



Flora of India
Series - 2

Materials for the Flora of Arunachal Pradesh (HYDROCHARITACEAE – POACEAE)

Volume 3



भारतीय वनस्पति सर्वेक्षण
BOTANICAL SURVEY OF INDIA

Botanical Survey of India
Ministry of Environment and Forests

Editors

H.J. CHOWDHERY

G.S. GIRI

&

A. PRAMANIK

ISBN : 81-8177-X

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Flora of Arunachal Pradesh**

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Date of Publication: August, 2009

ISBN: 81-8177-034-X

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Cover photo : Front : *Coelogyne arunachalensis* Chowdhery & Pal
Eria sharmae H.J. Chowdhery & Pal
Back : *Rhaphidophora glauca* (Wall.) Schott

Price Rs.608.00 or \$ 72.00

Published by the Director, Botanical Survey of India, CGO Complex, 3rd MSO Building, Block F, 5th & 6th Floor, DF Block, Sector I, Salt Lake City, Kolkata 700 064 and Printed at Deep Printers, 70A, Rama Road Industrial Area (NJR), New Delhi-110015. Ph. : 25925099.

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Amorphophallus paenifolius (Dennst.) Nicolson



Caryota urens L.



Coelogyne arunachalensis Chowdhery & Pal



Curculigo orchoides Gaertn.



Dendrocalamus giganteus Munro



Eria javanica (Sw.) Blume



Eria sharmae H.J. Chowdhery & Pal



Flickingeria fugax (Rchb.f.) Hawkes



Licuala spinosa Thunb.- frts



Musa velutina Wendl. & Drude



Rhipidophora decursiva (Roxb.) Schott



Rhaphidophora glauca (Wall.) Schott

HYDROCHARITACEAE

Hydrilla verticillata (L.f.) Royle, Ill. Bot. Himal. 1: t. 376. 1839; Hook.f., Fl. Brit. India 5: 659. 1888. *Serpicula verticillata* L.f., Suppl. Pl. 416. 1781.

Submerged leafy herbs. Leaves 3-4-nately whorled, linear or oblong-linear. Male flowers solitary in subglobose, muricate spathes. Female flowers solitary or paired in tubular, 2-toothed spathes. Fruits subulate.

Fls. & Frts.: April June.

Distrib.: Lohit; between 100-1000 m, in stagnant water.

Ottelia alismoides (L.) Pers., Syn. Pl. 1: 400. 1805; Hook.f., Fl. Brit. India 5: 662. 1888. *Stratiotes alismoides* L., Sp. Pl. 535. 1753.

Submerged herbs with fibrous roots. Leaves crowded, long petioled, ovate-lanceolate or oblong, cordate at base. Flowers solitary in tubular, 2-fid spathes, white. Fruits oblong, crowned with dried perianth.

Fls. & Frts.: April-Aug.

Distrib.: Changlang, Kameng, Lohit, Tirap; between 500-1200m, in deep or shallow water along roadsides.

Vallisneria spiralis L., Sp. Pl. 1015. 1753; Hook.f., Fl. Brit. India 5: 660. 1888; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 12: 140. 1970.

Submerged, stoloniferous, tufted, deciduous herbs. Leaves linear, strap shaped, 5-nerved, entire or serrulate. Flowers many, shortly pedicelled, white. Male spathes on 1-2 cm long scape. Female spathes on long slender scape.

Fls. & Frts.: March June.

Distrib.: Kameng; between 100-1700 m, in ponds and lakes.

ORCHIDACEAE

Acampe ochracea (Lindl.) Hochr. in Bull. New York Bot. Gard. 6: 270. 1910; H.J. Chowdhery, Orch. Fl. Arunachal Pradesh 39, f.11. 1998. *Saccolabium ochraceum* Lindl. in Bot. Reg. 28: misc.2.

1842; Hook.f., Fl. Brit. India 6: 62. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 219, t.291. 1898.

Epiphytic herbs up to 1 m high. Stems erect, stout. Leaves oblong, keeled, unequally bifid at apex. Flowers in leaf-opposed panicle, yellow. Lip 3-lobed, spurred; apical lobe white. speckled with purple.

