs, prostrate or ascending. Leaves ovate to obovate-oblong. Flowers in axillary clusters. Utricles ovoid, rugose, dehiscent or not.

*Fl. & Fr.*: July Oct.

*Distrib.*: Siang; in forests on humus rich soil.

**Amaranthus hybridus** L., Sp. Pl. 990. 1753; Townsend in Nasir & Ali, Fl. W. Pakistan 71. 11. 1974. *A. paniculatus auct. non L.*: Hook. f., Fl. Brit. India 4: 718. 1885.

Herbs, up to 1.5 high. Leaves elliptic to ovate-lanceolate. Flowers in dense paniculate spikes, green or yellowish. Seeds usually black.

*Fl. & Fr.*: Aug. Dec.

*Distrib.*: Kameng, Lohit, Siang; 1500-2000 m, in marshy places. It is also cultivated by the local people for vegetable.

**Amaranthus spinosus** L., Sp. Pl. 991. 1753; Hook. f., Fl. Brit. India 4: 718. 1885; Kanjilal *et al.*, Fl. Assam 4: 8. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 253. 1996.

Annual herbs; much branched, sharply spinous, glabrous or pubescent. Leaves ovate to lanceolate. Flowers in axillary, dense clusters and terminal cylindric spikes, dull green. Seeds with a thin margin, black.

*Fl. & Fr.*: Throughout the year.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 200-2000 m, common in waste places and often found as weed in cultivated fields.

*Use*: Used as vegetable and fodder.

**Amaranthus tricolor** L., Sp. Pl. 989. 1753; Backer in Steenis, Fl. Malas. 4: 77. 1949. *A. gangeticus* L., Syst. Veg. ed. 10, 2: 1268. 1759;

Hook. f., Fl. Brit. India 4: 720. 1885. *A. lanceolatus* Roxb., Fl. Ind. 3: 607. 1832. *A. oleraceus* Roxb., Fl. Ind. 3: 605. 1832.

Annual herbs, up to 2 m high, erect. Leaves ovate to lanceolate, decurrent at base, glabrous. Flowers in dense clusters; tepals green with purple median band. Seeds blackish brown.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Kameng, Siang, Tirap; usually cultivated, sometimes found in moist waste places.

***Amaranthus viridus*** L., Sp. Pl. ed. 2, 1405. 1763; Hook. f., Fl. Brit. India 4: 720. 1885. *A. fasciatus* Roxb., Fl. Ind. 3: 609. 1832.

Herbs, 15-50 cm tall, erect, glabrous. Leaves ovate, decurrent at base; petioles long. Flowers in axillary or terminal paniculate spikes or clusters, dull green. Seeds black.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Kameng, Siang, Subansiri, Tirap; 200-1000 m, in moist hill slopes amidst grasses and in wasteland over black humus rich soil.

***Bosea amherstiana*** Hook. f., Fl. Brit. India 4: 716. 1885.

Stout, erect, glabrous, nauseous herbs or undershrubs, up to 2 m high. Leaves ovate. Flowers in short, axillary racemose spikes, green; tepals spreading. Berries globose. Seed one.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Kameng, Tawang; 1500-2500 m, on dry hilly slopes.

***Celosia argentea*** L., Sp. Pl. 205. 1753; Hook. f., Fl. Brit. India 4: 714. 1885; Kanjilal *et al.*, Fl. Assam 4: 9. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 253. 1996, *p.p.*, *excl. syn.*

forma **argentea**

Annual herbs, up to 1 m tall, glabrous. Leaves ovate to lanceolate, often reddish. Flowers in solitary or paired cylindrical spikes, white or pinkish. Seeds 2-many, orbicular-cochleate, brown.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 500-1000 m, on moist slopes.

*Use*: Often cultivated for ornamental purpose and as vegetable.

***Celosia argentea*** forma **cristata** (L.) Schinz in Engl., Pflanzenfam. ed. 2, 16 : 29. 1934; Townsend in Nasir & Ali, Fl. W. Pakistan 71: 6. 1974. *C. cristata* L., Sp. Pl. 205. 1753; Hook. f., Fl. Brit. India 4: 715.

1885. *C. argentea* var. *cristata* (L.) A. Das in Kanjilal *et al.*, Fl. Assam 4: 9. 1940. *C. cernua* Roxb., Fl. Ind. 2: 509. 1824.

Leaves linear to ovate-lanceolate. Flowers in terminal, cylindric spikes. Flowers smaller than forma typica.

*Fl. & Fr.*: Aug. Dec.

*Distrib.*: Subansiri; 500-1000 m, in clearings and wastelands.

**Cyathula capitata** Moq. in DC., Prodr. 13(2): 329. 1849; Hook. f., Fl. Brit. India 4: 722. 1885; Mullins in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 169. 1982. *Polyscalis capitata* Wall., Num. List. no. 6940A. 1832, *nom. nud.*

Slender herbs, up to 2 m high, sparsely hairy; nodes swollen. Leaves elliptic, subcaudate-acuminate at apex. Flowers in globose heads, creamy white.

*Fl. & Fr.*: Aug. Dec.

*Distrib.*: Kameng; 1000-2500 m, along forest edges and in wastelands.

**Cyathula prostrata** (L.) Blume, Bijdr. 549. 1825; Hook. f., Fl. Brit. India 4: 723. 1885; Kanjilal *et al.*, Fl. Assam 4: 5. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 254. 1996. *Achyranthes prostrata* L., Sp. Pl. ed. 2, 296. 1762.

Annual, diffuse herbs; branches angular, suberect to ascending, often tinged red. Leaves ovate to rhomboid-obovate, reddish tinged. Flowers in small, drooping clusters on hairy peduncled racemes, pale violet. Seeds orbicular, brown.

*Fl. & Fr.*: Sept. Jan.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 300-1200 m, in shaded secondary forests, along roadsides and wastelands.

**Cyathula tomentosa** (Roth) Moq. in DC., Prodr. 13(2): 327. 1849; Hook. f., Fl. Brit. India 4: 722. 1885. *Achyranthes tomentosa* Roth, Nov. Sp. Ind. 167. 1821. *A. sesquax* Wall., in Roxb., Fl. Ind. 2: 506. 1824.

Herbs or undershrubs; branches angled, erect, densely tomentose or woolly. Leaves elliptic-lanceolate to rhomboid, velvety beneath. Flowers in clusters on interrupted racemes, white. Seeds pale brown.

*Fl. & Fr.*: July Dec.

*Distrib.*: Kameng; 1000-1500 m, in moist shady places along forests.

**Deeringia amaranthoides** (Lam.) Merr., Interpr. Rumph. Herb. Amb. 211. 1917; Kanjilal *et al.*, Fl. Assam 4: 3. 1940; A. S. Chauhan in Hajra,

Contrib. Fl. Namdapha 254. 1996. *Achyranthes amaranthoides* Lam., Encycl. Meth. Bot. 1: 548. 1785. *Deeringia celosioides* R. Br., Prodr. Fl. Nov. Holl. 413. 1810; Hook. f., Fl. Brit. India 4: 714. 1885.

*Local name:* Ako-libgo-riube (Adi); Madhu-holong, Madhu-kthuka, Manmani, Ranfolita (Asm.).

Rambling undershrubs, up to 1.5 m tall; branches long, pendulous, glabrous. Leaves ovate-lanceolate. Flowers in terminal and axillary branched racemes, white or pale yellow. Berries globose, bright red.

*Fl. & Fr.:* Aug. Feb.

*Distrib.:* Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 200-1000 m, in moist places.

***Psilotrichum ferrugineum*** (Roxb.) Moq. in DC., Prodr. 13(2): 279. 1849; Hook. f., Fl. Brit. India 4: 725. 1885; Backer in Steenis, Fl. Males. 4: 90. 1949. *Achyranthes ferruginea* Roxb., Fl. Ind. 2: 502. 1824. *Psilotrichum trichotomum* Blume, Bijdr. 545. 1825; Hook. f., Fl. Brit. India 4: 725. 1885.

Annual herbs, up to 50 cm tall, erect, glabrous. Leaves elliptic, elliptic-lanceolate to obovate. Flowers in terminal, simple or 3-nate spikes, pinkish green.

*Fl. & Fr.:* Aug. Dec.

*Distrib.:* Kameng, Tirap; 500-1000 m, in moist shady places of primary forests.

***Stilbanthus scandens*** Hook. f. in Hook., Ic. Pl. t. 1286. 1879; Hook. f., Fl. Brit. India 4: 729. 1885.

Large, climbers, sometimes reaching to top of lofty trees; branches pendulous, hairy. Leaves elliptic to ovate-lanceolate, pale green, pubescent. Flowers in pubescent paniculate spikes, white.

*Fl. & Fr.:* June Dec.

*Distrib.:* Kameng, Tirap; in primary forests.

#### CHENOPODIACEAE

***Chenopodium album*** L., Sp. Pl. 219. 1753; Hook. f., Fl. Brit. India 5: 3. 1886.

*Local name:* Taya (Adi); Betua-sag (Asm.).

Annual, succulent herbs, up to 2 m high; covered with mealy substances. Leaves lanceolate, rhomboid or deltoid, entire or shallowly dentate; petioles long. Flowers in axillary, paniculate clusters, greenish. Seeds black, keeled.

*Fl. & Fr.*: May - Dec.

*Distrib.*: Kameng, Siang, Subansiri, Tirap; 300-1500 m, common as a weed in cultivated fields and in clearings.

*Use*: Leaves and twigs are used as vegetable. Sometimes cultivated by 'Abors' as a rain crop for its seeds. Seeds are also used for preparation of local drink 'Apong'.

**Chenopodium ambrosioides** L., Sp. Pl. 219. 1753; Hook. f., Fl. Brit. India 5: 4, 1886.

Annual or perennial, aromatic herbs, up to 1.5 m high, erect or ascending. Leaves lanceolate to rhomboid, irregularly serrate-dentate; petioles short. Flowers in dense glomerules on axillary and terminal paniculate spikes, greenish. Seeds cochleate, reddish brown.

*Fl. & Fr.*: April - Dec.

*Distrib.*: Kameng, Subansiri; 400-1000 m, along sandy riverbanks, roadsides and in waste places.

#### PHYTOLACCACEAE

**Phytolacca aclinosa** Roxb., Fl. Ind. 2: 458. 1832; Hook. f., Fl. Brit. India 5: 21. 1886, *p.p.*

Succulent herbs, up to 1.5 m tall, glabrous. Leaves lanceolate, serrulate or entire. Flowers in terminal or leaf opposed, dense cylindrical clusters, greenish white. Fruits with dark purple carpels.

*Fl. & Fr.*: March - Sept.

*Distrib.*: Kameng; 1500-2000 m, in moist places.

*Use*: Edible as a green vegetable. The plant is said to have medicinal properties.

#### POLYGONACEAE

**Aconogonum molle** (D. Don) H. Hara, Fl. E. Himal. 68. 1966. *Polygonum molle* D. Don, Prodr. Fl. Nep. 72. Feb. 1825; Hook. f., Fl. Brit. India 5: 50. 1886.

var. **molle** Fig. 27.

Scandent, bushy shrubs, up to 3 m long; branches often zig-zag, pubescent. Leaves elliptic-ovate to lanceolate; rounded to subcordate at base, pubescent on both surfaces. Flowers in axillary and terminal, pubescent, paniculate spikes, white. Nuts ovoid, trigonous, bluish black.

*Fl. & Fr.*: July - Jan.



Fig. 27. *Acunogonum molle* (D. Don) H. Hara :  
1. Flowering twig; 2. Flower.

*Distrib.*: Kameng, Lohit, Subansiri, Tirap; 1000-2000 m, in moist but open places along forest edges.

**Aconogonum molle** var. **rude** (Meissn.) H. Hara, Fl. E. Himal. 68. 1966. *Polygonum rude* Meissn. in DC., Prodr. 14: 137. 1856; Hook. f., Fl. Brit. India 5: 49. 1886; Kanjilal *et al.*, Fl. Assam 4: 19. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 257. 1996. *Polygonum paniculatum* Andr. ex Meissn. var. *rude* (Meissn.) Steward in Contrib. Gray Herb. 5(88): 106. 1930.

Scandent or straggling, bushy shrubs; branches stout, strigose with deflexed hairs. Leaves elliptic-lanceolate, pubescent. Flowers in axillary and terminal, hirsute, paniculate spikes, creamy white. Nutlets trigonous.

*Fl. & Fr.*: July - Jan.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri; 1000-2000 m, in moist habitat.

**Aconogonum pangianum** G. D. Pal *et* G. G. Maiti in Bull. Bot. Surv. India 26(1&2): 95(1984) 1985. **Fig. 28.**

Herbs, 10-35 cm long, erect or suberect; rooting at lower nodes, reddish, pubescent. Leaves elliptic-lanceolate to elliptic, pubescent. Flowers in terminal or axillary, spiciform racemes, yellow. Nuts trigonous, glabrous, black.

*Fl. & Fr.*: Jan. - June.

*Distrib.*: Subansiri; 3000-3500 m, in moist places on loose, sandy soil near water sources.

**Bistorta vaccinifolia** (Wall. ex Meissn.) Greene, Leatl. 1: 21. 1904. *Polygonum vaccinifolium* Wall. ex Meissn. in Wall., Pl. As. Rar. 3: 54. 1832; Hook. f., Fl. Brit. India 5: 33. 1886.

Stoloniferous herbs, tufted, trailing or creeping, sometimes forming mat, glabrous; flowering shoot suberect. Leaves small, sessile, ovate-elliptic to suborbicular, glaucous beneath; stipules cut into fine teeth. Flowers in terminal, cylindric clusters, pink. Achenes brown.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Kameng, Tawang; 4000-4500 m, along wayside, between rocks or boulders.

**Fagopyrum dibotrys** (D. Don) H. Hara, Fl. E. Himal. 69. 1966; Harid. & R. R. Rao, For. Fl. Meghalaya 2: 701. 1987; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 254. 1996. *Polygonum dibotrys* D. Don, Prodr. Fl. Nep. 73. 1825. *P. cymosum* Trev. in Nov. Act. Acad. Caes Leop.-Carol. Nat. Cur. 13: 177. 1826. *Fagopyrum cymosum* (Trev.)

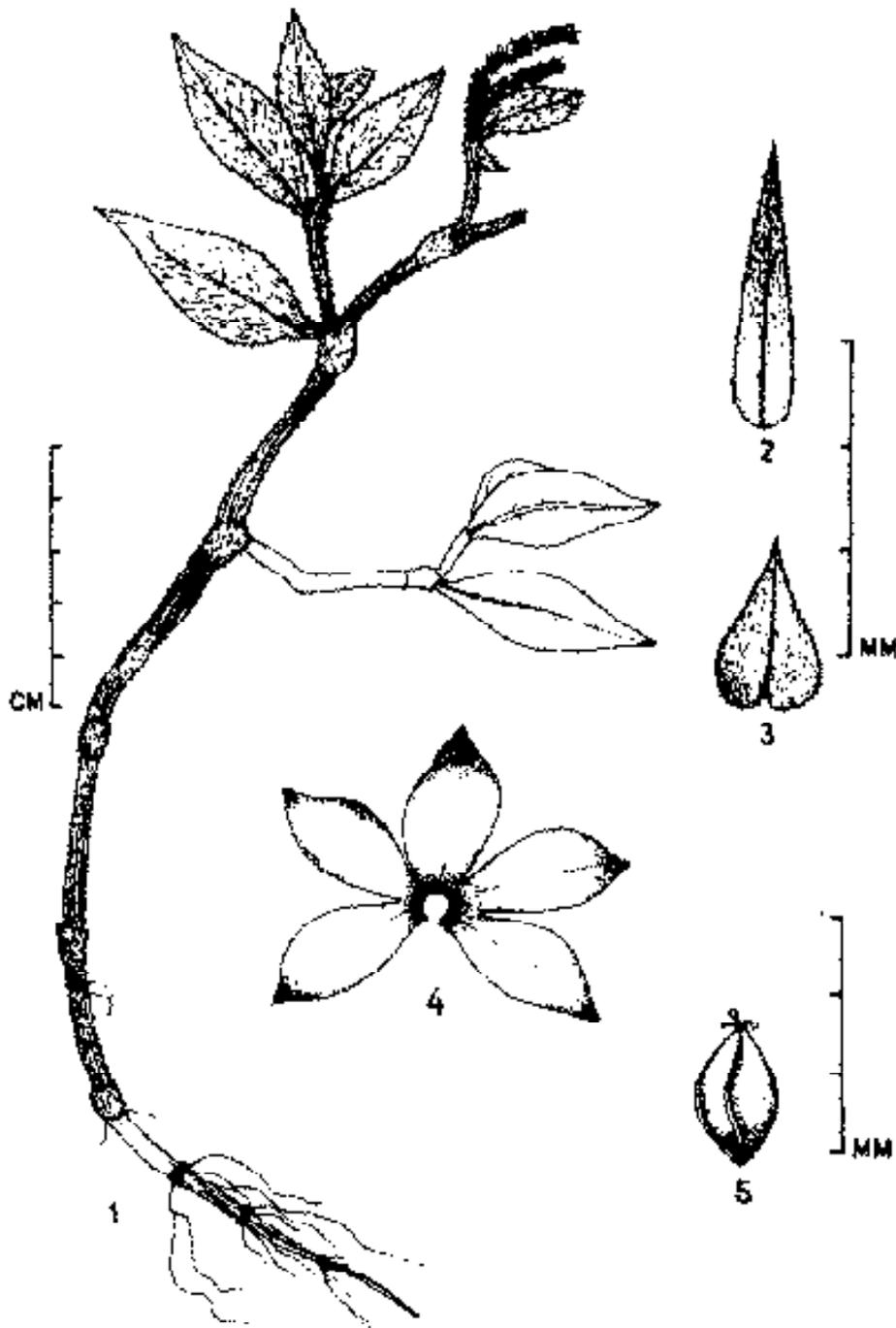


Fig.28. *Aconogonum pangianum* G. D. Pal et G. G. Maiti: 1. Habit; 2. Inflorescence bract; 3. Floral bract; 4. Perianth; 5. Nut.

Meissn. in Wall., Pl. As. Rar. 3: 63. 1832; Hook. f., Fl. Brit. India 5: 55. 1886; Kanjilal *et al.*, Fl. Assam 4: 22. 1940.

Annual or perennial, erect herbs, up to 1 m tall, puberulous. Leaves deltoid, hastate or cordate, upper amplexicaule; stipules more than 2 cm long. Flowers in terminal cymose clusters or spicate racemes, white. Nuts trigonous, darkish brown, surfaces flat or concave.

*Fl. & Fr.*: Aug. - Jan.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 700-1500 m, on moist shady slopes or in forest clearings.

*Use*: Leaves are used as vegetable.

**Fagopyrum esculantum** Moench, Meth. 290. 1794; Hook. f., Fl. Brit. India 5: 55. 1886; Kanjilal *et al.*, Fl. Assam 4: 22. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 255. 1996. *Polygonum fagopyrum* L., Sp. Pl. 364. 1753; Roxb., Fl. Ind. 2: 292. 1832.

Annual, erect herbs, up to 1 m tall; stem and branches often with 2-3 pubescent ridges. Leaves triangular, cordate or hastate, glaucous; stipules usually less than 1 cm long. Flowers in axillary or terminal, peduncled cymose clusters, pink or whitish pink. Nuts trigonous, ovate.

*Fl. & Fr.*: Jan. - March.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap; 1000-2000 m, in moist places. Sometimes cultivated for seeds.

*Use*: Seeds are dried, grinded and used as food by local people. Leaves are also cooked as vegetable.

**Persicaria barbata** H. Hara, Fl. E. Himal. 70. 1966. *Polygonum barbatum* L., Sp. Pl. 362. 1753; Hook. f., Fl. Brit. India 5: 37. 1886. **Fig. 29.**

*Local name*: Rerupi (Apat.).

Herbs, up to 2 m high; stems stout, erect or ascending, glabrous. Leaves lanceolate to linear-lanceolate, appressed setulose on both surfaces; stipules strigose, long bearded. Flowers in slender, paniculate racemes, white or greenish white. Nuts trigonous, purplish black, beaked.

*Fl. & Fr.*: Aug. - Feb.

*Distrib.*: Siang, Subansiri, Tirap; 100-1200 m, in moist areas along roadsides and waste places. Sometimes gregarious near water sources.

*Use*: The whole plant is crushed into paste and used to catch fish.

**Persicaria capitata** (Buch.-Ham. ex D. Don) H. Gross in Engl., Bot. Jahrb. 49: 277. 1913; H. Hara, Fl. E. Himal. 70. 1966; A. S. Chauhan



Fig. 29. *Persicaria barbata* H. Hara : 1. Flowering twig; 2. Flower.

in Hajra, Contrib. Fl. Namdapha 255. 1996. *Polygonum capitatum* Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 73. 1825; Hook. f., Fl. Brit. India 5: 44. 1886; Kanjilal *et al.*, Fl. Assam 4: 18. 1940.

Perennial, creeping or trailing herbs; rootstock woody. Leaves ovate or broadly ovate, bifarious, sparsely pubescent or stipitate glandular, margin ciliate; stipules glandular hirsute. Flowers in terminal heads, pink or purplish. Nuts trigonous.

*Fl. & Fr.*: Aug. June.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 500-2000 m, on open moist sandy slopes and in rock crevices under shades.

***Persicaria chinensis* (L.) H. Gross** in Engl., Bot. Jahrb. 49: 269, 277 & 315. 1913; H. Hara, Fl. E. Himal. 70 & 633. 1966; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 255. 1996. *Polygonum chinense* L., Sp. Pl. 363. 1753; Hook. f., Fl. Brit. India 5: 44. 1886; Kanjilal *et al.*, Fl. Assam 4: 16. 1940.

var. ***chinensis***

*Local name*: Kibu-nanu (Abor.).

Herbs or scrambling shrubs, up to 2 m long; branches divaricated, glabrous or sparsely pubescent. Leaves ovate-oblong to deltoid-ovate, truncate or subcordate at base, glabrous to sparsely hairy, rarely pilose, ciliate. Flowers in terminal, corymbose heads, white or pinkish. Nuts trigonous, enclosed within fleshy, red or blackish perianth.

*Fl. & Fr.*: Aug. March.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 500-2200 m, common in wastelands, bushes and forest edges, and sometimes become gregarious on damp edges of forest clearings.

***Persicaria chinensis* var. *brachiata* (Lam.) H. Hara**, Fl. E. Himal. 71. 1966. *P. brachiatum* Lam., Ill. 2: t. 315, f. 4. 1797. *Polygonum chinense* L. var. *brachiatum* (Lam.) Meissn. in Wall., Pl. As. Rar. 3: 61. 1832.

Herbs, glabrous or sparsely puberulous. Leaves ovate-oblong to oblong-lanceolate, truncate at base. Flowers in glandular, hispidulous, lax panicles, white.

*Fl. & Fr.*: Aug. Dec.

*Distrib.*: Siang; 300-200 m, in moist places.

***Persicaria chinensis* var. *ovalifolia* (Meissn.) H. Hara**, Fl. E. Himal. 71. 1966. *Polygonum chinense* L. var. *ovalifolium* Meissn. in Wall., Pl.

As. Rar. 3: 60. 1832; Hook. f., Fl. Brit. India 5: 45. 1886. *P. auriculatum* Meissn., Monogr. Polyg. 59, t. 6. 1826; Steenis in Blumea 16: 357. 1968; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 257. 1996.

Bushy herbs or climbers, glabrous. Leaves ovate or ovate-oblong, acute at both ends. Flowers in terminal, glandular hispid, peduncled heads, white. Nuts red, turn black on ripening.

*Fl. & Fr.*: Aug. Dec.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 500-1500 m, in moist shady places.

***Persicaria glabra*** (Willd.) M. Gomez in Ann. Inst. Segunda Enseñanza Habana 2: 278. 1876. *Polygonum glabrum* Willd., Sp. Pl. 2: 447. 1799; Hook. f., Fl. Brit. India 5: 34. 1886.

Erect herbs, up to 1 m tall, glabrous. Leaves lanceolate, glabrous or minutely glandular; stipules glabrous. Flowers in terminal, slender paniculate racemes, pinkish white. Nuts orbicular, black.

*Fl. & Fr.*: June Nov.

*Distrib.*: Changlang, Kameng, Tirap; in moist areas along roadsides or in waste places.

***Persicaria hydropiper*** (L.) Spach, Hist. Vog. 10: 536. 1841; H. Hara, Fl. E. Himal 2: 33. 1971; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 256. 1996. *Polygonum hydropiper* L., Sp. Pl. 361. 1753; Hook. f., Fl. Brit. India 5: 39. 1886; Burkill in Rec. Bot. Surv. India 4: 128. 1910.

Ascending herbs, up to 50 cm long, glabrous. Leaves lanceolate to oblong-lanceolate, glabrous or sparsely hairy; stipules tubular, sparsely hairy. Flowers in axillary and terminal racemes, white. Nuts trigonous, granular, brown.

*Fl. & Fr.*: March Oct.

*Distrib.*: Changlang, Lohit, Siang; 400-1000 m, in moist places.

***Persicaria muricata*** (Meissn.) Nemetz, Fl. Jap. Suppl. 173. 1936. *Polygonum muricatum* Meissn., Monogr. Polyg. 74. 1826; Hook. f., Fl. Brit. India 5: 45. 1886.

Creeping or rambling herbs, up to 80 cm long; stem and branches quadrangular, sparsely scabrid. Leaves ovate or ovate-oblong; stipules glabrous, ciliate. Flowers in heads on glandular hispid peduncles, white. Nuts ovoid, smooth.

*Fl. & Fr.*: Aug. Dec.

*Distrib.*: Subansiri; along roadsides marshes.

**Persicaria nepalensis** (Meissn.) H. Gross in Engl., Bot. Jahrb. 49: 277, 1913; H. Hara, Fl. E. Himal. 72, 1966. *Polygonum nepalense* Meissn., Monogr. Polyg. 84, t. 7, f. 2, 1826. *Polygonum alatum* Buch.-Ham. ex Spreng., Syst. Veg. Cur. Post. 154, 1827; Hook. f., Fl. Brit. India 5: 41, 1886. *P. alatum* var. *nepalense* (Meissn.) Hook. f., Fl. Brit. India 5: 42, 1886.

Annual herbs, prostrate or ascending, glabrous or sparsely hairy. Leaves ovate or deltoid-ovate, ciliate; petioles usually auriculate at base; stipules tubular, glandular pubescent. Flowers in axillary or terminal corymbose heads, pink or white; Peduncles glandular pubescent. Nuts broadly trigonous, brown, enclosed within papery perianth.

*Fl. & Fr.*: Aug. Dec.

*Distrib.*: Kameng, Siang, Subansiri, Tirap; 200-1000 m, on moist sandy soil.

**Persicaria perfoliata** (L.) H. Gross in Engl., Bot. Jahrb. 49: 275 & 281, 1913; H. Hara, Fl. E. Himal. 72, 1966. *Polygonum perfoliatum* L., Sp. Pl. ed. 2, 521, 1762; Hook. f., Fl. Brit. India 5: 46, 1886.

Climbing or ascending herbs, 1-3 m long; stem and branches prickly. Leaves broadly ovate or deltoid, long petiolate, margin and veins with recurved spines beneath. Flowers in terminal or axillary branched racemes, white or pink. Nuts obovoid, rounded, shining blue when ripe.

*Fl. & Fr.*: June Dec.

*Distrib.*: Subansiri, Tirap; 700-1500 m, spread over open bushes, in wastelands.

**Persicaria polystachya** (Wall. ex Meissn.) H. Gross in Engl., Bot. Jahrb. 49: 315, 1913. *Polygonum polystachyum* Wall. ex Meissn. in Wall., Pl. As. Rar. 3: 61, 1832; Hook. f., Fl. Brit. India 5: 50, 1886.

Herbs or undershrubs, up to 2 m tall; branches grooved, glabrous or pubescent. Leaves oblong-lanceolate, cordate or truncate at base. Flowers in large, terminal, thyrsoid panicles, white.

*Fl. & Fr.*: July Dec.

*Distrib.*: Kameng, Tawang; 4000-4500 m, in rock crevices, along waysides.

**Persicaria posumbu** (Buch.-Ham. ex D. Don) H. Gross in Engl., Bot. Jahrb. 49: 313, 1913; H. Hara, Fl. E. Himal. 73, 1966; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 256, 1996. *Polygonum posumbu* Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 71, Feb. 1825; Hook. f., Fl. Brit. India

5: 38. 1886, *p.p.* *P. caespitosum* Blume, Bijdr. 532. (Dec. 1825-Mar. 1826).

Extensively creeping herbs, up to 1 m long, glabrous. Leaves elliptic to elliptic-lanceolate, glabrous or very sparsely hairy; stipules tubular, sparsely hairy, mouth ciliate. Flowers in terminal and axillary peduncled racemes, white or pinkish. Nuts trigonous.

*Fl. & Fr.*: July - Feb.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 300-1500 m, along roadsides in moist places and in forest clearings.

***Persicaria pubescens*** (Blume) H. Hara in J. Jap. Bot. 17: 335, 1941. *Polygonum pubescens* Blume, Bijdr. 11: 532. 1825. *P. flaccidum* Meissn. var. *hispida* Hook. f., Fl. Brit. India 5: 40. 1886, *excl. syn.*

var. ***pubescens***

Perennial herbs; erect or ascending, pubescent. Leaves small, elliptic-ovate to lanceolate, hirsute; stipules tubular, strigose. Flowers in slender, sub-paniculate racemes, bright pink. Nuts trigonous, black.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Kameng, Subansiri; 500-1000 m, in marshy places near streams.

***Persicaria pubescens* var. *acuminata*** (French & Sav.) H. Hara, Fl. E. Himal. 74. 1966. *Polygonum hydropiper* L. var. *acuminata* French & Sav., Enum. Fl. Pl. 2: 474. 1877. *P. flaccidum auct. non Roxb.*: Meissn. in DC., Prodr. 14(1): 107. 1856; Hook. f., Fl. Brit. India 5: 39. 1886. *P. hydropiper* L. var. *flaccidum* (Meissn.) Steward in Contrib. Gray Herb. 88. 59. 1930.

*Local name*: Tamu (Adi).

Herbs, up to 50 cm long, erect or ascending, glabrous or pubescent; nodes red. Leaves lanceolate or elliptic-lanceolate, acuminate, hispid or strigose. Flowers in slender racemes, white.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Kameng, Lohit, Siang, Subansiri, Tirap; 300-1000 m, on sandy soil.

***Persicaria runcinata*** (Buch.- Ham. ex D. Don) H. Gross in Engl., Bot. Jahrb. 49: 277. 1913. *Polygonum runcinatum* Buch.- Ham. ex D. Don, Prodr. Fl. Nep. 73. 1825; Hook. f., Fl. Brit. India 5: 43. 1886.

Creeping or ascending herbs, up to 30 cm long, scabrid. Leaves runcinate-pinnatifid, terminal lobe triangular-ovate, lateral lobes 1-3.

glabrous; stipules truncate at base, hairy. Flowers in terminal heads on glandular peduncles, white or pink. Nuts ovoid, rounded, slightly angular at apex.

*Fl. & Fr.*: March - Nov.

*Distrib.*: Kameng, Siang, Subansiri, Tirap; 600-3000 m, common on moist soil slopes and along roadsides amidst grasses.

***Persicaria salicifolia*** (Brouss. ex Willd.) Munshi et Javid., Polyg. Kash. Himat. 73. 1986. *Polygonum salicifolium* Brouss. ex Willd., Enum. Pl. Hort. Berol. 1: 428. 1809. *P. serrulatum* Lagase in Boiss., Fl. Orient. 4: 1028. 1779; Hook. f., Fl. Brit. India 5: 38. 1886.

Perennial, ascending or erect herbs, up to 70 cm long. Leaves lanceolate to elliptic-lanceolate, glabrous or sparsely pubescent beneath; stipules tubular, pubescent. Flowers in terminal slender racemes, white or pink. Nuts trigonous, brown.

*Fl. & Fr.*: June - Nov.

*Distrib.*: Subansiri; in moist places.

***Persicaria strigosa*** (R. Br.) Nakai in Rigakkai 24: 299. 1926; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 256. 1996. *Polygonum strigosum* R. Br., Prodr. Fl. Nov. Holl. 420. 1810; Hook. f., Fl. Brit. India 5: 47. 1886.

Suberect to ascending herbs, up to 1 m long, prickly; prickles more at nodes. Leaves ovate-oblong to lanceolate, truncate or hastate at base, pubescent beneath, margin ciliate. Flowers in globose spikes on simple or branched peduncles, pinkish white. Nuts trigonous.

*Fl. & Fr.*: Aug. - Feb.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap; 1500-2500 m, in moist places along forest edges.

***Persicaria tenella*** (Blume) H. Hara in J. Jap. Bot. 44: 375. 1969; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 256. 1996. *Polygonum tenellum* Blume, Bijdr. 530. 1825, non Roxb. 1832. *P. minus* auct. non Hudson; Hook. f., Fl. Brit. India 5: 36. 1886, *p.p.*

Erect or ascending herbs; stem and branches pinkish. Flowers in terminal racemes, perianths glandular.

*Fl. & Fr.*: Aug. - Feb.

*Distrib.*: Changlang, Kameng, Lohit.

***Persicaria tenella*** var. ***kawagoeana*** (Makino) H. Hara in J. Jap. Bot. 44: 375. 1969. *Polygonum kawagoeanum* Makino in Bot. Mag.

Tokyo 28: 115. 1914. *P. strictum* var. *subcontinuum* Meissn. in Wall., Pl. As. Rar. 3: 57. 1832, *p.p.* *P. micranthum* Meissn. in Miq. Ann. Mus. Bot. Lugd.-Bot. 2: 59. 1865; Hook. f., Fl. Brit. India 5: 36. 1886. *P. minus auct. non* Hudson: Hook. f., Fl. Brit. India 5: 36. 1886, *p.p.* *Persicaria kawagoeana* (Makino) Nakai in Rigakkai 24: 300. 1926.

Prostrate or ascending herbs, up to 30 cm long; stems simple or branched, glabrous. Leaves elliptic to oblong-lanceolate; margin and midrib beneath sparsely hairy; stipules tubular, glabrous, brown. Flowers in axillary and terminal, slender racemes, pinkish red. Nuts orbicular, Brown.

*Fl. & Fr.*: July - Dec.

*Distrib.*: Subansiri; 4000-4500 m, in moist places over rich humus.

**Polygonum palmatum** Dunn in Kew. Bull. 1912. 431. 1912.

Twining herbs, spinescent. Flowers reddish pink.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Subansiri; in marshy places.

**Rumex hastatus** D. Don, Prodr. Fl. Nep. 74. 1825; Hook., f., Fl. Brit. India 5: 60. 1886.

*Local name*: Phumthum (Aka).

Bushy herbs; branches slender, ascending. Leaves broadly triangular, 3-lobed, basal lobes narrow, spreading; stipules membranous, deciduous. Flowers in terminal, slender clusters, greenish white or pinkish. Nuts sharply angular, pinkish.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Kameng; 1000-1800 m, along sandy riverbeds and in rock crevices.

**Rumex maritimus** L., Sp. Pl. 335. 1753; Hook. f., Fl. Brit. India 5: 59. 1886. *R. acutus* Roxb., Fl. Ind. 2: 208. 1824.

Annual herbs; stem and branches stout, erect, angled, deeply grooved. Leaves lanceolate to oblong-lanceolate, warty at margins; stipules membranous, tubular, deciduous. Flowers in terminal, lax or dense whorls, brownish. Nuts sharply angular.

*Fl. & Fr.*: March - Sept.

*Distrib.*: Kameng, Tirap.

**Tovora virginiana** (L.) Rafin., Fl. Tellur. 3:12.1836. *Polygonum virginianum* L., Sp. Pl. 360. 1753; Hook. f., Fl. Brit. India 5: 31. 1886.

Herbs, up to 1.5 m tall; branches hollow, sparsely hispid. Leaves elliptic to elliptic-lanceolate; stipules small, hispid. Flowers in long, slender, peduncled racemes, red. Nuts ellipsoid, flattened, pale brown.

*Fl. & Fr.*: June - Jan.

*Distrib.*: Siang, Subansiri, Tirap; 500-2000 m. in damp places and along edges of secondary forests.

Insufficiently known material

***Polygonum alatum*** Buch.-Ham. ex Spreng. var. ***metzlana*** Hook. f., Fl. Brit. India 5: 42. 1886.

***Polygonum chinense*** L. var. ***hispidum*** Hook. f., Fl. Brit. India 5: 54. 1886.

### PODOSTEMACEAE

***Zeylandidium olivaceum*** (Gardn.) Engl. in Engl. et Prantl, Pflanzenr. 18a, 8. f. 5, 62, f. 55. 1930; Rao et Hajra in Bull. Bot. Surv. India 12(1-4): 271. 1970. *Podostemon olivaceum* Gardn. in Calcutta J. Nat. Hist. 7: 181. 1846; Hook. f., Fl. Brit. India 5: 6. 1886.

Lichenoid or hepaticoid, thallose herbs, irregularly lobed; vegetative and flowering shoots numerous, vegetative shoots with cluster of subulate leaves, flowering shoots with imbricate bracts. Flowers single, terminal, spathe-ensheathed, white. Capsules ellipsoid, brownish.

*Fl. & Fr.*: Oct. - April.

*Distrib.*: Kameng, Subansiri; 300-1000 m, on moist or submerged rocks and boulders in streams. Rare.

### RAFFLESIACEAE

***Sapria himalayana*** Griff. in Proc. Linn. Soc. 1: 217. 1844; Hook. f., Fl. Brit. India 5: 71. 1886; Kanjilal et al., Fl. Assam 4: 27. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 257. 1996. *S. griffithii* Br. in Trans. Linn. Soc. London 19: 244. 1844.

Dioecious, obligate root parasites, leafless, fleshy. Flowers large, 20-35 cm across, solitary, sessile, foetid; perianth-tube blood red inside and covered in sulphur-yellow spots with ca 20 radiating ridges. Fruits fleshy, globose, crowned with persistent perianth.

*Fl. & Fr.*: July - March.

*Distrib.*: Changlang, Kameng, Lohit; 1000-1600 m, in humid primary evergreen forests.

*Note:* The largest root parasite having host specific relationship and usually with the genus *Tetrastigma* of Vitaceae. Rare.

### VRISTOLOCHACEAE

***Aristolochia griffithii*** Hook. f. & Thomson ex Duch. in DC. Prodr. 15(1): 437. 1864; Hook. f., Fl. Brit. India 5: 77. 1886. *Isotrema griffithii* (Hook. f. & Thomson ex Duch.) C. E. C. Fisch. in Kew Bull. 1940: 198. 1940.

Tall climbers; younger parts villous. Leaves broadly ovate, stringly auriculate-cordate at base, densely tomentose beneath. Flowers axillary, solitary or in clusters, orange-yellow with red throat, tubes spotted, red within; perianth tube strongly inflated at base, pubescent. Capsules oblong.

*Fl. & Fr:* May - Sept.

*Distrib.:* Kameng; in dense forests at higher elevation.

***Aristolochia indica*** L., Sp. Pl. 960. 1753; Hook. f., Fl. Brit. India 5: 75. 1886.

Twining shrubs or climbers, glabrous. Leaves linear to obovate-oblong. Flowers 1-3 in short peduncles, greenish or brownish.

*Fl. & Fr:* May - Sept.

*Distrib.:* Siang; 200-1200 m, in primary forests.

***Aristolochia plantanifolia*** (Klotzsch) Duch. in DC., Prodr. 15(1): 437. 1864; Hook. f., Fl. Brit. India 5: 76. 1886; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 258. 1996. *Siphisia plantanifolia* Klotzsch in Monatsb. Akad. Wiss. Berl. 1859: 603. 1859.

Climbers, glabrous or pubescent. Leaves ovate or orbicular in outline, digitately 3-lobed, glabrous or pubescent beneath. Flowers in axillary, villous cymes or solitary, yellowish with purplish tinge. Capsules oblong, 6-ribbed.

*Fl. & Fr:* June - Sept.

*Distrib.:* Changlang, Kameng, Lohit, Tirap; in primary forests.

***Aristolochia tagala*** Cham. in Linnaea 7: 207, t. 5, f. 3. 1832; H. Hara in H. Hara et al., Enum. Fl. Pl. Nepal 3: 180. 1982. *A. acuminata* auct. non Lam., nec Willd.: Wall., Num. List no. 2705. 1831; Roxb., Fl. Ind. 3: 489. 1832. *A. roxburghiana* Klotzsch in Monatsb. Akad. Wiss. Berl. 1859: 596. 1859; Hook. f., Fl. Brit. India 5: 75. 1886.

*Local name:* Belikol (Asm.).

Glabrous twiners, sulcate. Leaves ovate to ovate-lanceolate, cordate to subsagittate at base, minutely pubescent on nerves beneath. Flowers in puberulous racemes, dark brown; perianth tube narrowly tubular, straight, abruptly swollen near base. Capsules oblong or ellipsoid, 6-ribbed.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Kameng, Tirap; 200-500 m, in moist humid places along forest margins.

*Use*: Leaves are crushed and the paste is said to be applied in snake bite.

***Aristolochia saccata*** Wall., Pl. As. Rar. 2: 2, t. 103, 1830; Hook. f., Fl. Brit. India 5: 76, 1886.

Woody lianas; branches puberulous. Leaves ovate to linear-oblong, adpressed, brown silky beneath. Flowers in branched villous cymes, yellowish white; perianth tube S-shaped, inflated, limbs narrow, reflexed. Capsules rosy-yellow, strongly ribbed.

*Fl. & Fr.*: Sept. - May.

*Distrib.*: Kameng, Tirap; 500-2000 m, in dense evergreen forests and on moist slopes.

***Asarum himalaicum*** Hook. f. *et* Thomson *ex* Klotzsch in Monatsb. Akad. Wiss. Berl. 1859: 585, 1859, *ut himalaycum* Duch. in DC., Prodr. 15(1): 424, 1864; Hook. f., Fl. Brit. India 5: 72, 1886. *A. himalaicum* Hook. f. *et* Thomson *ex* Klotzsch var. *bhutanicum* W.W.Sm. in Rec. Bot. Surv. India 4: 271, 1911.

Perennial, woody herbs; rootstock stout. Leaves radical, petioles long, ovate-rounded, deeply cordate at base, hairy. Flowers solitary, axillary or terminal, purple or brownish; perianth tube adnate to ovary, lobes triangular, reflexed, papillose within. Capsules enclosed in persistent perianth. Seeds ovoid, arillate.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Kameng, Tirap.

#### PIPERACEAE

***Peperomia heyneana*** Miq., Syst. Pip. 123, 1843; Hook. f., Fl. Brit. India 5: 99, 1886; Kanjilal *et al.*, Fl. Assam 4: 39, 1940; Ohashi in H. Hara, Fl. E. Himal. 42, 1966; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 258, 1996.

Herbs, up to 30 cm long; diffusely branched, often creeping, glabrous. Leaves in whorls, obovate to obovate-oblong or suborbicular, fleshy. Spikes 1-3 cm long, dull green.

*Fl. & Fr.*: Augt. - April.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap; 1500-2000 m, in humid forests, sometimes epiphytic on moss covered barks.

**Peperomia pellucida** (L.) Kunth in H. B. K., Nov. Gen. 1: 64. 1816. *Piper pellucidum* L., Sp. Pl. 30. 1753. *P. exiguum* Blume in Verh. Bot. Genoots. 11: 233. 1826. *Peperomia exigua* (Blume) Miq., Syst. Pip. 77. 1843; Hook. f., Fl. Brit. India 5: 97. 1886.

Small herbs, 15-80 cm long; succulent, drooping, glabrous. Leaves alternate, ovate-deltoid, membranous. Spikes densely hairy, axillary and terminal, paired or solitary, greenish white. Berries ovoid, reticulate.

*Fl. & Fr.*: June - Oct.

*Distrib.*: Kameng, Subansiri, Tirap; 100-1000 m, in moist shady places, often on damp walls or rocks.

**Peperomia tetraphylla** (G. Forst.) Hook. et Arn., Bot. Beech. Voy. 97. 1832; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 258. 1996. *Piper tetraphyllum* G. Forst., Insul. Austr. Prodr. 5. 1786. *Piper reflexum* L. f., Suppl. Pl. 91. 1781. *Peperomia reflexa* (L. f.) A. Dietr., Sp. Pl. ed. 6, 1: 180. 1831, non H. B. K. 1815; Hook. f., Fl. Brit. India 5: 99. 1886. Kanjilal *et al.*, Fl. Assam 4: 38. 1940; *P. saxatilis* Wall. in Roxb., Fl. Ind. 1: 163. 1820.

Epiphytic herbs, up to 25 cm long; much branched, tufted, pubescent. Leaves in whorls, sessile, obovate to orbicular, coriaceous. Spikes axillary and terminal, solitary, sparsely hairy. Berries ovoid.

*Fl. & Fr.*: July - Feb.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 1500-2200 m, on mossy barks, sometimes over damp rocks in deep shades.

**Piper betle** L., Sp. Pl. 28. 1753; Hook. f., Fl. Brit. India 5: 85. 1886.

*Local name*: Pan (Abor., Asm.).

Woody climbers with adventitious roots, up to 10 m long; profusely branched. Leaves ovate-cordate, cordate or rotundate at base, coriaceous. Spikes slender, peduncles long; bracts orbicular, peltate. Berries globose, fleshy, remain immersed in rachis.

*Fl. & Fr.*: July - Dec.

*Distrib.*: Siang, Tirap; also cultivated for leaves.

*Use:* Leaves are used as masticatory and also in medicine.

**Piper betleoides** C. DC. in *Candollea* 1: 186, 201, 1923.

Woody climbers; stem, branches and rachis glabrous. Leaves ovate or oblong-ovate, unequally cordate at base, 10-pinnerved. Spikes stout, shorter than leaves. Berries free, greenish.

*Fl. & Fr.:* Aug. – Dec.

*Distrib.:* Siang, Subansiri; 1500-2500 m, in moist primary forests.

**Piper boehmeriaefolia** (Miq.) DC., *Prodr.* 16(1): 348. 1869; Hook. f., *Fl. Brit. India* 5: 85. 1886; Kanjilal *et al.*, *Fl. Assam* 4: 35. 1940; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 259. 1996. *Chavica boehmeriaefolia* Miq., *Syst. Pip.* 265. 1843.

Large climbers; branches glabrous, ribbed. Leaves obliquely ovate to elliptic-lanceolate, glabrous, membranous, auricled at base, long acuminate at apex. Spikes slender, cylindric; peduncles long, dark green. Berries subglobose, glabrous.

*Fl. & Fr.:* Feb. – Dec.

*Distrib.:* Changlang, Lohit, Tirap; in primary forests.

**Piper clarkei** C. DC. in *Candollea* 1: 186. 1923; Kanjilal *et al.*, *Fl. Assam* 4: 38. 1940; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 259. 1996.

*Local name:* Dautapan (Chakma).

Shrubs. Leaves ovate or ovate-oblong, base subequally rotundate to sub-attenuate, obtuse to shortly acuminate at apex. Rachis pubescent. Berries immersed, not free.

*Fl. & Fr.:* Almost throughout the year.

*Distrib.:* Changlang, Lohit, Subansiri; on moist slopes.

**Piper curtistipes** C. DC. in *Candollea* 1: 225. 1923; Burkill in *Rec. Bot. Surv. India* 10(1): 348. 1924.

Small climbers. Leaves elliptic-lanceolate to subobovate, acute at base, long acuminate at apex, 7-pinnerved. Female spikes much shorter than leaves; bracts peltate, glabrous. Berries orange.

*Fl. & Fr.:* Nov. – Feb.

*Distrib.:* Siang; 800-1200 m, on moist hill crests.

**Piper dekhoanum** C. DC. in *Candollea* 1: 199. 1923; Burkill in *Rec. Bot. Surv. India* 10(1): 348. 1924.

Small climbers. Leaves subobovate or elliptic-oblong, slightly unequal, rotund to attenuate at base, acuminate at apex. Peduncles equal to petioles. Spikes shorter than leaves. Berries free.

*Fl. & Fr.*: Nov. Feb.

*Distrib.*: Siang; in moist, shady localities of forests and forest margins.

**Piper diffusum** Vahl, Enum 1: 333. 1804; Hook. f., Fl. Brit. India 5: 96. 1886; Burkill in Rec. Bot. Surv. India 10(1): 349. 1924.

Semi-woody climbing herbs; branches scandent. Spikes short, cylindrical or globose. Berries globose, greenish black.

*Fl. & Fr.*: Nov. Feb.

*Distrib.*: Kameng, Siang; 800-1200 m, in roadside thickets.

**Piper gamblei** C. DC. in Candollea 1: 204. 1923.

*Local name*: Radhale (Nishi).

Climbers or creepers; stem and branches glabrous. Leaves ovate-lanceolate. Peduncles nearly equal to petioles. Spikes shorter than leaves, simple. Berries green.

*Fl. & Fr.*: June Dec.

*Distrib.*: Siang, Subansiri; 500-1000 m, on moist soil slopes.

*Use*: Leaves are said to be applied in swellings.

**Piper glabramentum** C. DC. in Candollea 1: 219. 1923; Burkill in Rec. Bot. Surv. India 10(1): 348. 1924.

Scandent shrubs or climbers. Leaves ovate, subrotund at base, nearly equal, 9-nerved, nerves strong at base. Berries free.

*Fl. & Fr.*: Nov. Feb.

*Distrib.*: Siang; in moist shady places.

**Piper griffithii** C. DC. in Seem., J. Bot. 163. 1866; Hook. f., Fl. Brit. India 5: 81. 1886; Kanjilal *et al.*, Fl. Assam 4: 33. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 259. 1996.

Climbing shrubs, 3-5 m long, glabrous. Leaves ovate to ovate-lanceolate, subattenuate at base, acute at apex, 5-plinerved. Spikes leaf opposed, compact, solitary, yellowish. Berries globose, green, black when ripe.

*Fl. & Fr.*: April Dec.

*Distrib.*: Changlang, Lohit, Siang, Tirap; 500-1000 m, in tropical evergreen forests.

**Piper hymenophyllum** Miq. in Hook., J. Bot. 5: 554. 1853; Hook. f., Fl. Brit. India 5: 93. 1886; N. P. Balakr., Fl. Assam 2: 397. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 260. 1996. Fig. 30.

Shrubby climbers, up to 1 m long. Leaves obliquely ovate, elliptic or oblong-lanceolate, palmately 5-ribbed, hairy; petioles and peduncles spreading hairy. Spikes long, slender. Berries subglobose or ellipsoid, reddish or yellowish.

*Fl. & Fr.*: Oct. - March.

*Distrib.*: Changlang, Lohit, Siang; 1000-1500 m, in primary forests.

**Piper longum** L., Sp. Pl. 29. 1753; Hook. f., Fl. Brit. India 5: 83. 1886.

*Local name*: Pipul (Asm.).

Trailing or climbing herbs, aromatic. Leaves ovate-obtuse, cordate, membranous, glabrous; lower long petiolate, upper semi-amplexicaul. Spikes solitary, yellow; bracts stalked, peltate.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Siang, 500-1200 m, in marshy shades.

*Use*: Fruits are mainly used as condiment. It contains volatile oil, acrid resin and piperine, and is used as stimulant for carminative properties. Roots are bitter, stomachic, and is said to be useful in promoting digestion.

**Piper mannii** C. DC. in Candollea 1: 196. 1923; Kanjilal *et al.*, Fl. Assam 4: 38. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 260. 1996.

*Fl. & Fr.*: Jan. - July.

*Distrib.*: Changlang, Lohit.

**Piper mullesua** J. Don, Prodr. Fl. Nep. 20. 1825; N. P. Balakr., Fl. Jowai 2: 396. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 260. 1996. *P. brachystachyum* Wall. ex Hook. f., Fl. Brit. India 5: 87. 1886; Kanjilal *et al.*, Fl. Assam 4: 36. 1940.

Scandent shrubs or climbers, up to 3 m long; much branched, nodes swollen. Leaves elliptic to elliptic-lanceolate, attenuate at base, acute at apex, 3-nerved, glabrous. Spikes short, cylindric or ovoid. Berries globose, green.

*Fl. & Fr.*: March - Nov.

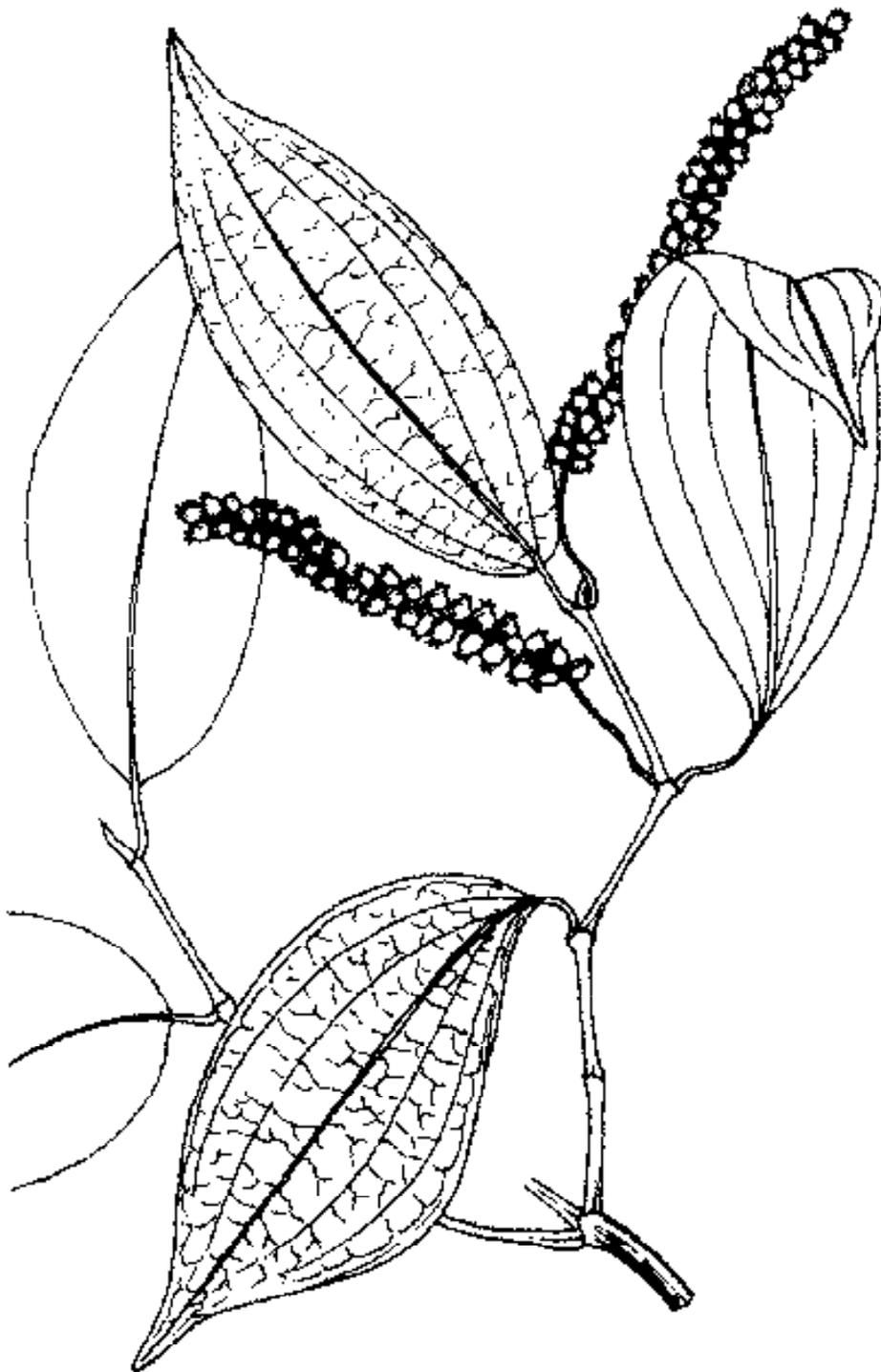


Fig. 30. *Piper hymenophyllum* Miq. : Fruiting twig.

*Distrib.*: Kameng, Subansiri, Tirap; 1000-3000 m, on moist slopes under shades.

**Piper nepalense** Miq., Syst. Pip. 318. 1843; Hook. f., Fl. Brit. India 5: 89. 1886.

*Local name*: Ja-luk (Abor.).

Epiphytic shrubs or climbers 1-2 m long, much branched; branches semi-woody. Leaves ovate to ovate-oblong; rotundate at base. Spikes long, interrupted, slender, up to 25 cm long, straight or flexuous, glabrous or puberulous; bracts orbicular, peltate. Berries ovoid, granulate, green.

*Fl. & Fr.*: June - Oct.

*Distrib.*: Kameng, Siang, Subansiri, Tirap; 1000-1500 m, in primary forests.

**Piper nigrum** L., Sp. Pl. 28. 1753; Hook. f., Fl. Brit. India 5: 90. 1886.

var. **nigrum**

*Local name*: Gol morich, Kalamorich (Asm.).

Climbers; branches stout, semi woody, glabrous. Leaves obliquely ovate or elliptic, unequal at base, 5-7-plinerved, chartaceous, pellucid-punctate. Spikes very long, slender, pendulous; bracts of female cupular, adnate to rachis. Berries globose, red, black when ripe.

*Fl. & Fr.*: June - Feb.

*Distrib.*: Lohit, Siang, Subansiri, Tirap; 500-1200 m, on moist places. Often cultivated for the berries.

*Use*: The plant yields the black peeper of commerce. The paste of black peeper and tulsi leaves is applied to gum for relief in toothache. Powdered black peeper with ginger is used in cough.

**Piper nigrum** var. **macrostachyum** C. DC. in DC., Prodr. 16(2): 369. 1869 & in Candollea 1: 218. 1923; Deb, Fl. Tripura State 2: 138. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 260. 1996.

Succulent, shrubby climbers. Leaves elliptic-lanceolate, equal at base. Berries green on much longer spikes than var. *nigrum*.

*Fl. & Fr.*: Feb. - Dec.

*Distrib.*: Changlang, Kameng, Lohit, Tirap.

**Piper peepuloides** Roxb., Fl. Ind. 1: 159. 1820; Hook. f., Fl. Brit. India 5: 83. 1886.

Undershrubs or climbers, up to 2 m long; branches slender, semi woody, glabrous. Leaves ovate to elliptic-oblong, equal at base, 3-5

nerved. Spikes solitary, slender, dense, yellowish. Berries globose or obliquely oval.

*Fl. & Fr.*: July - Nov.

*Distrib.*: Kameng, Siang, Tirap; 100-500 m, in tropical evergreen forests under shady localities.

*Use*: Khasi people use stems and roots as medicine in leprosy.

**Piper sumatranum** C. DC. in DC., Prodr. 10(1): 343. 1869.  
*P. pedicellosum* Wall. ex Hook. f., Fl. Brit. India 5: 81. 1886.

*Local name*: Radhk (Nishi).

Robust shrubs or semi-woody climbers, up to 1.5 m high, glabrous. Leaves ovate, oblong-ovate or elliptic, rotundate-cordate at base, 7-nerved, coriaceous, pedicels hoary, as long as subobovoid, rosy red berries.

*Fl. & Fr.*: April - Nov.

*Distrib.*: Lohit, Siang; 200-800 m, in primary forests under shades.

*Use*: Leaves are aromatic and used for hot fomentation in sprains.

**Piper sylvaticum** Roxb., Fl. Ind. 1: 156. 1820; Hook. f., Fl. Brit. India 5: 84. 1886; Kanjilal *et al.*, Fl. Assam 4: 38. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 261. 1996.

*Local name*: Rari (Adi); Pahari-pipul (Asm.).

Epiphytic, creeping herbs or twiners, up to 1 m long. Leaves alternate, ovate-cordate, equal at base, 5-7-nerved, sparsely puberulous on nerves beneath. Spikes slender, leaf opposed, peduncles short, dull green, cylindric. Berries globose.

*Fl. & Fr.*: March - Oct.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap; 200-2000 m, on mossy tree trunks.

*Use*: Leaves and berries are used as vegetable. Fruits are used in medicine for carminative properties.

**Piper thomsonii** (C. DC.) Hook. f., Fl. Brit. India 5: 87. 1886; Kanjilal *et al.*, Fl. Assam 4: 36. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 261. 1996. *Chavica thomsonii* C. DC. in DC., Prodr. 16(1): 389. 1869.

Semi-woody climbers or twiners, 5-7 m long; rooting at nodes. Leaves ovate to ovate-oblong, membranous. Spikes subglobose or cylindric. Berries bluish black.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 200-1200 m, in moist places.

**Piper trioicum** Roxb., Fl. Ind. 1: 151. 1820; Subr. & A. N. Henry in Bull. Bot. Surv. India 12: 4. 1970. *P. attenuatum* Buch.-Ham. ex Miq., Syst. Pip. 306. 1843; Hook. f., Fl. Brit. India 5: 92. 1886.

*Local name*: Dolobann (Adi).

Semi-woody, sprawling climbers; branches flexuous. Leaves alternate, obliquely ovate, suborbicular to elliptic-lanceolate, 5-7 nerved, sparsely puberulous beneath. Spikes slender, lengthening in fruits; bracts adnate to rachis with free margin. Berries globose, black.

*Fl. & Fr.*: May - Dec.

*Distrib.*: Changlang, Siang, Subansiri, Tirap; 200-1000 m, in forest under moist shades.

*Use*: Root is medicinal. Sometimes leaves mixed with tobacco leaves are used for smoking.

#### SAURURACEAE

**Houttuynia cordata** Thunb. in Vet. Acad. Stockholm Handl. 4: 149, 151, t. 5. 1783 *ut Houtuynia*; Hook. f., Fl. Brit. India 5: 78. 1886; Kanjilal *et al.*, Fl. Assam 4: 31. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 261. 1996.

Perennial herbs, 15-50 cm high; rootstocks conspicuously branched. Leaves ovate-cordate, gland dotted, pubescent when young. Flowers in terminal, dense, cylindric spikes; bracts petaloid, white. Fruits ellipsoid or subglobose.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap; 1000-1500 m, in shady places amidst grasses or along water course.

#### CHLORANTHACEAE

**Chloranthus elatior** R. Br. in Bot. Mag. t. 2190. 1820; Harid. & R. R. Rao, For. Fl. Meghalaya 2: 709. 1987; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 261. 1996. *C. officinalis* Blume, Enum. Pl. Javae 79. 1827; Hook. f., Fl. Brit. India 5: 100. 1886; Kanjilal *et al.*, Fl. Assam 4: 40. 1940

Undershrubs, up to 1.5 m high, glabrous. Leaves elliptic or elliptic-lanceolate, finely glandular serrate. Flowers in terminal, paniculate spikes, white. Berries succulent, white.

*Fl. & Fr.*: March - Dec.

*Distrib.*: Changlang, Lohit, Siang, Subansiri, Tirap; 300-1500 m, in primary forests under moist shades.

**Sarcandra glabra** (Thunb.) Nakai, Fl. Sylv. Koreana 18: 17. 1930; N. P. Balakr., Fl. Jowai 2: 398. 1983.; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 262. 1996. *Bladhia glabra* Thunb. in Trans. Linn. Soc. London 2: 331. 1794. *Chloranthus brachystachys* Blume, Fl. Java 8: 13, t. 2. 1829; Hook. f., Fl. Brit. India 5: 100. 1886, *p.p.* Kanjilal *et al.*, Fl. Assam 4: 31. 1940.

Shrubs 1-2.5 m high. Leaves elliptic to elliptic-oblong, glabrous, shining. Flowers in terminal spikes, white. Fruits ellipsoid, bright red.

*Fl. & Fr.*: Aug. - Feb.

*Distrib.*: Changlang, Lohit, Subansiri; 200-1000 m, in moist shaded localities of primary forests.

#### MYRISTICACEAE

**Horsfieldia amygdalina** (Wall.) Warb., Monogr. Myrist. 310. 1897; Deb., Fl. Tripura State 1: 91. 1981. *Myristica amygdalina* Wall., Pl. As. Rar. 1: 79, t. 90. 1830; Hook. f., Fl. Brit. India 5: 106. 1886, *excl. syn.* *M. exaltata* Wall., *M. glabra* Hook. f. *et* Thomson, Fl. Ind. 161. 1855, *p.p.* & in Hook. f., Fl. Brit. India 5: 106. 1886, *p.p.*, *non* Blume.

*Local name*: Amol (Asm.).

Tall trees, 15-20 m high. Leaves aromatic, elliptic or lanceolate. Flowers yellow in branched, spreading panicles. Fruits trigonous, aril yellow.

*Fl. & Fr.*: July - Dec.

*Distrib.*: Kameng; in tropical evergreen forests at lower elevations.

**Horsfieldia kingii** (Hook. f.) Warb., Monogr. Myrist. 68: 308. 1897. *Myristica kingii* Hook. f., Fl. Brit. India 5: 106. 1886.

*Local name*: Amol (Asm.); Mijingikum-asing (Miri).

Large trees, up to 20 m high with dense crown; younger parts pubescent. Leaves elliptic, obovate or oblanceolate, coriaceous, glabrous. Flowers in much branched, tomentose panicles. Fruits ellipsoid, arils turn orange-red.

*Fl. & Fr.*: July - Jan.

*Distrib.*: Kameng; in tropical evergreen forests at lower elevations.

**Knema cinerea** (Poir.) Warb. var. **andamanica** (Warb.) Sinclair in Gard. Bull. Singapore 18: 174. 1961; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 262. 1996. *K. glauca* Blume var. *andamanica* Warb., Monogr. Myrist. 596. 1897. *Myristica angustifolia* Roxb., Fl. Ind. 3: 847. 1832; Kanjilal *et al.*, Fl. Assam 4: 45. 1940; *Knema angustifolia* (Roxb.) Warb., Monogr. Myrist. 561. 1897; N. P. Balakr., Fl. Jowai 2: 400. 1963. *Myristica gibbosa* Hook. f. & Thomson, Fl. Ind. 158. 1885; Hook. f., Fl. Brit. India 5: 112. 1886. *M. glaucescens* (Jack) Hook. f. Hook. f. *et* Thomson ex Klotzsch in Hook. f., Fl. Brit. India 5: 111. 1886, *p.p. quoad specimen andamanica*.

*Local name*: Mamui, Mota-pasuti, Tezranga (Asm.).

Large trees, up to 20 m high with dense crown. Leaves oblong or oblong-lanceolate, coriaceous, glaucous beneath. Flowers in short axillary peduncles or fascicles, rusty tomentose, pink. Fruits ellipsoid, brownish tomentose, aril scarlet.

*Fl. & Fr.*: Nov. - Aug.

*Distrib.*: Changlang, Lohit, Tirap; 200-1500 m, common in evergreen forest.

*Use*: The red fluid is dried and is used in dysentery. It is also said to be applied for sores in the mouth

**Knema globularia** (Lam.) Warb., Monogr. Myrist. 601. 1897; Sinclair in Gard. Bull. Singapore 18: 209. 1961. *Myristica globularia* Lam., Mem. AC. Paris 162. 1788. *M. sphaerula* Hook. f., Fl. Brit. India 5: 859. 1886. *M. glaucescens auct. non* (Jack) Hook. f. Hook. f. *et* Thomson ex Klotzsch :Hook. f., Fl. Brit. India 5: 111. 1886, , *p.p.*

Medium sized trees; branches spreading. Leaves oblong or oblong-elliptic, thick coriaceous, glabrous beneath. Flowers in axillary fascicles.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Tirap; in evergreen forests.

**Knema linifolia** (Roxb.) Warb., Monogr. Myrist. 558. 1897. *Myristica linifolia* Roxb., Fl. Ind. 3: 847. 1832. *M. longifolia* Wall. ex Blume, Rumphia 1: 188. 1835; Hook. f., Fl. Brit. India 5: 110. 1886, *excl. var. erratica* Hook. f.

*Local name*: Shu-iong (Abor.), Tapling-asing (Adi); Garo-bhala (Asm.).

Medium sized trees, up to 15 m high with pyramidal crown; younger parts rusty tomentose. Leaves oblong-lanceolate to narrowly lanceolate, glaucous beneath; petioles densely clothed with rusty tomentum. Flowers in fascicles, both axillary and from fallen leaf axils, pink. Fruits ellipsoid, aril orange-yellow.

*Fl. & Fr.*: March - Jan.

*Distrib.*: Changlang, Siang, Tirap; 1000-1500 m, common in evergreen forests.

### LAURACEAE

**Actinodaphne obovata** (Nees) Blume, Mus. Bot. Lugd.-Bat. 1: 342. 1851; Hook. f., Fl. Brit. India 5: 153. 1886; Kanjilal *et al.*, Fl. Assam 4: 76. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 263. 1996. *Tetradenia obovata* Nees in Wall., Pl. As. Rar. 2: 64. 1831.

var. **obovata**

*Local name*: Pajihuta, Pati-honda, Petarichowa (Asm.).

Medium sized trees, 5-12 m high. Leaves aromatic, obovate or ovate-elliptic. Flowers in axillary or lateral, rusty pubescent, paniculate racemes or fascicles. Fruits globose, blue-black when ripe.

*Fl. & Fr.*: March - Oct.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap; common in moist shady localities at lower elevations.

**Actinodaphne obovata** var. **wattii** King in Kanjilal *et al.*, Fl. Assam 4: 78. 1940.

Leaves large, pubescent on nerves beneath. Inflorescence purplish brown, silky.

*Fl. & Fr.*: June - Oct.

*Distrib.*: Kameng.

**Alseodaphne andersonii** (King ex Hook. f.) Kosterm. in Reinwardtia 6: 159. 1961. *Cryptocarya andersonii* King ex Hook. f., Fl. Brit. India 5: 120. 1886. *Alseodaphne keenani* Gamble in Kew Bull. 1914: 188. 1914; Calder *et al.* in Rec. Bot. Surv. India 11(1): 7. 1926.

*Local name*: Bon-honwahu, Daukhi-poma (Asm.).

Large trees, up to 10 m high. Leaves elliptic, coriaceous, undersurfaces reddish brown, pubescent along nerves. Flowers in large, pubescent panicles, creamy white. Fruits oblong, bluish black when ripe.

*Fl. & Fr.*: Aug. - March.

*Distrib.*: Siang, Subansiri, Tirap; 300-1500 m, on dry ridges of forests.

**Beilschmiedia assamica** Meissn. in DC., Prodr. 15(1): 64. 1864; Hook. f., Fl. Brit. India 5: 124. 1886.

*Local name*: Tagong-asing (Abor.); Kanthal-patia (Asm.).

Large trees, up to 20 m high; bark brownish white. Leaves elliptic or elliptic-oblong, often pellucid-punctate. Flowers in large, subterminal, pubescent panicles, pale yellow. Fruits subglobose to ellipsoid, black when ripe.

*Fl. & Fr.*: Dec. - April.

*Distrib.*: Kameng.

*Use*: Wood moderately hard, used for beams and planking; leaves are used in curries; bark is medicinal.

**Beilschmiedia brandisii** Hook. f., Fl. Brit. India 5: 123. 1886.

*Local name*: Bonhualu, Harupadrai, Leluk (Asm.).

Medium sized trees; bark nearly white. Leaves elliptic or elliptic-oblong, thinly coriaceous. Flowers in axillary or lateral, short peduncled panicles, yellowish. Fruits oblong, bluish black when dry.

*Fl. & Fr.*: Dec.- May.

*Distrib.*: Kameng, Siang.

**Beilschmiedia pseudomicropora** (Purkay. ex V. Naray.) Kosterm. in J. Sci. Res. Indonesia 1 (6-7): 150. 1952. *Purkayasthaea pseudomicropora* Purkay. ex V. Naray. in Ind. For. 64: 279. 1938.

*Local name*: Bonhingalo (Asm.).

Medium sized trees, up to 20 m tall with spreading crown. Leaves obovate, apiculate, rusty pubescent. Flowers in axillary, rusty tomentose, lax panicles; anthers opening by valves. Fruits ovate-elliptic.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Kameng, Subansiri; in evergreen forests.

**Beilschmiedia roxburghiana** Nees in Wall., Pl. As. Rar. 2: 69. 1831; Hook. f., Fl. Brit. India 5: 121. 1886; Kanjilal *et al.*, Fl. Assam 4: 51. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 263. 1996. *Laurus bilocularis* Roxb., Fl. Ind. 2: 317. 1832.

Medium sized trees, up to 10 m high with oval crown; bark grey. Leaves crowded at branch apices, elliptic-oblong to elliptic, lanceolate. Flowers usually in axillary panicles, yellow or creamy yellow. Fruits oblong-ellipsoid, dark purple when ripe.

*Fl. & Fr.*: March - Feb.

*Distrib.*: Changlang, Kameng, Lohit, Siang; 400 - 600 m, in humid places along streams.

**Cinnamomum bejolghota** (Buch.- Ham.) Sweet, Hort. Brit. ed. 1. 344. 1827; Kosterm. & Chater in H. Hara *et al.*, Enum. Fl., Pl. Nepal 3: 183. 1982; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 263. 1996. *Laurus bejolghota* Buch.- Ham. in Trans. Linn. Soc. London 13: 559. 1822. *Cinnamomum obtusifolium* Roxb. ex Nees in Wall., Pl. As. Rar. 2: 73. 1831; Hook. f., Fl. Brit. India 5: 128. 1886; Kanjilal *et al.*, Fl. Assam 4: 56. 1940.

*Local name*: Naga-dal-chini, Paderai, Pati-hunda (Asm.); Meinshin (Mishmi); Barbah-changne (Nishi).

Large trees, up to 20 m high with dense, ovoid crown; bark grey. Leaves elliptic or elliptic-oblong, glaucous beneath. Flowers in large, long peduncled, subterminal, pubescent panicles, yellowish. Fruits ellipsoid.

*Fl. & Fr.*: Jan. - Aug.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri; 800 - 1500 m, common in mixed forests.

**Cinnamomum camphora** (L.) J. Presl, Pfiroz. Rostlin 2: 36, 47. 1825; Hook. f., Fl. Brit. India 5: 134. 1886. *Laurus camphora* L., Sp. Pl. 369. 1753. *Camphora officinarum* Nees in Wall., Pl. As. Rar. 2: 72. 1831.

*Local name*: Karpur (Asm.).

Small or medium sized trees with spreading crown; bark black. Leaves aromatic, elliptic or elliptic-lanceolate, glaucous beneath, often with punctate glands. Flowers in axillary panicles, yellowish, fragrant. Fruits subglobose, black.

*Fl. & Fr.*: Oct. - April.

*Distrib.*: Subansiri; 1500 - 2500 m, in primary forests.

*Use*: The camphor tree; camphor is distilled from chips of old wood and young shoots.

**Cinnamomum glanduliferum** (Wall.) Meissn. in DC., Prodr. 15(1): 25. 1864; Hook. f., Fl. Brit. India 5: 135. 1886; Kanjilal *et al.*, Fl. Assam 4: 59. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 264. 1996. *Laurus glandulifera* Wall. in Trans. Linn. Soc. Med. Phys. Calcutta 1: 1: 45 & 51, t. 1. 1825. *Camphora glandulifera* (Wall.) Nees in Wall., Pl. As. Rar. 2: 72. 1831.

*Local name:* Gonharia, Gonsarai (Asm.).

Large trees, up to 25 m high with dense crown; bark blackish. Leaves ovate to ovate-elliptic or lanceolate, ashy below. Flowers in subterminal or axillary, minutely pubescent panicles, greenish yellow. Fruits ellipsoid.

*Fl. & Fr:* March - Aug.

*Distrib.:* Changlang, Kameng, Lohit, Siang; 1000-1500 m, in evergreen forests.

*Use:* Wood contains camphor and is a good substitute for Sassafras.

**Cinnamomum pauciflorum** Nees in Wall., Pl. As. Rar. 2: 75. 1831; Hook. f., Fl. Brit. India 5: 129. 1886; Kanjilal *et al.*, Fl. Assam 4: 57. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 264. 1996.

Large shrubs or small trees; bark grayish brown. Leaves ovate-lanceolate to oblong-lanceolate, glaucous beneath. Flowers in laxly branched panicles, yellow or greenish yellow. Fruits globose, black when ripe.

*Fl. & Fr:* April - Oct.

*Distrib.:* Changlang, Lohit, Tirap; in evergreen primary and secondary forests at higher elevation.

**Cinnamomum tamala** (Buch.-Ham.) Nees *et* Eberm., Handb. Med. Pharm. Bot. 2: 426. 1831; Hook. f., Fl. Brit. India 5: 128. 1886; Kanjilal *et al.*, Fl. Assam 4: 56. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 264. 1996. *Laurus tamala* Buch.-Ham. in Trans. Linn. Soc. London 13: 555. 1822.

*Local name:* Jonkeng-asing, Rapi-asing (Abor.); Jongkeng-asing (Adi); Tejpat (Asm.); Chipsing (Mompas).

Medium sized trees, up to 15 m high, younger parts silky pubescent. Leaves oblong-elliptic to oblong-lanceolate, pink when young. Flowers in grey pubescent panicles, brownish yellow. Fruits ovoid, black when ripe.

*Fl. & Fr:* Feb. - Nov.

*Distrib.:* Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 1000-1500 m, in primary forests.

*Use:* Bark and leaves are used for culinary purpose and for extraction of oils.

**Cryptocarya amygdalina** Nees in Wall., Pl. As. Rar. 2: 69. 1831; Hook. f., Fl. Brit. India 5: 118. 1886. *C. floribunda* Nees in Wall., Pl. As. Rar. 2: 69. 1831.

*Local name:* Bonhon-alu, Bonjolukia, Bonsum, Kharima-chapa (Asm.); Pumrong-asing (Miri).

Medium sized trees, up to 15 m high with spreading branches. Leaves oblong to elliptic-lanceolate. Flowers in axillary or terminal, silky tomentose panicles, yellowish. Fruits oblong, strongly ribbed.

*Fl. & Fr.:* March - Oct.

*Distrib.:* Kameng, Siang, Subansiri; 500-1000 m, in evergreen forests.

***Lindera caudata*** (Nees) Hook. f., Fl. Brit. India 5: 184. 1886. *Daphnidium caudatum* Nees in Wall., Pl. As. Rar. 2: 63. 1831.

Large shrubs or small trees, 5-10 m high; bark blackish brown. Leaves ovate to elliptic-lanceolate. Flowers in axillary, solitary umbels, clusters or spikes. Fruits globose, speckled yellow or bluish black when ripe.

*Fl. & Fr.:* Sept. - Aug.

*Distrib.:* Subansiri, Tirap; in tropical primary forests at higher elevations.

***Lindera meisneri*** King ex Hook. f., Fl. Brit. India 5: 182. 1886.

Medium sized trees. Leaves ovate to ovate-lanceolate, caudate-acuminate at apex, chartaceous, glabrous. Flowers in silky umbels or heads.

*Fl. & Fr.:* Feb. - Aug.

*Distrib.:* Kameng.

***Lindera melastomacea*** (Nees) Villar in Blanco, Fl. Philipp. ed. 3, Nov. App. 181. 1880; Hook. f., Fl. Brit. India 5: 185. 1886. *Daphnidium melastomaceum* Nees in Wall., Pl. Asiat. Rar. 2: 63. 1831.

Large shrubs or small trees, up to 13 m high; bark grayish brown. Leaves elliptic, elliptic-lanceolate or oblanceolate, brownish pubescent beneath. Flowers in subsessile umbels or fascicles, yellow. Fruits ellipsoid, purplish.

*Fl. & Fr.:* March - Aug.

*Distrib.:* Kameng; in primary forests at higher elevations.

***Lindera neesiana*** (Wall. ex Nees) Kurz, Prelim. Rep. For. Veg. Pegu, A, 103. 1875 & For. Fl. Brit. Burma 2: 309. 1877; Hook. f., Fl. Brit. India 5: 186. 1886. *Benzoin neesianum* Wall. ex Nees in Wall., Pl. As. Rar. 2: 63. 1831. *Aperula neesiana* (Wall. ex Nees) Blume, Mus. Bot. Lugd.-Bat. 1: 366. 1851.

*Local name:* Jamkantosing (Momp).

Medium sized trees, 8-12 m high; strongly aromatic. Leaves ovate-oblong to lanceolate, membranous. Flowers in few-flowered umbellate heads or solitary, pale yellow. Fruits ellipsoid, dark blue when ripe.

*Fl. & Fr.*: March - Nov.

*Distrib.*: Lohit, Siang, Subansiri; 1500-2500 m, in primary forests.

***Litsea confertiflora*** (Meissn.) Kosterm. in Reinwardtia 9: 86. 1974. *Actinodaphne confertiflora* Meissn. in DC., Prodr. 15(1): 219. 1864; Hook. f., Fl. Brit. India 5: 154. 1886. *Neocinnamomum confertiflorum* (Meissn.) Kosterm. in Bull. Bot. Surv. India 10: 287. 1968.

Shrubs or small trees, up to 8 m tall. Leaves ovate to ovate-oblong or ovate-orbicular. Flowers in dense, axillary, subsessile, fascicled clusters, greenish.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Kameng.

***Litsea cubeba*** (Lour.) Pers., Syn. Pl. 2 (1): 4. 1806; Kosterm. & Charter in H. Hara *et al.* Enum. Fl. Pl. Nep. 3: 185. 1982; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 265. 1996. *Laurus cubeba* Lour., Fl. Cochinch. 1: 252. 1790. *Litsea citrata* Blume, Bijdr. 565. 1825; Hook. f., Fl. Brit. India 5: 155. 1886; Kanjilal *et al.*, Fl. Assam 4: 81. 1940. *L. kingii* Hook. f., Fl. Brit. India 5: 156. 1886.

*Local name*: Roli (Abor.); Taier (Adi); Meinjin (Aka); Santetero (Apat.); Menjankerí (Asm.); Akmer (Mompá).

Small or medium sized trees, 5-12 m high with drooping branches. Leaves lanceolate to ovate-lanceolate, midrib purplish beneath. Flowers in capitate umbels, solitary or in corymbs, yellowish. Fruits globose.

*Fl. & Fr.*: Oct. - June.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Tirap; 500-2500 m, on dry slopes of secondary forests, common along Burma border.

*Use*: Fruits are edible and used as substitute of spices; prickles are also prepared from fruits.

***Litsea doshia*** (Buch.-Ham. ex D. Don) Kosterm. in J. Sci. Res. Indonesia 1: 90. 1952. *Tetranthera doshia* Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 65. 1825. *Tetranthera oblonga* Wall. ex Nees in Wall., Pl. As. Rat. 2: 67. 1831. *Litsea oblonga* (Wall. ex Nees) Hook. f., Fl. Brit. India 5: 168. 1886.

Shrubs or small trees, 5-10 m high. Leaves elliptic, elliptic-oblong or oblong-lanceolate, strongly aromatic. Flowers in shortly stalked

racemes or clustered of few flowered umbellules. Fruit oblong, bluish when ripe.

*Fl. & Fr.*: March - Oct.

*Distrib.*: Tirap; 1500-2000 m, along forest fringes.

***Litsea elongata*** (Nees) Hook. f., Fl. Brit. India 5: 165. 1886. *Daphnidium elongatum* Nees in Wall., Pl. As. Rar. 2: 63. 1831.

*Local name*: Petarichawa (Asm.).

Medium sized trees, up to 15 m high with dense crown; younger parts rusty-tomentose. Leaves elliptic-lanceolate to oblong-lanceolate, rusty pubescent beneath. Flowers in subsessile, few flowered umbels, yellow, brownish tomentose. Fruits ovoid.

*Fl. & Fr.*: Oct. - May.

*Distrib.*: Kameng; in subtropical forests at higher elevations.

***Litsea glutinosa*** (Lour.) C.B. Rob. in Philipp. J. Sci. B. 6: 321. 1911. *Sebifera glutinosa* Lour., Fl. Cochinch. 638. 1790. *Litsea chinensis* Lam., Encycl. Meth. Bot. 3: 574. 1791. *Litsea sebifera* Pers., Syn. Pl. 2: 4. 1807; Hook. f., Fl. Brit. India 5: 157. 1886. *Laurus involucrata* Roxb., Pl. Corom. 2: 46, t. 187. 1798.

*Local name*: Bagnala, Haluka (Asm.).

Evergreen trees, up to 20 m high. Leaves elliptic-ovate or oblong, thinly coriaceous or chartaceous. Flowers in clustered umbels or corymbs, yellowish. Fruits globose.

*Fl. & Fr.*: March - Oct.

*Distrib.*: Kameng; in evergreen forests.

*Use*: Wood is moderately hard, durable and is used for miscellaneous purposes. Oil is obtained from fruits and used for making candles and soaps.

***Litsea khasyana*** Meissn. in DC., Prodr. 15(1): 185. 1864; Hook. f., Fl. Brit. India 5: 164. 1886.

*Local name*: Puyo-asing (Ahor.).

Small or medium sized trees, up to 15 m high; younger parts sparsely pubescent. Leaves oblong-lanceolate to oblong-elliptic. Flowers in umbellule heads, yellowish, pubescent. Fruits globose, depressed.

*Fl. & Fr.*: Nov.- May.

*Distrib.*: Siang; in evergreen forests.

***Litsea kurzli*** King ex Hook. f., Fl. Brit. India 5: 164. 1886.

Trees. Leaves oblong to oblanceolate, coriaceous. Flowers in axillary, densely villous, clustered umbels; perianth densely villous.

*Fl. & Fr.*: Dec. June.

*Distrib.*: Kameng.

***Litsea laeta*** (Nees) Hook. f., *Fl. Brit. India* 5: 169. 1886. *Tetranthera laeta* Nees in Wall., *Pl. As. Rar.* 2: 67. 1831.

*Local name*: Ta-pent (Abor.); Bon-koalu (Asm.), Chario, Jachar-change (Nishi).

Small or medium sized trees, 5-15 m high; branchlets tomentose. Leaves elliptic or oblong-lanceolate, pubescent beneath. Flowers in axillary, solitary or fascicled, short peduncled umbels, yellow or creamy yellow. Fruits oblong, white.

*Fl. & Fr.*: Nov. July.

*Distrib.*: Kameng, Lohit, Siang, Tirap; 300-1000 m, in secondary forests.

***Litsea lancifolia*** (Roxb. ex Nees) Wall. ex Hook. f., *Fl. Brit. India* 5: 159. 1886; Kanjilal *et al.*, *Fl. Assam* 4: 84. 1940; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 265. 1996. *Tetranthera lancifolia* Roxb. ex Nees in Wall., *Pl. As. Rar.* 2: 65. 1831.

Shrubs or small trees, 5-10 m high; younger parts tomentose. Leaves lanceolate, chartaceous. Flowers solitary or in clustered umbels, white or yellowish. Fruits globose or ellipsoid.

*Fl. & Fr.*: April Nov.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Tirap; 1000-1500 m, as undergrowth in dense forests.

***Litsea membranifolia*** Hook. f., *Fl. Brit. India* 5: 159. 1886.

Medium sized trees; barks reddish brown. Leaves oblong-obovate, membranous, hoary pubescent beneath. Flowers in solitary, pubescent umbels, peduncles long.

*Fl. & Fr.*: Dec. June.

*Distrib.*: Kameng.

***Litsea monopetala*** (Roxb.) Pers., *Syn. Pl.* 2(1): 4. 1806; Momiy, in H. Hara, *Fl. E. Himal.* 102. 1966; N. P. Balakr., *Fl. Jowai* 2: 404. 1983; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 265. 1996. *Tetranthera monopetala* Roxb., *Pl. Corom.* 2: 26, t. 148. 1800. *Litsea polyantha* Juss. in *Ann. Mus. Hist. Nat.* 6: 211. 1805; Hook. f., *Fl. Brit. India* 5: 162. 1886; Kanjilal *et al.*, *Fl. Assam* 4: 83. 1940.

*Local name:* Ta-pent (Abor.); Tapit-pirawar-asing (Adi); Hoanlu, Muga (Asm.).

Trees, up to 20 m tall with spreading crown. Leaves narrowly oblong or oblanceolate, rusty pubescent beneath. Flowers in axillary, clustered or subcorymbose umbellules, yellowish. Fruits ovoid, blackish when ripe.

*Fl. & Fr.:* March - Dec.

*Distrib.:* Changlang, Kameng, Lohit, Siang, Tirap; 400-1500 m, in tropical evergreen forests.

***Litsea mishmiensis*** Hook. f., Fl. Brit. India 5: 161. 1886.

Trees, younger parts silky tomentose. Leaves oblong-lanceolate, pale brown beneath. Flowers in axillary pubescent umbels. Fruits unknown.

*Fl.:* Nov. - Dec.

*Distrib.:* Lohit.

***Litsea nitida*** (Roxb. ex Nees) Hook. f., Fl. Brit. India 5: 174. 1886.  
***Tetranthera nitida*** Roxb. ex Nees in Wall., Pl. As. Rar. 2: 67. 1831.

*Local name:* Kathalua, Loban (Asm.).

Trees. Leaves oblanceolate or obovate-oblong, glabrous. Flowers in axillary, long-peduncled umbels. Fruits ellipsoid or oblong.

*Fl. & Fr.:* Sept. - April.

*Distrib.:* Kameng.

***Litsea panamonja*** (Buch.-Ham. ex Meissn.) Hook. f., Fl. Brit. India 5: 175. 1886. ***Tetranthera panamonja*** Buch.-Ham. ex Meissn. in DC., Prodr. 15(1): 197. 1864.

*Local name:* Bikh-sopa (Asm.).

Small or medium sized trees, 5-10 m tall, younger parts puberulous. Leaves lanceolate or oblong-lanceolate. Flowers in slender drooping umbellules or short racemes, greenish yellow. Fruits globose.