Fls. & Frts.: Nov. Feb.

Distrib.: Kameng, Tirap; between 200-1000 m, on moss covered branches of large trees in tropical forests.

Acampe papillosa (Lindl.) Lindl., Fol. Orchid. Acampe 2: 1853; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 41, f.12. 1998. *Saccolabium papillosum* Lindl. in Bot. Reg. t. 1552. 1841; Hook. f., Fl. Brit. India 6: 63. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 219, t.290. 1898.

Epiphytic, erect herbs upto 20 cm high. Leaves narrowly oblong, obtusely bilobed at apex. Flowers in leaf-opposed subcorymbose raceme, white with yellowish transverse bars. Lip 3-lobed with conical spur.

Fls. & Frts.: Jan. Aug.

Distrib.: Tirap; between 1000-1500 m, on trees in forests.

Acampe praemorsa (Roxb.) Blatter & McCann in J. Bombay Nat. Hist. Soc. 35: 1495. 1932; Singh, K.P., Phukan & Bujarbarua in Fl. Div. Cons. Strat. India 4: 1786. 2001. *Epidendrum praemorsum* Roxb., Pl. Coromandel. 34. 1795. *Saccolabium wightianum* (Lindl. ex Wight) Hook.f., Fl. Brit. India 6: 62. 1890. *Saccolabium praemorsum* sensu Hook.f., Fl. Brit. India 6: 62. 1890.

Epiphytic, erect, slender herbs up to 50 cm high. Leaves 10-15 cm long, narrow. Flowers small, papillose all over. Lip deeply lobed. Spur rounded, pubescent at the base within.

Fls. & Frts. : August November.

Distrib. : Kameng, Subansiri, between 500-1200 m, on tree trunks in forests.

Acampe rigida (Buch.- Ham. ex Sm.) P.F. Hunt in Kew Bull. 24: 98. 1970; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 41, f.13. 1998. *Aerides rigida* Buch.-Ham. ex Sm. in Rees. Cyclop. 39, *Aerides* n. 12. 1819; Hook.f., Fl. Brit. India 6: 48. 1890. *Vanda multiflora* Lindl., Coll. Bot. t. 38. 1825. *Acampe multiflora* (Lindl.) Lindl., Fol. Orchid. Acampe 1. 1853; H. J. Chowdhery, Orch. Fl.

Arunachal Pradesh 39.1998. *Saccolabium longifolium* Hook.f., Fl. Brit. India 6: 62. 1890.

Epiphytic, stout herbs up to 90 cm high. Leaves elongated, oblong, unequal at apex. Flowers in leaf-opposed raceme, crowded, yellow with transverse stripes. Lip 3-lobed, saccate, white, purple spotted.

Fls. & Frts.: Sept. Dec.

Distrib.: Kameng, Subansiri; between 500-1500 m, on tree trunks in primary forests.

Acanthephippium striatum Lindl. in Bot. Reg. 24: misc.41, no. 68. 1838; Hook.f., Fl. Brit. India 5: 816. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 43, f.14. 1998.

Terrestrial herbs. Pseudobulbs obpyriform, tapering into cylindric stems. Stems up to 20 cm long. Leaves elliptic, acute. Flowers in few flowered raceme, pinkish with red lines. Lip 3-lobed, yellow tinged.

Fls. & Frts.: July Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 600-1000 m, underneath primary forests on thick humus soil.

Acanthephippium sylhetense Lindl., Gen. Sp. Orch. Pl. 177. 1833; Hook.f., Fl. Brit. India 5: 815. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 43, f.15. 1998.

Terrestrial herbs. Pseudobulbs ovoid, tapering above into stout, leafy stem. Stems upto 35 cm long. Leaves elliptic, plicate. Flowers in short, lateral sheathed raceme, dull white with yellow blotches. Lip 3 lobed; apical lobes yellow. Capsules purple when ripe.

Fls. & Frts.: April June.

Distrib.: Siang; between 1000-1500 m, underneath forests on thick humus soil.

Acrochaene punctata Lindl., Fol. Orchid. Acrochaene: 1. 1853; Hook.f., Fl. Brit. India 5 : 783. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 43, f.16.1998.

Epiphytic herbs. Rhizomes stout, creeping. Pseudobulbs ovoid. Leaves oblong, obtuse. Raceme growing straight, downwards from the base of pseudobulbs. Flowers glaucous, pale-green. Lip clawed. Capsules clavate.

Fls. & Frts.: Oct. Jan.

Distrib.: Subansiri; between 1000-1500 m, on moss covered branches of trees in subtropical moist forests.

Aerides falcata Lindl. in Paxton, Fl. Gard. 2: 142. 1851; Hook. f., Fl. Brit. India 6: 46. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 47. 1998.

Epiphytic herbs. Stems robust, upto 25 cm long. Leaves linear-oblong, notched at apex. Flowers in axillary, lax flowered raceme, white or pink; rachis decurved. Lip 3-lobed; mid lobe ovate-cordate, erose; spur straight.

Fls. & Frts.: July Sept.

Distrib.: Kameng, Subansiri; between 1000-1800 m, on trees in open forests and forest borders.

Aerides multiflora Roxb., Corom. Pl. 3: 68, t.271. 1820; Hook. f., Fl. Brit. India 6: 44. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 212, t.283. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 49. 1998.

Epiphytic herbs, 10-25 cm long. Leaves narrowly oblong, obliquely bifid, often reddish-purple tinged. Flowers in raceme, white, flushed with pink or purple. Lip indistinctly 3-lobed; spur short, straight. Capsules fusiform.

Fls. & Frts.: May Sept.

Distrib.: Kameng, Subansiri; between 100-1200 m, on tree trunks in forests.

Aerides odorata Lour., Fl. Cochinch. 2: 525. 1790; Hook.f., Fl. Brit. India 6: 47. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 212, t.282. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 49, f.17. 1998.

Epiphytic herbs. Stems 30-45 cm long. Leaves oblong, unequally bilobed at apex. Flowers supra axillary, white with purple blotches, lemon fragrant. Lip deeply 3-lobed; spur large, curved. Capsules fusiform.

Fls. & Frts.: June Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri; between 100-1000 m, on tree trunks in primary and secondary forests.

Aerides rosea Lodd. ex Lindl. & Paxton in Paxton, Fl. Gard. 2: 109, t.60. 1852; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 49. 1998. *Aerides fieldingii* B. S. Williams, Orch. Grow. Man. ed.

2: 39. 1862; Hook.f., Fl. Brit. India 6: 45.1890. *A. williamsii* R. Warner, Sel. Orch. Pl. ser. 1: t. 21. 1862.

Epiphytic herbs upto 25 cm tall. Stems suberect. Leaves linear-oblong, bilobed at apex. Flowers in axillary raceme, pendent, pink. Lip 3-lobed; mid-lobe with bilobed callus at base; spur conical, straight. Capsules fusiform.

Fls. & Frts.: Aug. Nov.

Agrostophyllum brevipes King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 156, t.213. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 51, f.18. 1998. *A. callosum auct. non* Rchb. f.: Hook.f., Fl. Brit. India 5: 824. 1890. *p.p.*

Epiphytic herbs. Stems clavate upto 35 cm long, clothed with membranous sheaths. Leaves linear-oblong. Flowers in terminal heads, small, white. Lip 3-lobed with callii. Capsules narrowly ellipsoid.

Fls. & Frts.: Aug. Nov.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1800 m, on tree trunks in dense primary forests.

Agrostophyllum callosum Rchb.f. in Seem., Fl. Vit. 296. 1868; Hook. f., Fl. Brit. India 5: 824. 1890, *p.p.*; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 155, t.212. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 53. 1998.

Epiphytic herbs. Stems erect, up to 60cm long, arising from rhizomes at a distance of 2-5 cm from each other. Leaves many, sessile, linear-oblong, 10-15 × 1-1.5 cm, gradually tapering from the base to the notched apex. Inflorescence in terminal heads. Flowers pink or reddish, 5-6 mm across. Lip variable, 3-lobed, side lobes broadly rounded; mid lobe obreniform, emerginate, decurved.