*Fl. & Fr.:* Jan. - May.

*Distrib.:* Tirap; 1000-1500 m, in primary forests.

***Litsea rangoonensis*** Meissn. in DC., Prodr. 15(1): 187. 1864; Hook. f., Fl. Brit. India 5: 163. 1886.

Evergreen shrubs or small trees; branches rusty tomentose. Leaves elliptic-lanceolate, rusty-tomentose beneath. Flowers in axillary, clustered, rusty tomentose umbels. Fruits ovoid.

*Fl. & Fr.:* Dec. - June.

*Distrib.:* Kameng.

***Litsea robusta*** Blume, Bijdr. 560. 1825; Bennet & Chandra in Ind. For. 113(4): 295. 1897.

Large trees, up to 25 m high. Leaves oblong, obtuse. Flowers in globose, sessile umbels arranged in short spikes.

*Fl. & Fr.*: Nov. - May.

*Distrib.*: Siang.

***Litsea salicifolia*** (Roxb. ex Nees) Hook. f., Fl. Brit. India 5: 167. 1886; Kanjilal *et al.*, Fl. Assam 4: 87. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 265. 1996. *Tetranthera salicifolia* Roxb. ex Nees in Wall., Pl. As. Rar. 2: 66. 1831.

var. ***salicifolia***

*Local name*: Digloti (Asm.); Thaja-jing-phang (Nishi).

Shrubs or small trees, 6-10 m high; branches silky pubescent. Leaves narrowly lanceolate to oblong-lanceolate. Flowers in fasciated, shortly peduncled umbels, yellowish. Fruits ellipsoid, pale white.

*Fl. & Fr.*: Dec. - Oct.

*Distrib.*: Changlang, Lohit, Siang, Subansiri; 500-1000 m, common in secondary forests.

***Litsea salicifolia*** var. ***attenuata*** Meissn. ex Hook. f., Fl. Brit. India 5: 168. 1886.

Branches quite glabrous. Leaves linear-oblong, shining above, brown beneath. Flowers in globose, clustered umbels.

*Fl. & Fr.*: Dec. - June.

*Distrib.*: Kameng, Tirap; in secondary forests.

***Litsea salicifolia*** var. ***elongata*** Meissn. ex Hook. f., Fl. Brit. India 5: 168. 1886.

Branches hoary or glabrous. Leaves narrower; petioles often long. Umbels on stout peduncles, more closely clustered.

*Fl. & Fr.*: Dec. - June.

*Distrib.*: Kameng.

***Litsea semecarpifolia*** (Nees) Hook. f., Fl. Brit. India 5: 165. 1886. *Tetranthera semecarpifolia* Nees, Syst. Laurin. 559. 1836.

*Local name*: Bakhali (Asm.).

Small or medium sized trees, up to 10 m high, younger parts velvety-tomentose. Leaves oblong or elliptic; petioles swollen. Flowers in axillary fascicles or racemose umbels. Fruits depressed globose.

*Fl. & Fr.*: Jan. - June.

*Distrib.*: Tirap; 1000-1500 m, in primary forests.

**Litsea sericea** (Wall. ex Nees) Hook. f., Fl. Brit. India 5: 156. 1886.  
*Tetranthera sericea* Wall. ex Nees in Wall., Pl. As. Rar. 2: 67. 1831

Medium sized trees, aromatic, younger parts silky hairy. Leaves elliptic-lanceolate, clothed with brownish silky tomentum. Flowers in umbels; peduncles brown tomentose. Fruits subglobose.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Kameng; 1500-2000 m, in primary forests.

**Litsea thomsonii** (Meissn.) Hook. f., Fl. Brit. India 5: 170. 1886.  
*Tetranthera thomsonii* Meissn. in DC., Prodr. 15(1): 183. 1864.

Large trees. Leaves elliptic-oblong or elliptic-lanceolate, coriaceous. Flowers in axillary, corymbosely umbellate heads. Fruits globose, depressed.

*Fl. & Fr.*: Sept. - July.

*Distrib.*: Tirap.

**Neocinnamomum caudatum** (Wall. ex Nees) Merr. in Contr. Arn. Arb. 8: 64. 1934; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 266. 1996. *Cinnamomum caudatum* Wall. ex Nees in Wall., Pl. As. Rar. 2: 76. 1831; Hook. f., Fl. Brit. India 5: 134. 1886; Kanjilal *et al.*, Fl. Assam 4: 57. 1940.

Trees, 10-20 m high with ovoid crown. Leaves elliptic or orbicular, oblique, minutely pubescent beneath, caudate-acuminate at apex. Flowers in axillary or terminal, few flowered, pubescent cymes, yellowish. Fruits ellipsoid, bright red.

*Fl. & Fr.*: July - May.

*Distrib.*: Changlang, Lohit, Kameng, Subansiri: 1500-1800 m, in primary forests.

**Neolitsea cassia** (L.) Kosterm. in J. Sci. Res. Indonesia 1: 85. 1952. *Laurus cassia* L., Sp. Pl. 369. 1753. *Litsea zeylanica* C. et F. Nees, Ameen. Bot. Bonn. Fasc. 1: 58, t. 5. 1823; Hook. f., Fl. Brit. India 5: 178. 1864, p.p. *Neolitsea zeylanica* (C. et F. Nees) Merr. in Philipp. J. Sci. 1, Suppl.: 57. 1906.

Trees, up to 20 m high; bark grayish brown. Leaves elliptic-lanceolate or elliptic-oblong. Flowers in subsessile, fascicled umbels, yellowish. Fruits ovoid-oblong.

*Fl. & Fr.*: Oct. - April.

*Distrib.*: Changlang, Lohit, Subansiri; in subtropical forests at lower elevations.

**Neolitsea foliosa** (Nees) Gamble, Fl. Pres. Madras 1240. 1925; Kanjilal *et al.*, Fl. Assam 4: 93. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 266. 1996. *Litsea foliosa* Nees, Syst. Lour. 622. 1836. *Litsea zeylanica* Hook. f., Fl. Brit. India 5: 178. 1886, *p.p.*

Medium sized trees; bud scales and bracts silky; bark dark brown. Flowers in heads on shortly peduncled fascicles, greenish at bud stage.

*Fl. & Fr.*: March – Dec.

*Distrib.*: Changlang, Lohit.

**Persea bombycina** (King ex Hook. f.) Kosterm. in Reinwardtia 6: 191. 1962; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 266. 1996. *Ocotea sericea* Nees in Wall., Pl. As. Rar. 2: 17. 1831. *Machilus bombycina* King ex Hook. f., Fl. Brit. India 5: 861. 1886; Kanjilal *et al.*, Fl. Assam 4: 66. 1940; *M. sericea* (Nees) Blume, Mus. Bot. Lugd.-Bat. 1: 330. 1851; Hook. f., Fl. Brit. India 5: 861. 1886. *Persea sericea* (Nees) Raizada & Sinha in Ind. J. For. 2: 369. 1979, *non* H. B. K. 1817.

Medium sized trees, up to 15 m tall with spreading branches. Leaves elliptic-lanceolate, oblong-lanceolate or oblanceolate, puberulous beneath. Flowers in subterminal, branched panicles, greenish yellow. Fruits globose.

*Fl. & Fr.*: Dec. – June.

*Distrib.*: Changlang, Kameng, Lohit; in deciduous forests.

**Persea fructifera** Kosterm. in Reinwardtia 6: 192. 1962. *Machilus edulis* King ex Hook. f., Fl. Brit. India 5: 138. 1886, *non Persea edulis* Rafin 1838.

Small trees, younger parts silky villous. Leaves obovate-oblong or oblanceolate, pubescent beneath. Flowers in panicles; perianth hairy on both surfaces.

*Fl. & Fr.*: May – Feb.

*Distrib.*: Kameng, Siang; 800-1200 m, in subtropical forests.

**Persea gamblei** (King ex Hook. f.) Kosterm. in Reinwardtia 6: 192. 1962. *Machilus gamblei* King ex Hook. f., Fl. Brit. India 5: 138. 1886.

*Local name*: Mojli (Asm.)

Small or large tree, 10-20 m high with dense crown, buttressed at base. Leaves variable, oblanceolate to elliptic-lanceolate. Flowers in pubescent, lax flowered panicles, yellowish green. Fruits globose, black when ripe.

*Fl. & Fr.*: Jan. June.

*Distrib.*: Kameng, Siang; 500-1000 m, in evergreen forests.

***Persea gammieana*** (King ex Hook. f.) Kosterm. in *Reinwardtia* 6: 191. 1962. *Machilus gammieana* King ex Hook. f., *Fl. Brit. India* 5: 137. 1886.

Evergreen trees. Leaves linear-lanceolate or oblanceolate, brown beneath. Flowers in branched, corymbose panicles; perianth silky within. Fruits globose.

*Fl. & Fr.*: Jan. June.

*Distrib.*: Siang; 500-1000 m, in evergreen forests.

***Persea kurzii*** (King ex Hook. f.) Kosterm. in *Reinwardtia* 6: 192. 1962. *Machilus kurzii* King ex Hook. f., *Fl. Brit. India* 5: 860. 1890.

*Local name*: Kauloh, Masei-kauloh (Mompa).

Trees. Leaves elliptic or elliptic-lanceolate, glabrous, glaucous. Flowers in few flowered, subsilky panicles. Fruits globose.

*Fl. & Fr.*: Nov. May.

*Distrib.*: Kameng.

***Persea listeri*** (King ex Hook. f.) Kosterm. in *Reinwardtia* 6: 193. 1962. *Machilus listeri* King ex Hook. f., *Fl. Brit. India* 5: 138. 1886.

Tall trees. Leaves elliptic-oblong, obovate or oblanceolate, coriaceous. Flowers in shortly peduncled, hoary-pubescent panicles; perianth silky tomentose. Fruits globose.

*Fl. & Fr.*: Sept. July.

*Distrib.*: Kameng.

***Persea odoratissima*** (Nees) Kosterm. in *J. Sci. Res. Indonesia* 1: 116. 1952. *Machilus odoratissima* Nees in Wall., *Pl. As. Rar.* 2: 70. 1831; Hook. f., *Fl. Brit. India* 5: 139. 1886.

Medium sized trees. Leaves crowded at end of branches, oblanceolate, elliptic-oblong or obovate. Flowers in subterminal, glabrous panicles, yellowish green, fragrant. Fruits ellipsoid, purple when ripe.

*Fl. & Fr.*: Feb. June.

*Distrib.*: Kameng; in evergreen primary forests at higher elevation.

***Persea perviflora*** (Meissn.) Harid. et R. R. Rao, *For. Fl. Meghalaya* 2: 739. 1987. *Machilus parviflora* Meissn. in DC., *Prodr.* 15(1): 505. 1864; Hook. f., *Fl. Brit. India* 5: 137. 1886.

Shrubs or small trees, 2-10 m high. Leaves lanceolate or oblanceolate, glaucous beneath. Flowers in terminal or axillary, long peduncled, lax flowered panicles, greenish yellow. Fruits ellipsoid.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Siang, Tirap; in tropical evergreen forests.

**Persea villosa** (Roxb.) Kosterm. in Reinwardtia 6: 194, 1962. *Laurus villosa* Roxb., Fl. Ind. 2: 310, 1832. *Machilus villosa* (Roxb.) Hook. f., Fl. Brit. India 5: 140, 1886.

Tall trees, up to 25 m high with spreading crown, younger parts rusty tomentose. Leaves elliptic to oblanceolate, purplish brown beneath. Flowers in terminal or subterminal corymbs, yellowish, densely ferruginous. Fruits globose.

*Fl. & Fr.*: Dec. - May.

*Distrib.*: Kameng; in mixed forests at lower elevations.

**Phoebe attenuata** (Nees) Nees, Syst. Laurin. 104, 1836; Hook. f., Fl. Brit. India 5: 143, 1886. *Ocotea attenuata* Nees in Wall., Pl. As. Rar. 2: 71, 1831.

*Local name*: Bonsum (Asm.).

Large trees, up to 20 m high; branches horizontal. Leaves oblanceolate or obovate-lanceolate, attenuate, brownish tomentose beneath. Flowers in spreading panicles, yellowish white. Fruits ellipsoid.

*Fl. & Fr.*: March - Oct.

*Distrib.*: Subansiri; in primary forests.

*Use*: Yield good quality timbers, which are used for various purpose as a substitute for teak.

**Phoebe cathia** (Buch.-Ham. ex D. Don) Kosterm. in Nat. Hist. Bull. Siam. 25: 44, 1974. *Cinnamomum cathia* Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 66, 1825. *Ocotea paniculata* Nees in Wall., Pl. As. Rar. 2: 71, 1831. *Phoebe paniculata* (Nees) Nees, Syst. Laurin. 105, 1836; Hook. f., Fl. Brit. India 5: 142, 1886.

*Local name*: Mekahi (Asm.).

Tall trees, up to 20 m high; young shoots rusty tomentose. Leaves crowded at end of branches, elliptic to oblong-obovate or oblanceolate. Flowers in corymbose panicles, ferruginous tomentose. Fruits ovoid-ellipsoid, blackish.

*Fl. & Fr.*: March - Oct.

*Distrib.*: Kameng; 1000-1500 m.

**Phoebe cooperiana** Kanjilal *et* Das in Kanjilal *et al.*, Fl. Assam 4: 75. 1940.

*Local name:* Mekhali (Asm.).

Medium sized to large trees, 10-30 m tall, younger parts rusty villous. Leaves obovate or obovate-oblong, chartaceous, puberulous beneath. Flowers in long peduncled panicles, puberulous. Fruits ellipsoid, blackish.

*Fl. & Fr.:* May - Oct.

*Distrib.:* Tirap; in tropical forests.

**Phoebe goalparensis** Hutch. in Kew Bull. 1916: 190. 1916; Kanjilal *et al.*, Fl. Assam 4: 74. 1940.

*Local name:* Assam-teak (Asm.).

Tall trees with buttress. Leaves ovate or ovate-lanceolate, chartaceous, puberulous on nerves beneath. Flowers in lax, puberulous panicles; perianth villous inside. Fruits ellipsoid, blackish.

*Fl. & Fr.:* Jan. - July.

*Distrib.:* Subansiri; in primary forests.

**Phoebe lanceolata** (Nees) Nees, Syst. Laur. 109. 1836; Hook. f., Fl. Brit. India 5: 141. 1886; Kanjilal *et al.*, Fl. Assam 4: 71. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 267. 1996. *Ocotea lanceolata* Nees in Wall., Pl. As. Rar. 2: 71. 1831. *Phoebe angustifolia* Meissn. in DC., Prodr. 15(1): 34. 1864; Hook. f., Fl. Brit. India 5: 141. 1886.

Small or medium sized trees, up to 10 m high; bark whitish. Leaves lanceolate to elliptic lanceolate, glaucous beneath. Flowers in axillary, long peduncled, corymbiform panicles, greenish white or yellowish. Fruits ovoid, blackish purple.

*Fl. & Fr.:* April - Nov.

*Distrib.:* Changlang, Kameng, Lohit, Tirap; 400-1200 m, in moist evergreen forests.

**Phoebe pallida** (Nees) Nees, Syst. Laurin. 112. 1836; Hook. f., Fl. Brit. India 5: 142. 1886. *Ocotea pallida* Nees in Wall., Pl. As. Rar. 2: 71. 1831.

Small or medium sized trees, up to 10 m tall. Leaves elliptic, lanceolate or oblanceolate, glaucous beneath. Flowers in lax, puberulous panicles, greenish yellow. Fruits ellipsoid, whitish.

*Fl. & Fr.:* April - Oct.

*Distrib.:* Kameng; 800-1200 m, in primary forests.

Insufficiently known material

**Litsea glauca** Seibold var. **attenuata**

**Litsea sebifera** Pers. var. **glabraria** Hook. f., Fl. Brit. India 5: 158, 1886.

**Neolitsea clavigera** (Wall.) Hutch.

**Phoebe hainesiana** Brandis in Hooker, Ic. Pl. t. 2803. 1906.

#### PROTEACEAE

**Helicia excelsa** Blume in Ann. Sci. Nat. ser. 2, 1: 219, 1834; Hook. f., Fl. Brit. India 5: 191, 1886.

Medium sized trees, 10-15 m high; young shoots brownish tomentose. Leaves obovate or oblanceolate. Flowers in terminal or axillary, rusty tomentose racemes. Fruits subglobose.

*Fl. & Fr.*: July - April.

*Distrib.*: Kameng; 500-1000 m, in primary forests.

**Helicia nilgrica** Bedd. in Madr. J. Lit. Sci. ser. 3, 23(1): 56, 1864; Hook. f., Fl. Brit. India 5: 190, 1886. *H. erratica* Hook. f., Fl. Brit. India 5: 189, 1886.

Scandent shrubs or small trees, 6-10 m high with spreading crown. Leaves obovate or oblanceolate, glaucous beneath. Flowers in axillary, glabrous racemes, yellowish. Fruits subglobose. Seeds red.

*Fl. & Fr.*: March - Nov.

*Distrib.*: Siang; 1000-2000 m, in primary forests.

**Helicia robusta** (Roxb.) R. Br. ex Blume in Ann. Sci. nat. ser. 2, 1: 220, 1834; Hook. f., Fl. Brit. India 5: 191, 1886. *Roupala robusta* Roxb., Fl. Ind. 1: 366, 1820.

Trees, up to 15 m high; branches spreading, glabrous. Leaves obovate-oblong or oblanceolate. Flowers in axillary, glabrous racemes, yellowish. Fruits obliquely globose.

*Fl. & Fr.*: June - Nov.

*Distrib.*: Tirap; in tropical evergreen forests at lower elevations.

#### THYMELAEACEAE

**Aquilaria khasiana** Hallier in Meded. Herb. Leid. 44: 18, 1922; Ding Hou in Blumea 12: 286, 1964; Kanjilal *et al.*, Fl. Assam 4: 113, 1940; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 267, 1996.

*A. agallocha* auct. non Roxb. 1832; Hook. f., Fl. Brit. India 5: 199. 1886, p.p. Fig. 31.

Shrubs or small trees, up to 10 m high, younger parts silky. Leaves oblong or obovate-lanceolate, sparsely hairy on nerves beneath. Flowers in sub-terminal or extra-axillary, pubescent fascicles. Capsules subrhomboid.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Changlang, Lohit; in dense evergreen forests.

**Aquilaria malaccensis** Lam., Encycl. Meth. Bot. 1: 49. 1783; Hook. f., Fl. Brit. India 5: 200. 1886; Ding Hou in Blumea 12: 286. 1964; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 267. 1996. *A. agallocha* Roxb., Fl. Ind. 2: 422. 1832; Hook. f., Fl. Brit. India 5: 199. 1886, p.p.; Kanjilal *et al.*, Fl. Assam 4: 112. 1940, p.p.

*Local name*: Aguru, Sasi (Asm.).

Large trees, 15-30 m high with pyramidal crown; bark whitish. Leaves oblong-elliptic or oblanceolate, caudate-acuminate at apex. Flowers in terminal, silky, cymose umbels, white. Capsules obovoid, tomentose.

*Fl. & Fr.*: March - Oct.

*Distrib.*: Changlang, Lohit, Siang; 400-1000 m, in tropical dense evergreen forests.

**Daphne bholua** Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 68. 1825; Burt in Kew Bull. 1936: 437. 1936. *D. cannabina* Lour. ex Wall. in As. Res. 13: 385, t. 8. 1820, p.p.; Hook. f., Fl. Brit. India 5: 193. 1886, p.p. *D. papyracea* Wall. ex Steud., Nomencl. Bot. ed. 2, 1: 483. 1834, p.p.

Shrubs or small trees, 4-6 m high. Leaves lanceolate to narrowly lanceolate, pale beneath. Flowers in terminal or lateral clusters, white or pale yellow. Fruits ovoid or ellipsoid, deep violet.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Kameng, Subansiri, Tawang; 1500-2800 m, in subtropical or temperate forests.

**Daphne composita** (L.f.) Griag in Engl. et Prantl, Pflanzenfam. 3(6a): 238. 1894; Basu in Bull. Bot. Surv. India 3(1-4): 132. 1992. *Scopolia composita* L. f., Suppl. Pl. 409. 1781. *Daphne pendula* Smith, Pl. Ic. Ined. 2: 194. 1886.

Shrubs or small trees, up to 10 m high. Leaves elliptic, oblong or lanceolate. Flowers yellow, axillary, solitary or in 10-12 flowered



Fig. 31. *Aquilaria khasiana* Hallicr: 1. Flowering twig; 2. Flower.

peduncled heads with two involueral bracts. Fruits ovoid, black or deep red.

*Fl. & Fr.*: Dec. July.

*Distrib.*: Siang; 1200-1800 m, in primary forests under shades.

*Use*: Leaves are used as cordage and durable hemp.

**Daphne involucrata** Wall. in As. Res. 13: t. 6. 1820; Hook. f., Fl. Brit. India 5: 193. 1886.

Shrubs, 2-5 m high. Leaves elliptic-lanceolate or oblong-lanceolate. Flowers in axillary, peduncled heads, enclosed by involuere-like bracts, white or salmon pink, fragrant. Fruits ellipsoid, black.

*Fl. & Fr.*: Oct. March.

*Distrib.*: Kameng, Siang, Subansiri; 800-1800 m, in primary forests under shades.

**Daphne papyracea** Wall. ex Steud., Nomencl. Bot. ed. 2, 1: 483. 1841, *p.p.*; W.W.Sm. & Cave in Rec. Bot. Surv. India 6: 54. 1913. *D. cannabina* Lour. ex Wall. in As. Res. 13: 385, t. 8. 1820, *p.p.*; Hook. f., Fl. Brit. India 5: 193. 1886, *p.p.*

*Local name*: Shugu-sheng (Mompa).

Shrubs, 1-3 m high. Leaves oblanceolate or oblong-oblanceolate, glaucous beneath. Flowers in umbels, pinkish or yellowish, fragrant. Fruits ovoid-ellipsoid, orange or scarlet red.

*Fl. & Fr.*: March Oct.

*Distrib.*: Kameng, Subansiri, Tirap; 1000-2500 m, common in subtropical forests.

*Use*: Roots are used in intestinal troubles.

**Daphne surcil** W.W.Sm. et Cave in Rec. Bot. Surv. India 6(2): 51, f. 2. 1913; Stapf in Bot. Mag. t. 9297. 1933.

Erect herbs or undershrubs, 1-3 m high. Leaves lanceolate to linear-lanceolate, coriaceous. Flowers in capitate heads, brownish; perianth minutely pubescent. Fruits ovoid.

*Fl. & Fr.*: Oct. Dec.

*Distrib.*: Kameng; 1300-2000 m, in subtropical forests.

**Edgeworthia gardneri** (Wall.) Meissn. in Dentschr. B. Ges. Regensb. 3: 280, t. 6. 1841; Hook. f., Fl. Brit. India 5: 195. 1886, *p.p.*; Kanjilal *et al.*, Fl. Assam 4: 110. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 268. 1996. *Daphne gardneri* Wall., As. Res. 13: 388, t. 9. 1820.

Tall shrubs or small trees. Leaves elliptic-lanceolate or elliptic-oblong, acute or acuminate. Flowers in dense spherical heads, yellow, fragrant; ovary villous.

*Fl.*: Dec. Oct.

*Distrib.*: Changlang, Lohit.

**Edgeworthia longipes** Lace in Kew Bull. 1914: 380. 1914; Basu in Bull. Bot. Surv. India 31(1-4): 132. 1992.

Shrubs or small trees, 1-3 m high, younger parts appressed hairy. Leaves oblanceolate, glabrous. Flowers in densely crowded, peduncled heads, white, hairy.

*Fl.*: Dec. March.

*Distrib.*: Lohit; in forests at higher elevations.

**Wickstroemia canescens** Meissn. in Denkschr. Bot. Ges. Reg. 3: 288. 1841; Hook. f., Fl. Brit. India 5: 195. 1886.

Deciduous shrubs, young shoots villous. Leaves elliptic to elliptic-oblong, silky pubescent beneath. Flowers in subsessile umbels, yellow. Fruits ovoid, silky, black when ripe.

*Fl. & Fr.*: June Oct.

*Distrib.*: Kameng; in forests at higher elevations.

#### ELAEAGNACEAE

**Elaeagnus caudata** Schlecht. ex Momiy. in Fl. Hara, Fl. E. Himal. 2: 85, f. 7. 1971; Momiy. et H. Hara in J. Jap. Bot. 48: 264. 1973. *E. latifolia auct. non L.*: Hook. f., Fl. Brit. India 5: 202. 1886, p.p. *E. conferta auct. non Roxb.* 1832; Momiy. in H. Hara, Fl. E. Himal. 217. 1966.

*Local name*: Gani (Adi); Hari (Apat.); Bon-jara, Mirica-tenga, (Asm.).

Stragglers or scandent shrubs, 2-4 m high; often spiny, branches silvery. Leaves ovate-oblong, ferruginous scaly beneath. Flowers in axillary fascicles, yellowish, fragrant. Fruits ellipsoid, yellow or red.

*Fl. & Fr.*: Nov. March.

*Distrib.*: Subansiri; in secondary forests.

**Elaeagnus infundibularis** Momiy. in J. Jap. Bot. 48: 262, f. 3. 1973; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 268. 1996. *E. arborea auct. non Roxb.*: D. Don, Prodr. Fl. Nep. 67. 1825. *E. conferta auct. non Roxb.*: D. Don, Prodr. Fl. Nep. 67. 1825; Banerjee in Rec. Bot.

Surv. India 19(2): 81. 1966. *E. latifolia* auct. non L.: Hook. f., Fl. Brit. India 5: 202. 1886, p.p.; Kanjilal *et al.*, Fl. Assam 4: 114. 1940;

*Local name:* Bon-jara, Mirica-tenga (Asm.).

Large, woody stragglers or scandent shrubs, often spiny; branches densely ferruginous scaly. Leaves ovate-oblong or elliptic. Flowers in axillary fascicles, yellow, fragrant. Fruits ovoid, ovoid-oblong, ribbed, yellow when ripe.

*Fl. & Fr.:* Sept. May.

*Distrib.:* Changlang, Kameng, Lohit, Subansiri; 1000-2000 m, in dense evergreen forests.

**Elaeagnus parvifolia** Wall. ex Royle, Ill. Bot. Himal. 323, t. 81, f. 1. 1836; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 268. 1996. *E. umbellata* auct. non Thunb.: D. Don, Prodr. Fl. Nep. 68. 1825; Hook. f., Fl. Brit. India 5: 201. 1886; Kanjilal *et al.*, Fl. Assam 4: 114. 1940.

Shrubs, much branched, thorny; young shoots covered with silvery scales. Leaves elliptic-oblong or elliptic-lanceolate, bright silvery beneath. Flowers in axillary clusters, dull white, silvery. Fruits oblong-ovoid, silvery scaly.

*Fl. & Fr.:* March Oct.

*Distrib.:* Changlang, Kameng, Lohit; 2600-2900 m, on moist soil in deciduous forests.

**Elaeagnus pyramidalis** Hook. f., Fl. Brit. India 5: 202. 1886; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 269. 1996.

*Local name:* Doukhiguti (Asm.).

Scandent shrubs or stragglers; younger branches brownish scaly. Leaves elliptic, elliptic-oblong or obovate, sparsely silvery scaly beneath. Flowers in axillary fascicles. Fruits pyriform, yellowish.

*Fl. & Fr.:* Nov. March.

*Distrib.:* Changlang, Lohit, Siang; 1000-1500 m, common along forests margins.

**Elaeagnus pyriformis** Hook. f., Fl. Brit. India 5: 202. 1886; Kanjilal *et al.*, Fl. Assam 4: 114. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 268. 1996.

Scandent shrubs; branches spreading. Leaves elliptic or ovate-elliptic, clustered. Fruits clustered.

*Fl. & Fr.:* Nov. May.

*Distrib.:* Changlang, Lohit.

## LORANTHACEAE

**Dendrophthoe falcata** (L. f.) Etting in Denkschr; Kanai in H. Hara, Fl. E. Himal. 64, 1966; Acad. Wiss. Math. Nat. Cl. 32: 52, 58, 1872. *Loranthus falcatus* L.f., Suppl. Pl. 211, 1781. *L. longiflorus* Desr. in Lam., Encycl. Math. Bot. 3: 598, 1789; Hook. f., Fl. Brit. India 5: 214, 1886; Burkill in Rec. Bot. Surv. India 4: 129, 1910. **Fig. 32.**

Hemiparasitic shrubs. Leaves elliptic, ovate-elliptic or ovate-oblong, glabrous, coriaceous. Flowers in axillary or extra-axillary racemes, orange or red. Fruits oblong, black.

*Fl. & Fr.*: Feb. - Dec.

*Distrib.*: Kameng; 800-1500 m, in primary and secondary forests.

**Helixanthera coccinea** (Jack) Danser in Bull. Jard. Bot. Buitenz. ser. 3, 10: 317, 1929. *Loranthus coccineus* Jack in Mal. Misc. 1: 8, 1820; Hook. f., Fl. Brit. India 5: 206, 1886.

Stout shrubs; branchlets pale brown, tubercled. Leaves ovate to ovate-lanceolate, sparsely puberulous. Flowers in axillary, many flowered, rusty pubescent racemes, yellowish. Fruits ovoid, reddish brown.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Kameng; 1000-1500 m, in primary forests.

**Helixanthera intermedia** (Wight ex Hook. f.) Danser in Bull. Jard. Bot. Buitenz. ser. 3, 10: 317, 1929. *Loranthus intermedius* Wight ex Hook. f. in Hook. f., Fl. Brit. India 5: 205, 1886.

Stout shrubs, glabrous. Leaves elliptic to broadly ovate. Flowers in racemes, solitary or fascicled, red.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Kameng; 600-1500 m, in primary forests.

**Helixanthera ligustrina** (Wall.) Danser in Bull. Jard. Bot. Buitenz. ser. 3, 10: 317, 1929; Kanjilal *et al.*, Fl. Assam 4: 120, 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 269, 1996. *Loranthus ligustrinus* Wall. in Roxb., Fl. Ind. 2: 219, 1824; Hook. f., Fl. Brit. India 5: 507, 1888.

Stout, parasitic shrubs; younger parts rusty tomentose. Leaves lanceolate or oblanceolate. Flowers in axillary, few flowered racemes, scarlet red, rusty pubescent. Fruits ellipsoid, brown when ripe.

*Fl. & Fr.*: May - Dec.

*Distrib.*: Changlang, Lohit, Subansiri, Tirap; 800-1500 m, common in forests.



Fig. 32. *Dendrophthoe falcata* (L. f.) Etting : 1. Flowering twig;  
2. Fruiting branch.

**Helixanthera parasitica** Lour., Fl. Cochinch. 142. 1790; Kanjilal *et al.*, Fl. Assam 4: 120. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 269. 1996. *Loranthus pentapetalus* Roxb., Fl. Ind. 1: 553. 1820; Hook. f., Fl. Brit. India 5: 206. 1886.

Large parasitic shrubs; branches spreading, stout, swollen at nodes. Leaves lanceolate, ovate-lanceolate or elliptic-lanceolate, young ones reddish. Flowers in axillary racemes, scarlet-red. Fruits ovoid, red.

*Fl. & Fr.*: March - Sept.

*Distrib.*: Changlang, Lohit, Kameng, Subansiri, Tirap; 300-1500 m, common along forest edges.

**Helixanthera terrestris** (Hook. f.) Danser in Bull. Jard. Bot. Buitenz. ser. 3, 10: 319. 1929. *Loranthus terrestris* Hook. f., Fl. Brit. India 5: 207. 1886.

Stout shrubs, glabrous. Leaves lanceolate. Flowers in axillary, few flowered racemes or spikes, pink.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Changlang, Tirap; in primary and secondary forests at lower elevations.

**Loranthus hypoglaucus** Kurz in J. As. Soc. Bengal 2: 309. 1872; Hook. f., Fl. Brit. India 5: 220. 1886.

Shrubs. Leaves lanceolate or elliptic-lanceolate, glabrous, glaucous beneath. Flowers in axillary, short peduncled racemes, red.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Kameng; in primary forests.

**Macrosolen cochinchinensis** (Lour.) Tiegh. in Bull. Soc. Bot. France 41: 122. 1895; Kanjilal *et al.*, Fl. Assam 4: 127. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 269. 1996. *Loranthus cochinchinensis* Lour., Fl. Cochinch. 195. 1790; *L. globosus* Roxb., Fl. Ind. 2: 206. 1824; Hook. f., Fl. Brit. India 5: 220. 1886. *L. ampullaceus* Roxb., Fl. Ind. 2: 189. 1824; Hook. f., Fl. Brit. India 5: 220. 1886.

*Local name*: Raghumala (Asm.).

Stout shrubs; branches drooping. Leaves elliptic, broadly elliptic or elliptic-lanceolate. Flowers in axillary racemes, solitary or fascicled, greenish yellow. Fruits ellipsoid, pale yellow.

*Fl. & Fr.*: Oct. - June.

*Distrib.*: Changlang, Lohit, Kameng, Tirap; 500-1800 m, in primary and secondary forests.

**Macrosolen psilanthus** (Hook. f.) Danser in *Blumea* 2: 36. 1936. *Loranthus psilanthus* Hook. f., *Fl. Brit. India* 5: 222. 1886.

Stout shrubs. Leaves ovate to ovate-lanceolate, coriaceous, glabrous. Flowers in axillary, few flowered, sessile umbels, red or reddish green. Fruits obovoid, bluish when ripe.

*Fl. & Fr.*: Nov. July.

*Distrib.*: Subansiri; 1200-1600 m, in primary forests.

**Scurrula elata** (Edgew.) Danser in *Bull. Jard. Bot. Buitenz.* ser. 3, 10: 350. 1929. *Loranthus elatus* Edgew. in *Trans. Linn. Soc. London* 20: 58. 1846; Hook. f., *Fl. Brit. India* 5: 212. 1886.

Shrubs; young shoots rusty pubescent. Leaves long petiolate, broadly ovate, glabrous. Flowers in axillary fascicles or umbels, hoary, rosy-red with greenish brown tinge on upper half.

*Fl. & Fr.*: April Sept.

*Distrib.*: Kameng; 1000-2000 m, in forests.

**Scurrula ferruginea** (Jack) Danser in *Bull. Jard. Bot. Buitenz.* ser. 3, 10: 350. 1929. *Loranthus ferrugineus* Jack in *Mal. Misc.* 1: 9. 1920; Hook. f., *Fl. Brit. India* 5: 210. 1886.

Stout shrubs; branches ferruginous. Leaves elliptic, glabrous above, clothed with rusty, scurfy tomentum beneath. Flowers in axillary fascicles, densely rusty villous.

*Fl. & Fr.*: April Sept.

*Distrib.*: Kameng; along forest edges.

**Scurrula gracilifolia** (Schult.) Danser in *Blumea* 2: 47. 1936. *Loranthus gracilifolius* Schult., *Syst. Veg.* 7(1): 99. 1829. *L. graciliflorus* DC., *Prodr.* 4: 300. 1830. *L. scurrula* L. var. *graciliflora* (DC.) Kurz, *For. Fl. Brit. Burma* 2: 319. 1877; Hook. f., *Fl. Brit. India* 5: 209. 1886.

Bushy shrubs; young parts rusty tomentose. Leaves elliptic to ovate-lanceolate, glabrous. Flowers in axillary fascicles or short racemes, reddish brown. Fruits pyriform, hairy when young.

*Fl. & Fr.*: Aug. Feb.

*Distrib.*: Tirap; 800-1500 m, in primary forests.

**Scurrula parasitica** L., *Sp. Pl.* 110. 1753; H. L. Li, *Wood. Fl. Taiwan* 146. 1963. *Loranthus scurrula* L., *Sp. Pl. ed. 2*, 1: 472. 1762; Hook. f., *Fl. Brit. India* 5: 208. 1886.

Hemiparasitic shrubs, up to 2 m high; young parts rusty tomentose. Leaves elliptic, elliptic-oblong or obovate. Flowers in axillary fascicles or short racemes, yellowish or greenish purple. Fruits pyriform.

*Fl. & Fr.*: July - Feb.

*Distrib.*: Kameng, Lohit, Siang, Subansiri, Tirap; 1000-2000 m, common in evergreen or deciduous forests.

***Scurrula pulverulenta*** (Wall.) G. Don, Gen. Syst. 3: 421. 1834; Kanjilal *et al.*, Fl. Assam 4: 125. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 270. 1996. *Loranthus pulverulentus* Wall. in Roxb., Fl. Ind. 2: 221. 1824; Hook. f., Fl. Brit. India 5: 211. 1886.

Woody, parasitic shrubs; young shoot white, floccose. Leaves broadly ovate to ovate-oblong. Flowers in axillary fascicles or short racemes, buff coloured. Fruits club shaped, white-tomentose when young.

*Fl. & Fr.*: Oct. - Feb.

*Distrib.*: Changlang, Lohit, Siang; 200-1400 m, in primary forests.

***Taxillus umbellifer*** (Schult.) Danser in Bull. Jard. Bot. Buitenz. ser. 3, 11: 445. 1931; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 270. 1996. *Loranthus umbellifer* Schult., Syst. 7(1): 97. 1829; Hook. f., Fl. Brit. India 5: 211. 1886. *Scurrula umbellifer* (Schult.) G. Don, Gen. Hist. 3: 421. 1834; Kanjilal *et al.*, Fl. Assam 4: 126. 1940.

Stout shrubs; young parts rusty-brown. Leaves fascicled, oblong-elliptic or ovate-oblong, glabrous. Flowers in umbels, whitish. Fruits turbinate.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Changlang, Lohit, Kameng; in subtropical forests.

***Taxillus vestitus*** (Wall.) Danser in Bull. Jard. Bot. Buitenz. ser. 3, 10: 349. 1929; Kanjilal *et al.*, Fl. Assam 4: 122. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 270. 1996. *Loranthus vestitus* Wall. in Roxb., Fl. Ind. 2: 218. 1824; Hook. f., Fl. Brit. India 5: 212. 1886.

Large shrubs; branches brownish tomentose. Leaves ovate to ovate-lanceolate, tawny-tomentose beneath. Flowers in axillary fascicles or shortly peduncled umbels, white. Fruits ellipsoid, orange.

*Fl. & Fr.*: June- Feb.

*Distrib.*: Changlang, Lohit, Kameng; in tropical or subtropical forests at lower elevations.

***Tolypanthus involueratus*** (Roxb.) Blume in Schult. f. Syst. 7(2):1731. 1830; Kanjilal *et al.*, Fl. Assam 4:126. 1940. *Loranthus involueratus* Roxb., Fl. Ind. 1:552. 1820; Hook. f., Fl. Brit. India 5:218. 1886.

Bushy shrubs, branches drooping; younger parts tomentose. Leaves ovate or ovate-lanceolate, cordate. Flowers in axillary fascicles, red. Fruits oblong, orange.

*Fl. & Fr.*: March - Oct.

*Distrib.*: Kameng; common at lower elevations.

**Viscum album** L., Sp. Pl. 1023.1753; Hook. f., Fl. Brit. India 5:223.1886.

Large bushy shrubs: branches dichotomous, jointed. Leaves narrowly obovate, coriaceous. Flowers in axillary fascicles. Fruits ellipsoid, white.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Kameng; 1000-2000m, in primary forests.

**Viscum articulatum** Burm. f., Fl. Ind. 311.1768; Hook. f., Fl. Brit. India 5: 226.1886.

var. **articulatum**

Shrubs, dichotomously or trichotomously branched; usually leafless. Leaves bract like or reduced to scales. Flowers in lateral, sessile cymes. Fruits globose, yellowish green.

*Fl. & Fr.*: Nov. - June.

*Distrib.*: Kameng, Tirap; 1000 - 2000 m.

**Viscum articulatum** var. **dichotoma** Kurz, For. Fl. Brit. Burma 2: 226. 1877; Hook. f., Fl. Brit. India 5: 226. 1886.

var.**dichotoma** differs from var. **articulatum** by stouter habit, much thicker and broader inter nodes.

*Fl. & Fr.*: Nov. - June.

*Distrib.*: Kameng.

**Viscum articulatum** var. **liquidambaricolum** (Hayata) R. S. Rao in J. Ind. Bot. Soc. 36: 133. 1957. *Viscum liquidambaricolum* Hayata, Ic. Pl. Formos. 5: 104. 1915; Danser in Blumea 4: 289. 1941.

var.**liquidambaricolum** differs from var. **articulatum** by dark coloured, larger, oblong fruits.

*Fl. & Fr.*: Nov. - May.

*Distrib.*: Kameng.

**Viscum monoicum** Roxb. ex DC., Prodr. 4: 278. 1830; Hook. f., Fl. Brit. India 5: 224. 1886.

Bushy shrubs, branches drooping. Leaves lanceolate, elliptic or oblong-lanceolate. Flowers in sessile fascicles, yellow. Fruits oblong-ellipsoid, yellowish.

*Fl. & Fr.*: May - Jan.

*Distrib.*: Kameng, Tirap; in primary and secondary forests at lower elevations.

**Viscum nepalense** Spreng., Syst. Cur. Post. 47. 1827; Hook. f., Fl. Brit. India 5: 226. 1886.

Spreading shrubs; branches drooping, white. Leaves caducous or absent. Flowers in axillary, sessile fascicles, greenish yellow. Fruits obovoid globose, yellowish.

*Fl. & Fr.*: June - Oct.

*Distrib.*: Kameng; 2200-2600 m, in primary forests.

Insufficiently known material

**Loranthus collettii** King ex Collett *et* Hemsl. in J. Linn. Soc. 28: 120. 1890.

**Taxillus reflexilobus** Rajsekaran.

#### SANTALACEAE

**Dufrenoya platyphilla** (Spreng.) Stauffer in Viertel., Nat. Ges. Zurich. 114: 70. 1969. *Viscum platyphilum* Spreng., Syst. Veg. 4 (Curr. Post.): 47. 1827. *Henslowia heterantha* (Wall. ex DC.) Hook. f. ex A. DC. in DC., Prodr. 14: 632. 1857; Hook. f., Fl. Brit. India 5: 233. 1886. *Viscum heteranthum* Wall. ex DC., Prodr. 4: 279. 1830. *Dendrophthoe heterantha* (Wall. ex DC.) Henry & Roy in Bull. Bot. Surv. India 10: 276. 1969.

Hemiparasitic, subscandent shrubs. Leaves alternate, obovate to suborbicular. Flowers in umbels, sessile. Fruits ellipsoid, red.

*Fl. & Fr.*: Aug. - May.

*Distrib.*: Kameng.

**Osyris quadripartita** Salz. ex Decne., Ann. Sci. Nat. ser. 2, 6: 65. 1836; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 271. 1996. *O. wightiana* Wall. ex Wight, Icon. Pl. Ind. Or. 5: t. 1853. 1852; Santapau in Rec. Bot. Surv. India 16: 269. 1953. *O. arborea* Wall. ex DC., Prodr. 14: 633. 1857; Hook. f., Fl. Brit. India 5: 232. 1886; Kanjilal *et al.*, Fl. Assam 4: 130. 1940.

Large shrubs or small trees; branches angled, glabrous. Flowers in axillary peduncled fascicles, polygamous, minute. Fruits red on ripening.

*Fl. & Fr.*: March - Feb.

*Distrib.*: Changlang, Lohit.

**Phacellaria compressa** Benth. in Benth. & Hook. f., Gen. Pl. 3: 229. 1880; Hook. f., Fl. Brit. India 5: 235. 1886; Rao & Ahuja in Bull. Bot. Surv. India 10(3&4): 360. 1968. *P. wattii* Hook. f., Fl. Brit. India 5: 236. 1886.

Parasitic herbs, up to 15 cm long; stems slender, pale yellow, ferruginous. Flowers subsessile, solitary or fasciated from axils of bracts. Fruits ovate-oblong.

*Fl. & Fr.*: Aug. Dec.

*Distrib.*: Subansiri; on hilly slopes around 2000 m (on *Taxilus vestitus*).

### BALANOPHIORACEAE

**Balanophora dioica** R. Br. ex Royle, Ill. Bot. Himal. 330. 1836 & t. 99. 2. 1839; Hook. f., Fl. Brit. India 5: 237. 1886; Kanjilal *et al.*, Fl. Assam 4: 132. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 271. 1996.

*Local name*: Poyou (Nishi).

Yellowish root parasites, rootstocks tuberous; stems covered with imbricate sessile scales. Flowers in fleshy, club shaped receptacle; perianth white, brownish when old, surrounded by linear, truncate, reddish bracts. Fruits minute, drupaceous.

*Fl. & Fr.*: Feb. Nov.

*Distrib.*: Changlang, Lohit, Siang, Tirap; 500-2000 m, on moist humus rich soil, in shady places of primary forests.

**Rhopalocnemis phalloides** Jungh. in Nov. Act. Nat. Cur. 18. Suppl. 1: 215. 1841; Hook. f., Fl. Brit. India 5: 239. 1886; Kanjilal *et al.*, Fl. Assam 4: 133. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 272. 1996.

Fleshy, dioecious root parasites, leafless, stout; rootstocks large, tuberous. Flowers on spadix-like heads, peduncles stout, cylindrical; female inflorescence large, ovoid or oblong, brown or rusty brown; perianth white. Fruits ovate-oblong, turgid.

*Fl. & Fr.*: March Dec.

*Distrib.*: Changlang, Lohit, Siang, Tirap; 1000-2000 m, in moist and shady, undisturbed places.

## DAPHNIPHYLLACEAE

**Daphniphyllum himalayense** (Benth.) Muell. Arg. in DC., Prodr. 16(1): 113. 1869; Hook. f., Fl. Brit. India 5: 354. 1887; N. P. Balakr., Fl. Jowai 2: 417. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 272. 1996. *Goughia himalayensis* Benth. in Hook., Kew J. Bot. 6: 9. 1854.

Trees, 8–15 m high; branches horizontally spreading. Leaves crowded at apices of branches, oblanceolate to oblong-lanceolate. Flowers in axillary racemes. Drupes oblong-ellipsoid, purplish blue.

*Fl. & Fr.*: April–Dec.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri; 1500–2500 m; in sacred groves of undisturbed forests.

## EUPHORBACEAE

**Actephila excelsa** (Dalz.) Muell. Arg. in Linnaea 32: 78. 1863; Hook. f., Fl. Brit. India 5: 282. 1887; Kanjilal *et al.*, Fl. Assam 4: 148. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 272. 1996. *Anomospermum excelsum* Dalz. in Hook., Kew J. Bot. 3: 228. 1851. *Actephila nitgherrensis* Wight, Ic. Pl. Ind. Or. 1. 1910. 1852.

*Local name*: Tor-bin (Ahor.).

Shrubs or small trees, 2–4 m high. Leaves elliptic, obovate or oblanceolate, glabrous. Flowers in axillary clusters or short peduncled racemes. Capsules depressed, globose.

*Fl. & Fr.*: April–Dec.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tawang; 400–1200 m, in primary forests near streams or riverbanks.

**Alchorne tiliaefolia** (Benth.) Muell. Arg. in Linnaea 34: 168. 1865; Hook. f., Fl. Brit. India 5: 421. 1887. *Stipellaria tiliaefolia* Benth. in Hook., Kew J. Bot. 6: 4. 1854.

Shrubs or small trees, 2–5 m high. Leaves suborbicular, ovate or ovate-rhomboid, often oblique, pubescent along nerves. Flowers in slender racemes or clustered, greenish purple. Capsules pubescent, purplish, tubercled.

*Fl. & Fr.*: April–Oct.

*Distrib.*: Tawang; 500–1200 m, in mixed forests.

**Andrachne emicans** Dunn in Kew Bull. 1920: 210. 1920; Burkill in Rec. Bot. Surv. India 10(1): 356. 1924.

Small shrubs; young shoots characteristically spring up. Leaves alternate, lanceolate, acuminate at apex. Flowers in axillary clustered, disc glands deeply bifid. Capsules depressed globose.

*Fl. & Fr.*: Aug. Dec.

*Distrib.*: Siang; 100-400 m, along forest edges.

**Antidesma acidum** Retz., Obs. Bot. 5: 30. 1789; Airy Shaw in Kew Bull. 26: 352. 1972. *Stilago diandra* Roxb., Pl. Corom. 2: 35, t. 166. 1798. *Antidesma diandrum* (Roxb.) Roth, Nov. Sp. 369. 1821; Hook. f., Fl. Brit. India 5: 361. 1887. *A. ghaesembilla auct. non Gaertn.* 1788; Hook. f., Fl. Brit. India 5: 357. 1887, *p.p. quoad syn. A. acidum* Retz.

*Local name*: Abutenga, Chhotha-heloch, Nekhon-tenga (Asm.).

Shrubs or small trees, up to 6 m high with spreading crown. Leaves oblong elliptic, obovate or oblanceolate, rusty pubescent beneath. Flowers in lax terminal or lateral racemes, pedicellate, greenish yellow. Fruits purplish red.

*Fl. & Fr.*: May Dec.

*Distrib.*: Kameng, Tirap; 400-1200 m, common undergrowth in forests and along forest fringes.

*Use*: Paste of leaves is said to be used for healing wounds. Fruits are edible.

**Antidesma acuminatum** Wall. ex Wight, Ic. Pl. Ind. Or. 6: 12, t. 1991. 1853; Hook. f., Fl. Brit. India 5: 363. 1887; Kanjilal *et al.*, Fl. Assam 4: 168. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 273. 1996.

*Local name*: Pani-heloch (Asm.).

Shrubs or small trees, 6-8 m high; branchlets tomentose. Leaves elliptic-lanceolate, oblong or oblong-lanceolate, glabrous. Flowers in terminal or axillary, paniculate racemes, greenish white. Fruits ellipsoid, red, black when ripe.

*Fl. & Fr.*: March Nov.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri; 400-1000 m, undergrowth in evergreen forests and along streams.

*Use*: Fruits are edible.

**Antidesma buniis** (L.) Spreng., Syst. Veg. 1: 826. 1825; Hook. f., Fl. Brit. India 5: 358. 1887; N. R. Mondal & Panigrahi in J. Econ. Tax. Bot. 4: 258. 1983; Kanjilal *et al.*, Fl. Assam 4: 166. 1940; A. S. Chauhan

in Hajra, Contrib. Fl. Namdapha 273, 1996. *Stilago buntus* L., Mant. Pl. 122. 1767.

*Local name:* Bor-heloch, Pani-heloch (Asm.)

Shrubs or small trees, 2-15 m high with dense crown; younger parts tomentose. Leaves oblong-lanceolate, oblanceolate or oblong-elliptic, glabrous. Flowers in pubescent racemose spikes or panicles, reddish. Fruits ellipsoid, black.

*Fl. & Fr:* April - Oct.

*Distrib.:* Changlang, Lohit, Tirap; 1000-1600 m, in evergreen forests.

*Use:* Fruits are edible. Bark is used for making ropes.

***Antidesma khasiana*** Hook. f., Fl. Brit. India 5: 362, 1887; N. R. Mondal & Panigrahi in J. Econ. Tax. Bot. 4: 256, 1983.

Shrubs or small trees. Leaves oblong-elliptic to elliptic-lanceolate, sparsely hairy, glabrous when mature. Flowers in slender, pubescent racemes, reddish. Fruits ellipsoid or subglobose, red.

*Fl. & Fr:* June - Nov.

*Distrib.:* Kameng, Subansiri; in moist evergreen forests.

*Use:* Fruits are edible.

***Antidesma nigricans*** Tul. in Ann. Sci. Nat. ser. 3, 15: 225, 1851; Hook. f., Fl. Brit. India 5: 360, 1887; Kanjilal *et al.*, Fl. Assam 4: 167, 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 273, 1996.

Shrubs or small trees; bark pale brown. Flowers in long paniced spikes, greenish purple. Fruits ovoid, red.

*Fl. & Fr:* April - Oct.

*Distrib.:* Changlang, Kameng, Subansiri; in moist evergreen forests.

***Antidesma roxburghii*** Wall. ex Tul. in Ann. Sci. Nat. Ser. 3, 15: 234, 1851; Hook. f., Fl. Brit. India 5: 357, 1887; Kanjilal *et al.*, Fl. Assam 4: 166, 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 274, 1996. *Stilago tomentosa* Roxb., Fl. Ind. 3: 757, 1832.

*Local name:* Khokora (Asm.)

Shrubs or small trees, 2-10 cm high; young branches densely rusty villous. Leaves obovate, obovate-elliptic or oblong, densely tomentose beneath. Flowers in stout, decurved spikes, greenish. Fruits ovoid-ellipsoid, bright red.

*Fl. & Fr:* April - Dec.

*Distrib.:* Changlang, Lohit, Tirap; undergrowth in primary forests.

**Aporusa dioica** (Roxb.) Muell. Arg. in DC., Prodr. 15(2): 472. 1866; N. R. Mondal & Panigrahi in Bull. Bot. Surv. India 26(1&2): 43. 1985. *Alnus dioica* Roxb., Fl. Ind. 3: 580. 1832. *Aporusa microcalyx* (Hassk.) Hassk. in Bull. Bot. Soc. France 6: 714. 1859; Hook. f., Fl. Brit. India 5: 346. 1887. *Tetractinostigma microcalyx* Hassk., Cat. Hort. Bot. Bogor. 55. 1844.

Small trees, 6-12 m high with lax crown. Leaves elliptic-lanceolate to oblong-lanceolate. Male flowers in axillary catkin; female flowers in axillary spikes or fascicles. Capsules ellipsoid, yellow.

*Fl. & Fr.*: Nov. - May.

*Distrib.*: Kameng, Tirap; in primary forests.

**Aporusa octandra** (Buch.-Ham. ex D. Don) Vickery in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 193. 1982; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 274. 1996. *Myrica octandra* Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 56. 1825. *Alnus dioica* Roxb., Fl. Ind. 3: 580. 1832. *Aporusa dioica auct. non* (Roxb.) Muell.-Arg. in DC. : N. P. Balakr., Fl. Jowai 2: 422. 1983. *A. roxburghii* Baill., Et. Gen. Euphorb. 644. 1859; Hook. f., Fl. Brit. India 5: 347. 1887; Kanjilal *et al.*, Fl. Assam 4: 162. 1940.

*Local name*: Bra-heloch, Khokora (Asm.).

Evergreen trees or shrubs, up to 10 m high; branches glabrous. Leaves elliptic or elliptic-lanceolate. Flowers in axillary spikes or clusters. Fruits ovoid-oblong, sparsely hairy; aril reddish.

*Fl. & Fr.*: Oct. - July.

*Distrib.*: Changlang, Lohit, Tirap.

*Use*: Fruits are edible. Infusion of leaves is used for dyeing cloth. Wood is hard, durable and used for planks.

**Arachne cordifolia** (Decne.) Hurus. in J. Fac. Sci. Univ. Tokyo Bot. 6: 339. 1954; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 274. 1996. *Leptopus cordifolia* Decne. in Jacq., Voy. Ind. 4: 155. 1844. *Andrachne cordifolia* (Decne.) Muell. Arg. in DC., Prodr. 15(2): 234. 1886. Kanjilal *et al.*, Fl. Assam 4: 149. 1940.

Small shrubs; younger parts hairy. Leaves ovate-oblong or elliptic, obtuse, sparsely puberulous beneath. Flowers in clusters; petals keeled. Capsules globose with accrescent calyx, creamy-white.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Changlang, Lohit, Tirap; 300 -1500 m, in primary forests.

**Baccaurea ramiflora** Lour., Fl. Cochinch. 661. 1790; Airy Shaw in Kew Bull. 26: 221. 1977; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 275. 1996. *Pierardia sapida* Roxb., Fl. Ind. 2: 254. 1832. *Baccaurea sapida* (Roxb.) Muell. Arg. in DC., Prodr. 15(2): 459. 1866; Hook. f., Fl. Brit. India 5: 371. 1887. *B. wrayi* King ex Hook. f., Fl. Brit. India 5: 374. 1887.

*Local name:* Burch (Abor); Letaku (Asm.).

Medium sized trees, 8-12 m high with compact oval crown. Leaves elliptic-oblong, elliptic-lanceolate or obovate, glabrous. Flowers apetalous in axillary, short spikes or fascicles, yellow. Fruits ovoid, yellow with rose coloured pulp.

*Fl. & Fr.:* April - Aug.

*Distrib.:* Changlang, Kameng, Lohit, Tirap; in primary forests at lower elevations, sometimes cultivated.

*Use:* Fruits are edible.

**Baliospermum calycinum** Muell. Arg. in Flora 47: 470. 1864; Hook. f., Fl. Brit. India 5: 462. 1887; Kanjilal *et al.*, Fl. Assam 4: 203. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 275. 1996.

Shrubs, 1 - 4 m high. Leaves obovate-oblong or obovate-oblanccolate, biglandular at base, sinuate toothed. Flowers in axillary slender panicles, white. Fruits subglobose, calyx accrescent.

*Fl. & Fr.:* June - Dec.

*Distrib.:* Changlang, Kameng, Lohit, Subansiri, Tirap; 300 - 1200 m, common undergrowth in forests, along forest edges and on soil slopes near streams.

*Use:* Leaves are used as vegetable.

**Baliospermum corymbiferum** Hook. f., Fl. Brit. India 5: 463. 1887.

Deciduous undershrubs, up to 3 m high; branches finely pubescent. Leaves elliptic-oblong, sinuate-serrate. Flowers in short corymbiform clusters, whitish.

*Fl.:* April - Aug.

*Distrib.:* Subansiri, Tirap; 1500 - 2000 m, in forests as undergrowth.

**Baliospermum micranthum** Muell. Arg. in Linnaea 34: 215. 1865; Hook. f., Fl. Brit. India 5: 462. 1887; Kanjilal *et al.*, Fl. Assam 4: 202. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 275. 1996.

Bushy herbs; younger parts finely pubescent. Leaves long petiolate, lanceolate or oblong. Flowers in panicles. Capsules subglobose, calyx accrescent.

*Fl. & Fr.*: May–Dec.

*Distrib.*: Changlang, Lohit, Subansiri; 1000–1500 m, in moist and shady places along forest edges.

**Baliospermum montanum** (Willd.) Muell. Arg. in DC., Prodr. 15(2): 1125. 1866; Haines, Bot. Bihar & Orissa 115. 1921. *Jatropha montana* Willd., Sp. Pl. 4: 563. 1805. *Baliospermum axillare* Blume, Bijdr. 604. 1826; Hook. f., Fl. Brit. India 5: 461. 1887. *Croton polyandrus* Roxb., Fl. Ind. 3: 682. 1832.

*Local name*: Phul-jelang (Asm.).

Undershrubs, up to 2 m high; sparingly branched. Leaves lanceolate, ovate or ovate-oblong, biglandular at base, sinuate-dentate. Flowers in axillary racemes or panicles, creamy white with pinkish tinge. Fruits obovoid.

*Fl. & Fr.*: June–Feb.

*Distrib.*: Kameng, Tirap; 300–1600 m, in moist, shady places of forests and along forest edges.

**Bischofia javanica** Blume, Bijdr. 1168. 1826; Hook. f., Fl. Brit. India 5: 345. 1887; Bali *et al.*, in Ind. For. 113(4): 287. 1987; Kanjilal *et al.*, FL. Assam 4: 141. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 282. 1996.

*Local name*: Urium (Asm.); Mebu-changne (Dall.).

Trees, up to 30 m high with cylindrical trunk and spreading crown. Leaves 3-foliolate; leaflets elliptic or ovate-oblong. Flowers in paniculate racemes, greenish. Fruits globose, brown when ripe.

*Fl. & Fr.*: March–Oct.

*Distrib.*: Changlang, Lohit, Subansiri, Tirap; 2000–2600 m, in primary forests.

*Use*: Wood is hard, rough grained and used in various building purpose. Leaves are used to dye bamboo baskets.

**Breynia retusa** (Dennst.) Alston in Ann. Roy. Bot. Gard. 11: 204. 1929. *Phyllanthus retusus* Dennst., Schluss. Hort. Malab. 31. 1818. *Melanthesa retusa* Kostel., Allg. Med. Pharm., Flora 5: 1771; Santapau in Bull. Bot. Surv. India 3: 19. 1962. *Phyllanthus patens* Roxb., Fl. Ind. 3: 667. 1832. *Breynia patens* (Roxb.) Benth. in Benth. & Hook. f., Gen. Pl. 3: 277. 1883 & in Hook. f., Fl. Brit. India 5: 277. 1887.

Shrubs or small trees. Leaves elliptic, ovate or ovate-lanceolate, glaucous beneath. Flowers in axillary fascicles, apetalous, greenish. Fruits depressed-globose, red; aril orange-yellow.

*Fl. & Fr.*: March - Aug.

*Distrib.*: Kameng, Tirap; 500 - 1500 m, undergrowth in deciduous forests.

**Bridelia assamica** Hook. f., Fl. Brit. India 5: 269. 1887; Kanjilal *et al.*, Fl. Assam 1: 145. 1940.

*Local name*: Barhaita (Asm.).

Small trees; branches sparsely pubescent. Leaves elliptic, elliptic-lanceolate or elliptic-oblong, sparsely puberulous beneath. Flowers in axillary, pubescent clusters. Fruits ovoid.

*Fl. & Fr.*: July - Dec.

*Distrib.*: Kameng, Siang; 500 - 1000 m, in subtropical forests.

**Bridelia cuneata** Gehr. in Engl., Jahrb. 41. Biebl. 95, 31. 1908; Kanjilal *et al.*, Fl. Assam 4: 146. 1940.

Shrubs, up to 5 m high. Leaves broadly obovate, glabrescent. Flowers in axillary glomerules, pale yellow.

*Fl. & Fr.*: June - Nov.

*Distrib.*: Tirap.

**Bridelia montana** Willd., Sp. Pl. 4: 978. 1805; Hook. f., Fl. Brit. India 5: 269. 1887, *B. verrucosa* Haines in J. Bot. 59: 193. 1920, *p.p.*; Kanjilal *et al.*, Fl. Assam 4: 144. 1940.

Shrubs, 2 - 5 m high; branchlets pustulate. Leaves elliptic or elliptic-oblong. Flowers in dense, axillary, sessile clusters, greenish yellow. Fruits ovoid or ellipsoid, black or deep blue when ripe.

*Fl. & Fr.*: April - Nov.

*Distrib.*: Kameng, Siang, Tirap; 300 - 1000 m, common in mixed forests.

**Bridelia pubescens** Kurz in J. As. Soc. Bengal 42(2): 241. 1873; Hook. f., Fl. Brit. India 5: 270. 1887; Kanjilal *et al.*, Fl. Assam 4: 145. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 275. 1996.

Medium sized trees, 8 - 15 m high; young shoots pubescent, often spinescent; branchlets tubercled. Leaves elliptic, obovate or suborbicular, pubescent beneath. Flowers in axillary clusters, greenish yellow. Fruits ellipsoid, purple.

*Fl. & Fr.*: April - Jan.

*Distrib.*: Changlang, Kameng, Lohit, Tirap; 200 - 1500 m, in evergreen forests.

**Bridelia retusa** (L.) Spreng., Syst. Veg. 3: 48, 1829; Hook. f., Fl. Brit. India 5: 268, 1887. *Chytia retusa* L., Sp. Pl. 1042, 1753.

*Local name:* Kuhir, Kunhir (Asm.).

Medium sized trees, up to 15 m high; branchlets tubercled. Leaves elliptic, obovate or oblanceolate, crenulate, pubescent on nerves beneath. Flowers in axillary fascicles or terminal flexuous spikes, greenish yellow. Fruits globose, purplish black.

*Fl. & Fr.:* June - Dec.

*Distrib.:* Kamneg; 400 - 1000 m, in mixed deciduous forests.

**Bridelia scandens** (Roxb.) Willd., Sp. Pl. 4: 979, 1805, *p.p.*; Santapau in J. Bombay Nat. Hist. Soc. 50: 307, 1951. *Chytia scandens* Roxb., Pl. Corom. 2: 39, t. 173, 1798. *Bridelia stipularis auct. non* (L.) Blume 1826; Hook. f., Fl. Brit. India 5: 270, 1887, *p.p.*

*Local name:* Monhilika, Sagal-Iederu (Asm.).

Large, rambling or climbing shrubs; branches pubescent or tomentose. Leaves elliptic-oblong, obovate-oblong to oblanceolate, tomentose beneath. Flowers in axillary clusters or terminal spikes, greenish yellow. Fruits oblong or ellipsoid, reddish or purplish.

*Fl. & Fr.:* Sept. - March.

*Distrib.:* Kameng, Subansiri; in mixed deciduous forests at lower elevations.

**Claoxylon khasianum** Hook. f., Fl. Brit. India 5: 411, 1887; Kanjilal *et al.*, Fl. Assam 4: 210, 1940.

Shrubs. Leaves elliptic or oblong-lanceolate, scaberulous when young. Flowers in racemes, minute, apetalous, sessile, hoary. Fruits of 1 - 3, globose, hoary carpel.

*Fl. & Fr.:* Jan. - June.

*Distrib.:* Kameng; in moist places along forest edges.

**Claoxylon longipetiolatum** Kurz in J. Asiat. Soc. Bengal 42.2.244, 1873 & For. Fl. Brit. Burma 2: 396, 1877; Hook. f., Fl. Brit. India 5: 413, 1887; Kanjilal *et al.*, Fl. Assam.4: 211, 1940; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 276, 1996.

Small trees, stems fistular. Leaves clustered at branch apices, wavy at margin. Flowers in hispid racemes, greenish white.

*Fl. & Fr.:* June - Oct.

*Distrib.:* Changlang, Lohit, Kameng; in moist places along forest edges.

**Cleidion alongense** Bennet *et* Chandra in Ind. For. 111 (10): 846. 1985.

Trees, up to 10 m high. Leaves elliptic-oblong, crenate-dentate, glabrous. Flowers in axillary racemes; perianth of male flowers 3, ovate-acute; perianth of female flowers 5; style bifurcate up to base.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Siang; 500 - 1000 m, in tropical evergreen forests.

**Cleidion spiciflorum** (Burm. f.) Merr., Inter. Herb. Amb. 322. 1917; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 276. 1996. *Acalypha spiciflora* Burm. f., Fl. Ind. 203, f. 61. 1768. *Cleidion javanicum* Blume, Bijdr. 613. 1825; Hook. f., Fl. Brit. India 5: 444. 1887; Kanjilal *et al.*, Fl. Assam.4: 220. 1940.

Medium sized trees, up to 20 m high with ovoid crown. Leaves elliptic-lanceolate, elliptic-oblong or oblanceolate, glabrous. Male flowers in axillary racemes; female flowers axillary, solitary, white. Capsules large, didymous.

*Fl. & Fr.*: Nov. - June.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri; 200 - 1000 m, on moist soil in tropical evergreen forests and along river courses.

**Croton caudatus** Geiseler, Mong. Croton 73. 1807; Hook. f., Fl. Brit. India 5: 383. 1887; Kanjilal *et al.*, Fl. Assam 4: 194. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 276. 1996.

*Local name*:Ghahe-lewa,Lata-mahudi, Mahudi-lota (Asm.).

Scandent shrubs; younger parts stellate-tomentose. Leaves ovate to suborbicular, cordate at base, stellate-pubescent beneath. Flowers in fascicles in terminal, pubescent, slender racemes, yellow or greenish yellow. Fruits subtrigonous, rusty pubescent.

*Fl. & Fr.*: March - Oct.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Tirap; in forest clearings and along river course at lower elevations.

*Use*: Tender leaf extract is said to be used in Malaria and Cholera. Decoction of tender stems mixed with *Zingiber officinalis* and salt is used in sores.

**Croton chlorocalyx** Wall. ex Hook. f., Fl. Brit. India 5: 394. 1887.

Deciduous shrubs, up to 3 m high; glabrous. Leaves lanceolate to linear-lanceolate, long acuminate at apex, serrulate. Flowers in short, cymose racemes. Fruits oblong, glabrous.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Kameng, Tirap.

**Croton joufra** Roxb., Fl. Ind. 3: 685. 1832; Hook. f., Fl. Brit. India 5: 387. 1887; Kanjilal *et al.*, Fl. Assam 4: 193. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 277. 1996.

Tall shrubs or small trees; bark white or grayish white. Flowers in axillary or terminal racemes, yellow. Fruits a capsul.

*Fl. & Fr.*: Dec. - June.

*Distrib.*: Changlang, Kameng, Lohit, Tirap.

**Croton roxburghii** N. P. Balakr. in Bull. Bot. Surv. India 3: 39. 1961; Harid. & R. R. Rao, For. Fl. Meghalaya 2: 784. 1987; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 277. 1996. *C. oblongifolius* Roxb., Fl. Ind. 3: 685. 1832, *non* Delile; Hook. f., Fl. Brit. India 5: 386. 1887; Kanjilal *et al.*, Fl. Assam 4: 192. 1940.

*Local name*: Mahunda (Asm.).

Medium sized trees; bark white or grayish. Flowers in long racemes, yellow. Capsules ellipsoid.

*Fl. & Fr.*: Feb. - June.

*Distrib.*: Changlang, Lohit, Tirap.

**Croton tiglium** L., Sp. Pl. 1004. 1753; Hook. f., Fl. Brit. India 5: 393. 1887.

*Local name*: Koni-bih (Asm.).

Shrubs or small trees, 2 - 5 m high; younger parts stellate hairy. Leaves ovate or elliptic-oblong, sharply dentate or serrate. Flowers in racemes; male flowers with woolly petals and female flowers apetalous. Fruits ovoid, whitish or greenish brown.

*Fl. & Fr.*: May - Nov.

*Distrib.*: Siang, Tirap; 800 - 1200 m, undergrowth in forests.

*Use*: Wood is used for cleansing teeth and also used in relieving tooth ache. Seed oil is purgative. Leaves and fruits are also used as fish poison.

**Cyclostemon eglandulosus** Kurz, For. Fl. Brit. Burma 2: 364. 1877; Hook. f., Fl. Brit. India 5: 341. 1887.

Trees, up to 15 m high. Leaves broadly elliptic or ovate-oblong, unequal at base, glabrous. Flowers axillary, solitary or in tomentose clusters, yellowish white. Fruits globose or ovoid.

*Fl. & Fr.*: April - Dec.

*Distrib.*: Kameng.

**Drypetes assamica** (Hook. f.) Pax et Hoffm. in Engl., Pflanzenr. Heft. 81: 241. 1922; Kanjilal *et al.*, Fl. Assam 4: 179. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 277. 1996. *Cyclostemon assamicus* Hook. f., Fl. Brit. India 5: 342. 1887.

*Local name*: Dukoha (Asm.).

Small trees, 5-10 m tall. Leaves elliptic-oblong or elliptic-lanceolate, oblique at base, acute or shortly acuminate, entire. Flowers in axillary fascicles. Fruits globose, rusty tomentose, pulp bright red.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Changlang, Lohit; in undisturbed forests.

**Drypetes ellata** (Bedd.) Pax et Hoffm. in Engl., Pflanzenr. Euphorb.-Phyllanthoid-Phyllanth. 268. 1922. *Hemicyclia elata* Bedd., Fl. Sylv. t. 279. 1872; Hook. f., Fl. Brit. India 5: 339. 1887.

Trees, up to 30 m high; branches glabrous. Leaves lanceolate. Flowers in few flowered axillary fascicles; female flowers often solitary. Fruits long pedicellate, pyriform.

*Fl. & Fr.*: May - Dec.

*Distrib.*: Tirap; at ca 1000 m.

**Drypetes venusta** (Wight) Pax et Hoffm. in Engl., Pflanzenr. Euphorb.-Phyllanthoid - Phyllanth. 268. 1922. *Astylis venusta* Wight, Ic. Pl. Ind. Or. t. 1922. 1853. *Hemicyclia venusta* (Wight) Thwaites in Hook., J. Bot. 8; 272. 1855; Hook. f., Fl. Brit. India 5: 339. 1887.

Medium sized trees. Leaves elliptic or oblong, often oblique at base. Flowers in axillary clusters, finely tomentose. Fruits ovoid.

*Fl. & Fr.*: May - Dec.

*Distrib.*: Kameng; 1000 - 1500 m.

**Euphorbia antiquorum** L., Sp. Pl. 450.1753; Hook. f., Fl. Brit. India 5: 255. 1887.

Shrubs or small trees, up to 8 m high; branches prominently 3-5-fleshy winged. Leaves ovate-oblong, crenate. Inflorescences ternate with short peduncled cymes in sinuses, yellow, central female. Cocci compressed, glabrous.

*Fl. & Fr.*: Jan. - Sept.

*Distrib.*: Kameng, Siang; in open places along forest edges. Widely cultivated for fencing purposes.

**Euphorbia hirta** L., Sp. Pl. 454. 1753; Smith in Kew Bull. 26: 264. 1972; Kanjilal *et al.*, Fl. Assam 4: 141. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 278. 1996. *E. pitulifera* L., Sp. Pl. 454. 1753; Hook. f., Fl. Brit. India 5: 250. 1887. *Chamaesyce hirta* (L.) Mill. in Publ. Field Mus. Bot. ser. 2, 303. 1909.

Annual herbs, 15–50 cm high; branches many, dichotomous, erect or decumbent, hirsute. Leaves ovate-lanceolate or elliptic-lanceolate, obliquely cordate at base. Flowers in axillary, sessile cymes, pink. Capsules appressed hairy.

*Fl. & Fr.*: Throughout the year.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri; 200–1800 m, common in open wasteland, along forest fences, in forest clearings and in cultivated fields.

**Euphorbia orbiculata** H. B. K., Nov. Gen. 2: 52. 1817; Raj & Panigrahi in Taxon 17: 547. 1968. *E. microphylla* Heyne in Roth, Nov. Pl. Sp. 227. 1821, *non* Lam. 1786; Hook. f., Fl. Brit. India 5: 252. 1887, *p.p.*

Annual, prostrate herbs, glabrous or sparsely whitish hairy. Leaves broadly oblong or suborbicular, rounded at apex. Involucres axillary, numerous from base to top branches. Cooeci obtuse-keeled, glabrous.

*Fl. & Fr.*: March–Sept.

*Distrib.*: Tirap; in moist places along pathways.

**Euphorbia thymifolia** L., Sp. Pl. 454. 1753; Hook. f., Fl. Brit. India 5: 252. 1887.

Annual, prostrate herbs; branches numerous, pubescent, spreading. Leaves elliptic-oblong or oblong-lanceolate. Flowers in axillary or terminal, sessile or peduncled cymes. Involucres contain one central female flower surrounded by many male ones. Capsules pubescent all over.

*Fl. & Fr.*: July–Nov.

*Distrib.*: Siang, Tirap; in moist places along pathways at higher elevations.

**Excoecaria agallocha** L., Sp. Pl. 1451. 1753; Hook. f., Fl. Brit. India 5: 472. 1888.

Trees. Leaves ovate or orbicular, pale brown when dry, subentire, glabrous. Flowers in axillary, dense flowered spikes or racemes. Capsules tridymous, smooth.

*Fl. & Fr.*: March–Nov.

*Distrib.*: Kameng; in evergreen forests.

**Excoecaria oppositifolia** Griff. in *Calcutta J. Nat. Hist.* 4: 386, 1844; Hook. f., *Fl. Brit. India* 5: 474, 1888. *E. aboriana* R. N. Dc in *Ind. For.* 69: 395, 1943.

*Local name*: Gamcn-asing (Abor.); Dudhgoch (Asm.).

Trees, up to 18 m high. Leaves lanceolate to oblong-lanceolate, coriaceous, glabrous. Male flowers in slender terminal spikes, female flowers solitary. Fruits orbicular.

*Fl. & Fr.*: April–Dec.

*Distrib.*: Siang; in evergreen or deciduous forests.

*Note*: The milky juice is said to be seriously poisonous and corrosive.

**Glochidion acuminatum** Muell. Arg. in *Linnaea* 32: 68, 1863; Hook. f., *Fl. Brit. India* 5: 323, 1887.

Shrubs or small trees, 4–12 m high; branches pendent, somewhat ribbed, pubescent. Leaves lanceolate, elliptic-oblong or oblong-lanceolate, puberulous, glabrous beneath. Flowers in axillary fascicles, greenish yellow. Capsules globose. Seeds reddish.

*Fl. & Fr.*: April–Oct.

*Distrib.*: Tirap; 1200–2000 m, in evergreen or deciduous forests.

**Glochidion assamicum** (Muell. Arg.) Hook. f., *Fl. Brit. India* 5: 319, 1887. *Phyllanthus assamicus* Muell. Arg., in *Flora* 48: 378, 1865. *P. andersonii* Muell. Arg. in *Flora* 55: 3, 1872.

*Local name*: Panichhitiki (Asm.); Tachak–changne (Daff.).

Trees, up to 15 m high; branches glabrous. Leaves elliptic to elliptic-lanceolate, glabrous, pale purplish beneath. Flowers in axillary dense clusters. Ovary globose.

*Fl. & Fr.*: March–Sept.

*Distrib.*: Kameng, Subansiri; in foot hills or low valleys.

**Glochidion helferi** Hook. f., *Fl. Brit. India* 5: 311, 1887.

Shrubs; branches obscurely angled, glabrous. Leaves ovate or ovate-lanceolate, apiculate at apex, brown when dry. Flowers in axillary clusters, puberulous. Capsules globose, terete.

*Fl. & Fr.*: April–Sept.

*Distrib.*: Kameng; in tropical evergreen forests.

**Glochidion hirsutum** (Roxb.) Voigt, Hort. Suburb. Calc. 153. 1845; Hook. f., Fl. Brit. India 5: 311. 1887. *Bridelia hirsuta* Roxb., Fl. Ind. 3: 699. 1832. *Phyllanthus hirsutus* Muell. Arg. in Flora 48: 371. 1865.

Shrubs or small trees; younger parts brown tomentose. Leaves elliptic, elliptic-oblong or oblong-lanceolate, rusty tomentose beneath. Flowers in axillary or supra-axillary clusters, hirsute. Capsules obscurely 4-6 lobed.

*Fl. & Fr.*: Nov. - May.

*Distrib.*: Kameng; in tropical evergreen forests.

**Glochidion khasianum** Hook. f., Fl. Brit. India 5: 324. 1887; Kanjilal *et al.*, Fl. Assam 4: 187. 1940.

Trees, 10 - 15 m high; branches glabrous. Leaves ovate, elliptic to elliptic-lanceolate, oblique at base. Flowers in axillary clusters, greenish yellow. Capsules depressed globose, red.

*Fl. & Fr.*: April - Nov.

*Distrib.*: Kameng, Subansiri; 800 - 1500 m, in secondary forests and often on dry slopes.

**Glochidion lanceolarium** (Roxb.) Voigt, Hort. Suburb. Calc. 153. 1845; Hook. f., Fl. Brit. India 5: 308. 1887. *Bridelia lanceolaria* Roxb., Fl. Ind. 3: 697. 1832.

Shrubs or medium sized trees, 5 - 12 m high with spreading crown. Stipules spinuous. Leaves elliptic, elliptic-oblong or elliptic-lanceolate. Male flowers yellowish, pedicellate; female flowers in clusters, greenish. Capsules subglobose.

*Fl. & Fr.*: Sept. - June.

*Distrib.*: Kameng, 200 - 1500 m, in primary and secondary forests.

**Glochidion mishmiense** Hook. f., Fl. Brit. India 5: 327. 1887; Kanjilal *et al.*, Fl. Assam 4: 189. 1940.

Shrubs or small trees, 4 - 10 m high; younger branches tomentose. Leaves oblong, obtuse, glabrous except nerves beneath. Flowers in axillary clusters, greenish yellow. Capsules depressed, hoary tomentose. Seeds red.

*Fl. & Fr.*: Aug. - Jan.

*Distrib.*: Kameng, Siang; 500 - 1000 m, at edge of forest clearings.

**Glochidion multiloculare** (Muell. Arg.) Muell. Arg. in Linnæa 32: 59. 1863; Hook. f., Fl. Brit. India 5: 307. 1887. *Phyllanthus multiloculare* Muell. Arg. in DC., Prodr. 15(2): 279. 1866.

*Local name:* Garumara, Pani-mudi (Asm.).

Gregarious bushy shrubs or small trees; branches pubescent. Leaves oblong or elliptic-oblong, minutely puberulous above, glaucous beneath. Flowers in axillary clusters. Capsules depressed globose on short, stout pedicels.

*Fl. & Fr.:* July - Feb.

*Distrib.:* Kameng; in tropical forests.

**Glochidion oblatum** Hook. f., Fl. Brit. India 5: 312. 1887; Kanjital *et al.*, Fl. Assam 45: 184. 1940.

*Local name:* Garumara (Asm.).

Shrubs or small trees, 4 -8 m high; branchlets tomentose. Leaves lanceolate to elliptic-oblong, glaucous, sparsely pubescent beneath. Flowers in axillary sessile or subsessile clusters; male flowers yellowish; female flowers greenish. Capsules depressed globose, pubescent.

*Fl. & Fr.:* April - Dec.

*Distrib.:* Kameng; 100 - 1000 m, in primary and secondary forests.

**Glochidion sphaerogynum** Kurz, For. Fl. Brit. Burma 2: 346. 1877; Hook. f., Fl. Brit. India 5: 317. 1887.

Shrubs or small trees with narrow crown; branches pendulous, glabrous. Leaves lanceolate to narrowly lanceolate, oblique. Flowers in axillary subsessile fascicles, yellowish. Capsules depressed globose, 8-12-lobed.

*Fl. & Fr.:* May - Dec.

*Distrib.:* Tirap; in tropical evergreen forests.

**Glochidion velutinum** Wight, Ic. Pl. Ind. Or. 7: 29, t.1907/2. 1852; Hook. f., Fl. Brit. India 5: 322. 1887.

*Local name:* Dol-paduli (Asm.).

Shrubs or small trees, 2 - 6 m high; branches softly tomentose. Leaves ovate, elliptic to oblong-lanceolate, tomentose beneath. Flowers in axillary clusters, pubescent. Capsules depressed globose, 4 - 7 lobed.

*Fl. & Fr.:* April - Nov.

*Distrib.:* Kameng; in secondary forests and along dry hilly slopes at lower elevations.

**Hemicicca glauca** (Muell. Arg.) Hurus. & Yu. Tanaka in H. Hara, Fl. E. Himal. 179. 1966. *Phyllanthus glaucus* Muell. Arg. in Linnaea 32: 14. 1863; Hook. f., Fl. Brit. India 5: 288. 1887. *P. griseus* Wall. ex

Hook. f., Fl. Brit. India 5: 289. 1887. *Flueggeopsis glauca* (Wall.) A. Das in Kanjilal *et al.*, Fl. Assam 4: 158. 1940.

Shrubs or small trees, 5–15 m high; branches divericate. Leaves distichous, broadly elliptic to obovate-oblong, glaucous beneath. Flowers axillary, solitary or in fascicles, yellow or greenish yellow. Fruits globose, purplish.

*Fl. & Fr.*: May–Oct.

*Distrib.*: Subansiri; 1200–1800 m, along pathways on sandy soil.

**Homonoia riparia** Lour., Fl. Cochinch. 637. 1790; Hook. f., Fl. Brit. India 5: 455. 1887; Kanjilal *et al.*, Fl. Assam 4: 220. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 278. 1996.

Profusely branched shrubs or trees; younger parts pubescent. Leaves linear-oblong to linear-lanceolate, glandular toothed, papillose, scaly beneath. Flowers in axillary spikes, grey tomentose. Capsules globose. Seeds yellowish brown.

*Fl. & Fr.*: Feb.–Nov.

*Distrib.*: Changlang, Kameng, Lohit, Siang; in shady places along forest fringes or along rocky river bed at lower elevations.

**Jatropha curcas** L., Sp. Pl. 1006. 1753; Hook. f., Fl. Brit. India 5: 383. 1887.

*Local name*: Bangali-bhotora (Asm.).

Shrubs or small trees, 2–5 m high. Leaves suborbicular, sometimes 3–5-angular, deeply cordate at base. Flowers monoecious in terminal, corymbose cymes, yellow; central female, others male. Fruits ovoid-oblong, pale yellow, black when ripe.

*Fl. & Fr.*: Throughout the year.

*Distrib.*: Kameng, Siang; 100–1600 m, in wastelands and along fringes of deciduous forests.

*Use*: The juice is believed to be good for sores; oil from seed is medicinal and is used as a purgative.

**Jatropha gossypifolia** L., Sp. Pl. 1006. 1753; Hook. f., Fl. Brit. India 5: 383. 1887.

*Local name*: Bhotera (Asm.).

Shrubs or small trees. Leaves palmately 3–5-lobed; petioles clothed with fascicled, stipitate gland-tipped bristles. Flowers in terminal corymbose cymes; petals free. Capsules rugose.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Kameng; common in waste places.

**Kirganelia reticulata** (Poir.) Baill., *Etud. Gen. Euphorb.* 613, 614. 1858; Hook. f., *Fl. Brit. India* 5: 288. 1887, *sub. Phyllanthus excl. syn. quoad P. macrocarpus* Muell. Arg. in DC., *Prodr.* 15(2): 345. 1866, *uti a genuina. Phyllanthus reticulatus* Poir., *Encycl. Meth. Bot.* 5: 298. 1804; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 280. 1996.

Straggling or scrambling shrubs or small trees, up to 6 m high; often spinescent. Leaves distichous, elliptic or ovate-oblong. Flowers axillary solitary or in fascicles, creamy white, mild fragrant. Fruits globose, purplish.

*Fl. & Fr.*: Feb. - July.

*Distrib.*: Changlang, Lohit, Kameng, Subansiri, Tirap; along forest edges and hill slopes at lower elevations.

**Macaranga denticulata** (Blume) Muell. Arg. in DC., *Prodr.* 15(2): 1000. 1866; Hook. f., *Fl. Brit. India* 5: 446. 1887; Kanjilal *et al.*, *Fl. Assam* 4: 218. 1940; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 278. 1996. *Mappa denticulata* Blume, *Bijdr.* 625. 1826.

*Local name*: Duging (Abor.); Yaduk (Adi); Jaglo, Moralia (Asm.); Ejingba, Tajai (Mishmi).

Medium sized trees, 5 - 10 m high; younger parts rusty brown. Leaves peltate, ovate or deltoid-ovate with many minute orbicular glands beneath. Flowers in axillary panicles, yellow; male flowers in fascicles; female solitary. Capsules didymous, glandular, blackish.

*Fl. & Fr.*: March - Oct.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; along evergreen forest fringes, forest clearings and near streams.

**Macaranga gamblei** Hook. f., *Fl. Brit. India* 5: 445. 1887.

Shrubs or small trees; branchlets stout, glabrous. Leaves oblong lanceolate, obscurely sinuate crenate. Flowers in axillary racemes or panicles; male panicles subtomentosely pubescent; bracts very small.

*Fl. & Fr.*: April - May.

*Distrib.*: Kameng; in open forests and along forest edges.

**Macaranga indica** Wight, *lc. Pl. Ind. Or.* 5: t. 1883. 1852 & 1949, f. 2. 1852; Hook. f., *Fl. Brit. India* 5: 446. 1887.

*Local name*: Jaglo (Asm.).

Trees, up to 20 m high. Leaves peltate, broadly ovate, ovate-orbicular to orbicular, subcordate at base, sub-entire. Flowers yellow in axillary branched panicles; branching zigzag. Capsules globose.

*Fl. & Fr.*: May–Dec.

*Distrib.*: Kameng; common in tropical evergreen forests.

**Macaranga peltata** (Roxb.) Muell. Arg. in DC., Prodr. 15(2): 1010. 1866; Whitmore in Gard. Bull. Singapore 31: 55. 1978. *Osyris peltata* Roxb., Fl. Ind. 3: 855. 1832. *Macaranga roxburghii* Wight, Ic. Pl. Ind. Or. 5: t. 1949, f. 4. 1852; Hook. f., Fl. Brit. India 5: 448. 1887. *M. flexuosa* Wight, Ic. Pl. Ind. Or. 5: 23. 1852.

Small resinous trees; branches stout, rusty pubescent at tips. Leaves peltate, deltoid, rhomboid-ovate or suborbicular, pubescent on nerves. Flowers in densely rusty, axillary panicles; bracts large. Capsules globose.

*Fl. & Fr.*: May–Dec.

*Distrib.*: Tirap; in evergreen forests.

**Macaranga pustulata** King ex Hook. f., Fl. Brit. India 5: 445. 1887; Whitmore in Gard. Bull. Singapore 31: 55. 1978. *M. gmelinifolia* King ex Hook. f., Fl. Brit. India 5: 445. 1887.

Shrubs; younger parts rusty pubescent. Leaves ovate to sub-deltoid or orbicular, yellowish beneath. Flowers in short, hoary panicles; bracts minute. Capsules tomentose.

*Fl. & Fr.*: March–Nov.

*Distrib.*: Siang; 800–1800 m in tropical forests.

**Mallotus ferrugineus** (Roxb.) Muell. Arg. in DC., Prodr. 15(2): 982. 1866; Bennet, Name Changes Fl. Pl. India & Adj. Region 357. 1987. *Rottlera ferruginea* Roxb., Fl. Ind. 3: 828. 1832. *R. tetracoccu* Roxb., Fl. Ind. 3: 826. 1832. *Mallotus tetracoccus* (Roxb.) Kurz, For. Fl. Brit. Burma 2: 382. 1877; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 278. 1996. *Mallotus albus sensu* Muell. Arg. in Linnaea 34: 188. 1865; Hook. f., Fl. Brit. India 5: 429. 1887, non *Rottlera alba* Roxb. ex Jack.

*Local name*: Laru-bandha, Moralia (Asm.).

Small or medium sized trees, 4–10 m high; younger parts stellate tomentose. Leaves narrowly peltate, broadly ovate to suborbicular, whitish or greyish tomentose beneath. Flowers in axillary or terminal, pyramidal panicles, greenish yellow. Capsules ovoid, white.