Distrib.: Kameng, Subansiri; between 1000-2000m, on tree trunks in moist forests.

Agrostophyllum myrianthum King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 155, t. 211. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 53, f.20. 1998.

Epiphytic herbs upto 70 cm tall. Rhizomes stout with adpressed lanceolate scales. Stems subcylindric or clavate, many leaved. Leaves linear-lanceolate, notched at apex. Flowers in terminal, globose heads, densely crowded, yellowish. Lip oblong, 3-lobed; apical lobe broadly ovate, entire or slightly notched.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng, Subansiri; between 200-500 m, on branches of trees in tropical primary forests.

Agrostophyllum planicaule (Wall. ex Lindl.) Rehb. f. in Walp., Ann. 6: 909. 1864. *Eria planicaulis* Wall. ex Lindl. in Bot. Reg. 26: misc.8, no.4. 1840. *Agrostophyllum khasianum* Griff. in Calcutta J. Nat. Hist. 4: 376, t.19. 1844; Hook. f., Fl. Brit. India 5: 824. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 154, t.210. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 53, f.19. 1998.

Epiphytic herbs. Stems tufted, cylindrical at base, flattened at apex. Leaves oblong, obtuse, emarginate at apex. Flowers in terminal heads, white. Lip 3-lobed with yellow patch on apical lobe. Capsules ellipsoid.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-800 m, on tree trunk in humid primary forests.

Ania penangiana (Hook.f.) Summerh. in Bot. Mag. 161: t.9553. 1939. *Tainia penangiana* Hook.f., Fl. Brit. India 5: 820. 1890. *Ania hookeriana* (King & Pantl.) T. Tang & F. T. Wang ex Summerh. in Curtis, Bot. Mag. 161: t.9553. 1939; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 55, f. 21. 1998. *Tainia hookeriana* King & Pantl. in J. Asiat. Soc. Bengal 64(3): 336. 1895 et in Ann. Roy. Bot. Gard. (Calcutta) 8: 103, t.143. 1898.

Terrestrial herbs. Rhizomes stout. Pseudobulbs in cluster, ovoid. Leaves oblong-lanceolate, plicate. Flowers in laxly many flowered, long raceme, greenish with brown stripes. Lip oblong with curved spur, white.

Fls. & Frts.: March May

Distrib.: Kameng; between 1200-1500 m, on thick humus soil in moist forests.

Anoectochilus brevilabris Lindl., Gen. Sp. Orch. Pl. 499. 1840; Hook.f., Fl. Brit. India 6: 95. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 57. 1998. *Anoectochilus sikkimensis* King & Pantl. in J. Asiat. Soc. Bengal 65 : 124. 1896 et in Ann. Roy. Bot. Gard. (Calcutta) 8: 294, t. 391. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 61, f. 26. 1998.

Terrestrial herbs upto 30 cm high. Leaves elliptic-ovate, acute. Flowers in raceme, white or greenish-white; rachis glandular hairy. Lip with two terminal, divergent lobes, spur pouch-like.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1200-1800 m, on humus soil in dense, moist evergreen subtropical forests.

Anoectochilus roxburghii (Wall.) Lindl. in Royle, Ill. Bot. Himal.: 368. 1839 *et* Gen. Sp. Orch. Pl. 499. 1840; Hook.f., Fl. Brit. India 6: 95. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 293, t.390. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 61, f.25. 1998. *Chrysobaphus roxburghii* Wall., Tent. Fl. Nepal. 37, t.27. 1826.

Terrestrial herbs up to 30 cm high. Stems decumbent at base. Leaves unequal, ovate, purplish-brown with a velvety lustre. Flowers in raceme, resupinate, pink. Lip with two prominent callii; hypochile with 6-8 pairs of fimbriate processes; spur conical.

Fls. & Frts.: July Oct.

Distrib.: Kameng; between 1000-1500 m, in shady places on humus rich soil in primary forests.

Anthogonium gracile Wall. ex Lindl., Gen. Sp. Orch. Pl. 426. 1840; Hook.f., Fl. Brit. India 5: 822. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 65, f.28. 1998.