*Fl. & Fr.*: March - Dec.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap; 200 - 1000 m, in deciduous forests.

**Mallotus nepalensis** Muell. Arg. in *Linnaea* 34: 188. 1865; Hook. f., *Fl. Brit. India* 5: 428. 1887.

Shrubs or small trees, 4 - 10 m high. Leaves broadly ovate to ovate-orbicular, yellowish dotted, stellate pubescent beneath. Flowers in long, slender, brownish racemes. Capsules tomentose, bristly.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Kameng; 1400 - 1800 m, in deciduous forests.

**Mallotus philippinensis** (Lam.) Muell. Arg. in *Linnaea* 34: 196. 1865; Hook. f., *Fl. Brit. India* 5: 442. 1887. *Croton philippensis* Lam., *Encycl. Meth. Bot.* 2: 209. 1786.

*Local name*: Jorat, Losan (Asm.); Yadukchangne (Daff.).

Small or medium sized trees, up to 10 m high with dense crown. Leaves ovate-lanceolate or ovate-oblong, pubescent beneath with reddish glands. Flowers in brownish, terminal, paniculate racemes; male flowers greenish yellow, female greenish purple. Capsules covered with crimson powder.

*Fl. & Fr.*: Oct. - April.

*Distrib.*: Kameng; 500 - 1500 m, in forests.

*Use*: The crimson powder of fruits is used for dyeing silk. It is also medicinally used in tape worm.

**Mallotus roxburghianus** Muell. Arg. in *Linnaea* 34: 186. 1866; Hook. f., *Fl. Brit. India* 5: 428. 1887; Kanjilal *et al.*, *Fl. Assam* 4: 214. 1940; A. S. Chauhan in Hajra, *Contrib. Fl. Nandapha* 278. 1996. *Rottlera peltata* Roxb., *Fl. Ind.* 3: 828. 1832, *non Mallotus peltatus* Muell. Arg. 1866.

*Local name*: Buri-tokon (Asm.).

Shrubs or trees, 4 - 10 m high. Leaves peltate, broadly ovate to suborbicular, brownish tomentose beneath intermixed with yellow dots. Flowers in axillary or terminal paniculate racemes, white or yellowish. Capsules covered with curved spinules and yellow resinous glands.

*Fl. & Fr.*: April - Dec.

*Distrib.*: Changlang, Kameng, Lohit, Tirap; 300 - 1500 m, undergrowth in forests and along forest edges preferably over black humus soil.

*Use:* Decoction of leaves and barks of tender stems is said to be used in the treatment of food poisoning.

**Manihot esculenta** Crantz. *Inst. Rei. Herb.* 1: 167, 1766; Shah in *J. Bombay Nat. Hist. Soc.* 60: 297, 1963. *Jatropha manihot* L., *Sp. Pl.* 1: 1007, 1753. *Manihot utilissima* Pohl, *Pl. Bras. Ic.* 1: 32, t. 24, 1827; Hook. f., *Fl. Brit. India* 5: 239, 1886.

Shrubs, 1–4 m high; roots tuberous, elongate. Leaves peltate or sub-peltate, palmately 3–7 lobed, lobes oblong-obovate to oblanceolate, pubescent beneath. Flowers in racemes, yellow. Fruits ellipsoid, rugulous.

*Fl. & Fr.:* July–Dec.

*Distrib.:* Kameng, Tirap; 200–1200 m, in wastelands and along grassy hill slopes (probably escape). Cultivated throughout the state.

*Use:* The roots yield Cassava starch and Tapioca meal, a delicious and valuable food stuff.

**Ostodes paniculata** Blume, *Bijdr.* 620, 1825; Hook. f., *Fl. Brit. India* 5: 400–1887; Kanjilal *et al.*, *Fl. Assam* 4: 197, 1940; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 279, 1996.

*Local name:* Yasichange (Daff.).

Shrubs or small trees, 5–15 m high with spreading crown. Leaves ovate or ovate-elliptic, cordate. Flowers in lax, axillary or terminal, paniculate racemes, pink or pinkish white. Capsules subglobose.

*Fl. & Fr.:* Feb.–Dec.

*Distrib.:* Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 1000–2000 m.

**Phyllanthus clarkei** Hook. f., *Fl. Brit. India* 5: 299, 1887; Kanjilal *et al.*, *Fl. Assam* 4: 155, 1940.

Annual herbs or undershrubs, up to 1 m high, glabrous. Leaves elliptic, ovate-elliptic or obovate, glaucous beneath. Flowers axillary, solitary or in clusters, apetalous. Capsules small, coriaceous, reddish brown.

*Fl. & Fr.:* April–Sept.

*Distrib.:* Kameng; in shady, moist places.

**Phyllanthus debilis** Klein ex Willd., *Sp. Pl.* 4: 582, 1804; J. Joseph, *Fl. Nongpoh* 236, 1981; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 279, 1996. *P. debilis* Buch.-Ham. ex Hook. f., *Fl. Brit. India* 5: 299, 1887; Kanjilal *et al.*, *Fl. Assam* 4: 158, 1940.

Tall herbs or undershrubs. Leaves ovate to oblong, membranous; petioles short. Flowers in axillary clusters, greenish white. Fruits drooping.

*Fl. & Fr.*: April–Oct.

*Distrib.*: Changlang, Kameng, Lohit; in shady, moist places.

**Phyllanthus emblica** L., Sp. Pl. 982. 1753; Hook. f., Fl. Brit. India 5: 289. 1887. *Embllica officinalis* Gaertn., Fruct. 2: 122, t. 108. f. 2. 1790; Kanjilal *et al.*, Fl. Assam 4: 159. 1940.

*Local name*: Amalaki, Gulin-tenga (Astm.).

Small or medium sized trees; branches horizontal, distichous. Leaves distichous, linear-oblong. Flowers in axillary clusters, crowded at basal part of branches, yellowish. Drupes globose, obscurely 6-ribbed, yellowish on ripening.

*Fl. & Fr.*: Oct.–July.

*Distrib.*: Kameng, Siang, Subansiri; 500–1200 m, common in deciduous and secondary forests.

*Use*: Fruits are edible and are often preserved with salt or sugar. Bark and fruits are used in tanning. The fermented liquor from fruits is said to be used in cough, dyspepsia and jaundice.

**Phyllanthus parvifolius** Buch.-Ham. in D. Don, Prodr. Fl. Nep. 63. 1825; Hook. f., Fl. Brit. India 5: 294. 1887; Croizat in Brittonia 4: 96. 1941. *P. roeparianus* Muell. Arg. in Linnaea 32: 28. 1863; Hook. f., Fl. Brit. India 5: 294. 1887; *P. brevipes* Hook. f., Fl. Brit. India 5: 297. 1887.

Shrubs, 1–2.5 m high; branches upright, slender, chocolate. Leaves obovate, elliptic or obovate-elliptic, glaucous beneath. Flowers axillary, solitary or in fascicles, purplish. Capsules globose, purplish.

*Fl. & Fr.*: June–Dec.

*Distrib.*: Siang, Subansiri; 300–1600 m, along forest edges, riverbanks and in clearings.

**Phyllanthus roxburghii** Muell. Arg. in Linnaea 32: 47. 1863; Hook. f., Fl. Brit. India 5: 300. 1887.

Herbs or undershrubs; branches crispy puberulous. Leaves lanceolate, thinly coriaceous. Flowers in axillary dense fascicles. Fruits depressed, deeply trilobed.

*Fl. & Fr.*: April–Oct.

*Distrib.*: Kameng; in secondary forests.

**Phyllanthus urinaria** L., Sp. Pl. 982. 1753; Hook. f., Fl. Brit. India 5: 293. 1887; Kanjilal *et al.*, Fl. Assam 4: 155. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 280. 1996.

Annual herbs or suffruticose shrubs, up to 1 m high; erect or procumbent. Leaves distichous, narrowly oblong, or narrowly obovate, oblique. Flowers solitary or in 2-3-flowered axillary clusters, reddish. Fruits globose, obscurely echinate, yellowish brown when dry.

*Fl. & Fr.*: Feb. - Dec.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 200-2000 m, common in moist wastelands, along foot track and edges of forests, often in cultivated fields.

*Use*: The plant is medicinal. Juice extracted is said to be used in jundice.

**Ricinus communis** L., Sp. Pl. 1007. 1753; Hook. f., Fl. Brit. India 5: 457. 1887; Kanjilal *et al.*, Fl. Assam 4: 211. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 280. 1996.

*Local name*: Era-gach (Asm.).

Softly woody shrubs or small trees; younger parts glaucous. Leaves palmately lobed, peltate; petiole hollow. Flowers in terminal, paniculate racemes; female flowers larger at lower part of inflorescences. Capsules globose, echinate.

*Fl. & Fr.*: Throughout the year.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap; 300-1800 m, in wastelands; also widely cultivated for seeds.

*Use*: The Caster-oil plant. The hydrogenated oil obtained from seeds is used in making white and pale coloured paints and enamels. Endi silkworm is made to feed on the leaves.

**Sapium baccatum** Roxb., Fl. Ind. 3: 694. 1832; Hook. f., Fl. Brit. India 5: 470. 1887; Kanjilal *et al.*, Fl. Assam 4: 206. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 281. 1996.

*Local name*: Phutku-asing (Abor.); Shigum (Adi); Samparai (Apat.); Lawa, Seleng, (Asm.).

Trees, 10-35 m high with dense crown. Leaves ovate or ovate-lanceolate, young ones orange coloured; petioles eglandular, reddish. Flowers in terminal racemes, red-purple or yellowish. Fruits globose, purplish.

*Fl. & Fr.*: March - Oct.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap; 400–1200 m, in tropical evergreen forests.

**Sapium eugeniaefolium** Buch.-Ham. ex Hook. f., Fl. Brit. India 5: 470, 1888; Kanjilal *et al.*, Fl. Assam 4: 206, 1940.

*Local name*: Korha (Asm.).

Small or medium sized trees, 5–20 m high. Leaves ovate or ovate-elliptic; petioles glandular at tip, dark brown. Flowers in dense terminal racemes, yellowish. Fruits subglobose, purplish or black.

*Fl. & Fr.*: May–Dec.

*Distrib.*: Subansiri; 400–1200 m, in primary forests.

*Use*: Endi silkworms are feed on the leaves.

**Sapium insigne** (Royle) Benth. ex Hook. f., Fl. Brit. India 5: 471, 1888; Kanjilal *et al.*, Fl. Assam 4: 207, 1940. *Flaconeria insignis* Royle, Ill. Bot. Himal. 354, 1839.

*Local name*: Mah-kola (Asm.).

Medium sized trees, up to 15 m high. Leaves elliptic or oblong-lanceolate, crowded at end of branches. Flowers unisexual in terminal spikes. Fruits ovoid or globose.

*Fl. & Fr.*: Aug.–Feb.

*Distrib.*: Kameng; 500–1500 m, in primary forests.

**Sarcococca wallichii** Stapf in Kew Bull. 1916: 37, 1916. *S. pruniformis* auct. non Lindl.: Hook. f., Fl. Brit. India 5: 266, 1887, *p.p.*

Shrubs, 2–4 m high. Leaves elliptic to elliptic-lanceolate. Flowers pale yellow in axillary racemes with female flowers at base and males at top. Fruits obliquely ellipsoid, purple.

*Fl. & Fr.*: April–Dec.

*Distrib.*: Kameng; 1500–2000 m, in shady places.

**Sauropus androgynus** (L.) Merr. in For. Bur. Philipp. Bull. 1: 30, 1903; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 281, 1996. *Clusia androgyna* L., Mant. Pl. 1: 128, 1767. *Sauropus albicans* Blume, Bijdr. 596, 1825; Hook. f., Fl. Brit. India 5: 332, 1887; Kanjilal *et al.*, Fl. Assam 4: 172, 1940.

Shrubs, 1–3 m high. Leaves ovate, ovate-oblong or ovate-lanceolate, glaucous beneath. Flowers in axillary clusters or solitary, reddish green. Fruits globose, white tinged with pink.

*Fl. & Fr.*: Aug.–Jan.

*Distrib.*: Changlang, Kameng, Lohit; 400–1000 m; undergrowth in forests.

**Sauropus macranthus** Hassk., *Retzia* 1: 166. 1855; Airy Shaw in *Kew Bull.* 26: 336. 1972. *S. macrophyllus* Hook. f., *Fl. Brit. India* 5: 333. 1887.

Shrubs, 2–4 m high. Leaves ovate or ovate-lanceolate. Flowers in axillary fascicles or solitary, brick red. Fruits depressed globose, red, fleshy.

*Fl. & Fr.*: Sept.–Feb.

*Distrib.*: Siang, Subansiri; 200–800 m, in secondary forests.

**Sauropus stipulatus** Hook. f., *Fl. Brit. India* 5: 333. 1887; Deb, *Fl. Tripura State* 1: 351. 1981; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 281. 1996.

Shrubs. Leaves linear-oblong, glabrous. Flowers in axillary fascicles or solitary, reddish or yellow. Fruits globose, epicarp crustaceous, splitting stellately into 6-valves.

*Fl. & Fr.*: April–Oct.

*Distrib.*: Changlang, Lohit, Tirap; 600–1400 m, in secondary forests.

**Sauropus trinervius** Wall. ex Muell. Arg. in *Linnaea* 32: 72. 1863; Hook. f., *Fl. Brit. India* 5: 334. 1887.

Undershrubs, up to 2 m high. Leaves ovate-lanceolate, trinerved. Flowers in axillary fascicles, white. Fruits globose, sessile, epicarp thinly crustaceous.

*Fl. & Fr.*: June–Nov.

*Distrib.*: Tirap; up to 1200 m, in forests.

**Securinega virosa** (Roxb. ex Willd.) Baill. in *Adansonia* 6: 334. 1866; N. P. Balakr., *Fl. Jowai* 2: 425. 1983; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 281. 1996. *Phyllanthus virosus* Roxb. ex Willd., *Sp. Pl.* 4: 578. 1805. *Flueggea microcarpa* Blume, *Bijdr.* 580. 1825; Hook. f., *Fl. Brit. India* 5: 328. 1887, *excl. syn.* *Phyllanthus wightianus* Muell. Arg. & *Chorizandra pinnata* Wight. *Flueggea virosa* (Roxb. ex Willd.) Baill., *Etudes Gen. Euphorb.* 593, t. 39–43. 1858; Kanjilal *et al.*, *Fl. Assam* 4: 160. 1940.

Shrubs, 2–4 m high. Leaves distichous, elliptic, ovate or elliptic-obovate. Flowers white in axillary fascicles or solitary from a crown of small bracts. Fruits depressed globose, white.

*Fl. & Fr.*: May–Dec.

*Distrib.*: Changlang, Kameng, Lohit; undergrowth in deciduous forests at higher elevations.

*Use*: Fruits are edible and are said to be used to relief stomachache.

**Sumbaviopsis albicans** (Blume) J. J. Sm. in Meded. Dept. Handb. 10: 357. 1910. *Adisca albicans* Blume, Bijdr. 611. 1825. *Sumbavia macrophylla* Muell. Arg. in Flora 47: 482. 1864; Hook. f., Fl. Brit. India 5: 408. 1887. *Doryxylon albicans* (Blume) N. P. Balakr. in Bull. Bot. Surv. India 9: 58. 1967. **Fig. 33.**

Shrubs or small trees, 3–8 m high; younger parts stellate pubescent. Leaves ovate to elliptic-lanceolate, undersurfaces whitish, scurfy tomentose. Flowers in terminal tomentose racemes; males in fascicles, females solitary. Fruits 2–3 lobed.

*Fl. & Fr.*: Sept. – May.

*Distrib.*: Kameng; along forest margin.

**Tithymalus griffithii** (Hook. f.) H. Hara, Fl. E. Himal. (2nd report) 69. 1971. *Euphorbia griffithii* Hook. f., Fl. Brit. India 5: 259. 1887.

Perennial herbs. Leaves sessile, linear, apiculate. Flowers axillary; involucre ovate, red, hairy within, glands large. Capsules woody.

*Fl. & Fr.*: April – Aug.

*Distrib.*: Kameng; in marshy shades at higher elevations.

**Tithymalus himalayensis** (Klotzsch) Hurus. et Ya Tanaka in H. Hara, Fl. E. Himal. 182. 1966. *Euphorbia himalayensis* Klotzsch, Bot. Ergeb. Walden Reise 115, t. 20. 1862; Hook. f., Fl. Brit. India 5: 258. 1887.

Small herbs, up to 30 cm high; root stock perennial. Leaves sessile, elliptic to narrowly oblong. Flowers axillary; involucre orbicular, campanulate, hairy within. Capsules stipitate.

*Fl. & Fr.*: May – Nov.

*Distrib.*: Kameng; in moist shady places.

**Tithymalus sikkimensis** (Boiss.) Hurus. et Ya Tanaka in H. Hara, Fl. E. Himal. 184. 1966. *Euphorbia sikkimensis* Boiss. in DC., Prodr. 15(2): 113. 1866; Hook. f., Fl. Brit. India 5: 259. 1887.

Herbs, up to 1 m high. Leaves linear-oblong to lanceolate. Flowers axillary; involucre hemispheric, hirsute within, yellow. Capsules smooth.

*Fl. & Fr.*: July – Nov.

*Distrib.*: Kameng; in moist localities at higher elevations.

**Tragia involucrata** L., Sp. Pl. 980. 1753; Hook. f., Fl. Brit. India 5: 465. 1887; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 282. 1996.

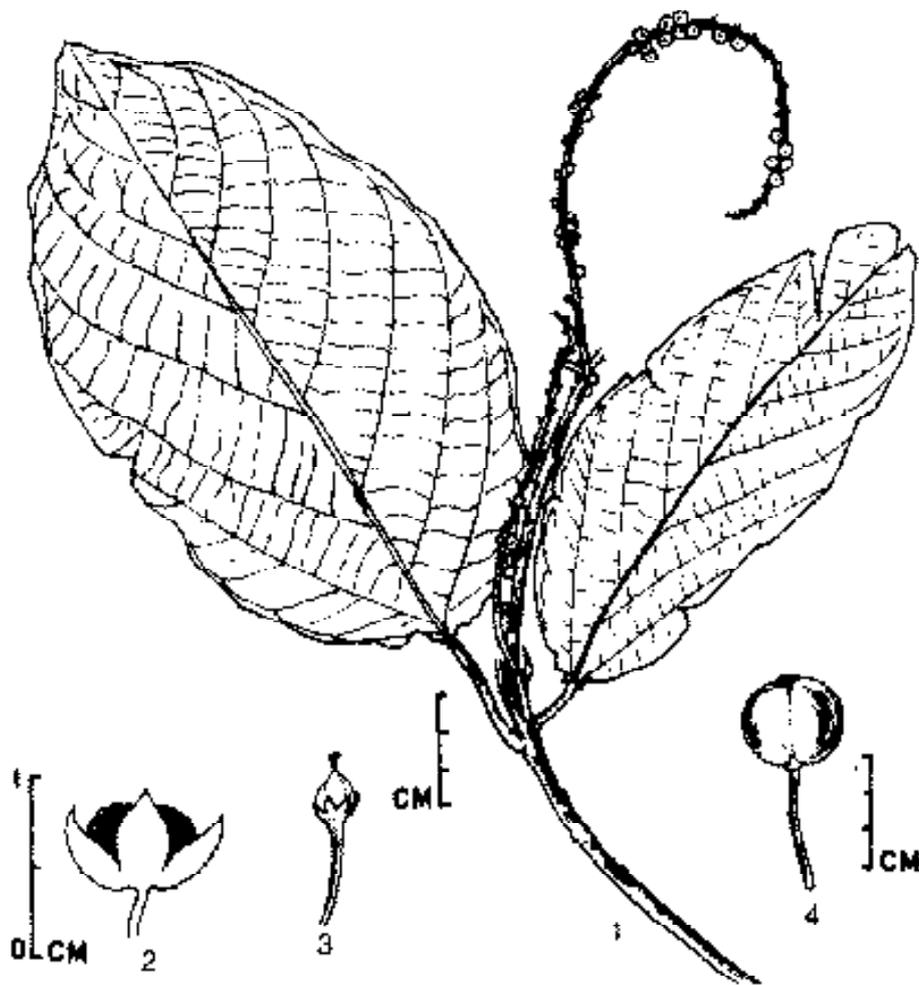


Fig. 33. *Sumbaviopsis albicans* (Blume) J. J. Sm. : 1. Flowering branch; 2. Male flower; 3. Female flower; 4. Fruit.

Twining herbs with stinging hairs. Leaves broadly ovate, abruptly acuminate at apex, hirsute. Perianth lobes of female flowers hairy.

*Fl. & Fr.*: March - Sept.

*Distrib.*: Changlang, Lohit.

**Trewia nudiflora** L., Sp. Pl. 1193. 1753; Hook. f., Fl. Brit. India 5: 423. 1887.

Trees, up to 20 m high with pyramidal crown. Leaves ovate or ovate-lanceolate, tomentose when young. Flowers apetalous; male flowers in drooping caskin like racemes, female flowers solitary. Fruits inflated, globose.

*Fl. & Fr.*: Feb. - Oct.

*Distrib.*: Kameng; in deciduous forests and along river banks.

Insufficiently known material

**Mercurialis leiocarpa** Sieb. et Zucc. in Abh. Akad. Wiss. Muench. 4(2): 45. 1845.

#### ULMACEAE

**Celtis australis** L., Sp. Pl. 1043; Hook. f., Fl. Brit. India 5:482. 1888.

*Local name*: Mohita (Asm.).

Trees; branches slender, pendulous. Leaves long pointed at apex, sharply toothed. Flowers pale yellow. Drupes long stalked with wrinkled stone.

*Fl. & Fr.*: Feb. - Oct.

*Distrib.*: Changlang, Kameng, Lohit.

**Celtis tetrandra** Roxb., Fl. Ind. 2: 63. 1832; Hook. f., Fl. Brit. India 5: 482. 1888; Kanjilal *et al.*, Fl. Assam 4: 277. 1940; Tebbs in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 207. 1982; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 282. 1996. *C. trinervia* Roxb., Fl. Ind. 2:65. 1832. *C. seretina* Planch. in Ann. Sci. Nat. ser. 3, 10:300. 1848; Wight, Ic. Pl. Ind. Or. 6:t. 1970. 1833.

*Local name*: Pomid (Adi); Huka-tia, Huktaptia, Mirihukuta (Asm.); Tamag-asing (Miri).

Trees; branches pendulous. Leaves subentire, brown when dry. Flowers in robust cymes. Drupes solitary or binate, globose or ovoid.

*Fl. & Fr.*: April -October.

*Distrib.*: Changlang, Lohit.

**Celtis timorensis** Span. in *Linnaea* 15:343. 1841; Tebbs in H. Hara *et al.*, *Enum. Fl. Pl. Nepal* 3: 207. 1982. 10: 303. 1848; Hook. f., *Fl. Brit. India* 5: 482. 1888.

Evergreen shrubs or trees, 15-25 m high. Leaves ovate or ovate-lanceolate, caudate-acuminate. Flowers in stout, shortly pedicellate cymes, reddish brown with yellow stripes. Drupes ovoid, black.

*Fl. & Fr.*: Jan. - July.

*Distrib.*: Tirap.

**Trema orientalis** (L.) Blume, *Mus. Bot. Lugd.* Bat. 2: 62. 1856; Hook. f., *Fl. Brit. India* 5: 484. 1888; Kanjilal *et al.*, *Fl. Assam* 4: 230. 1940; A. S. Chauhan in Hajra, *Contrib. Fl. Namdapha* 283. 1996. *Celtis orientalis* L., *Sp. Pl.* 1044. 1753, *p.p.*

*Local name*: Jhupon, Jopang, Sobaigach (Asm.).

Trees or shrubs, 7 - 15 m high. Leaves obliquely ovate-lanceolate, caudate-acuminate, crenulate. Flowers in axillary cymes, greenish. Drupes ovoid, compressed, black.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap.

**Trema tomentosa** (Roxb.) H. Hara, *Fl. E. Himal.* 2:19. 1971. *Celtis tomentosa* Roxb., *Fl. Ind.* 2: 66. 1832. *Trema amboinensis acut. non* (Willd.) Blume: Hook. f., *Fl. Brit. India* 5: 484. 1888.

Trees; branchlets villous or tomentose pubescent. Leaves silky tomentose. Flowers in large, compact cymes.

*Fl. & Fr.*: June - Sept.

*Distrib.*: Subansiri.

**Ulmus lanceifolia** Roxb. ex Wall., *Pl. As. Rar.* 2:86, t. 200. 1831; Hook. f., *Fl. Brit. India* 5:480. 1888.

*Local name*: Alo-asing (Adi); Manuk (Asm.); Alo-lalong, Dalaw-asing (Miri); Ylauchangne (Nishi).

Large trees, 15-30 m high; branches drooping. Leaves obliquely elliptic-lanceolate, acuminate, glabrous. Flowers greenish yellow. Samaras oblique, ovoid to obovoid-ellipsoid, brown.

*Fl. & Fr.*: Aug. - May.

*Distrib.*: Kameng.

*Use*: Leaves are used as cattle fodder.

Insufficiently known material

**Trema cannabina** Lour., *Fl. Cochinch.* 2:563. 1790.

## CANNABACEAE

**Cannabis sativa** L., Sp. Pl. 1027. 1753; Hook. f., Fl. Brit. India 5: 487. 1888.

subsp. **sativa**

*Local name:* Bhang, Jangli-bhang (Asm.).

Herbs, up to 1 m high with strong odour. Leaves palmately partite, lobes narrowly lanceolate, serrate. Flowers pale green to yellowish green. Achenes compressed, crustaceous. Seeds flattened.

*Fl. & Fr.:* March - May.

*Distrib.:* Kameng, Subansiri, in moist waste places at lower elevations.

*Use:* Dried leaves and flowering shoots are used as Bhang or Ganja, bast fibres Yield the Hemp.

**Cannabis sativa** subsp. **indica** (Lam.) Wehmer in Engl. et Prantl, Pflanzenfam. 248. 1911; Small & Cronquist in Taxon 25: 428. 1976; Deb, Fl. Tripura 1: 207. 1981; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 283. 1996. *C. indica* Lam., Encycl. Meth. Bot. 1: 695. 1785.

*Local name:* Bhang, Jungli-bhang (Asm.).

Shrubs, 1.5-2 m tall. Leaves 3-11 foliolate; leaflets sessile, narrowly lanceolate, coarsely serrate, dark green, aromatic. Flowers in spikes, small, green.

*Fl. & Fr.:* June- Dec.

*Distrib.:* Changlang, Kameng, Lohit; in moist waste places at lower elevations.

## MORACEAE

**Aboriella myriantha** (Dunn) Bennet in Ind. For. 107. 437. 1981. *Smithiella myriantha* Dunn in Kew Bull. 1920: 21. 1920.

Ascending, dioecious herbs, 30 - 50 cm long. Leaves ovate, obtuse at base, shortly acuminate at apex, margin dentate, cystolith prominent, linear, 3-nerved, glabrescent. Male inflorescence 6 - 10 mm long, perianth segments 5, ovate; female flowers and fruits unknown.

*Fl. & Fr.:* Dec. - April.

*Distrib.:* Siang; 274 - 305 m. Endemic.

**Artocarpus chama** Buch.-Ham. in Mem. Wern. Soc. 5: 331. 1826; Mabb. in Taxon 26: 529. 1977; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 283. 1996. *A. chaplasha* Roxb., Fl. Ind. 3: 525. 1832; King

in Hook. f., Fl. Brit. India 5: 543. 1888; Kanjilal *et al.*, Fl. Assam 4: 267. 1940.

*Local name:* Nipam-bangs (Adi); Sam (Asm.).

Large, strongly buttressed, deciduous trees, 30–50 m high. Leaves broadly obovate or ovate-elliptic, cuspidate, subcordate at base, pubescent beneath. Flowers in globose receptacles. Fruits globose, peduncled, tubercled, greenish to yellow.

*Fl. & Fr.:* April–Aug.

*Distrib.:* Changlang, Kameng, Lohit, Siang, Subansiri.

*Use:* Seeds are edible.

**Artocarpus gomezianus** Wall. ex Trecul in Ann. Sci. Nat. Bot. ser. 3, 8: 118. 1847; *A. gomeziana* Wall. ex King in Hook. f., Fl. Brit. India 5: 544. 1888.

*Local name:* Kharika-dewa (Asm.).

Tall, evergreen trees with milky latex, young shoots puberulous; bark grey, papery. Leaves oblong, oblong-lanceolate or ovate-oblong, coriaceous, glabrous or subpruinose beneath. Flowers intermixed with peltate scales; perianth segments 2, ovate, pubescent. Receptacles globose or ovoid.

*Fl. & Fr.:* June–March.

*Distrib.:* Arunachal Pradesh.

*Use:* Timber is valuable.

**Artocarpus heterophyllus** Lam., Encycl. Meth. Bot. 3: 210. 1789; Jarrett in J. Arn. Arb. 40: 334. 1959; Santapau in Bull. Bot. Surv. India 3: 12. 1962; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 284. 1996. *A. integrifolia* auct. non L. f.: King in Hook. f., Fl. Brit. India 5: 541. 1888. *A. integra* sensu A. Das in Kanjilal *et al.*, Fl. Assam 4: 268. 1940.

*Local name:* Kathal (Asm.).

Large trees; bark dark grey. Leaves obovate-oblong, obtuse, coriaceous. Flowers in ellipsoid heads. Fruits greenish, obovate, cylindrical, pointed tubercled.

*Fl. & Fr.:* Feb.–Oct.

*Distrib.:* Changlang, Kameng, Lohit, Siang, up to 700 m; widely cultivated throughout Arunachal Pradesh and is often found as escape.

*Use:* Fruits are edible.

**Artocarpus lakoocha** Wall. ex Roxb., Fl. Ind. 3: 524, 1832; Hook. f., Fl. Brit. India 5: 543, 1888.

*Local name:* Bohot, Dewa-sali (Asm.); Liusk-salia (Miri).

Trees, 30–40 m high; bark dark brown with milky latex. Leaves broadly oblong-elliptic, entire, acuminate, coriaceous, pubescent beneath. Flowers in axillary, globose heads, short peduncled, yellow. Fruits globose, convoluted. Seeds oblong.

*Fl. & Fr.:* Feb. - Aug.

*Distrib.:* Kameng, Tirap; up to 1000 m.

**Broussonetia kampferi** Sieb. et Zucc. in Abh. Akad. Wiss. Minchem. 4(3): 221, 1846; Naithani in Ind. For. 107(9): 585, 1981. *B. monoica* Hance in J. Bot. London 20: 294, 1882.

Tall shrubs, up to 5 m high. Leaves ovate or ovate-oblong. Catkins solitary, axillary, purplish. Berries red.

*Fl. & Fr.:* Jan. - May.

*Distrib.:* Subansiri; up to 1800 m.

**Broussonetia papyrifera** Vent., Tabl. Reg. Veg. 3: 547, 1799; Hook. f., Fl. Brit. India 5: 4909, 1888; Kanjilal *et al.* Fl. Assam 4: 275, 1940.

Deciduous, medium sized trees; bark grey, smooth. Leaves obovate or oblong, acuminate, membranous, scabrid above, tomentose beneath. Flowers yellowish or reddish. Achenes fleshy, red, glossy, stipitate.

*Fl. & Fr.:* May - Oct.

*Distrib.:* Kameng.

**Cudrania cochinchinensis** (Lour.) Kudo *et* Masam. in Ann. Rep. Taihoku Bot. Gard. 2: 27, 1932; N. P. Balakr., Fl. Jowai 2: 444, 1983. *Vaneria cochinchinensis* Lour., Fl. Cochinch. 564, 1790, *p.p.* *Cudrania javanensis* Trece. in Ann. Sci. Nat. ser. 3, 8: 123, 1847; King in Hook. f., Fl. Brit. India 5: 538, 1888; Kanjilal *et al.*, Fl. Assam 4: 270, 1940; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 284, 1996.

Large woody shrubs; bark brown. Flowers in heads, yellow. Fruits globose, orange-red when ripe.

*Fl. & Fr.:* Feb. - Oct.

*Distrib.:* Changlang, Lohit.

**Ficus abelii** Miq. in Ann. Mus. Lugd.-Bat. 3: 281, 1867; Chater in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 209, 1982. *F. subpyriformis* Miq. in Ann. Mus. Lugd.-Bat. 3: 229, 1867. *F. pyriformis auct. non* Hook. & Arn.: King in Hook. f., Fl. Brit. India 5: 533, 1888, *p.p.* *F. pyriformis*

var. *subpyriformis* (Miq.) King in Ann. Roy. Bot. Gard. Calcutta 1(2): 128. 1888.

Shrubs, up to 2 m high. Leaves narrowly lanceolate, revolute, entire, acuminate, pubescent beneath, subcoriaceous. Flower heads obpyriform, hispid or pubescent, shortly pedunculate. Achenes reniform, finely tubercled.

*Fl. & Fr.*: Sept. - March.

*Distrib.*: Siang; on stony river beds.

**Ficus altissima** Blume, Bijdr. 444. 1825; King in Hook. f., Fl. Brit. India 5: 504. 1888; Kanjilal *et al.*, Fl. Assam 4: 240. 1940; Kanjilal *et al.*, Fl. Assam 4: 240. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 284. 1996.

*Local name*: Gadgular (Asm.).

Trees, up to 20 m high. Leaves broadly elliptic, obtuse, glaucous beneath. Flowers in globose receptacles, orange-yellow. Achenes ellipsoid, shiny brown.

*Fl. & Fr.*: Sept. - June.

*Distrib.*: Changlang, Lohit, Tirap.

**Ficus auriculata** Lour., Fl. Cochinch. 666. 1790; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 285. 1996. *F. roxburghii* Wall. ex Miq. in Ann. Mus. Bot. Lugd.-Bat. 3: 296. 1867; King in Hook. f., Fl. Brit. India 5: 534. 1888; Kanjilal *et al.*, Fl. Assam 4: 262. 1940.

*Local name*: Hote (Adi).

Shrubs or trees, 3- 10 m high, sometimes epiphytic. Leaves ovate-orbicular, cordate, serrate dentate; stipules ovate-lanceolate. Flower heads obpyriform, turbinate. Achenes minutely tuberculate, viscid.

*Fl. & Fr.*: March - Nov.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; in old clearings.

*Use*: A good shady avenue tree. Leaves are used as fodder.

**Ficus benjamina** L., Mant. Pl. 129. 1767; King in Hook. f., Fl. Brit. India 5: 508. 1888.

var. **benjamina**

*Local name*: Rotka-asing (Adi); Jari (Asm.).

Trees, 20 - 35 m high, epiphytic in early young stages. Leaves broadly ovate-elliptic, acuminate, glabrous, thinly coriaceous; stipules

lanceolate. Flowers in depressed globose red to bluish black receptacles. Achenes reniform, pale brown.

*Fl. & Fr.*: Oct.-April.

*Distrib.*: Siang; up to 1000 m.

***Ficus benjamina* var. *nuda*** (Miq.) Barrett in Am. Midl. Nat. 45: 127. 1951; Corner in Gard. Bull. Singapore 21: 21. 1965. *Urostigma nudum* Miq. in Hook., London J. Bot. 6: 584. 1847. *Ficus benjamina* var. *comosa* (Roxb.) Kurz in For. Fl. Brit. Burma 2: 446. 1877; King in Hook. f., Fl. Brit. India 5: 508. 1888. *F. comosa* Roxb., Corom. Pl. 2: 14, t. 125. 1799.

Trees, up to 13 m high. Leaves pale green, shining. Fruits pale yellow.

*Fl. & Fr.*: Aug. Sept.

*Distrib.*: Tirap; up to 1000 m.

***Ficus hhotanica*** King in Hook. f., Fl. Brit. India 5: 519. 1888.

Shrubs or small trees; stems and leaves hairy. Leaves ovate-oblong, lyrate, toothed, acuminate, membranous, strigose scabrid above, tomentose beneath. Flowers in ovoid, axillary receptacles. Achenes triangular or rounded, smooth.

*Fl. & Fr.*: March Sept.

*Distrib.*: Subansiri; on slopes along roadsides.

***Ficus curtipes*** Corner in Gard. Bull. Singapore 17: 397. 1959. *F. obtusifolia* Roxb., Fl. Ind. 3: 546. 1832, *non* Kunth 1817; King in Hook. f., Fl. Brit. India 5: 507. 1888.

*Local name*: Kathal-patia-bor, Kothalua-jari (Asm.).

Large trees, up to 20 m high, often epiphytic when young; bark grey, exude sticky latex. Leaves oblong-elliptic, entire, obtuse, thick coriaceous, glabrous, dotted above; stipules ovate-lanceolate, acuminate. Flower heads sessile, depressed globose. Achenes ovate, round, viscid.

*Fl. & Fr.*: April Nov.

*Distrib.*: Siang; up to 500 m.

***Ficus cyrtophylla*** Wall. ex Miq. in Ann. Mus. Bot. Lugd. Bat. 3: 282. 296. 1867; Corner in Gard. Bull. Singapore 17: 473. 1959. *F. obscura* auct. *non* Blume; King in Hook. f., Fl. Brit. India 5: 521. 1888, *p.p.*

Small trees, 10-20 m high, epiphyte in early young stages. Leaves obliquely rhomboid or ovate-elliptic, acuminate, harshly hispid, dentate;

stipules tomentose. Flowers in obscurely 4-angled, reddish, ovoid-oblong receptacles. Achenes orbicular or ovoid.

*Fl. & Fr.*: Jan. - Sept.

*Distrib.*: Kameng, Siang, Tirap; up to 500 m.

**Ficus dropacea** Thunb. var. **pubescens** (Roth) Corner in Gard. Bull. Singapore 17: 381. 1960; Deb, Fl. Tripura 1: 213. 1981; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 285. 1996. *F. mysorensis* Heyne var. *pubescens* Roth in Roem. & Schult. Syst. Veg. 1: 508. 1817; King in Hook. f., Fl. Brit. India 5: 500. 1888.

*Local name*: Dhopobar (Asm.); Dibuk-changne (Daff.); Rotga-asing (Miri); Dibuk-changne (Nishi).

Large trees, epiphytic in young stages; bark greenish, horizontally wrinkled. Leaves broadly elliptic or ovate-elliptic, entire, abruptly acuminate, coriaceous, glabrous, dotted above; stipules rusty tomentose. Flowers in globose, bright orange receptacles. Achenes ovoid, rusty tomentose when young.

*Fl. & Fr.*: Nov. - Aug.

*Distrib.*: Changlang, Lohit, Siang; up to 1000 m.

**Ficus elastica** Roxb. ex Hornem., H. Hafn. Suppl. 7. 1819; Roxb., Fl. Ind. 3: 541. 1832; King in Hook. f., Fl. Brit. India 5: 508. 1888; Kanjilal *et al.*, Fl. Assam 4: 242. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 285. 1996.

*Local name*: Atha-bor (Asm.); Chang-krang (Daff.); Sangri (Hill-Miri).

Large trees, 20 - 40 m high with aerial roots and buttress; exude milky latex; epiphytic when young. Leaves elliptic-oblong or subrounded, caudate-acuminate, coriaceous, glossy; stipules lanceolate, flaccid, reddish. Flower heads ovoid, enclosed in involucre, greenish yellow. Achenes ovoid, tubercled.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; usually cultivated.

*Use*: Crushed fruits are used to stupefy fishes.

**Ficus filicauda** Hand.-Mazz. in Anz. Akad. Wiss. Wien. Math.-Nat. 1923, 60: 108. 1924.

Shrubs, up to 5 m high. Fruits grey with pinkish tinge.

*Fl. & Fr.*: March - Sept.

*Distrib.*: Siang.

**Ficus fistulosa** Reinw. ex Blume, Bijdr. 470. 1825; King in Hook. f., Fl. Brit. India 5: 525. 1888; Kanjilal *et al.*, Fl. Assam 4: 255. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 286. 1996; *F. millingtonifolia* Griff., Notul. 4: 396. 1854.

*Local name:* Mobupu (Apat.); Kathia-dimoru, Mou-dimoru (Asm.); Longee (Nishi).

Shrubs or trees, 5–7 m high; bark greyish brown. Leaves oblong, ovate-lanceolate, shortly acuminate. Hypanthium in bunches from base of stem, peduncles long, globose, green. Achenes ovoid, umbilicus, villous.

*Fl. & Fr.:* Feb.-Nov.

*Distrib.:* Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 400–1500 m.

**Ficus fulva** Reinw. ex Blume, Bijdr. 578. 1826; King in Hook. f., Fl. Brit. India 5: 531. 1888.

Small trees or large shrubs, 2–15 m high. Leaves broadly ovate or sub-rhomboid, acuminate, shortly apiculate, tomentose beneath, dentate-serrate. Flowers in crowded, axillary, pilose, brownish green receptacles. Achenes obliquely ovoid, yellowish green, finely tuberculate.

*Fl. & Fr.:* May - Jan.

*Distrib.:* Tirap; forest undergrowth.

**Ficus gasparriniana** Miq. in Hook., London J. Bot. 7: 426. 1848; Corner in Gardc. Bull. Singapore 17: 428. 1959, *F. silhetensis* Miq. in Ann. Mus. Bot. Lugd.-Bat. 3: 223, 291. 1867; King in Hook. f., Fl. Brit. India 5: 533. 1888.

Shrubs, 1–3 m high, occasionally straggling. Leaves oblong-obovate, undulate, acuminate, hispid beneath. Flowers in axillary, sessile, globose, pinkish red receptacles. Achenes obovoid, flattened, finely papillose, brownish yellow, variegated.

*Fl. & Fr.:* April - Oct.

*Distrib.:* Dibang valley, Kameng, Subansiri; in grasslands.

**Ficus genticulata** Kurz, For. Fl. Brit. Burma 2: 447. 1877; King in Hook. f., Fl. Brit. India 5: 516. 1888.

*Local name:* Tanga-bofr (Asm.).

Large trees; twigs lenticellate, stipules pubescent. bark brownish grey. Leaves ovate, ovate-oblong or oval, coriaceous, glabrous. Receptacles

axillary, solitary or paired or in pendulous clusters from raised tubercles, yellow when ripe. Achenes ovoid.

*Fl. & Fr.*: Nov. - May.

*Distrib.*: Arunachal Pradesh.

*Use*: Leaf scales are acid, often cooked and eaten.

**Ficus gibbosa** Blume, Bijdr. 466. 1825; King in Hook. f., Fl. Brit. India 5: 496. 1888, *p.p.*; Das in Kanjilal *et al.*, Fl. Assam 4: 238. 1940.

*Local name*: Ratke (Ahor., Adi, Miri); Jaribur, Loti-dicoru (Asm.).

Large trees, often epiphytic; bark warty, greenish. Leaves variable, inequilateral, often gibbous at base, lobed, acuminate, thinly coriaceous. Flower heads yellowish. Achenes obliquely ovoid, finely papillose.

*Fl. & Fr.*: Jan. - July.

*Distrib.*: Siang.

**Ficus hederacea** Roxb., Fl. Ind. 3: 538. 1832; Corner in Gard. Bull. Singapore 18: 18. 1960. *Ficus fruticosa* Roxb., Fl. Ind. 3: 533. 1832. *F. scandens* Roxb., Fl. Ind. 3: 536. 1832, *non* Lam. 1788; King in Hook. f., Fl. Brit. India 5: 526. 1888. **Fig. 34.**

*Local name*: Lata-dimaru (Asm.).

Shrubs or small trees, usually scandent; bark dark grey, rough. Leaves ovate or elliptic-ovate, entire, acute. Receptacles yellow to red, globose. Achenes oblong, smooth.

*Fl. & Fr.*: Feb. - June.

*Distrib.*: Kameng, Siang; up to 1890 m.

**Ficus heterophylla** L. f., Suppl. Pl. 442. 1781; King in Hook. f., Fl. Brit., India 5: 518. 1888.

**var. heterophylla**

Creeping pubescent shrubs, very variable; branches brown hispid. Leaves broadly ovate, acuminate, lobed, membranous, hispid; stipules linear. Receptacles axillary, solitary, pyriform orange-yellowish. Achenes subglobose, tubercled, viscid.

*Fl. & Fr.*: Oct. - April.

*Distrib.*: Dibang valley, Siang; in deep forests near river occupying the upper levels of river bed.

**Ficus heterophylla** var. **assamica** (Miq.) Corner *ex* Charter in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 210. 1982. *Ficus asamica* Miq. in Hooker. London J. Bot. 7: 226. 1848.

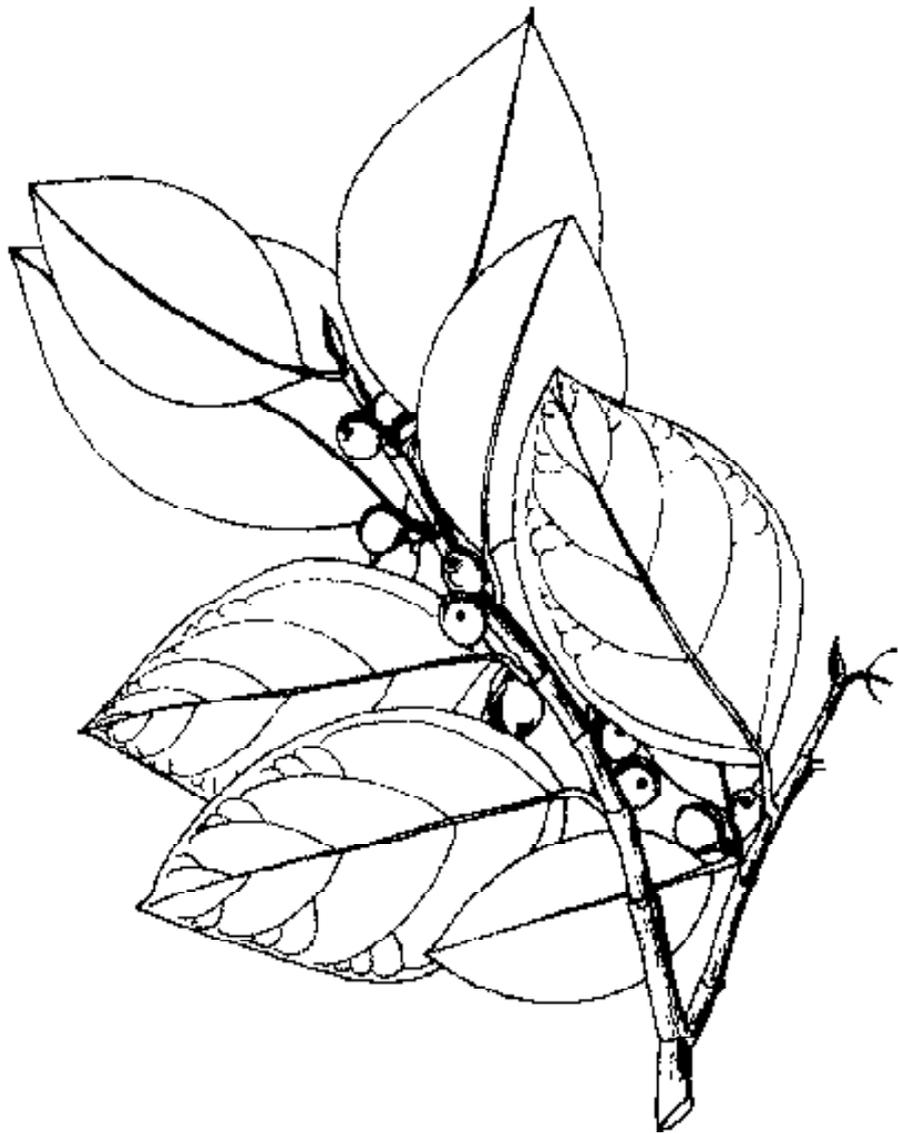


Fig. 34. *Ficus hederacea* Roxb. : Branch with receptacles.

*Fl. & Fr.*: Oct. – March.

*Distrib.*: Arunachal Pradesh; up to 200 m.

**Ficus heteropleura** Blume, Bijdr. 466. 1825; Corner in Gard. Bull. Singapore 21. 77. 1965; Deb, Fl. Tripura 1: 214. 1981; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 286. 1996, *F. urophylla* Wall. ex King in Hook. f., Fl. Brit. India 5: 498. 1888; Kanjilal *et al.*, Fl. Assam 4: 239. 1940.

Small trees. Leaves elliptic or ovate, abruptly caudate, undulate, coriaceous, glabrous. Receptacles pedunculate, axillary, subglobose, orange or reddish yellow when ripe.

*Fl. & Fr.*: Feb. – Sept.

*Distrib.*: Changlang, Lohit; up to 200 m.

**Ficus hirta** Vahl, Enum. Pl. 2: 201. 1806; King in Hook. f., Fl. Brit. India 5: 531. 1888; Kanjilal *et al.*, Fl. Assam 4: 255. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 286. 1996, *F. hirsuta* Roxb., Fl. Ind. 3: 528. 1832.

var. **hirta**

Shrubs or small trees, 1–8 m high. Leaves oblong-lanceolate, 3–5 lobed, serrate-dentate, scabrid above, rufous hairy beneath. Flower heads ellipsoid, axillary in pairs, covered with rufescent hairs. Achenes ellipsoid, tuberculate.

*Fl. & Fr.*: Aug. – June.

*Distrib.*: Changlang, Lohit, Subansiri, Tirap; up to 800 m.

**Ficus hirta** var. **roxburghii** (Miq.) King in Ann. Roy. Bot. Gard. Calcutta 1 (2): 150. t. 189. 1888. *F. roxburghii* Miq. in Hooker, London J. Bot. 7: 456. 1848, *non* Wall. ex King.

*Local name*: Takchi (Adi).

Small trees, up to 6 m high; young parts rusty pubescent. Leaves densely velvety tomentose beneath. Flower heads subglobose.

*Fl. & Fr.*: Jan. – Nov.

*Distrib.*: Siang, Subansiri; 400–800 m, along primary forests.

**Ficus hispida** L. f., Suppl. Pl. 442. 1781; King in Hook. f., Fl. Brit. India 5: 522. 1888, *Ficus caudiculata* Trimen in J. Bot. 23: 243. 1885; King in Hook. f., Fl. Brit. India 5: 510. 1888.

*Local name*: Dumoru (Astm.); Takpi-asing (Miri).

Shrubs or small trees, 3–10 m high without aerial roots. Leaves large, rough. Hypanthia develop from mature stem and in leaf axils, pinkish, subpyriform, hispid. Achenes ovoid, dark brown.

*Fl. & Fr.*: Feb.–Nov.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 550–800 m, along riverbanks.

**Ficus hookeriana** Corner in Gard. Bull. Singapore 17: 378. 1960. *F. hookeri* Miq. in Ann. Mus. Bot. Lugd.-Bat. 3: 215, 286. 1867, *non* Sweet 1826; King in Hook. f., Fl. Brit. India 5: 505. 1888.

Trees, 6–7 m high; epiphytic in young stage, abundantly rooted. Leaves broadly elliptic, denticulate, shortly cuspidate; stipules linear-lanceolate. Flower heads axillary, subglobose, greenish yellow; basal bracts forming cartilaginous cup. Achenes ovoid, dark brown.

*Fl. & Fr.*: May–Dec.

*Distrib.*: Siang; up to 1400 m.

**Ficus ischnopoda** Miq. in Ann. Mus. Lugd.-Bat. 3: 229, 294. 1867; N. P. Balakr., Fl. Jowai 2: 440. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 287. 1996. *F. pyriformis* Hook. et Arn. var. *ischnopoda* King in Ann. Roy. Bot. Gard. Calcutta 1: 158. 1888 & in Hook. f., Fl. Brit. India 5: 533. 1888; Kanjilal *et al.*, Fl. Assam 4: 256. 1940.

Shrubs or small trees, up to 7 m high; branches conspicuously marked with leaf scars; young parts pubescent. Leaves narrowly lanceolate to oblanceolate, glabrous or sparsely pubescent on nerves beneath. Receptacles axillary, solitary, pyriform, reddish brown when ripe. Achenes reniform, minutely tubercled.

*Fl. & Fr.*: Nov.–May.

*Distrib.*: Changlang, Lohit; along stream and riverbanks at lower elevations.

**Ficus lacor** Buch.-Ham. in Tran. Linn. Soc. London 15: 150. 1826; Corner in Gard. Bull. Singapore 21: 8. 1965. *F. infectoria* auct. *non* Willd. *nec* Roxb.: Hook. f., Fl. Brit. India 5: 515. 1888, *p.p.*

*Local name*: Tengabor (Asm.).

Deciduous trees; bark grey. Leaves oblong-elliptic, acuminate, coriaceous. Flowers subglobose, sessile, white, receptacles paired. Fruits stalked.

*Fl. & Fr.*: March–Aug.

*Distrib.*: Kameng.

**Ficus laevis** Blume, Bijdr. 437. 1825; King in Hook. f., Fl. Brit. India 5: 526. 1888; Kanjilal *et al.*, Fl. Assam 4: 260. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 287. 1996.

var. **laevis**

Epiphytic shrubs, up to 3 m high. Leaves broadly elliptic-ovate, obscurely toothed, cuspidate. Flower heads axillary, pedunculate, globose or subpyriform, greenish yellow. Fruits spherical with milky latex, green, hairy.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Changlang, Lohit, Tirap; up to 300 m.

**Ficus laevis** var. **assamica** King in Hook. f., Fl. Brit. India 5: 526. 1888.

Shrubs. Leaves much broader, subcoriaceous, puberulous. Receptacles paired; peduncles divaricate.

*Fl. & Fr.*: July - Oct.

*Distrib.*: Kameng.

**Ficus langkokensis** Drake in J. de Botanique 1896: 215. 1896.

Small trees. Leaves ovate-lanceolate to oblong-lanceolate, upper surfaces dark green, lower reddish green, 4-5-nerved. Flowers in axillary, obovoid receptacles. Achenes obovoid, trigonous.

*Fl. & Fr.*: March - Sept.

*Distrib.*: Tirap; on riverbank.

**Ficus lepidosa** Wall. ex Kurz in For. Fl. Brit. Burma 2: 450. 1877; King in Hook. f., Fl. Brit. India 5: 522. 1888.

*Local name*: Dimoru (Asm.).

Trees, up to 12 m high; bark brownish grey. Leaves ovate-elliptic, acuminate, entire, membranous, glabrous. Flowers in axillary, paired, globose or subpyriform receptacles, orange-red. Achenes oblong, oblique, rugose.

*Fl. & Fr.*: Oct. - April.

*Distrib.*: Kameng.

**Ficus maclelandi** King var. **rhododendrifolia** (Miq.) Corner in Gard. Bull. Singapore 18: 100. 1961; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 287. 1996. *F. rhododendrifolia* Miq., Ann. Mus. Lugd.-Bat. 3: 286. 1867; King in Hook. f., Fl. Brit. India 5: 510. 1888; Kanjilal *et al.*, Fl. Assam 4: 244. 1940.

Tall trees; bark grey or whitish. Receptacles axillary, sessile in pairs, ovoid, yellowish red on maturity.

*Fl. & Fr.*: Aug. - Feb.

*Distrib.*: Changlang, Kameng, Lohit.

**Ficus microcarpa** L. f., Suppl. Pl. 442. 1781. *F. retusa* L., Mant. Pl. 129. 1767; King in Hook. f., Fl. Brit. India 5: 511. 1888.

*Local name*: Silubor (Asm.).

Large, evergreen trees, often epiphytic and forming tangled mass with aerial roots; branches horizontal. Leaves ovate, ovate-elliptic or rhomboid, coriaceous, glabrous. Receptacles sessile in axillary pairs, subglobose, yellowish when ripe. Achenes ovoid or obovoid.

*Fl. & Fr.*: Oct. - May.

*Distrib.*: Arunachal Pradesh; common in swamps and along stream banks.

**Ficus neriifolia** J. E. Sm. in Rees, Cyclop. 14: n. 21. 1810.

var. **neriifolia**

*Local name*: Dimoru, Kalia-dimoru (Asm.).

Trees, 5 - 15 m high; bark greyish brown, smooth. Leaves lanceolate, inequilateral, caudate-acuminate. Flowers in peduncled, subglobose receptacles. Achenes subglobose, faintly wrinkled.

*Fl. & Fr.*: May - Dec.

*Distrib.*: Changlang, Siang, Tirap; up to 1800 m.

*Use*: Cultivated for fodder. Fruits are edible.

**Ficus neriifolia** var. **fieldingii** (Miq.) Corner in Gard. Bull. Singapore 17: 426. 1960. *F. fieldingii* Miq. in Hook., London J. Bot. 7: 439. 1848; King in Hook. f., Fl. Brit. India 5: 534. 1888. *F. nemoralis* Wall. ex Miq. var. **fieldingii** (Miq.) King in Ann. Roy. Bot. Gard. Calcutta 1(2): 163. 1888.

Trees. Leaves narrow, acuminate. Receptacles long peduncled, ellipsoid or clavate.

*Fl. & Fr.*: May - Dec.

*Distrib.*: Kameng; up to 1500 m.

**Ficus neriifolia** var. **nemoralis** (Wall. ex Miq.) Corner in Gard. Bull. Singapore 17: 426. 1960. *Ficus nemoralis* Wall. ex Miq. in Hook., J. Bot. 7: 453. 1848; King in Hook. f., Fl. Brit. India 5: 534. 1888.

Shrubs or small trees; branches glabrous. Leaves ovate-elliptic or oblanceolate, acuminate; stipules convolute, glabrous. Receptacles subsessile, axillary, subglobose or clavate. Achenes rounded, wrinkled.

*Fl. & Fr.*: March - Sept.

*Distrib.*: Arunachal Pradesh.

**Ficus nervosa** Heyne ex Roth in Roem. & Schult., Nov. Sp. Pl. 388. 1817; King in Hook. f., Fl. Brit. India 5: 512. 1888; Kanjilal *et al.*, Fl. Assam 4: 245. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 287. 1996. *F. angustifolia* Roxb., Fl. Ind. 3: 554. 1832.

*Local name*: Khari-pati-dimam (Asm.).

Large, spreading trees, often buttressed, epiphytic when young; bark greyish. Leaves variable, inequilateral, oblong-lanceolate, shortly acuminate, thinly coriaceous, glabrous above, dotted beneath. Flowers in paired, axillary, globose receptacles. Achenes ovoid, acuminate.

*Fl. & Fr.*: Oct. - June.

*Distrib.*: Changlang, Kameng, Lohit, Siang; up to 600 m.

**Ficus oligodon** Miq. in Ann. Mus. Bot. Lugd.-Bat. 3: 234. 1867; Corner in Gard. Bull. Singapore 18: 43. 1960; N. P. Balakr., Fl. Jowai 2: 439. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 288. 1996. *F. pomifera* Wall. ex King in Ann. Roy. Bot. Gard. Calcutta 1(2): 171. 1888 & in Hook. f., Fl. Brit. India 5: 535. 1888, *non* Kurz; Kanjilal *et al.*, Fl. Assam 4: 263. 1940.

*Local name*: Takuk-asing (Miri).

Small trees, up to 6 m high. Leaves elliptic, subovate, glabrous, irregularly serrate, subcoriaceous. Flower heads reddish, globose, often warted. Hypanthia pinkish red on maturity. Achenes in bunches, papillose.

*Fl. & Fr.*: Nov. - April.

*Distrib.*: Changlang, Lohit, Siang, Tirap; 700 - 800 m.

*Use*: Ripe fruits are edible.

**Ficus prostrata** Wall. ex Miq. in Ann. Mus. Bot. Lugd.-Bat. 3: 297. 1867; King in Hook. f., Fl. Brit. India 5: 523. 1888.

Deciduous trees, 7.5 - 8 m high. Leaves oblong-lanceolate, acuminate, entire, membranous, glabrous. Hypanthia pyriform, brick red. Achenes finely tubercled.

*Fl. & Fr.*: Jan. - Nov.

*Distrib.*: Siang, Tirap.

*Use:* Bark chewed with betel leaves by the local tribes.

**Ficus pubigera** Wall. ex Miq. var. **maliformis** (King) Corner in Gard. Bull. Singapore 18: 6. 1960. *F. foveolata* Wall. ex Miq. var. *maliformis* King in Ann. Roy. Bot. Gard. Calcutta 1(2): 134. 1888 & in Hook. f., Fl. Brit. India 5: 528. 1888.

Large climbing shrubs or small trees, up to 12 m high. Leaves ovate-lanceolate. Hypanthia greenish or brownish yellow, lenticular, globular, much umbonate.

*Fl. & Fr.:* June - Oct.

*Distrib.:* Siang, Tirap.

**Ficus religiosa** L., Sp. Pl., 1059. 1753; King in Hook. f., Fl. Brit. India 5: 513. 1888.

Large trees. Leaves long petiolate, tip narrowed into a linear tail like point, young foliage pinkish. Fruits axillary, slightly vertically flattened.

*Fl. & Fr.:* June - Oct.

*Distrib.:* Kameng, Subansiri; often planted near temples as sacred tree.

**Ficus rigida** Jack, Mal. Misc. 2 (7): 72. 1822; King in Hook. f., Fl. Brit. India 5: 505. 1888; Merr. in J. Arn. Arb. 33: 225. 1952; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 288. 1996. *Ficus glaberrima* Blume, Bijdr. 451. 1825; King in Hook. f., Fl. Brit. India 5: 506. 1888; Kanjilal *et al.*, Fl. Assam 4: 241. 1940.

*Local name:* Panc-asing (Abor.); Pani-asing (Asm.).

Large trees, 20 - 24 m high; usually buttressed, epiphytic when young; bark dark grey, warty. Leaves ovate-lanceolate, entire, acuminate, glabrous, subcoriaceous, dotted beneath. Flowers in axillary, subverrucose, globose receptacles, orange-yellow. Achenes viscid.

*Fl. & Fr.:* June - Dec.

*Distrib.:* Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; along forest margins at lower elevations up to 500 m.

**Ficus roxburghii** Wall. ex King in Hook. f., Fl. Brit. India 5: 534. 1882.

*Local name:* Autha-dimaru (Asm.).

Medium sized trees with spreading crown, young twigs hollow, pubescent; bark greyish with reddish white lines. Leaves broadly ovate or ovate-orbicular, softly pubescent beneath. Receptacles fascicled on

short, leafless branches, 8-12-ribbed, purplish orange when ripe. Achenes tubercled, viscid.

*Fl. & Fr.*: Nov. - June.

*Distrib.*: Arunachal Pradesh.

*Use*: Fruits are edible.

**Ficus rumphii** Blume, Bijdr. 437. 1825; King in Hook. f., Fl. Brit. India 5: 512. 1888. *Ficus cordifolia* Roxb., Fl. Ind. 3: 548. 1832.

*Local name*: Pakhri-bor (Asm.).

Large trees. Leaves broadly ovate; petioles long, minutely tuberculate above. Receptacles globose in axillary pairs or at leaf scars, whitish with dark spots. Achenes minutely tuberculate, mucilaginous.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Arunachal Pradesh.

**Ficus sagittata** Vahl var. **oligosperma** (Miq.) Corner in Gard. Bull. Singapore 18: 12. 1960. *F. oligosperma* Miq., Pl. Jungh. 55. 1851. *F. ramentacea auct. non Roxb.*: King in Hook. f., Fl. Brit. India 5: 528. 1888, *p.p. quad syn. F. oligosperma* Miq.

Stout, epiphytic climbers, often trees, up to 18 m high. Leaves ovate-elliptic, acuminate, glabrous. Receptacles axillary, solitary or in clusters, sessile, glabrous. Achenes ellipsoid.

*Fl. & Fr.*: Nov. - May.

*Distrib.*: Kameng.

**Ficus sarmentosa** Buch.-Ham. ex J. E. Sm. in Rees, Cyclop. 14: n. 45. 1810; Corner in Gard. Bull. Singapore 18: 6. 1960; N. P. Balakr., Fl. Jowai 2: 437. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 288. 1996. *F. foveolata* Wall. ex Miq. in Ann. Mus. Bot. Lugd.-Bat. 3: 294. 1867; King in Hook. f., Fl. Brit. India 5: 528. 1888, *p.p.*; Kanjilal *et al.*, Fl. Assam 4: 261. 1940.

Evergreen trees or scandent shrubs, up to 10 m high. Leaves elliptic-oblong, obliquely acuminate. Receptacles subglobose, purplish, tuberculate. Achenes oblong-pyriform, papillose.

*Fl. & Fr.*: Sept. - Feb.

*Distrib.*: Kameng, Lohit, Siang, Tirap; 500 - 2000 m, on moist slopes.

**Ficus semicordata** Buch.-Ham. ex J. E. Sm. in Rees, Cyclop. 14: n. 71. 1810; Corner in Gard. Bull. Singapore 17: 449. 1959; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 289. 1996. *F. cumia* Buch.-Ham. ex Roxb., Fl. Ind. 3: 561. 1832; King in Hook. f., Fl. Brit. India 5: 523.

1888, *excl. syn. F. conglomerata* Roxb.; Kanjilal *et al.*, Fl. Assam 4: 253. 1940.

*Local name:* Kropuin (Aka); Takuk-asing (Miri).

Tress, 8–10 m high; branches arching. Leaves oblong-lanceolate, inequilateral, acuminate, entire or serrate, pubescent beneath. Receptacles globose, pyriform, hispid. Fruits on long, leafless branches, broadly ovoid, tuberculate, viscid.

*Fl. & Fr:* Feb. – Dec.

*Distrib.:* Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 500–1700 m.

***Ficus sinuata*** Thunb., Diss. Ficus 6: 12. 1786; Corner in Gard. Bull. Singapore 17: 479. 1959; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 289. 1996. *F. rostrata* Lam., Encycl. Meth. Bot. 2: 498. 1788; King in Hook. f., Fl. Brit. India 5: 520. 1888; Kanjilal *et al.*, Fl. Assam 4: 251. 1940.

*Local name:* Khuntia-bor (Asm.).

Scandent or creeping shrubs; bark greyish brown. Leaves oblong-elliptic, caudate-acuminate, sinuate toothed, glabrous. Receptacles solitary or in fascicles, reddish. Achenes ovoid or ellipsoid.

*Fl. & Fr:* Nov. – June.

*Distrib.:* Kameng, Lohit.

***Ficus squamosa*** Roxb., Fl. Ind. 3: 531. 1832; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 289. 1996. *F. saemocarpa* Miq. in Ann. Mus. Bot. Lugd.-Bat. 3: 296. 1867; King in Hook. f., Fl. Brit. India 5: 523. 1888; Kanjilal *et al.*, Fl. Assam 4: 252. 1940.

Tall shrubs; bark dark grey. Receptacles solitary, pedunculate, pyriform, globose, rusty brown when ripe.

*Fl. & Fr:* Aug. – April.

*Distrib.:* Kameng, Lohit.

***Ficus subincisa*** Buch.-Ham. ex J. E. Sm. in Rees, Cyclop. 14: n. 91. 1810; Corner in Gard. Bull. Singapore 17: 420. 1959; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 289. 1996. *F. clavata* Wall. ex Miq. in Hook., London J. Bot. 7: 431. 1848; King in Hook. f., Fl. Brit. India 5: 520. 1888; Kanjilal *et al.*, Fl. Assam 4: 248. 1940. *F. chincha* Roxb., Fl. Ind. 3: 534. 1832.

Shrubs, up to 5 m high; bark greyish brown, warty. Leaves oblanceolate, caudate, thinly coriaceous. Receptacles axillary, globose, yellow. Achenes clavate, slightly papillose.

*Fl. & Fr.*: March - Nov.

*Distrib.*: Changlang, Lohit, Siang, Tirap; 1500 - 2200 m.

**Ficus subulata** Blume, Bijdr. 461. 1825; King in Hook. f., Fl. Brit. India 5: 497. 1888; Corner in Gard. Bull. Singapore 21: 76. 1965; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 290. 1996. *F. sikkimensis* Miq. in Ann. Mus. Bot. Lugd.-Bat. 3: 225, 292. 1867; King in Hook. f., Fl. Brit. India 5: 521. 1888; Kanjilal *et al.*, Fl. Assam 4: 249. 1940.

*Local name*: Daljhuri (Asm.); Jiri-aka, Sutarapke-tarug (Daff., Nishi).

Shrubs, up to 3 m high, sometimes epiphytic; bark grey. Leaves oblong-lanceolate, acuminate, shining green. Flower heads sessile, axillary, clustered, globose, reddish. Achenes with a hyaline border.

*Fl. & Fr.*: March - Oct.

*Distrib.*: Changlang, Kameng, Lohit, Tirap.

**Ficus xiphias** C. F. C. Fisch. in Kew Bull. 1936: 282. 1937; Kanjilal *et al.*, Fl. Assam 4: 266. 1940.

Shrubs or small trees. Leaves narrowly elliptic or oblong, chartaceous, globose. Receptacles usually 2-together from axil of leaves, globose.

*Fl. & Fr.*: April - Nov.

*Distrib.*: Arunachal Pradesh.

**Maclura cochinchinensis** (Lour.) Corner in Gard. Bull. Singapore 19: 239. 1962. *Vanieria cochinchinensis* Lour., Fl. Cochinch. 564. 1790, *p.p.* *Cudrania javanensis* Trecul in Ann. Sci. Nat. ser. 3, 8: 123, t. 3, f. 76-85. 1847; Hook. f., Fl. Brit. India 5: 538. 1888. *C. cochinchinensis auct. non* (Lour.) Kudo *et* Masam. in Ann. Rep. Taihoku Bot. Gard. 2: 27. 1932; N. P. Balakr., Fl. Jowai 2: 444. 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 284. 1996.

*Local name*: Puli-kaint (Asm.); Pumi-leki (Daff.).

Straggling shrubs or small trees, 2- 3 m high; stem and branches woody, spiny. Leaves oblong or obovate, acuminate. Flower heads globose, creamy white, solitary. Achenes globose, enclosed in fleshy bracts, velvety, orange.

*Fl. & Fr.*: April - Nov.

*Distrib.*: Changlang, Kameng, Lohit, Siang; up to 1000 m.

*Use*: Ripe fruits are edible.

**Maclura fruticosa** (Roxb.) Corner in Gard. Bull. Singapore 19: 239. 1962. *Batis fruticosa* Roxb., Fl. Ind. 3: 763. 1832. *Cudrania fruticosa*

(Roxb.) Kurz in For. Fl. Brit. Burma 2: 434. 1877; Hook. f., Fl. Brit. India 5: 539. 1888.

Scandent shrubs, up to 7 m high; stem and petioles with brown lines. Leaves lanceolate or oblong, acuminate. Flower head solitary, puberulous. Fruits ovoid, glaucous or velvety.

*Fl. & Fr.*: Oct. - May.

*Distrib.*: Kameng.

*Use*: Spines are said to be poisonous.

**Morus acidosa** Griff., Notul. 4: 388. 1854; Kanjilal *et al.*, Fl. Assam 4: 273. 1940.

*Local name*: Nuni (Asm.).

Medium sized, deciduous trees; bark brownish, often exude milky latex. Leaves ovate, sharply serrate, membranous, scaberulous, truncate or cordate at base. Flowers in spikes, appear with young leaves; tepals obovate, hairy. Fruits subglobose, blackish.

*Fl. & Fr.*: Feb. - July.

*Distrib.*: Arunachal Pradesh. Sometimes cultivated.

*Use*: Silk worms are feed on leaves. Wood yellowish and valuable. Fruits are edible.

**Morus australis** Poir. in Lam., Encycl. Meth. Bot. 4: 380. 1797; Rehder in J. Arn. Arb. 10: 123. 1929. *M. indica auct. non L.*: Roxb., Fl. Ind. 3: 596. 1832; Hook. f., Fl. Brit. India 5: 492. 1888.

*Local name*: Kiskuri, Nuni (Asm.); Latek (Hill-Miri).

Deciduous trees, up to 8 m high. Leaves ovate, caudate, acuminate, serrate. Flowers yellowish green, solitary or in axillary spikes. Fruits spherical, stalk brownish chocolate. Seeds subglobose.

*Fl. & Fr.*: April - May.

*Distrib.*: Kameng, Subansiri; up to 2000 m.

*Use*: Fruits are edible.

**Morus macroura** Miq., Pl. Jungh. 42. 1851. *M. laevigata* Wall. ex Brandis, For. Fl. 409. 1874; Hook. f., Fl. Brit. India 5: 492. 1888.

*Local name*: Ayum-asing (Abor.); Bola (Asm.); Anga-taya-changne (Dafl., Nishi); Anum-asing (Miri).

Large trees, 25 - 27 m high: bark brownish grey with milky latex. Leaves ovate, serrulate, membranous, glabrous beneath. Flowers in glabrous or hairy spikes. Fruits cylindric, yellowish white.

*Fl. & Fr.*: Feb. May.

*Distrib.*: Kameng, Siang; 1000–1500 m.

*Use*: A valuable timber tree; milky latex is used as plaster for treating sores.

## URTICACEAE

***Aphananthe cuspidata*** (Blume) Planch. in DC., Prodr. 17: 209. 1873; Soepadmo in Steenis, Fl. Males. 8(2): 69. 1977. *Cyclostemon cuspidatum* Blume, Bijdr. 599. 1825. *Gironniera reticulata* Thwaites, Enum. 268. 1861; Hook. f., Fl. Brit. India 5: 486. 1888. *G. cuspidata* (Blume) Kurz, For. Fl. Brit. Burma 2: 470. 1877. *G. lucida* Kurz, For. Fl. Brit. Burma 2: 470. 1877; Hook. f., Fl. Brit. India 5: 486. 1888.

Shrubs or trees, 5–12 m high with buttress, glabrous; bark brown. Leaves ovate or ovate-lanceolate, acuminate at apex, entire, coriaceous. Flowers in axillary cymes. Fruits solitary, ovoid, tapering to end, greenish yellow, wrinkled, glabrous with persistent feathery stigma.

*Fl. & Fr.*: May–Oct.

*Distrib.*: Changlang, Tirap; up to 500 m.

***Boehmeria clidemioides*** Miq., Pl. Jungh. 34. 1851. *B. sidaefolia* Wedd. in Ann. Sci. Nat. ser. 4, 1: 203. 1854; Hook. f., Fl. Brit. India 5: 576. 1888. *B. platyphylla* D. Don var. *cinerascens* Hook. f., Fl. Brit. India 5: 579. 1888.

Undershrubs. Leaves ovate-lanceolate, serrulate, acuminate at apex, membranous, hispid. Flowers in axillary clusters, pale yellow. Achenes, oblong, compressed, hispid.

*Fl. & Fr.*: Aug.–Dec.

*Distrib.*: Tirap; up to 2000 m.

***Boehmeria glomerulifera*** Miq. in Zoll. Syst. Verz. Ind. Archip. 101, 104. 1854; Ramamoorthy in C. J. Saldanha & Nicolson, Fl. Hassan. Dist. 87. 1976; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 290. 1996. *B. malabarica* Wedd., Monogr. Urtic. 355. 1856; Hook. f., Fl. Brit. India 5: 575. 1888; Kanjilal *et al.*, Fl. Assam 4: 286. 1940.

Shrubs or small trees, up to 10 m high; bark greyish. Leaves ovate or ovate-lanceolate, serrulate, acuminate at apex, pubescent beneath. Flowers in axillary clusters, greenish white or creamy. Achenes ovoid, invested by perianth.

*Fl. & Fr.*: Sept.–March.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; up to 600 m, in shady forest floor, on black humus soil.

*Use*: Used as cattle fodder.

**Boehmeria hamiltoniana** Wedd. in Ann. Sci. Nat. ser. 4, 1: 199. 1854; Hook. f. Fl. Brit. India 5: 579. 1888; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 290. 1996. Kanjilal *et al.*, Fl. Assam 4: 289. 1940.

*Local name*: Suphesa (Aka).

Undershrubs or small trees; branches slender, glabrous. Leaves ovate-elliptic, acute at apex, subentire to serrulate, membranous, glabrous. Achenes ellipsoid, reddish brown, glabrous.

*Fl. & Fr.*: July - Jan.

*Distrib.*: Changlang, Lohit, Tirap; up to 2400 m.

**Boehmeria macrophylla** Hornem., Hort. Reg. Bot. Hafn. 2: 890. 1815, *non* D. Don; Friss Marais in Kew Bull. 37: 163. 1982; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 291. 1996. *B. platyphylla* *auct non* D. Don: Hook. f. Fl. Brit. India 5: 578, *p. p.* 1888; Kanjilal *et al.*, Fl. Assam 4: 288. 1940.

Shrubs with spreading branches; bark blackish. Flowers in long spikes, small. Achenes brownish.

*Fl. & Fr.*: June - Jan.

*Distrib.*: Changlang, Lohit.

**Boehmeria nivea** Hook. *et* Arn. in Bot. Beech. Voy. 214. 1841; Hook. f., Fl. Brit. India 5: 575. 1888.

*Local name*: Ta-ki, Ta-ku (Abor.); Riha (Asm.).

Small shrubs; branches slender, tomentose. Leaves ovate or suborbicular, acuminate, dentate, subcoriaceous, densely appressed white pubescent beneath. Flowers in axillary spikes, greenish. Achenes oblong, hairy.

*Fl. & Fr.*: Sept. - Jan.

*Distrib.*: Siang.

*Use*: Fibres used for making fishing nets.

**Boehmeria penduliflora** Long in Notes Roy. Bot. Edinburgh 40: 130. 1982; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 291. 1996. *B. penduliflora* Wedd. in Ann. Sci. Nat. ser. 4, 1: 199. 1854, *nom. nud.* *B. macrophylla* D. Don. Prodr. Fl. Nep. 60. 1825, *auct. non* Hornem. :

Hook. f., Fl. Brit. India 5: 577. 1888; Kanjilal *et al.*, Fl. Assam 4: 288. 1940.

Large shrubs or small trees, 3–5 m high; branchlets pendulous with heavy frutescens. Leaves lanceolate, caudate-acuminate, serrulate, coriaceous. Flowers in interrupted pendulous spikes, light green. Achenes obovate, cuneate, compressed.

*Fl. & Fr.*: Aug. – Feb.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; up to 1200 m, along river sides.

**Boehmeria platyphylla** D. Don, Prodr. Fl. Nep. 60. 1825; Hook. f., Fl. Brit. India 5: 578. 1888, *p.p.*

var. **platyphylla**

*Local name*: Yampi-yammi-asing (Miri).

Perennial, spreading shrubs or small trees, up to 3 m high. Leaves ovate-orbicular, acuminate, coarsely dentate. Flowers greenish brown. Achenes ellipsoid, beaked.

*Fl. & Fr.*: June – Nov.

*Distrib.*: Siang, Tirap; up to 2700 m, in old clearings.

**Boehmeria platyphylla** var. **rotundifolia** (Buch.-Ham. ex D. Don) Wedd. in Ann. Sci. Nat. ser. 4, 1: 212. 1854; Hook. f., Fl. Brit. India 5: 579. 1888. *B. rotundifolia* Buch.-Ham. ex D. Don, Prodr. Fl. Nepal. 60. 1825.

Shrubs, up to 2.5 m high. Leaves broadly elliptic-ovate or rounded, cuspidate-caudate tailed, tomentose or hispid pubescent. Flowers in brownish green spikes, red.

*Fl. & Fr.*: May – Sept.

*Distrib.*: Kameng; up to 2500 m, on sunny slopes.

**Boehmeria platyphylla** var. **scabrella** (Roxb.) Wedd., Monogr. Urtic. 365. 1856; Hook. f., Fl. Brit. India 5: 578. 1888. *Urtica scabrella* Roxb., Fl. Ind. 3: 581. 1832.

Leaves broadly elliptic, obovate, cuspidate, rugose above. Flowers in simple erect spikes.

*Fl. & Fr.*: May – Nov.

*Distrib.*: Subansiri; up to 2500 m.

**Boehmeria platyphylla** var. **tomentosa** Wedd., Monogr. Urtic. 367. 1856; Hook. f., Fl. Brit. India 5: 578. 1888. *B. tomentosa* Wedd. in Ann. Sci. Nat. ser. 4, 1: 200. 1854.

Undershrubs, 2-2.5m high. Leaves subcoriaceous, distinctly serrate, tomentose. Flowers in simple stout spikes, green.

*Fl. & Fr.*: Sept. - Nov.

*Distrib.*: Subansiri; on open sunny slopes along roadsides.

**Boehmeria platyphylla** var. **zeylanica** Wedd. in Ann. Sci. Nat. ser. 4, 1: 199. 1854; Hook. f., Fl. Brit. India 5: 578. 1888.

Perennial shrubs. Leaves elliptic-ovate or ovate-oblong, caudate-acuminate, crenate-serrate, hispid. Flowers in short, simple spikes. Fruits small.

*Fl. & Fr.*: May - Sept.

*Distrib.*: Kameng, Siang, Tirap.

**Boehmeria rugulosa** Wedd., Monogr. Urtic. 370. 1856; Hook. f., Fl. Brit. India 5: 577. 1888.

Shrubs or small trees. Leaves elliptic or elliptic-lanceolate, coriaceous, velvety pubescent beneath. Flowers in simple, clustered, pendulous spikes. Achenes elliptic, beaked.

*Fl. & Fr.*: Sept. - Jan.

*Distrib.*: Kameng; up to 1700 m.

**Boehmeria tenuis** King ex Hook. f., Fl. Brit. India 5: 577. 1888.

Small trees. Leaves ovate, 5-nerved, coarsely serrate, glabrous. Flowers large in pendulous, greenish brown spikes.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Kameng; along forest edges.

**Boehmeria tirapensis** Deb et Dutta in Ind. For. 90: 782. 1964.

Shrubs or small trees; branches densely pubescent when young. Leaves elliptic to oblong-lanceolate, serrate, upper surfaces glabrescent to rugulose, punctate with cystolith, lower surface finely pubescent. Flowers monoecious in axillary or terminal, solitary or spicate fascicles. Corolla tubular, pubescent outside. Achenes ovoid, beaked.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Tirap.

**Chamabainia cuspidata** Wight, Ic. Pl. Ind. Or. 6: 11, t. 1981. 1853; Hook. f., Fl. Brit. India 5: 580. 1888.

Perennial, gregarious, creeping herbs or shrubs. Leaves ovate, acute, serrate-dentate, membranous. Flowers in axillary clusters, small, pinkish; anthers white. Achenes ellipsoid, compressed.

*Fl. & Fr.*: Aug. Sept. *Urtica*.

*Distrib.*: Subansiri, Tirap; 1800–3000 m, on rocky boulders.

**Debregeasia longifolia** (Burm. f.) Wedd. in DC., Prodr. 16(1): 235. 1869; Kanjilal *et al.*, Fl. Assam 4: 295. 1940; Tuyama in H. Hara, Fl. E. Himal. 56. 1966; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 291. 1996. *Urtica longifolia* Burm. f., Fl. Ind. 197. 1768. *Debregeasia velutina* Gaud. in Bot. Bonite Voy. t. 90. 1842; Hook. f., Fl. Brit. India 5: 590. 1888.

*Local name*: Bayo-asing, Dalah asing (Adi, Miri).

Shrubs or small trees, up to 3.5 m high. Leaves oblong-lanceolate, acute to acuminate, crenate-serrate, coarse above, white tomentose beneath. Flowers in lateral dichotomous panicles, greenish. Fruits brick red or orange-yellow, fleshy.

*Fl. & Fr.*: March–Oct.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Tirap; 1000–2000 m, in old clearings.

**Dendrocnide sinuata** (Blume) Chewin Gard. Bull. Singapore 21: 206. 1965. *Urtica sinuata* Blume, Bijdr. 505. 1825. *Laportea crenulata* (Roxb.) Wedd., Monogr. Urtic. 133. 1856; Hook. f., Fl. Brit. India 5: 550. 1888. *Urtica crenulata* Roxb., Fl. Ind. 3: 591. 1832.

*Local name*: Paji (Abor.); Sorot-gach, Torash (Asm.); Phaji (Miri).

Perennial shrubs, 3–10 m high; hairs stinging. Leaves oblong-ovate, acute or acuminate, hairs retrorse, stinging. Flowers in dichotomously branched cymes, creamy white. Utricles white with pinkish tinge, ovoid, compressed.

*Fl. & Fr.*: Aug.–Nov.

*Distrib.*: Kameng, Lohit, Siang, Subansiri, Tirap; 800–1500 m, in swamps, along forest edges and river banks.

**Droguetia diffusa** Wedd. in Ann. Sci. Nat. ser. 4, 1: 211. 1854; Hook. f., Fl. Brit. India 5: 593. 1888.

Slender herbs. Leaves ovate, acuminate, serrate, membranous, green, hispid hairy above. Flowers minute. Achenes obliquely ovoid, compressed, hispid.

*Fl. & Fr.*: July–Oct.

*Distrib.*: Tirap.

**Elatostema acuminatum** Brong. in Duperr. Voy. Bot. 211. 1826, Hook. f., Fl. Brit. India 5: 566. 1888

Herbs, up to 60 cm high, succulent, glabrous. Leaves obliquely oblong, caudate, crenate. Flowers in sessile solitary heads, white. Achenes ellipsoid.

*Fl. & Fr.*: March - Nov.

*Distrib.*: Kameng, Lohit, Siang, Tirap; 900 - 1500 m, in shady marshy places.

**Elatostema arcuens** Dunn in Kew Bull. 1920: 209. 1920.

Tufted herbs, glabrous. Leaves oblanceolate, obtuse or acute at base, upper margin dentate-serrate, cystolith present; stipules linear-lanceolate, deciduous. Female flowers sessile, axillary, greenish. Achenes erect, oval.

*Fl. & Fr.*: Dec. - Feb.

*Distrib.*: Siang; around 400 m. Endemic.

**Elatostema cuneatum** Wight, Ic. Pl. Ind. Or. 6: 35, t. 2091. f. 3. 1853; Hook. f., Fl. Brit. India 5: 568. 1888.

Tiny, dwarf herbs. Leaves subsessile, falcately cuneate, inequilateral, pubescent. Flowers in sessile heads. Achenes minute, ellipsoid, ribbed.

*Fl. & Fr.*: Dec. - April.

*Distrib.*: Subansiri; near water sources associated with mosses.

**Elatostema decipiens** Wedd. in DC., Prodr. 16(1): 176. 1869; Hook. f., Fl. Brit. India 5: 570. 1888.

Herbs, 60 - 90 cm high; rhizomes fleshy, swollen. Leaves broadly oblique-oblong or obovate-oblong, caudate-acuminate, coarsely serrate, membranous. Flowers shortly pedicellate in solitary or binate receptacles. Achenes ellipsoid.

*Fl. & Fr.*: Aug. - Jan.

*Distrib.*: Siang; up to 1500 m, in shady places, on hill crests.

**Elatostema dissectum** Wedd., Monogr. Urtic. 314. 1856; Hook. f., Fl. Brit. India 5: 568. 1888.

Perennial, succulent herbs, up to 1 m high. Leaves falcately oblanceolate, acuminate, coarsely crenate. Flowers large, green with brown tinge. Achenes ellipsoid, subcompressed, fleshy.

*Fl. & Fr.*: Nov. - Jan.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Tirap; 500 - 2300 m; in primary forests.

*Use:* Flowers and leaves are edible either as raw or cooked. In times of scarcity it is consumed by hill tribes in large quantities.

**Elatostema ficoidea** Wedd., Monogr. Urtic. 306, t. 10. 1856; Hook. f., Fl. Brit. India 5: 563. 1888.

Annual herbs; stems greenish brown, succulent, ribbed. Leaves obliquely oblong, caudate, serrate, membranous, setose above. Inflorescence whitish green; flowers many, large. Achenes ellipsoid, acute, ribbed.

*Fl. & Fr.:* May–June.

*Distrib.:* Kameng.

**Elatostema hookerianum** Wedd., Monogr. Urtic. 309. 1856; Hook. f., Fl. Brit. India 5: 567. 1888.

Annual, fleshy herbs, 50 cm–1.5 m high. Leaves falcately oblong-lanceolate, auricled at base, caudate-acuminate, serrate. Flowers in clusters, pink, white or yellowish. Achenes ellipsoid, ribbed.

*Fl. & Fr.:* Nov.–Jan.

*Distrib.:* Lohit, Siang; 2000–2500 m, in dense forests.

**Elatostema imbricans** Dunn in Kew Bull. 1920: 209. 209. 1920.

Annual, small, succulent herbs, brownish furfuraceous at base. Leaves sessile, imbricate, oblong, base oblique-cordate, serrate at apex. Flowers axillary, sessile or subsessile; bracts ovate, perianth segments 4, green, ovate, hyaline.

*Fl. & Fr.:* Nov.–Jan.

*Distrib.:* Siang; 1500–2400 m, on rocks. Endemic.

**Elatostema integrifolium** (D. Don) Wedd. in DC., Prodr. 16(1): 179. 1869; H. Hara in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 202. 1982. *Procris integrifolia* D. Don, Prodr. Fl. Nep. 61. 1825. *P. sesquifolia* Reinw. ex Blume, Bijdr. 511. 1826. *Elatostema sesquifolium* (Blume) Hassk., Cat. Hort. Bogor. 79. 1844; Hook. f., Fl. Brit. India 5: 564. 1888.

Herbs or undershrubs, up to 1 m high; stems woody, branching. Leaves oblong-elliptic, caudate-acuminate, entire, coriaceous. Flowers from each node, white. Achenes minute, turgid, ellipsoid, ribbed.

*Fl. & Fr.:* March–July.

*Distrib.:* Kameng; 2000–2700 m, in moist shady slopes.

**Elatostema lineolatum** Wight, Ic. Pl. Ind. Or. t. 1984. 1853; Hook. f., Fl. Brit. India 5: 565. 1888.

Herbs or undershrubs, up to 1 m high. Leaves oblong or oblong-lanceolate, acuminate, crenate, cystoliths very crowded, conspicuous. Flowers small, white. Achenes ellipsoid, turgid, ribbed.