Pseudobulbs underground. Stems upto 10 cm long. Leaves lanceolate. Flowers in terminal raceme, pale to dark pink. Lip trilobulate at apex, dark pink with red spots. Capsules fusiform.

Fls. & Frts.: June Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 900-2500 m, in grasslands and on open hill slopes.

Aorchis roborovskii (Maxim.) Seidenf. in Nord. J. Bot. 2: 9. 1982; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 69, f.29. 1998. *Orchis roborovskii* Maxim. in Mel. Biol. 12: 547. 1886. *Orchis stracheyi* Hook.f., Fl. Brit. India 6: 128. 1890. *Galearis stracheyi* (Hook.f.) P. F. Hunt in Kew Bull. 26(1): 172. 1971; Harid., A. N. Rao & S. N. Hegde in J. Econ. Tax. Bot. 13(1): 111. 1989.

Terrestrial herbs with inflorescence upto 15 cm long. Rhizomes without tuber. Leaf solitary, radical, broadly elliptic. Inflorescence 3-flowered. Flowers white. Lip 3-lobed with incurved spur.

Fls. & Frts.: Aug. Sept.

Distrib.: Lohit; between 2500-3200 m, in open grasslands.

Aphyllorchis alpina King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 261, t.347. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 69, f.30. 1998.

Terrestrial, leafless herbs, 35-80 cm tall. Rhizomes clothed with polished scales. Stems with numerous tubular sheaths. Flowers in laxly flowered raceme, yellowish-red; floral bracts strongly reflexed. Lip with winged claw.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 1800-2000 m, in moist and shaded places amidst low herbs.

Aphyllorchis montana (Thw.) Rchb.f. in Linnaea 41: 57. 1876; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 262, t.349. 1898. H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 69. 1998. *Apaturia montana auct. non* Lindl., 1831:Thw., Enum. Pl. Zeyl. 301. 1861. *Aphyllorchis prainii* Hook.f., Fl. Brit. India 6: 117. 1890.

Saprophytic, rhizomatous herbs with several spikes upto 100 cm high. Flowers in raceme, about 1.5 cm across, creamy-yellow. Lip with 3-lobed epichile and erect lateral lobes.

Fls. & Frts.: July Sept.

Distrib.: Subansiri; between 1600-2500 m, on wet humus rich forest floor in temperate forests.

Apostasia odorata Blume, Bijdr. 423. 1825; S. N. Hegde & A.N. Rao in Ind. J. Forestry 10(3): 191. 1987; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 71. 1998.

Terrestrial herbs upto 30 cm high. Leaves many, lanceolate, closely set, filiform at tip. Flowers in terminal panicle, pale-yellow; perianth with dorso-mucro at tip.

Fls. & Frts.: June Aug.

Distrib.: Kameng; between 200-1000 m, in association with *Tropidia curculigoides* in tropical evergreen forests.

Apostasia wallichii R. Br. in Wall. Pl. Asiat. Rar. 1: 75, t.84. 1829; A. N. Rao & S. N. Hegde in Manilal & Sath. Kumar (eds.), Orch. Mem. 127. 2004.

Terrestrial herbs; roots fibrous, cylindrical, nodulated; stem wiry, covered by leafbases; leaves linear-lanceolate, acuminate, plicate; panicle decurved, many flowered; flowers fragrant, yellow.

Fls. & Frts.: April - Oct..

Distrib.: Kameng; between 200-1000 m, in tropical evergreen forests.

Arachnis flosaeris (L.) Rchb.f. in Bot. Centralbl. 28: 343. 1886; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 73. 1998. *Epidendrum flos-aeris* L., Sp. Pl. 952. 1753. *Aerides moschifera* Blume, Bijdr. 365. 1825. *Arachnanthe moschifera* (Blume) Blume, Rumphia 4: 55, t. 196. 199. 1848; Hook.f., Fl. Brit, India 6: 28. 1890.

Epiphytic herbs upto 1.75 m high. Leaves loriform or linear-oblong, obliquely notched at apex. Flowers in panicle, 10-12 cm diam, green or yellow with maroon dashes. Lip 3-lobed, shortly spurred below.