*Fl. & Fr.*: Jan. - Aug.

*Distrib.*: Kameng, Siang, Subansiri, Tirap; up to 1200 m, in deep forests, on slopes along roadsides in moist places.

**Elatostema longicaudatum** Grierson *et* D. G. Long in Notes Roy. Bot. Gard. Edinburgh 40(1): 131-133. 1982; S. S. Jain & R. C. Gaur in Ind. For. 111(9): 742-744. 1985.

Erect undershrubs, up to 1.5 m high. Leaves asymmetrical, glabrous, elliptic, caudate-acuminate, serrate. Flowers in sessile cymes. Achenes ellipsoid.

*Fl. & Fr.*: April - June.

*Distrib.*: Subansiri.

**Elatostema macintyreii** Dunn in Kew Bull. 1920: 210. 1920.

Diœceous herbs; cystolith dense, linear. Leaves obliquely ovate-cordate, crenate-serrate at margin; stipules triangular, deciduous. Male flowers axillary; bracts dorsally callose-gibbous; peduncle 3-5 mm long. Flowers subsessile, perianth segment ovate.

*Fl. & Fr.*: Feb.

*Distrib.*: Siang. Endemic.

**Elatostema monandrum** (Buch.-Ham. *ex* D. Don) H. Hara, Fl. E. Himal. 3: 21. 1975. *Procris monandra* Buch.-Ham. *ex* D. Don, Prodr. Fl. Nep. 61. 1825. *Elatostema surculosum* Wight, Ic. Pl. Ind. Or. 6: t. 2091, f. 4. 1853; Hook. f., Fl. Brit. India 5: 572. 1888. *E. diversifolium* Wedd. in DC., Prodr. 16(1): 189. 1869.

Lithophytic herbs or undershrubs, 7.5-30 cm high. Leaves oblong, obtuse, entire, glabrous, membranous; cystoliths numerous. Flowers brown. Achenes slender, ribbed.

*Fl. & Fr.*: June - Aug.

*Distrib.*: Changlang, Kameng, Subansiri, Tirap; 1200-3000 m.

**Elatostema nastum** Hook. f., Fl. Brit. India 5: 571. 1888.

Succulent herbs, up to 60 cm high; stems glabrous, creeping. Leaves falcately ovate-acuminate, serrate, membranous. Flowers in small, chocolate coloured receptacles. Achenes fusiform, ribbed.

*Fl. & Fr.*: April - July.

*Distrib.*: Kameng, Lohit; on rocky soil near streams.

**Elatostema obtusum** Wedd., Monogr. Urtic. 324. 1856; Hook. f., Fl. Brit. India 5: 573. 1888.

Herbs with clinging roots, 30–60 cm high. Leaves cuneately ovoid, crenate, glabrous. Flowers minute, dull green.

*Fl. & Fr.*: Sept.–Nov.

*Distrib.*: Subansiri; 2500–3200 m, on wet rocks.

**Elatostema papillosum** Wedd., Monogr. Urtic. 327. 1856; Hook. f., Fl. Brit. India 5: 569. 1888.

Herbs or undershrubs, up to 1 m high. Leaves obliquely elliptic, caudate-acuminate, crenate, pubescent beneath. Flowers greenish white. Achenes ellipsoid, acute, ribbed with granules.

*Fl. & Fr.*: March–May.

*Distrib.*: Siang; 700–2000 m.

**Elatostema platyphyllum** Wedd., Monogr. Urtic. 301. 1856; Hook. f., Fl. Brit. India 5: 566. 1888; Kanjilal *et al.*, Fl. Assam 4: 285. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 292. 1996.

Large herbs or undershrubs. Leaves obliquely elliptic-lanceolate, caudate-acuminate, serrulate, subcoriaceous. Flowers greenish white. Achenes ovoid.

*Fl. & Fr.*: Nov.–March.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Tirap, 700–1200 m; along banks of streams, in moist shady places.

**Elatostema procridioides** Wedd. in DC., Prodr. 16 (1): 180. 1869; Hook. f., Fl. Brit. India 5: 570. 1888.

Shrubs, up to 3 m high. Leaves elliptic or obliquely ovate-oblong, acuminate, entire, fleshy; cystoliths numerous. Achenes obovoid, green.

*Fl. & Fr.*: April–June.

*Distrib.*: Siang; on moist shady slopes.

**Elatostema rupestre** (Buch.-Ham. ex D. Don) Wedd., Monogr. Urtic. 304. 1856; Hook. f., Fl. Brit. India 5: 564. 1888. *Procris rupestre* Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 60. 1825.

Shrubs, 1–3 m high, often epiphytic. Leaves elliptic or linear-lanceolate, acuminate, crenate. Flowers pale yellowish green. Achenes small, warty or ribbed.

*Fl. & Fr.*: March–Nov.

*Distrib.*: Siang; 300–2000 m, on dry slopes.

**Elatostema sessile** J. R. et G. Forst., Char. Gen. Pl. Austr. 106. 1776; Hook. f., Fl. Brit. India 5: 563. 1888; Kanjilal *et al.*, Fl. Assam 4 : 284. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 292. 1996.

*Local name:* Tatomung (Nishi).

Succulent herbs or undershrubs, 25 - 75 cm high, often epiphytic. Leaves oblanceolate or oblong, caudate, serrate. Flowers pale brown, red or greenish. Achenes ellipsoid, acute, ribbed.

*Fl. & Fr.:* Feb. - Aug.

*Distrib.:* Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 1000 - 2200 m, on wet rocks along mosses.

*Use:* Whole plant is considered as frog poison.

**Elatostema sikkimense** C. B. Clarke in J. Linn. Soc. Bot. 15: 125. 1876; Hook. f., Fl. Brit. India 5: 571. 1888.

Herbs, 25 - 75 cm high. Leaves falcate-oblong, acuminate, serrate. Receptacles pinkish green with male flowers above or dioecious; bracts confluent, 2 outer produced into long laterally flattened spurs. Achenes fusiform, ribbed.

*Fl. & Fr.:* March - July.

*Distrib.:* Kameng, Tirap.

**Girardinia diversifolia** (Link) Friis in Kew Bull. 36: 143. 1981; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 292. 1996. *Urtica diversifolia* Link, Enum. Hort. Berol. 2: 385. 1822. *U. heterophylla auct. non Vahl*; D. Don, Prodr. Fl. Nep. 59. 1825. *Girardinia heterophylla* Deene. in Jacq., Voy. 4(Bot): 151, t. 153. 1835, *p. p.*, *excl. basionym*; Hook. f., Fl. Brit. India 5: 550. 1888; Kanjilal *et al.*, Fl. Assam 4 : 282. 1940. *G. palmata auct. non Gaudich.*; Tuyama in H. Hara, Fl. E. Himal. 59. 1966.

*Local name:* Paji-jimang (Adi, Miri).

Herbs, up to 2 m high; stems and petioles with brown, recurved, stinging hairs. Leaves palmately 3 - 5-lobed, serrate; stipules foliaceous. Flowers in simple, axillary spikes. Achenes obliquely ovoid, compressed.

*Fl. & Fr.:* Sept. - Dec.

*Distrib.:* Changlang, Kameng, Lohit, Siang; 1700 - 3000 m, in old forest clearings.

**Gonostegia hirta** (Blume) Miq. in Ann. Mus. Bot. Ludg.-Bat. 4: 303.t.10.f.2. 1869; H. Hara in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 204. 1982. *Urtica hirta* Blume, Bijdr. 495. 1825. *Pouzolzia hirta* (Blume)

Hassk., Cat. Hort. Bogor. 80. 1844; Hook. f., Fl. Brit. India 5: 586. 1888.

Shrubs, 1 - 2 m high. Leaves lanceolate, acuminate. Flowers brownish in axillary, sessile clusters with strigose, grey, hooked hairs. Achenes ellipsoid, dull black.

*Fl. & Fr.*: May - Oct.

*Distrib.*: Kameng, Siang, Tirap; 500 - 2499 m, on moist slopes.

**Laportea terminalis** Wight, Ic. Pl. Ind. Or. 6: 9, t. 1972. 1853; Hook. f., Fl. Brit. India 5: 549. 1888; Kanjital *et al.*, Fl. Assam 4: 282. 1940; H. Hara in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 204. 1982; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 293. 1996. *L. oleracea* Wedd., Arch. Mus. Hist. Nat. Paris 9: 141. 1856; Hook. f., Fl. Brit. India 5: 550. 1888. *L. bulbifera auct. non* Wedd.: Chew in Gard. Bull. Singapore 25: 121, f.2. 1969, *p.p.*

Shrubs, up to 1 m high, branched from ground level; stems spiny, stinging hairy. Leaves broadly ovate-acuminate, serrate. Male flowers in axillary cymes; female ones in subterminal panicles. Achenes conspicuously deflexed, tubercled.

*Fl. & Fr.*: Feb. - Oct.

*Distrib.*: Changlang, Kameng, Lohit; 1800 - 3300 m.

**Lecanthus peduncularis** (Royle) Wedd. in DC., Prodr. 16(1): 164. 1869; Tuyama in H. Hara, Fl. E. Himal. 60. 1966. *Procris peduncularis* Royle, Ill. Bot. Himal. t. 83. 1836. *Lecanthus wightii* Wedd. in Ann. Sci. Nat. ser. 4, 1: 187. 1854; Hook. f., Fl. Brit. India 5: 559. 1888.

Small, succulent herbs or epiphytic undershrubs. Leaves oblanceolate, acuminate, entire, crenate, membranous, glabrous. Flowers pinkish in long stalked axillary clusters, arising from basal part of stem. Achenes ovoid, subcompressed.

*Fl. & Fr.*: June - Oct.

*Distrib.*: Kameng, Siang; 1200 - 3200 m, on sandy soil along roadsides.

**Oreocnide frutescens** (Thunb.) Miq. in Ann. Mus. Bot. Lugd.-Bat. 3: 131. 1867. *Urtica frutescens* Thunb., Fl. Jap. 70. 1784. *Villebrunea frutescens* (Thunb.) Blume, Mus. Bot. Lugd.-Bat. 2: 168. 1856; Hook. f., Fl. Brit. India 5: 590. 1888.

*Local name*: Tappen (Adi).

Bushy shrubs, up to 3 m high. Leaves ovate or oblong-lanceolate, acuminate, finely serrate. Flowers small, greenish brown. Achenes ovoid, clustered with cup shaped persistent bracts.

*Fl. & Fr.*: April - Oct.

*Distrib.*: Kameng, Siang, Subansiri.

*Use*: Dried leaves are powdered and applied as paste on skin diseases and wounds from burns. Fresh leaves are used as poultice over cuts to relieve pain and to cure wounds.

**Oreocnide integrifolia** (Gaud.) Miq. in Ann. Mus. Bot. Lugd.-Bat. 4: 306. 1869; Kanjilal *et al.*, Fl. Assam 4 : 293. 1940; A. S. Chauthan in Hajra, Contrib. Fl. Namdapha 293, 1996. *Villebrunea integrifolia* Gaud., Bot. Bonite Voy. t. 91. 1844; Hook. f., Fl. Brit. India 5: 589. 1888.

*Local name*: Tane (Adi); Pataatan (Apat.); Chho-oi-paroli (Asm.); Boree (Nishi).

Tall shrubs. Leaves elliptic-oblong, caudate, entire, pubescent beneath. Flowers creamy or yellowish white. Achenes aggregated, white with a blackish tip, juicy.

*Fl. & Fr.*: March - Oct.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 300 - 800 m.

*Use*: Bark used as rope and also as a substitute of cotton for preparation of fishing net.

**Pilea anisophylla** Wedd., Monogr. Urtic. 193. 1856; Hook. f., Fl. Brit. India 5: 552. 1888.

Delicate herbs. Leaves obliquely oblong-lanceolate, caudate-acuminate. Flowers in axillary panicle cymes, green. Achenes ovoid, smooth.

*Fl. & Fr.*: Aug.- Oct.

*Distrib.*: Kameng, Lohit, Siang, Subansiri, Tirap; 900 - 2000 m, near water sources, on slopes.

**Pilea bracteosa** Wedd., Monogr. Urtic. 245. 1856; Hook. f., Fl. Brit. India 5: 555. 1888.

Herbs or undershrubs, 30 - 60 cm high. Leaves elliptic, ovate, caudate-acuminate, serrate. Flowers in cymes, peduncles slender. Achenes straight, smooth or obscurely ridged.

*Fl. & Fr.*: June - Nov.

*Distrib.*: Kameng, Siang, Tirap; 600 - 1500 m.

*Use*: Leaves are cooked as vegetable.

***Pilea glaberrima*** (Blume) Blume in Mus.Bot. Lugd.-Bat. 2(4): 54, 1856; Brink in Blumea 6: 363, 1950; N. P. Balakr., Fl Jowai 2 : 447, 1983; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 293, 1996. *Urtica glaberrima* Blume, Bijdr. 493, 1826. *Pilea smilacifolia* Wedd. in Ann. Sci. Nat. ser. 4, 1 : 186, 1854 & Monogr. Urtic. 181, 1856; Hook. f., Fl. Brit. India 5: 553, 1888; Kanjilal *et al.*, Fl. Assam 4 : 282, 1940.

Succulent herbs or sprawling shrubs, 1 - 2 m high. Leaves elliptic-lanceolate, acuminate, entire, membranous. Flowers minute, creamy white. Achenes ovoid, compressed with persistent perianth.

*Fl. & Fr.*: Feb. - Nov.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 300 - 1700 m; along streams.

***Pilea insolens*** Wedd. in DC., Prodr. 16(1): 118, 1869; Hook. f., Fl. Brit. India 5: 552, 1888. **Fig. 35.**

Erect herbs, 20 - 40 cm high, often rooting from lower nodes; stems reddish. Leaves in unequal pairs, broadly ovate. Inflorescence axillary or terminal cymose-panicle; flowers light green. Achenes oblong-ellipsoid, ovoid.

*Fl. & Fr.*: Aug. - Nov.

*Distrib.*: Kameng, Lohit, Siang, Subansiri; 600 - 2200 m, in moist places of primary forests.

***Pilea scripta*** (Buch.-Ham. ex D. Don) Wedd. in Ann. Sci. Nat. ser. 4, 1: 187, 1854 & Monogr. Urtic. 222, 1856;

Hook. f., Fl. Brit. India 5: 556, 1888; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 294, 1996. *Urtica scripta* Buch.-Ham. ex D. Don, Prodr. Fl. Nepal. 59, 1825.

Succulent herbs or undershrubs. Leaves elliptic or broadly lanceolate to orbicular, caudate-acuminate, serrulate. Flowers dull green. Achenes ovoid, compressed with rounded margins, obscurely ridged.

*Fl. & Fr.*: March - Oct.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Tirap; 1000 - 2500 m, undergrowth in shady places.

***Pilea symmeria*** Wedd., Monogr. Urtic. 246, 1856; Hook. f., Fl. Brit. India 5: 554, 1888.

Herbs, 60 - 90 cm high. Leaves ovate or ovate-lanceolate, acuminate, serrate. Flowers large, in scattered cymes. Achenes flattened, smooth or faintly rugose.

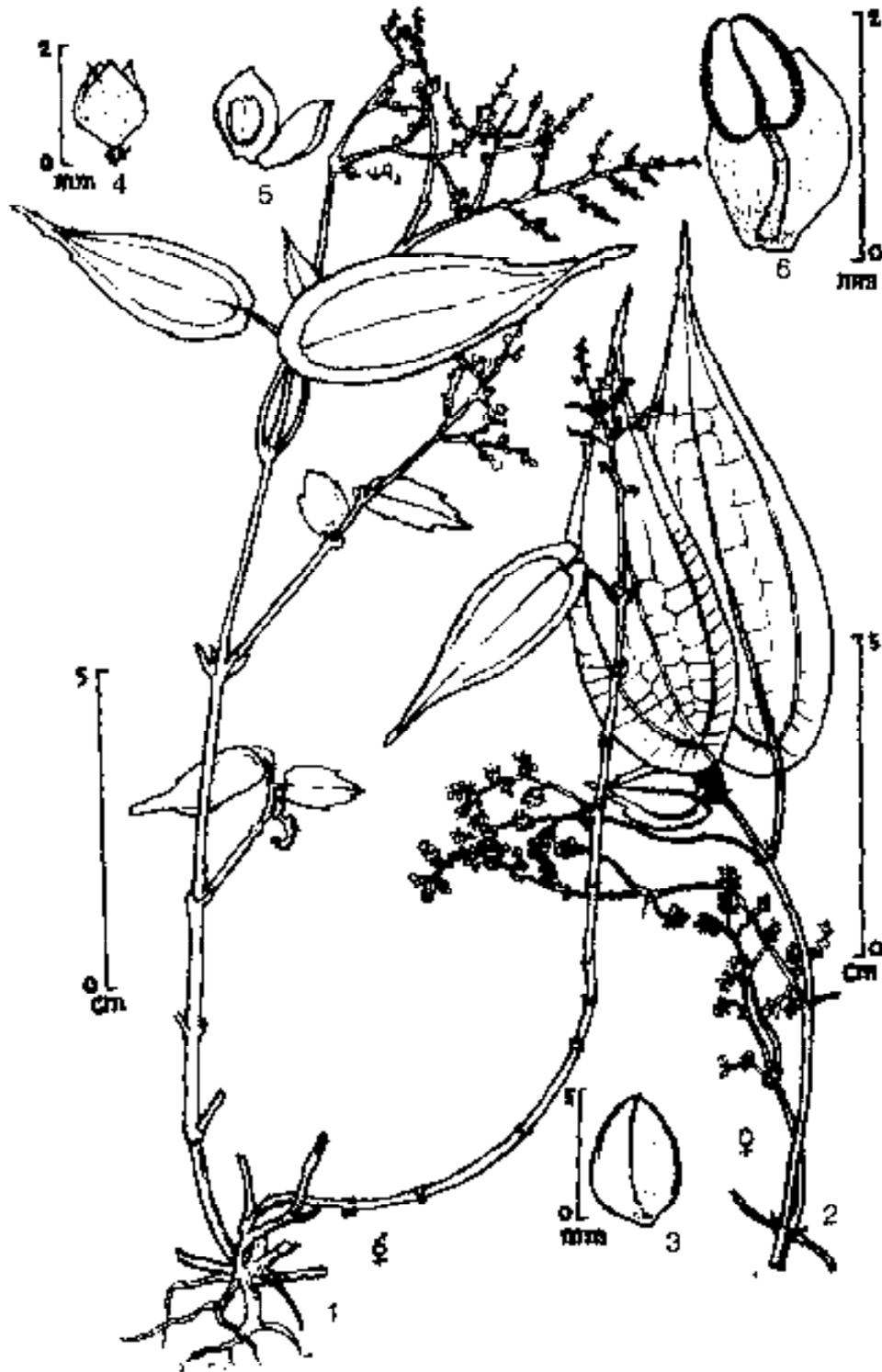


Fig. 35. *Pilea insolens* Wedd. : 1. Habit; 2. Female twig; 3. Bract; 4. & 5. Flowers; 6. Stamen.

*Fl. & Fr.*: July - Sept.

*Distrib.*: Dibang valley, Kameng, Siang; up to 3000 m, in deep shady places along pathways.

**Pilea umbrosa** Blume in Mus. Bot. Lugd.-Bat. 2: 56. 1856; Hook. f., Fl. Brit. India 5: 556. 1888.

Succulent herbs, 45 - 80 cm high. Leaves obliquely rounded, acuminate. Flowers in sessile paniculate cymes, white. Achenes flattened, pale brown, faintly ribbed.

*Fl. & Fr.*: May - Jan.

*Distrib.*: Kameng; 1000 - 2500 m.

**Poikilospermum naucleiflorum** (Roxb. *apud* Lindl.) Chew in Gard. Bull. Singapore 20: 76. 1963; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 294. 1996. *Conocephalus naucleiflorus* Roxb. *apud* Lindl. in Bot. Reg. 14: 5, t. 1203. A & B. 1828. *Conocephalus suaveolens auct. non* Blume : Hook. f., Fl. Brit. India 5: 545. 1888, *p.p.*; Kanjilal *et al.*, Fl. Assam 4 : 272. 1940.

*Local name*: Lata-dimoru (Asm.).

Epiphytic shrubs or lianas; branches scandent, 3 - 25 m. Leaves broadly ovate or oblong-ovate, acute, numerous cystolith beneath. Flowers in short forked cymes, purple, fragrant. Achenes oblong-lanceolate, enclosed in fleshy perianth.

*Fl. & Fr.*: Jan. - Sept.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri; 610 - 701 m.

**Poikilospermum suaveolens** (Blume) Merr. in Contrib. Arn. Arb. 8: 47. 1934. *Conocephalus suaveolens* Blume, Bijdr. 484. 1825; King in Hook. f., Fl. Brit. India 5: 545. 1888, *p.p.* *Conocephalus amoenus* King in Hook. f., Fl. Brit. India 5: 545. 1888.

*Local name*: Gabang-lota; Lata-dimeru (Asm.).

Large, evergreen, woody climbers; bark with white patches, turning brown. Leaves elliptic, ovate-elliptic or ovate-oblong, subcoriaceous, puberulous beneath; cystoliths prominent above. Flowers in axillary, cymose heads, fragrant. Fruits syncarpus.

*Fl. & Fr.*: Dec. - April.

*Distrib.*: Arunachal Pradesh.

*Use*: Leaves are cooked and eaten.

**Pouzolzia hennettiana** Wight, Ic. Pl. Ind. Or. t. 1978. 1853; Hook. f., Fl. Brit. India 5: 585. 1888; Kanjilal *et al.*, Fl. Assam 4 : 291. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 294. 1996.

Prostrate herbs; stems pubescent. Leaves elliptic-ovate to lanceolate, acuminate, puberulous, membranous. Flowers in axillary clusters, greenish white to creamy white. Fruits costate, winged.

*Fl. & Fr.*: March - Sept.

*Distrib.*: Chalang, Lohit, Siang, Subansiri, Tirap.

**Pouzolzia frondosa** (D. Don) Kuntze, Rev. Gen. Pl. 630. 1891. *Boehmeria frondosa* D. Don, Prodr. Fl. Nep. 59. 1825.

Perennial shrubs, up to 2 m high. Leaves oblong-lanceolate, caudate-acuminate, pale green beneath. Flowers in axillary clusters, greenish white or white. Achenes ovoid, pale yellow, sparsely hispid.

*Fl. & Fr.*: May - Nov.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; along roadsides and at edges of forests.

**Pouzolzia pentandra** Benn., Fl. Jav. Rar. 64. t. 14. 1838; Hook. f., Fl. Brit. India 5: 583. 1888.

Annual herbs, 60-90 cm high. Leaves cauline, oblong to linear-lanceolate, acuminate, entire, ciliolate. Flowers small in pedicellate cymes. Fruits broadly membranous winged.

*Fl. & Fr.*: June - Sept.

*Distrib.*: Kameng, Siang.

**Pouzolzia sanguinea** (Blume) Merr. in J. Str. Branch Asiat. Soc. Spec. no. 84 : 233. 1921 & in Contrib. Arn. Arb. 8: 52. 1934; Harid. & R. R. Rao, For. Fl. Meghalaya 2: 846. 1987; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 295. 1996. *Urtica sanguinea* Blume, Bijdr. 500. 1826. *Margocarpus vimineus* Wedd. in Ann. Sci. Nat. ser. 4, 1: 203. 1854. *Pouzolzia viminea* (Wedd.) Wedd. in DC., Prodr. 16(1): 228. 1869; Hook. f., Fl. Brit. India 5: 581. 1888; Kanjilal *et al.*, Fl. Assam 4 : 290. 1940.

var. **sanguinea**

*Local name*: Misagi-jolla-phang (Asm.).

Erect herbs or undershrubs; bark brownish. Flowers in axillary clusters, greenish white. Achenes ovoid.

*Fl. & Fr.*: Aug.- March.

*Distrib.*: Changlang, Lohit.

**Pouzolzia sanguinea** var. **fulgens** (Wedd.) Hara, Fl. E. Himal 3: 27. 1975; Harid. & R. R. Rao, For. Fl. Meghalaya 2: 846. 1987; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 295. 1996. *P. fulgens* Wedd., Monogr. Urtic. 411. 1857. *P. viminea* (Wedd.) Wedd. var. *fulgens* (Wedd.) Wedd. in DC., Prodr. 16(1): 228. 1869; Hook. f., Fl. Brit. India 5: 581. 1888; *P. frondosa* (D. Don) Kuntze var. *fulgens* (Wedd.) N. P. Balakr., Fl. Jowai 2: 451. 1983.

Shrubs or small trees; bark dark brown; branchlets pubescent. Leaves snow-white beneath. Flowers in axillary racemes, minute, greenish.

*Fl. & Fr.*: Feb. - Sept.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap.

**Pouzolzia zeylanica** (L.) Benn. et R. Br., Pl. Jav. Rar. 1: 67. 1854; H. Hara in H. Hara et al., Enum. Fl. Pl. Nepal 3: 206. 1982. *Parietaria zeylanica* L., Sp. Pl. 1052. 1753. *P. indica* L., Mant. Pl. 1: 128. 1767. *Pouzolzia indica* (L.) Gaud. in Freye, Voy. Bot. 503. 1830; Hook. f., Fl. Brit. India 5: 581. 1888.

Herbs, up to 1 m high. Leaves ovate or ovate-lanceolate, acute. Flowers minute, pinkish purple in axillary, strigose, hooked hairy clusters. Achenes ellipsoid, winged or 4-5 ribbed.

*Fl. & Fr.*: May - Nov.

*Distrib.*: Kameng, Siang, Tirap; up to 2200 m, weeds in moist shady places.

**Procris crenata** C. B. Rob. in Philipp. J. Sci. Bot. 5: 507. 1911; H. Hara in H. Hara et al., Enum. Fl. Pl. Nepal 3: 206. 1982; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 295. 1996. *Flatostema wightiana* Wedd. in Ann. Sci. Nat. ser. 4, 1: 188. 1854. *Procris laevigata* auct. non Blume, 1825; Hook. f., Fl. Brit. India 5: 575. 1888; N. P. Balakr., Fl. Jowai 2: 448. 1983.

Perennial herbs, up to 1 m high. Leaves obliquely lanceolate, acuminate, distantly crenate. Flowers greenish in small, fleshy, clustered cymes. Achenes ovoid, compressed, striate.

*Fl. & Fr.*: May - Feb.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; 400-1200 m, on moist ground.

**Sarcochlamys pulcherrima** (Roxb.) Gaud. in Bot. Voy. Bonite. t. 89. 1852; Hook. f., Fl. Brit. India 5: 588. 1888. *Urtica pulcherrima* Roxb., Fl. Ind. 3: 588. 1832.

*Local name*: Mesaki (Asm.).

Shrubs or small trees, 2-5 m high. Leaves narrowly lanceolate, acuminate, distantly dentate, white tomentose beneath. Flowers in interrupted, glomerate, paniculate spikes. Achenes oblique, enclosed in fleshy perianth.

*Fl. & Fr.*: May - Jan.

*Distrib.*: Kameng, Lohit, Siang, Subansiri, Tirap.

***Urtica ardens*** Link, Enum. Hort. Berol. 385. 1822; *U. parviflora* Roxb., Fl. Ind. 3: 581. 1832; Hook. f., Fl. Brit. India 5: 548. 1888, *p.p.*

*Local name*: Hudur (Adi).

Perennial herbs or shrubs, up to 4 m high; stems and leaves with stinging hairs. Leaves ovate-cordate, acuminate, doubly serrate, membranous. Flowers in short peduncled cymes, brownish green. Achenes compressed, enclosed in hispid perianth.

*Fl. & Fr.*: Jan. - April.

*Distrib.*: Kameng, Siang, Tirap; up to 2500 m.

#### Imperfectly known material

***Dendrocnide meyeniana*** (Walp.) Chew in Gard. Bull. Singapore 21: 204. 1965.

### JUGLANDACEAE

***Engelhardia roxburghiana*** Wall., Pl. As. Rat. 2: 85, t. 199. 1931, *p.p. excl. fruct.*; Jacobs in Steenis, Fl. Males. 6(1): 154. 1960. *E. wallichiana* Lindl. ex DC., Prodr. 16(2): 141. 1864; Hook. f., Fl. Brit. India 5: 596. 1888; Kanjilal *et al.*, Fl. Assam 4: 301. 1940. *E. polytachya* Radlk., Sitzb. Akad. Wiss. Munch. 8: 385. 1878; Kanjilal *et al.*, Fl. Assam 4: 301. 1940.

*Local name*: Chhal-bih, Lewa (Asm.).

Trees, up to 20 m high. Leaves pinnate; leaflets oblong-lanceolate, serrate. Inflorescence terminal, receptacles of male flowers round. Female flowers and fruits glabrous.

*Fl. & Fr.*: March - May.

*Distrib.*: Siang, Subansiri; 500 - 1500 m, in evergreen forests.

*Use*: Bark is used as fish poison.

***Engelhardia spicata*** Lesch. ex Blume, Bijdr. 10: 528. 1825; Hook. f., Fl. Brit. India 5: 595. 1888; Jacobs in Steenis, Fl. Males. 6(1): 151. 1960; Kanjilal *et al.*, Fl. Assam 4: 299. 1940; A. S. Chauhan in Hajra,

Contrib. Fl. Namdapha 296, 1996. *E. roxburghiana* Lindl. ex Wall., Pl. As. Rar. 2: 85, t. 199, f. 7, 1831, p.p. *quoad fruct.*

*Local name:* Shing-ah (Abor.); Jabha, Lal-amiri, Lewa, (Asm.); Corcorshing (Monpa).

Deciduous trees, 12-30 m high; often buttressed. Leaves pinnate; leaflets oblong-lanceolate, obtuse, serrulate. Inflorescence lateral. Receptacles of male flower elongate. Female flowers and fruits hairy.

*Fl. & Fr.:* April - Dec.

*Distrib.:* Changlang, Kameng, Lohit, Siang, Subansiri; in oak forests.

*Use:* The paste of powdered roots is used as fish poison. Bark is used for tanning. Wood is used for building purpose, tea boxes and for carving.

*Juglans regia* L. var. *kumaonia* C. DC. in Ann. Sci. Nat. ser. 4, 18: 32, 33, 1862. *J. kumaonia* (C. DC.) Dode in Bull. Soc. Dendr. France 2: 86, figs. 1906.

*Local name:* Kheshing (Monpa).

Large, deciduous trees, up to 30 m high, aromatic; branches velvety tomentose. Leaves pinnate; leaflets subsessile, obliquely elliptic-oblong, acuminate, coriaceous, pubescent along nerves beneath. Flowers green in spikes. Nuts ellipsoid, thick celled, green, smooth.

*Fl. & Fr.:* Feb. - Aug.

*Distrib.:* Kameng, Tirap.

*Use:* Heartwood is very durable and highly prized for furniture and for making gun-butts. Bark is used in medicines and also in dye industry. Leaves are used as fodder. The nut or "Walnut" is an important dry fruit.

## MYRICACEAE

*Myrica esculenta* Buch. Ham. ex D. Don, Prodr. Fl. Nep. 56, 1825; H. Hara in H. Hara *et al.*, Enum. Fl. Pl. Nep. 3:213, 1982. *M. nagi auct. non* Thunb.: Hook. f., Fl. Brit. India 5: 597, 1888, p. p. *M. farquhariana* Wall., Tent. Fl. Nep. 61, 1826.

*Local name:* Naga-tenga (Asm.).

Small trees, 5-15 m high. Leaves terminally crowded, oblanceolate-elliptic, glabrous, pale to rust coloured beneath. Flowers in panicles, minute, unisexual, greenish yellow. Fruits ovoid-oblong, tubercled, green to red.

*Fl. & Fr.*: Aug. Dec.

*Distrib.*: Kameng.

*Use*: Bark is used as aromatic stimulant and as an effective fish poison. Ripe fruits are edible.

### BETULACEAE

***Alnus nepalensis*** D. Don, Prodr. Fl. Nep. 58. 1825; Hook. f., Fl. Brit. India 5 : 600. 1888; Kanjilal *et al.*, Fl. Assam 4 : 327. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 296. 1996.

*Local name*: Lal amiri, Otish, Utis (Asm.).

Deciduous shrubs or small trees; stems lenticulate. Leaves elliptic-lanceolate, acute, entire or slightly coarse, denticulate. Flowers in solitary or drooping panicle spikes. Fruits in ellipsoid or subcylindric cone like spikes. Nuts with membranous wing.

*Fl. & Fr.*: Sept. March.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap.

*Use*: Bark is used for dyeing.

***Betula alnoides*** Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 58. 1825; Hook. f., Fl. Brit. India 5: 599. 1888, *p.p.*; Kanjilal *et al.*, Fl. Assam 4 : 328. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 296. 1996. *B. acuminata* Wall., Pl. As. Rar. 2: 7, t. 109. 1831.

Deciduous, medium sized tree; bark greyish brown. Leaves ovate, rounded at base, margin unequally serrate, pubescent beneath. Flowers in clusters on spikes. Fruiting bracts unequally 3 lobed.

*Fl. & Fr.*: April – Sept.

*Distrib.*: Changlang, Kameng, Lohit, Tirap; up to 2200 m.

*Use*: The thin papery bark is used as a substitute of paper.

***Betula cylindrostachys*** Gauleb. ex Das in Kanjilal *et al.*, Fl. Assam 4: 328. 1940.

Large trees, up to 30 m high; bark grey. Leaves ovate, lanceolate, base subcordate, acuminate, doubly serrate, coriaceous, glabrous, dotted beneath. Flowers in pendulous catkins or drooping panicle spikes. Nuts with 2 scally winged margins.

*Fl. & Fr.*: March June.

*Distrib.*: Wood is useful for manufacture of plywood.

**Carpinus viminea** Wall. ex Lindl. in Wall., Pl. As. Rar. 2: 4, t. 106. 1831; Hook. f., Fl. Brit. India 5: 626. 1888.

Trees, 10–15 m high; branches pendulous, drooping, glabrous. Leaves ovate-lanceolate, long cuspidate, doubly serrate. Flowers in pendulous, lateral or terminal spikes, bracteate; bracts ribbed, glossy, ciliate. Nuts glandular, ribbed with persistent winged bracts.

*Fl. & Fr.*: Feb.–Nov.

*Distrib.*: Tirap; up to 2600 m.

#### FAGACEAE

**Castanopsis armata** (Roxb.) Spach, Hist. Veg. Phan. 11: 185. 1842; Hook. f., Fl. Brit. India 5: 622. 1888; Kanjilal *et al.*, Fl. Assam 4: 323. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 297. 1996. *Quercus armata* Roxb., Pl. Corom. 3: 92, t. 296. 1820.

*Local name*: Taong-asing (Adi); Horu-hingori, Khorang-hingori, Makhu (Asm.).

Trees, 15–25 m tall. Leaves lanceolate or oblong lanceolate, glabrous. Cupules ovoid; spines numerous, arranged in groups on wavy ridges. Nuts compressed or flattened.

*Fl. & Fr.*: May–Jan.

*Distrib.*: Changlang, Lohit.

**Castanopsis castanocarpa** Spach, Hist. Veg. Phan. 11: 185. 1842; Hook. f., Fl. Brit. India 5: 621. 1888.

*Local name*: Ang-keh (Abar.).

Large, evergreen trees; stems softly tomentose. Leaves ovate-oblong, acuminate, entire, subcoriaceous, glabrous. Flowers solitary or 3 in axillary spikes. Nuts ovoid.

*Fl. & Fr.*: Aug.–March.

*Distrib.*: Siang.

**Castanopsis echinocarpa** Miq. in Ann. Mus. Bot. Lugd.-Bat. 1: 119. 1863; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 297. 1996. *C. echinocarpa* A. DC. in DC., Prodr. 16 (2): 112. 1864. *C. tribuloides* (Sm.) A. DC. var. *echinocarpa* (A. DC.) Hook. f., Fl. Brit. India 5: 623. 1888; Kanjilal *et al.*, Fl. Assam 4: 325. 1940.

Tall trees; bark dark grey. Male flowers in paniculate or fasciated spikes, minute. Female flowers in solitary spikes, greenish. Fruits spiny, nut solitary.

*Fl. & Fr.*: April - Sept.

*Distrib.*: Changlang, Lohit.

***Castanopsis indica*** (Roxb.) Miq. in Ann. Mus. Bot. Lugd.-Bat. 1: 119. 1863; A. DC. in Seem., J. Bot. 1: 182. 1863; Hook. f., Fl. Brit. India 5: 620. 1888; Kanjilal *et al.*, Fl. Assam 4: 321. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 297. 1996. *Castanea indica* Roxb., Fl. Ind. 3: 643. 1832.

*Local name*: Shi-rang (Abor.); Amka-asing (Adi); Hinguri, Hinguri-sirang (Asm.); Sirang-asing (Miri), Kara-changne (Nishi); Nagadang-bang (Nokte).

Trees, 13-20 m high. Leaves elliptic-oblong or lanceolate, acuminate. Flowers solitary or in axillary spikes, creamy white. Nuts ovoid, brown.

*Fl. & Fr.*: Feb. - Dec.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; up to 2000 m.

*Use*: Nuts are edible.

***Castanopsis lancifolia*** (Roxb.) Hickel *et* A. Camus in Bull. Soc. Bot. France 68: 394. 1922; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 298. 1996. *Quercus lanceaefolia* Roxb., Fl. Ind. 3: 634. 1832, *non* Schl. *et* Cham. 1830; Hook. f., Fl. Brit. India 5: 616. 1888. *Castanea lancifolia* Kurtz, For. Fl. Brit. Burma 2: 482. 1877. *Castanopsis roxburghiana* S. N. Biswas in Bull. Bot. Surv. India 11: 189. 1969, *nom. illegit.*

*Local name*: Shi-rang (Abor.).

Small trees, 4.5 - 6 m high. Leaves variable, lanceolate, subacute, membranous, greyish green above, pale reddish or grey beneath. Flowers in long spikes. Nuts ovoid, thin, puberulous, horizontally ridged.

*Fl. & Fr.*: Jan.- Oct.

*Distrib.*: Changlang, Dibang valley, Lohit, Siang, Tirap; up to 2000 m.

***Castanopsis purpurella*** (Miq.) N. P. Balakr., Fl. Jowai 2:458. 1983. *Castanea purpurella* Miq., Fl. Ind. Bat. suppl. 352. 1861. *Castanopsis hystrix* A. DC. in Seem., J. Bot. 1: 182. 1863; Hook. f., Fl. Brit. India 5: 620. 1888.

Trees, 10-25 m high. Leaves narrowly elliptic, acuminate. Flowers in paniculate spikes, often with spines. Nuts ovoid, 3-angled, smooth.

*Fl. & Fr.*: Jan. - Dec.

*Distrib.*: Siang ; 500-1500 m.

*Use*: Nuts are edible. Timber is used for railway sleepers.

**Castanopsis tribuloides** (Smith) A. DC. in Seem., J. Bot. 1: 182. 1863; Hook. f., Fl. Brit. India 5: 622. 1888; Kanjital *et al.*, Fl. Assam 4: 324. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 298. 1996. *Quercus tribuloides* Smith in Rees, Cyclop. 29: n. 13. 1814.

*Local name*: Phul-hingori (Asm.); Kurveen (Hill Miri).

Evergreen trees, up to 25 m high; branches pubescent. Leaves oblong-lanceolate, acuminate, entire, serrate, coriaceous. Flowers in panicles, fascicles or tomentose spikes, often with short spines. Nuts ovoid, glabrous, solitary.

*Fl. & Fr.*: Sept. - Jan.

*Distrib.*: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; up to 2000 m.

**Lithocarpus dealbata** (Hook. f. et Thomson ex Miq.) Rehder in Ann. Arb. 1: 124. 1919; N. P. Balakr., Fl. Jowai 2: 460. 1983; Harid. & R. R. Rao, For. Fl. Meghalaya 2: 859. 1987; A. S. Chauhan in Hajra, Contrib. Fl. Namdapha 298. 1996. *Quercus dealbata* Hook. f. et Thomson ex Miq. in Ann. Mus. Bot. Lugd.-Bat. 1: 107. 1863; Hook. f., Fl. Brit. India 5: 609. 1888. *Pasania dealbata* (Hook. f. et Thomson ex Miq.) Chatterjee in Kanjital *et al.*, Fl. Assam 4: 317. 1940.

*Local name*: To-ik, Ring-ying (Abor.).

Trees, 5 - 18 m high. Leaves elliptic-lanceolate, acuminate, ashy grey, tomentose beneath, glabrous above. Flowers in terminal, fascicled spikes. Nuts in clusters, subglobose, hoary.

*Fl. & Fr.*: Aug. - Dec.

*Distrib.*: Changlang, Lohit, Siang, Tirap; up to 2000 m.

**Lithocarpus elegans** (Blume) Hatus ex Soepadmo in Reinwardtia 8: 236. 1970. *Quercus elegans* Blume in Verh. Bat. Gen. K & W. 9: 208. 1823. *Q. glomerata* Roxb., Fl. Ind. 3: 640. 1832; Hook. f., Fl. Brit. India 5: 618. 1888. *Q. spicata* Sm. in Rees, Cyclop. 29: n. 12. 1814, non Humb. & Bonpl. 1809; Hook. f., Fl. Brit. India 5: 609. 1888. *Q. spicata* var. *glaberrima* (Blume) Miq., Fl. Ind. Bat. 1(1): 848. 1856; Hook. f., Fl. Brit. India 5: 610. 1888. *Q. spicata* var. *depressa* (Blume) King in Ann. Roy. Bot. Gard. Calcutta 2: 48, t. 43. 1889. *Q. spicata* var. *chittagonga* Hook. f., Fl. Brit. India 5: 610. 1888. *Q. grandifolia* D. Don in Lamb., Gen. Pin. 2: 27, t. 8. 1824. *Lithocarpus grandifolius* (D. Don.) S. N. Biswas in Bull. Bot. Surv. India 10: 1968. *L. grandifolius*

var. *brevipetiolatus* (DC.) S.N. Biswas in Bull. Bot. Surv. India 10: 259. 1968.

*Local name:* Temi-sakho (Asm.).

Trees, 10-30 m high. Leaves variable, elliptic-oblong to oblanceolate, abruptly acuminate. Flowers in stout, erect, densely tomentose, simple or paniculate spikes. Nuts ovoid, depressed, brown.

*Fl. & Fr.:* April - June.

*Distrib.:* Kameng, Tirap; up to 2000 m.

*Use:* Wood is used for building purpose, fuel and making charcoal.

**Lithocarpus fenestrata** (Roxb.) Rehder in J. Arn. Arb. 1: 126. 1919. *Quercus fenestrata* Roxb., Fl. Ind. 3: 633. 1832; Hook. f., Fl. Brit. India 5: 608. 1888.

Trees, 15-25 m high. Leaves oblique, oblong-lanceolate. Flowers crowded in paniced or fascicled, erect spikes. Nuts globose, apiculate, smooth.

*Fl. & Fr.:* Oct. - Aug.

*Distrib.:* Tirap; up to 2000 m.

**Lithocarpus kamengensis** K. C. Sahni et H. B. Naithani in Ind. For. 106(6): 441. 1980.

Large, evergreen trees; bark greyish white. Leaves elliptic-oblong, entire, glaucescent, puberulous on nerves beneath. Cupules aggregated, pale brown. Nuts ovoid, brown.

*Fl. & Fr.:* Sept. - Dec.

*Distrib.:* Kameng.

**Lithocarpus listeri** (King) Grierson et D. G. Long in Notes Roy. Bot. Gard. Edinburgh 40: 134. 1982. *Quercus listeri* King in Ann. Roy. Bot. Gard. Calcutta 3: 89, t. 82. 1889.

*Local name:* Shi-torah (Abor.); Bakhu-khorang (Asm.).

Trees, ca 16 m high. Leaves entire. Female flowers in groups of 3. Cupules fused in groups of 2 or 3 and covered with numerous ovate, pubescent scales.

*Fl. & Fr.:* Sept. - Dec.

*Distrib.:* Lohit, Siang; up to 2000 m.

**Lithocarpus pachyphylla** (Kurz) Rehder in J. Arn. Arb. 1: 129. 1919. *Quercus pachyphylla* Kurz in J. As. Soc. Bengal 2: 197, t. 14. f. 1-4, 1875; Hook. f., Fl. Brit. India 5: 608. 1888.

Large trees. Leaves oblong-lanceolate, caudate-acuminate, coriaceous, glabrous above, stellate hairy beneath. Flowers glomerulate in axillary or terminal spikes. Nuts woody in clusters.

*Fl. & Fr.*: June - March.

*Distrib.*: Kameng, Siang; up to 2500 m.

**Lithocarpus xylocarpa** (Kurz) Markgr., Bot. Jahrb. 59: 66. 1924. *Quercus xylocarpa* Kurz in J. As. Soc. Bengal 44(2): 196, t. 14, f. 5-8. 1875; Hook. f., Fl. Brit. India 5: 618. 1888.

*Local name*: Amke-asing (Abor., Adi).

Evergreen trees, up to 13 m high; branches hoary. Leaves elliptic-oblong, caudate-acuminate, entire, coriaceous, glabrous. Flowers clustered; bracts spiny pubescent. Nuts globose.

*Fl. & Fr.*: June - Dec.

*Distrib.*: Kameng, Siang; up to 2000 m.

**Lithocarpus wrayi** (King) A. Camus in Bot. Syst. 18: 42. 1932. *Quercus lappacea* auct. non Roxb.: Hook. f., Fl. Brit. India 5: 607. 1888, *p.p. quoad specimen ex Perak*.

*Local name*: Tang-i-shing (Abor.).

Medium sized to large trees; branches villose tomentose. Leaves oblong-lanceolate, acuminate, tomentose beneath. Flowers solitary in rusty tomentose, axillary spikes. Nuts ovoid-conic, hoary.

*Fl. & Fr.*: Feb. - Aug.

*Distrib.*: Siang; up to 1500 m.

**Quercus acutissima** Carruth. in J. Linn. Soc. Bot. 6: 33. 1861; Chater in H. Hara *et al.*, Enum. Fl. Pl. Nep. 3: 215. 1982. *Q. serrata* auct. non Thunb.: Roxb., Hort. Beng. 68. 1814, *p.p.*; Hook. f., Fl. Brit. India 5: 601. 1888.

Deciduous trees. Leaves oblong-lanceolate, spinulose toothed. Male flowers in long, tomentose spikes; female flowers clustered. Nuts globose or oblong.

*Fl. & Fr.*: Sept. - Jan.

*Distrib.*: Arunachal Pradesh; up to 3000 m.

**Quercus griffithii** Hook. f. et Thomson ex Miq. in Ann. Mus. Bot. Lugd.-Bat. 1: 104. 1863; Hook. f., Fl. Brit. India 5: 602. 1888.

*Local name*: Sokuhun (Aka); Bajrar (Monpa).

Trees, up to 15 m high; branches softly rusty tomentose. Leaves elliptic to ovate-lanceolate, subobtusely serrate, densely tomentose

beneath. Flowers yellow in slender spikes. Nuts hemispherical with adpressed, ovate-acute scales.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Kameng; up to 2500 m, growing abundantly in moist, waterlogged marshy places along roadsides.

**Quercus helferiana** DC., Prodr. 16(2): 101. 1864; Hook. f., Fl. Brit. India 5: 605. 1888.

Trees, up to 13 m high; branches softly rusty tomentose. Leaves elliptic to ovate-lanceolate, sub-obtuse, serrate, densely tomentose beneath. Flowers brown in catkins. Nuts turbinate or depressed hemispheric.

*Fl. & Fr.*: April - June.

*Distrib.*: Kameng; up to 2000 m.

**Quercus kamroopii** D. Don, Prodr. Fl. Nep. 57. 1825. *Q. lineata auct. non* Blume 1825; Hook. f., Fl. Brit. India 5: 605. 1888; Kanjilal *et al.*, Fl. Assam 4: 310. 1940.

Trees, 8 - 15 m high; bark grey. Leaves ovate to oblong-lanceolate, acuminate, coriaceous, glabrous, glossy, finely pubescent beneath. Flowers in fascicled spikes. Nuts hemispheric or subglobose, smooth.

*Fl. & Fr.*: July - Nov.

*Distrib.*: Kameng; 2000 - 2600 m.

**Quercus lamellosa** Smith in Rees, Cyclop. 29: n. 23. 1814; Hook. f., Fl. Brit. India 5: 606. 1888; Chatter in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 216. 1982; Kanjilal *et al.*, Fl. Assam 4 : 308. 1940; A. S. Chauhan in Hajra, Contrib. Fl. Nandapha 299. 1996. *Q. imbricata* Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 57. 1825. *Q. lamellata* Roxb., Fl. Ind. 3: 641. 1832.

Evergreen trees, up to 25 m high; branches tomentose. Leaves oblong-elliptic, acute or acuminate, serrate, coriaceous, glabrous. Flowers solitary or in axillary spikes. Nuts subglobose or turbinate, velvety.

*Fl. & Fr.*: July - Nov.

*Distrib.*: Changlang, Kameng, Lohit, Subansiri, Tirap; up to 2700 m, along edges as well as inside forests.

**Quercus lanata** Smith in Rees, Cyclop. 29: 27. 1814; Bernardi in Candollea 18: 262. 1963. *Q. lanuginosa* D. Don, Prodr. Fl. Nep. 57. 1825, *non* Thuill 1799; Hook. f., Fl. Brit. India 5: 603. 1888.

Trees, 10–15 m high, rusty tomentose. Leaves oblong-lanceolate, serrate, acuminate, coriaceous. Flowers in densely woolly clustered spikes. Fruits oblong, brownish, glabrous, bracts adpressed.

*Fl. & Fr.*: July–Dec.

*Distrib.*: Kameng, Tawang: up to 3000 m.

**Quercus oxyodon** Miq. in Ann. Mus. Bot. Lugd.-Bat. 1: 114, 1863. *Q. lobbia* (Wenzig) A. Camus var. *oxyodon* (Miq.) Wenzig in Jahrb. B.G. Berlin 4: 232, 1886; King in Ann. Roy. Bot. Gard. Calcutta 2: 33, t. 26, 1889.

Trees. Leaves elliptic, margin toothed almost up to base, glaucous beneath. Male spikes 4–6 cm long, flowers from axils of linear bracts; female catkins on short axillary shoots. Cupule bearing concentric lamellate scales, appressed silky pubescent.

*Fl. & Fr.*: Sept.–Jan.

*Distrib.*: Arunachal Pradesh; up to 3000 m.

**Quercus rex** Hemsl. in Hook., Ic. Pl. t. 2663, 1901.

*Local name*: Tat-tu (Abor.).

Large trees. Leaves elliptic, broadly elliptic to oblong-lanceolate, coriaceous, coarsely serrate, young leaves densely fulvous tomentose, glabrate when mature. Male catkin subterminal, 3-together, perianth 6. Cupule 2/3 covered with lamellate ring like, fulvo-tomentose scales.

*Fl. & Fr.*: July–Nov.

*Distrib.*: Siang: 500–1000 m.

**Quercus semecarpifolia** Sm. in Rees, Cyclop. 29: n. 20, 1814; Hook. f., Fl. Brit. India 5: 601, 1888.

Large trees, 3–8 m high; young branches tomentose. Leaves elliptic-oblong or obovate, sub-obtuse, serrate, rusty tomentose beneath. Flowers in axillary, softly ciliate spikes. Nuts globose or ovoid, glabrous brown.

*Fl. & Fr.*: Oct.–Jan.

*Distrib.*: Kameng; 1700–2500 m.

**Quercus semiserrata** Roxb., Fl. Ind. 3: 641, 1832; Hook. f., Fl. Brit. India 5: 604, 1888; Kanjilal *et al.*, Fl. Assam 4: 308, 1940; A. S. Chauhan in Hajra, Contrib. Fl. Nardapha 299, 1996.

*Local name*: Tat-tu-polu, Tu-ung (Abor.).

Evergreen trees, 15–25 m high. Leaves elliptic-lanceolate, shortly acuminate, serrate. Flowers solitary or in 2–3-flowered, axillary spikes. Nuts sub-terete, brown velvety, shortly enclosed by cupules.

*Fl. & Fr.*: Oct. - June.

*Distrib.*: Changlang, Lohit, Siang, Subansiri; up to 2000 m.

Incompletely known material

**Castanopsis griffithii** A. Camus, Les Chataigniers 477. 1929.

#### SALICACEAE

**Populus ciliata** Wall. ex Royle, Jll. Bot. Himal. 346. t. 98(84a), f. 1. 1839; Hook. f., Fl. Brit. India 5: 638. 1888.

Trees, 18 - 24 m high. Leaves broadly ovate, base strongly cordate, acuminate, finely serrate, ciliate, glabrous. Flowers in lateral catkins. Capsules stipitate, ovoid, 3 - 4 valved, glabrous.

*Fl. & Fr.*: March - June.

*Distrib.*: Kameng, Siang; up to 3200 m.

**Populus gamblei** Dode in Extr. Monogr. Imed. Populus 63. 1905; Haines in J. Linn. Soc. Bot. 37: 407. 1906; K. C. Sahni in Ind. For. 95: 335 & 349. 1969.

Trees, bark whitish. Leaves ovate, base truncate or squarish at petiole insertion, margin dentate-serrate. Flowers in catkins, up to 10 cm long; bracts ciliate. Capsules glabrous.

*Fl. & Fr.*: Nov. - April.

*Distrib.*: Subansiri; up to 1200 m.

**Salix babylonica** L., Sp. Pl. 1017. 1753; Hook. f., Fl. Brit. India 5: 629. 1888.

Trees; branches drooping. Leaves lanceolate, acuminate, finely serrulate, greyish brown beneath, shining brown above, glabrous.

*Fl. & Fr.*: Feb. - May.

*Distrib.*: Lohit; usually cultivated as ornamental.

**Salix bhutanensis** Flod. in Bot. Notiser 227. 1940; Naithani & Bahadur in Ind. For. 107 (11): 721. 1981.

Shrubs, ca 3 m high; branchlets villous when young. Leaves elliptic, truncate or rounded at base, glaucous with white hairy veins beneath; stipules glandular serrulate. Male catkins 4 - 5 cm long; female 5 - 7 cm long; scales whitish villous. Capsules narrowly ovoid, glabrous.

*Fl. & Fr.*: Dec. - May.

*Distrib.*: Tawang; 2800 - 3000 m.

**Salix daltoniana** Andersson in J. Linn. Soc. Bot. 4: 49. 1860; Hook. f., Fl. Brit. India 5: 632. 1888.

Shrubs, 3- 4 m high. Leaves elliptic-oblong, obscurely serrulate, pubescent along veins beneath, turn grey when dry. Flowers in catkins; male catkins 2 - 4.5 cm long, female catkins 6 - 7 cm long; bracts villous, hairs long. Capsules narrowly ovoid, white silky.

*Fl. & Fr.*: April - Aug.

*Distrib.*: Kameng, Tawang; up to 3000 m.

**Salix denticulata** Andersson in Kungl. Svensk. Vet. Akad.

Handl. 1850: 481. 1851; Kimura in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 217. 1982. *S. elegans* Wall. ex Andersson in J. Linn. Soc. Bot. 4: 51. 1860; Hook. f., Fl. Brit. India 5: 630. 1888.

Shrubs, up to 2 m high; young branches pubescent. Leaves ovate-oblong, pale white beneath.

*Fl. & Fr.*: April - July.

*Distrib.*: Kameng, Tawang; along moist places.

**Salix disperma** Roxb. ex D. Don, Prodr. Fl. Nep. 58. 1825; Kimura in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 218. 1982. *S. julacea* Andersson in Vet. Acad. Handl. Stockh. 1850. 476. 1851. *S. wallichiana* Andersson in Kungl. Svensk. Vet. Akad. Handl. 1850: 477. 1851; Hook. f., Fl. Brit. India 5: 628. 1888. *S. wallichiana* var. *grisea* Andersson in Kungl. Svensk. Vet. Akad. Handl. 6: 80. 1867; Hook. f., Fl. Brit. India 5: 628. 1888. *S. wallichiana* var. *julacea* (Andersson) Andersson in Kungl. Svensk. Vet. Akad. Handl. 6: 81. 1867; Hook. f., Fl. Brit. India 5: 629. 1888.

Shrubs or small trees; young branches tomentose. Leaves ovate-lanceolate, white silky pubescent beneath. Catkins densely silky, erect or drooping.

*Fl. & Fr.*: March - July.

*Distrib.*: Kameng; 1500 - 3200 m.

**Salix longiflora** Andersson in J. Linn. Soc. Bot. 4: 50. 1860; Hook. f., Fl. Brit. India 5: 633. 1888.

Trees, 3 - 9 m high. Leaves elliptic-lanceolate, acute, glabrous. Flowers in pendulous catkins. Capsules small, sessile, broadly ovoid, acute, glabrous.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Kameng; 2500 - 3400 m.

**Salix serpyllum** Andersson in J. Linn. Soc. Bot. 4: 55. 1859; Hook. f., Fl. Brit. India 5: 634. 1888.

Stout, creeping shrubs. Leaves small, obovate or elliptic-lanceolate, serrulate. Flowers in erect, woolly catkins. Capsules sessile, turgidly conic, glabrous, brown.

*Fl. & Fr.*: May - Aug.

*Distrib.*: Kameng; up to 4500 m.

**Salix tetrasperma** Roxb., Pl. Corom. 1: 66, t. 97. 1798; Hook. f., Fl. Brit. India 5: 626. 1888.

*Local name*: Bhe (Asm.); Seemir-asing (Miri).

Trees, 6 - 12 m high. Leaves ovate-lanceolate, acuminate, serrulate. Flowers in slender catkins, yellowish. Capsules variable, long stipitate, glabrous. Seeds 4 - 6.

*Fl. & Fr.*: Sept. - Feb.

*Distrib.*: Kameng, Lohit, Siang; on river banks and low lying moist places.

*Use*: Wood is used for ploughing. Leaves are used as cattle fodder. Young branches are used for basket making.

#### CERATOPHYLLACEAE

**Ceratophyllum demersum** L., Sp. Pl. 942. 1753; Hook. f., Fl. Brit. India 5: 639. 1888.

Aquatic, rootless herbs; stems 24 - 90 cm long. Leaves dichotomously cleft into filiform lobes, spreading in water. Flowers minute, axillary, sessile. Nuts ovoid, ellipsoid, compressed.

*Fl. & Fr.*: June - Sept.

*Distrib.*: Siang; up to 1700 m; profusely grows in pools, ponds and stagnant water.

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<b>B. longifolia</b> Koenig	130	<b>B. japonica</b> Horn. in Thunb.	115
<b>B. polyantha</b> Wall. ex DC.	131	<b>Blumea aromatica</b> DC.	10
<i>Batis fruticosa</i> Roxb.	405	<b>B. balsamifera</b> (L.) DC.	10
<b>Reaumontia grandiflora</b>		<b>B. cinerascens</b> DC.	11
(Roxb.) Wall.	152	<b>B. densiflora</b> DC.	10
		var. <b>excisa</b> C. B. Clarke	10

<i>Blumea fandulosa</i> DC.	11	var. <i>cinerascens</i> Hook. f.	407
<b>B. fistulosa</b> (Roxb.) Kurz	11	var. <b>platyphylla</b>	409
<i>B. flava</i> DC.	13	var. <b>rotundifolia</b> (Buch.-	
<i>B. glomerata</i> DC.	11	Ham. ex D. Don) Wedd.	409
<i>B. henryi</i> Dunn	12	var. <b>scabrella</b> (Roxb.)	
<b>B. hieracifolia</b> (D. Don) DC.	11	Wedd.	409
var. <b>hieracifolia</b>	11	var. <b>tomentosa</b> (Wedd.)	
var. <b>macrostachya</b> (DC.)		Wedd.	409
Hook. f.	11	var. <b>zeylanica</b> Wedd.	410
<b>B. lacera</b> (Burm. f.) DC.	11	<i>B. rotundifolia</i> Buch.-Ham. ex	
var. <i>cinerascens</i> (DC.)		D. Don	409
Hook. f.	11	<b>B. rugulosa</b> Wedd.	410
var. <i>glandulosa</i> Hook. f.	12	<i>B. sidaefolia</i> Wedd.	407
<b>B. lacinita</b> (Roxb.) DC.	12	<b>B. tenuis</b> King ex Hook. f.	410
<b>B. lanceolaria</b> (Roxb.)		<b>B. tirapensis</b> Deb & Dutta	410
Druce	12	<i>B. tomentosa</i> Wedd.	409
<i>B. macrostachya</i> DC.	11	<b>Boeica filiformis</b>	
<b>B. maritima</b> Vaniot	12	C. B. Clarke	227
<b>B. membranacea</b> DC.	13	<b>B. fulva</b> C. B. Clarke	228
<i>B. myriocephala</i> DC.	12	<b>B. porosa</b> C. B. Clarke	235
<i>B. nodiflora</i> Hook. f.	11	<b>Boerhavia diffusa</b> L.	299
<b>Blumea procera</b> DC.	13	<i>B. procumbens</i> Banks ex	
<b>B. riparia</b> (Blume) DC.	13	Roxb.	299
<i>B. sericans</i> Hook. f.	11	<i>B. repens</i> L.	299
<b>Blumeopsis flava</b> (DC.)		var. <i>diffusa</i> (L.) Hook. f.	299
Gagnep.	13	var. <i>procumbens</i> (Roxb.)	
<b>Boca herbacea</b> C. B. Clarke	227	Hook. f.	299
<b>B. multiflora</b> R. Br.	227	<i>Bonnaya brachiata</i> Link &	
<b>Boehmeria clidemioides</b>		Otto	214
Miq.	407	<i>B. reptans</i> Spreng.	214
<i>B. frondosa</i> D. Don	422	<i>B. veronicaefolia</i> (Retz.)	
<b>B. glomerulifera</b> Miq.	407	Spreng.	213
<b>B. hamiltoniana</b> Wedd.	408	var. <i>grandiflora</i> (Roxb.)	
<i>B. macrophylla</i> D. Don.	408	Hook. f.	213
<b>B. macrophylla</b> Hornem.	408	<b>BORAGINACEAE</b>	185
<i>B. malabarica</i> Wedd.	407	<b>Boschniakia himalaica</b>	
<b>B. nivea</b> Hook. & Arn.	408	Hook. f. et Thomson	222
<b>B. penduliflora</b> (Wedd.)		<b>Bosea amherstiana</b>	
Long	408	Hook. f.	303
<i>B. penduliflora</i> Wedd.	408	<b>Bothriospermum tenellum</b>	
<i>B. platyphylla</i> auct. non		Fisch. & Mey.	185
D. Don	408	<b>Brachyactis anomalum</b> (DC.)	
<b>B. platyphylla</b> D. Don	409	Kitam.	14

<i>Brachyactis menthodora</i>		<i>C. mortonii</i> (C. B. Clarke)	
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C. B. Clarke	14	<i>C. sonchifolia</i> L.	22
<b>Brandisia rosea</b> W.W.Sm.	221	<i>C. volubilis</i> Blume	17
var. <i>flava</i> C. E. C. Fisch.	209	<b>Calamintha gracilis</b> Benth.	278
<i>Breynia patens</i> (Roxb.) Benth.		<i>C. umbrosa</i> (M. Bieb.)	
in Benth. & Hook. f.	365	Fisch. & Mey.	278
<b>B. retusa</b> (Dennst.) Alston	365	<b>Callicarpa arborea</b> Roxb.	259
<b>Bridelia assamica</b> Hook. f.	366	<i>C. lanata</i> L.	260
<b>B. cuneata</b> Gehm.	366	<i>C. lanceolaria</i> Roxb.	259
<i>B. hirsuta</i> Roxb.	373	<i>C. lobata</i> C. B. Clarke	260
<i>B. lanceolaria</i> Roxb.	373	<b>C. longifolia</b> Lam.	259
<b>B. montana</b> Willd.	366	var. <i>lanceolaria</i> (Roxb.)	
<b>B. pubescens</b> Kurz	366	C. B. Clarke	259
<b>B. retusa</b> (L.) Spreng.	367	var. <i>longifolia</i>	259
<b>B. scandens</b> (Roxb.) Willd.	367	<b>C. macrophylla</b> Vahl	259
<i>B. stipularis</i> auct. non (L.)		<b>C. rubella</b> Lindl.	260
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<i>B. verrucosa</i> Haines	366	<b>C. vestita</b> Wall. ex	
<b>Briggsia muscicola</b> (Diels)		C. B. Clarke	260
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<b>B. papyrifera</b> Vent.	390	Aiton f.	164
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<b>Buddleja asiatica</b> Lour.	177	<b>Caloxyton khasianum</b>	
<b>B. candida</b> Dunn	177	Hook. f.	367
<b>B. colvillei</b> Hook. f. et		<b>C. longipetiolatum</b> Kurz	367
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<b>B. hookeri</b> Marq.	178	<b>Campanula cana</b> Wall.	54
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<b>B. subherbacea</b> Keenan	179	<b>C. khasiana</b> Hook. f. et	
<b>B. yunnanensis</b> Gagnep.	179	Thomson	54
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<b>C. parviflora</b> (Wall. ex DC.)		<b>Carpinus viminea</b> Wall. ex Lindl.	<b>427</b>
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<i>C. grossum</i> Willd.	198	<b>C. tribuloides</b> (Smith) A. DC.	<b>429</b>
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var. <b>griffithii</b> Hook. f.	<b>15</b>		
var. <b>pedunculatum</b> (Wall. ex DC.) C. B. Clarke	<b>15</b>		
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<b>C. nepalensis</b> D. Don	<b>210</b>	var. <b>tirapensis</b> Deb &	
<i>C. procumbens</i> Benth.	209	R. M. Dutta	229
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<i>C. variegatum</i> Roxb.	68	<b>C. pumila</b> (Dietr.) D. Don	230
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<i>Cerbera fruticosa</i> Ker	156	Panigrahi	230
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<b>Chamahainia cuspidata</b>		<b>C. elatior</b> R. Br.	328
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<b>Cinnamomum bejolghota</b>		<b>C. fragrans</b> Willd.	262
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<b>C. camphora</b> (L.) J. Presl	333	C. B. Clarke	262
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<i>C. obtusifolium</i> Roxb. ex		Sweet	263
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<i>C. lepskyi</i> Petrak	16	var. <i>urticifolia</i> (Roxb.)	
<b>C. shansiense</b> Petrak	16	C. B. Clarke	264
<b>C. verutum</b> (D. Don) Spreng.	16	<i>C. squamatum</i> auct. non	
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<i>C. leucosceptrum</i> D. Don	286	Hook. f.	16
<i>C. odoratum</i> D. Don	261	var. <i>horrida</i> Hook. f.	17
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<i>F. rhododendrifolia</i> Miq.	379	<b>G. ovata</b> Wall.	175
<b>F. rigida</b> Jack	402	<b>Gaultheria codonantha</b> Airy Shaw	69
<i>F. rostrata</i> Lam.	404	<b>G. fragrantissima</b> Wall.	69
<i>F. roxburghii</i> Miq.	391	<b>G. griffithiana</b> Wight	69
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<b>F. rumphii</b> Blume	403	<b>G. seshagiriana</b> Subba Rao et Kumari	70, 71
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<b>F. sagittata</b> var. <i>oligosperma</i> (Miq.) Corner	Vahl 403	<b>Gaultheria thymifolia</b> Stapf. ex Airy Shaw	70
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<i>F. subpyriformis</i> Miq.	390	<b>G. campanulacea</b> (Wall. et Griff.) Marq.	180
<b>F. subulata</b> Blume	405	<i>G. capitata</i> auct. non Buch.- Ham. ex D. Don	180
<i>F. urophylla</i> Wall. ex King	397	<b>G. cephalodes</b> Edgew.	180
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(Nees) A. M. et J. M. Cowan	249	<b>Q. oxyodon</b> Miq.	<b>433</b>
<b>Pseuderanthemum leptanthus</b>		<i>Q. pachyphylla</i> Kurz	430
(C. B. Clarke) Lindau	250	<b>Q. rex</b> Hemsl.	<b>433</b>
<b>P. palatiferum</b> (Wall.)		<b>Q. semecarpifolia</b> Sm.	<b>433</b>
Radlk.	250	<b>Q. semiserrata</b> Roxb.	<b>433</b>
<b>Psilotrichum ferrugineum</b>		<i>Q. serrata auct. non</i> Thunb.	431
(Roxb.) Moq.	305	<i>Q. spicata</i> Sm.	429
<i>P. trichotomum</i> Blume	305	var. <i>chiitagonga</i> Hook. f.	429
<b>Pteracanthus nobilis</b>		var. <i>depressa</i> (Blume) King	429
(C. B. Clarke) Bremek.	250	var. <i>glaberrima</i> (Blume) Miq.	429
<i>Pterostigma capitatum</i>		<i>Q. tributoides</i> Smith	429
Benth.	209	<i>Q. xylocarpa</i> Kutz	431
<i>Purkayasthaea pseudomicropora</i>		<b>Rahdosia coetsa</b> (Buch.-Ham. ex D. Don) H. Hara	<b>293</b>
Purkay. ex V. Naray.	332	<b>R. lophanthoides</b> (Buch.- Ham. ex D. Don) H. Hara	<b>295</b>
<b>Pygmaeopremna herbacea</b>		var. <i>graciliflora</i> (Benth.) H. Hara	<b>295</b>
(Roxb.) Moldenke	272	var. <b>lophanthoides</b>	<b>295</b>
<b>Pyrola rotundifolia</b> L.	73	<b>R. repens</b> (Wall. ex Benth.) H. Hara	<b>295</b>
<b>Quercus acutissima</b>		<b>R. scrophularioides</b> (Wall. ex Benth.) H. Hara	<b>296</b>
Carruth.	431	<b>R. ternifolia</b> (D. Don) H. Hara	<b>296</b>
<i>Q. armata</i> Roxb.	427		
<i>Q. dealbata</i> Hook. f. et Thomson ex Miq.	429		
<i>Q. elegans</i> Blume	429		
<i>Q. fenestrata</i> Roxb.	430		
<i>Q. glomerata</i> Roxb.	429		
<i>Q. grandifolia</i> D. Don	428		
<b>Q. griffithii</b> Hook. f. & Thomson ex Miq.	431		
<b>Q. helferiana</b> DC.	432		

<i>Radermachera bipinnata</i>		<i>R. aucklandii</i> Hook. f.	83
(Coll. et Hamsl.) Steenis ex		<i>R. aureum</i> Franch.	98
Chatterjee	236	<b>R. barbatum</b> Wall. ex G. Don	75
<b>R. gigantean</b> (Blume) Miq.	236	<b>R. beanianum</b> Cowan	75
<b>R. glandulosa</b> (Blume)		<i>R. bhutanicum</i> C. B. Clarke	87
Miq.	237	<b>R. boothii</b> Nutt.	75
<b>R. sinica</b> (Hance) Hemsl.	237	<b>R. bulu</b> Hutch.	76
<b>RAFFLESACEAE</b>	318	<b>R. calostrotum</b> Balf. f. et	
<b>Rapanea capitellata</b> (Wall.)		Kingdon-Ward	
Mez	127	subsp. <i>riparium</i> (Kingdon-	
<b>Raphistemma pulchellum</b>		Ward) Cullen	76
Wall.	173	<b>R. camelliflorum</b> Hook. f.	76
<b>Rauvolfia densiflora</b> (Wall.)		<b>R. campanulatum</b> D. Don	76
Benth. ex Hook.	158	var. <i>wallichii</i> (Hook. f.)	
<b>R. serpentina</b> (L.) Benth.		Hook. f.	97
ex Kurz	158, 159	<b>R. campylocarpum</b> Hook. f.	77
<i>Rhabdia lycioides</i> auct.		<b>R. campylogynum</b> Franch.	77
non Mart.	189	<b>R. cephalanthum</b> Franch.	77
<b>Rhinacanthus calcaratus</b>		<b>R. chamaethomsonii</b> (Tagg et	
Nees	251	Forrest) Cowan et	
<b>R. grandiflorus</b> Dunn	251	Davidian	77
<i>Rhinanthus bifidus</i> Buch.-Ham. ex		<b>R. cinnabarinum</b> Hook. f.	
D. Don	216	subsp. <i>cinnabarinum</i>	78
<i>R. indicus</i> L.	209	subsp. <i>xanthocodon</i> (Hutch.)	
<b>Rhododendron anthopogon</b>		Cullen	78
D. Don		var. <i>pallidum</i> Hook.	78
subsp. <i>anthopogon</i>	73	var. <i>purpurellum</i> Cowan	78
subsp. <i>hypenanthum</i>		<b>R. concinoides</b> Hutch. et	
(Balf. f.) Cullen	73	Kingdon-Ward	78
<b>R. arboreum</b> Sm.	74	<i>R. crassum</i> Franch.	87
subsp. <i>arboreum</i>		<i>R. crebreflorum</i> Hutch. et	
var. <i>arboreum</i>	74	Kingdon-Ward	77
var. <i>album</i> Wall.	74	<i>R. crennastex</i> Balf. f. et	
subsp. <i>cinnamomeum</i>		Farrer	86
var. <i>roseum</i> Lindl.	74	<b>R. crinigerum</b> Franch.	79
subsp. <i>delavayi</i> (Franch.)		<b>R. dalhousiae</b> Hook. f.	79
D. F. Chamb.		var. <i>dalhousiae</i>	79
var. <i>delavayi</i>	74	var. <i>rhabdotum</i> (Balf. f.	
var. <i>peramoenum</i> (Balf. f. et		et Cooper) Cullen	79
Forrest) D. F. Chamb.	74	<i>R. delavayi</i> Franch.	74
<i>R. argenteum</i> Hook. f.	83	<i>R. delavayiense</i> Hutch. et	
<b>R. arizelum</b> Balf. f. et		Kingdon-Ward	95
Forrest	75	<b>R. dendricola</b> Hutch.	79

<b>Rhododendron edgeworthii</b>		<b>R. kasoense</b> Hutch. et Kingdon-	
Hook. f.	80	Ward	85
<i>R. epapillatum</i> Balf. f. et		<b>R. kendrickii</b> Nutt.	85
Cooper	91	<b>R. keysti</b> Nutt.	85
<b>R. eudoxum</b> Balf. f. et		<b>R. lanatum</b> Hook. f.	86
Forrest	80	<i>R. lancifolium</i> Hook. f.	75
<b>R. exasperatum</b> Tagg	80	<b>R. lanigerum</b> Tagg	86
<i>R. eximium</i> Nutt.	81	<b>R. lepidotum</b> Wall. ex	
<b>R. falconeri</b> Hook. f.	80	G. Don	86
subsp. <i>falconeri</i>		<b>R. leptocarpum</b> Nutt.	86
var. <i>falconeri</i>	80	<b>R. lindleyi</b> T. Moore	87
subsp. <i>eximium</i> (Nutt.)		<i>R. longiflorum</i> Nutt.	83
D. F. Chamb.	81	<b>R. maddenii</b> Hook. f.	87
<i>R. flinckii</i> Davidian	86	subsp. <i>crassum</i> (Franch.)	
<b>R. formosum</b> Wall.	81	Cullen	87
var. <i>formosum</i>	81	subsp. <i>maddenii</i>	87
var. <i>inaequale</i> (Hutch.)		var. <i>calophylla</i> (Nutt.)	
Cullen	81	C. B. Clarke	87
var. <i>johnstoneanum</i> Watt		var. <i>longiflora</i> Watson	87
ex Brandis	85	var. <i>obtusifolia</i> Hutch.	87
var. <i>salicifolium</i>		<i>R. manipurensis</i> Balf. f. et	
C. B. Clarke	81	Watt	87
<b>R. fulgens</b> Hook. f.	82	<b>R. megacalyx</b> Balf. f. et	
<b>R. fulvum</b> Balf. f. et		Kingdon-Ward	88
W.W. Sm.	82	<b>R. megeratum</b> Balf. f.	
<b>R. glaucophyllum</b> Rehder	82	et Forrest	88
var. <i>glaucophyllum</i>	82	<b>R. mekongense</b> Franch.	
var. <i>tubiforme</i> Cowan et		var. <i>rubrolineatum</i> (Balf. f.	
Davidian	82	et Forrest) Cullen	88
<i>R. glaucum</i> Hook. f.	82	<b>R. micromeres</b> Tagg	88
<b>R. grande</b> Wight	83	<i>R. mishmiense</i> Hutch. &	
<b>R. griffithianum</b> Wight	83, 84	Kingdon-Ward	75
<i>R. haemonium</i> Balf. f. &		<b>R. nayarii</b> G. D. Pal	88
Cooper	73	<b>R. neriifolium</b> Franch.	88
<b>R. hodgsonii</b> Hook. f.	83	subsp. <i>neriifolium</i>	88
<b>R. hookeri</b> Nutt.	83	subsp. <i>phaedropum</i>	
<i>R. hypenanthum</i> Balf. f.	73	(Balf. f. et Farrer) Tagg	90
<i>R. inaequale</i> Hutch.	81	<b>R. niveum</b> Hook. f.	90
<i>R. iteaphyllum</i> Hutch.	81	<b>R. nuttallii</b> Booth	90
<i>R. jenkinsii</i> Nutt.	27	<i>R. oblongum</i> Griff.	83
<b>R. johnstoneanum</b> (Watt ex		<b>R. obtusum</b> (Lindl.) Planch.	90
Brandis) Hutch.	85	<i>R. oleifolium</i> Franch.	97

<i>R. pankimense</i> Cowan <i>et</i> Kingdon-Ward	85	<i>R. tawangense</i> K. C. Sahni <i>et</i> H. B. Naithani	90
<b>R. papillatum</b> Balf. f. <i>et</i> Cooper	91	<b>R. tephropeplum</b> Balf. f. <i>et</i> Farrer	95
<b>R. parryae</b> Hutch.	91	<b>R. thomsonii</b> Hook. f.	95
<i>R. patulum</i> Kingdon-Ward	91	<b>R. transtylum</b> Balf. f. <i>et</i> Kingdon-Ward	95
<b>R. pemakoense</b> Kingdon- Ward	91	<b>R. triflorum</b> Hook. f.	96
<b>R. pendulum</b> Hook. f.	91	<b>R. tsariense</b> Cowan	96
<i>R. peramoenum</i> Balf. f. <i>et</i> Forrest	74	<b>R. uvarifolium</b> Diels	96
<b>R. peramoinum</b> Balf. f. <i>et</i> Forrest	92	<b>R. vaccinoides</b> Hook. f.	97
<i>R. phaedropium</i> Balf. f. <i>et</i> Farrer	90	<b>R. virgatum</b> Hook. f. subsp. <b>oleifolium</b> (Franch.) Cullen	97
<b>R. pruniflorum</b> Hutch.	92	subsp. <b>virgatum</b>	97
<b>R. pumilum</b> Hook. f.	92	<b>R. wallichii</b> Hook. f.	97
<i>Rhododendron pumilum</i> Nutt. <i>non</i> Hook. f.	86	<b>R. walongense</b> Kingdon- Ward	97
<i>R. repens</i> Balf. f. <i>et</i> Forrest var. <i>chamaethomsonii</i> Tagg <i>et</i> Forrestin	77	<b>R. wightii</b> Hook. f.	98
<i>R. rhabdotum</i> Balf. f. <i>et</i> Copper	79	<i>R. xanthocodon</i> Hutch.	78
<i>R. riparium</i> Kingdon -Ward	76	<b>R. xanthostephanum</b> Merr.	98
<i>R. rubrolineatum</i> Balf. f. <i>et</i> Forrest	88	<i>Rhodora deflexa</i> Griff.	69
<b>R. santapaul</b> Sastry <i>et al.</i>	92	<b>Rhopalocnemis phalloides</b> Jungh.	359
<b>R. setosum</b> D. Don	93	<b>Rhynchodia verrucosa</b> (Blume) Woodson.	163
<b>R. sidereum</b> Balf. f.	93	<b>R. wallichii</b> (A. DC.) Benth.	160
<b>R. sinogrande</b> Balf. f. <i>et</i> W.W. Sm.	93	<b>Rhynchoglossum lazulinum</b> A. S. Rao <i>et</i> J. Joseph	233
<b>R. smithii</b> Nutt. <i>ex</i> Hook. f.	93	<b>R. obliquum</b> Blume var. <i>parviflora</i> C. B. Clarke	233
<i>R. sordidum</i> Hutch	92	<b>Rhynchotechum calycinum</b> C. B. Clarke	234
<i>R. sparsiflorum</i> Nutt.	76	<b>R. ellipticum</b> (Dietr.) A. DC.	234
<b>R. stenaulum</b> Balf. f. <i>et</i> W.W.Sm.	94	<b>R. vestitum</b> C. B. Clarke	234
<b>R. stewartianum</b> Diels	94	<b>Rhynchospermum verticillatum</b> Reinw.	36
<b>R. subansiricense</b> D. F. Chamb.	94	<i>R. wallichii</i> A. DC.	160
<b>R. succothii</b> Davidian	94	<b>Ricinus communis</b> L.	381
<b>R. taggianum</b> Hutch.	95		

<b>Rivea ornata</b> (Roxb.)		<b>S. daltoniana</b> Andersson	435
Choisy	197	<b>S. denticulata</b> Andersson	435
<b>Rostellularia japonica</b>		<b>S. disperma</b> Roxb. ex	
(Thunb.) J. L. Ellis	244	D. Don	435
<b>R. mollissima</b> Nees	245	<b>S. elegans</b> Wall. ex	
<b>Rottlera alba</b> Roxb. ex Jack.	377	Andersson	435
<b>R. ferruginea</b> Roxb.	377	<b>S. julacea</b> Andersson	435
<b>R. peltata</b> Roxb.	378	<b>S. longiflora</b> Andersson	435
<b>R. tetraocca</b> Roxb.	377	<b>S. serpyllum</b> Andersson	436
<b>Rotula aquatica</b> Lour.	189	<b>S. tetrasperma</b> Roxb.	436
<b>Roupala robusta</b> Roxb.	346	<b>S. wallichiana</b> Andersson	435
<b>Ruellia anagallis</b> Burm. f.	213	var. <i>grisea</i> Andersson	435
<b>R. antipoda</b> L.	213	var. <i>julacea</i> (Andersson)	
<b>R. erecta</b> Burm. f.	242	Andersson	435
<b>R. imbricata</b> Forssk.	247	<b>Salvia mecongensis</b> Peter Stibai	
<b>R. maculata</b> Wall.	255	var. <i>assamensis</i>	
<b>R. salicifolia</b> Vahl	243	Peter Stibai	296
<b>Rumex acutus</b> Roxb.	317	SANTALACEAE	358
<b>R. hastatus</b> D. Don	317	<b>Sapium baccatum</b> Roxb.	381
<b>R. maritimus</b> L.	317	<b>S. eugeniaefolium</b> Buch.-	
<b>Rungia latior</b> Nees	251	Ham. ex Hook. f.	382
<b>R. parviflora</b> (Retz.) Nees	251	<b>S. insigne</b> (Royle) Benth.	
<b>R. repens</b> Nees	251	ex Hook. f.	382
<b>R. stolonifera</b>		SAPOTACEAE	129
C. B. Clarke	252	<b>Sapria griffithii</b> Br.	318
<b>Sabaea khasiana</b>		<b>S. himalayana</b> Griff.	318
C. B. Clarke	182	<b>Sarcandra glabra</b> (Thunb.)	
<b>S. microphylla</b> (Edgew.)		Nakai	329
Knobl.	182	<b>Sarcochlamys pulcherrima</b>	
<b>Sadiria bourii</b> Dunn	127	(Roxb.) Gaud.	423
<b>S. erecta</b> Mez		<b>Sarcococca pruniformis</b> auct.	
var. <i>longipetiolata</i>		non Lindl.	382
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<b>S. eugenifolia</b> (Wall. ex A. DC.)		f. in Benth. & Hook. f.	131
Mez	127	<b>S. griffithii</b> Hook. f.	131
<b>S. griffithii</b> (C. B. Clarke)		<b>Sarcostemma secamone</b>	
Mez	129	(L.) Bennet	173
<b>S. subsessilifolia</b> M. P. Nayar <i>et</i>		<b>Sauropus albicans</b> Blume	382
G. S. Giri	129	<b>S. androgynus</b> (L.) Merr.	382
SALICACEAE	434	<b>S. macranthus</b> Hassk.	383
<b>Salix babylonica</b> L.	434	<b>S. macrophyllus</b> Hook. f.	383
<b>S. bhutanensis</b> Flod.	434	<b>S. stipulatus</b> Hook. f.	383

<b>Sauropus trinervius</b> Wall.		var. <i>sikkimensis</i> Hook. f.	297
ex Muell. Arg.	383	<i>Sebifera glutinosa</i> Lour.	337
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<i>Saussurea affinis</i>		ex Willd.) Baill.	<b>383</b>
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<b>S. crispa</b> Vaniot	36	Wall. ex DC.	44
<b>S. deltoidea</b> (DC.) Sch.-Bip.	37	<i>S. alatus</i> Wall. ex DC.	44
<i>S. deltoidea</i> (DC.) Sch.-Bip.		<i>S. araneosus</i> DC.	17
var. <i>nivea</i> (DC.) Hook. f.	36	var. <i>walkeri</i> (Arn.)	
<b>S. gossypiphora</b> D. Don	37	C. B. Clarke	17
<i>S. nivea</i> (DC.) N. P. Balakr.	36	<b>S. biligulatus</b> W.W.Sm.	<b>38</b>
<b>S. obvallata</b> (DC.) Edgew.	37	<i>S. borii</i> Raizada	45
<b>S. sughoo</b> C. B. Clarke	37	<i>S. cappa</i> Buch.-Ham. ex D.	
<b>S. taraxacifolia</b> Wall. ex DC.	37	Don	45
<b>Scoparia dulcis</b> L.	<b>218</b>	<i>S. chenopodifolius</i> DC.	14
<i>Scopolia anomala</i> (Link &		<i>S. chrysanthemoides</i> DC.	
Otto) Airy Shaw	205	var. <i>khasiana</i> (C. B. Clarke)	
<i>S. composita</i> L. f.	347	Hook. f.	40
<i>S. lurida</i> (Link & Otto		var. <i>spectabilis</i> Hook. f.	38
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<b>S. stramonifolia</b> (Wall.)		var. <i>lobbii</i> Hook. f.	45
Shrestha	205	var. <i>mishmiensis</i> Hook. f.	46
<b>Scrophularia elatior</b> Benth.	<b>218</b>	<i>S. diversifolius</i> Wall. ex DC.	40
<b>S. pauciflora</b> Benth.	<b>218</b>	<b>S. graciliflorus</b> DC.	<b>38</b>
<b>S. urticaefolia</b> Wall. ex		<i>S. kunthianus</i> Wall. ex DC.	46
Benth.	218	<b>S. laetus</b> Edgew.	
<b>SCROPHULARIACEAE</b>	<b>209</b>	var. <i>spectabilis</i> (Hook. f.)	
<b>Scurrula elata</b> (Edgew.)		R. Mathur	<b>38</b>
Danser	355	<b>S. latifolius</b> C. B. Clarke	<b>38</b>
<b>S. ferruginea</b> (Jack)		<i>S. macranthus</i> C. B. Clarke	33
Danser	355	<b>S. mishmi</b> C. B. Clarke	<b>39</b>
<b>S. gracilifolia</b> (Schult.)		<i>S. mortonii</i> C. B. Clarke	15
Danser	355	<i>S. nagensium</i> C. B. Clarke	46
<b>S. parasitica</b> L.	<b>355</b>	<b>S. nodiflorus</b> Chang	<b>39</b>
<b>S. pulverulenta</b> (Wall.)		<b>S. nudicaulis</b> Buch.-Ham.	
G. Don	356	ex D. Don	<b>39</b>
<i>S. umbellifer</i> (Schult.)		<i>S. pallens</i> Boj. ex DC.	
G. Don	356	var. <i>khasiana</i> C. B. Clarke	40
<b>Scutellaria assamica</b>		<i>S. pseudochina</i> L.	29
Mukerjee	297	<b>S. ramosus</b> Wall. ex DC.	<b>39</b>
<b>S. discolor</b> Colebr.	297	<b>S. raphanifolius</b> Wall. ex	
<b>S. violacea</b> Heyne ex		DC.	40
Benth.	297	<i>S. saluenensis</i> Diels	46

<i>Senecio saxatilis</i> auct. non Wall. ex DC.	40	<i>S. macrodon</i> Wall. ex Nees	202
<i>S. scandens</i> auct. non Buch.- Ham. ex D. Don	40	var. <i>lysimachioides</i> (Wall.) C. B. Clarke	202
<i>S. solidaginea</i> Hand.-Mazz.	46	<i>S. melongena</i> L.	207
<i>S. tetranthus</i> DC.	47	<i>S. myriacanthum</i> Dunal	207
<i>S. triligulatus</i> Buch. Ham, ex D. Don	47	<i>S. nigrum</i> L.	207
<i>S. valerianefolius</i> Wolf	22	<i>S. pubescens</i> Willd.	
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<b>Senecio wightii</b> (DC.) Benth. ex Hook. f.	40	<b>S. spirale</b> Roxb.	208
<i>Sesamum indicum</i> L.	239	<i>S. stramonifolium</i> auct. non Jacq.	208
<b>S. orientale</b> L.	239	<i>S. subtruncatum</i> Wall. ex Dunal	202
<i>Sibthorpia pinnata</i> (Wall. ex Benth.) Benth. et Hook. f.	210	<b>S. torvum</b> Sw.	208
<i>Sideritis ciliata</i> Thunb.	280	<i>S. verbascifolium</i> auct. non L.	206
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