Fls. & Frts.: April - July.

Distrib.: Kameng, Lohit; between 100-300 m, on branches of trees in tropical primary forests.

Arachnis labrosa (Lindl. & Paxton) Rchb.f. in Bot. Centralbl. 28: 343. 1886; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 73, f. 32. 1998. *Arrhynchium labrosum* Lindl. & Paxton in Paxton, Fl. Gard. 1: 142. 1850. *Arachnanthe bilinguis* (Rchb.f.) Benth. in J. Linn. Soc, Bot. 18: 332. 1881; Hook.f., Fl. Brit. India 6: 28. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 210, t.280. 1898. *Armodorum labrosum* (Lindl. & Paxton) Schltr. in Fedde, Repert. 10: 197. 1911.

Epiphytic herbs. Stems woody, enveloped in the bases of fallen leaves. Leaves keeled, linear-oblong, unequally bilobed at apex. Flowers in axillary, laxly flowered raceme, yellowish with dark-brown markings. Lip with blunt, recurved, cylindrical spur, sagittate, white or yellow with pink line at margins.

Fls. & Frts.: Aug. - Nov.

Distrib.: Kameng; between 800-1100 m, on branches of trees in moist primary forests.

Arundina graminifolia (D. Don) Hochr. in Bull. New York, Bot. Gard. 6: 270. 1910; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 74. 1998. *Bletia graminifolia* D. Don, Prodr. Fl. Nepal. 29. 1825. *Arundina chinensis* Blume, Bijdr. 8: 502. 1825; Hook.f., Fl. Brit. India 5: 857. 1890. *A. bambusifolia* (Roxb.) Lindl., Gen. Sp. Orch. Pl. 125. 1831; Hook.f., Fl. Brit. India 5: 857. 1890;

King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 113, t.156. 1898.

Terrestrial herbs, 1-3 m high. Stems terete, woody. Leaves linear. Flowers in terminal few flowered raceme, about 8 cm across, pink, showy. Lip 3-lobed; midlobe oblong, crisped and bifid at apex. Capsules ellipsoid, ribbed.

Fls. & Frts.: March - Oct.

Distrib.: Kameng, Lohit, Siang, Triap; Subansiri; between 300-1000 m, on open grassy slopes.

Ascocentrum ampullaceum (Roxb.) Schltr. in Fedde, Repert., 1: 975. 1913; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 74. 1998. *Aerides ampullacea* Roxb., Fl. Ind. 3: 476. 1832. *Saccolabium ampullaceum* (Roxb.) Lindl., Sert. Orchid. 4: t.17. 1838; Hook. f., Fl. Brit. India 6: 64. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 220, t.293. 1898.

Epiphytic herbs. Stems 10-20 cm long, clothed with sheaths of fallen leaves. Leaves narrowly oblong, keeled, bifid at apex, brownish tinged. Flowers in axillary raceme, pink. Lip 3-lobed, spurred. Capsules subclavate.

Fls. & Frts.: March - April.

Distrib.: Kameng; between 300-1000 m, on tree trunks in primary forests.

Ascocentrum curvifolium (Lindl.) Schltr. in Fedde, Repert. Beih. 1: 975. 1913; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 75. 1998. *Saccolabium curvifolium* Lindl., Gen. Sp. Orch. Pl. 222. 1833; Hookf., Fl. Brit. India 6: 65. 1890.

Epiphytic herbs. Stems clustered, clothed with sheaths of fallen leaves. Leaves linear, acutely bifid at apex. Flowers in axillary raceme, orange-scarlet. Lip 3-lobed, spurred. Capsules subclavate.

Fls. & Frts.: March - May.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 300-1000 m, on tree trunks in primary forests.

Ascocentrum himalaicum (Deb, Sengupta & Malick) Christenson in Notes Roy. Bot. Gard. Edinburgh 44(2): 256. 1987; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 75. 1998. *Saccolabium himalaicum* Deb, Sengupta & Malick in Bull. Bot. Soc. Bengal 22(2): 213. 1968; Deori & Das in Bull. Bot. Surv. India 18(1-4): 235. 1976.

Epiphytic herbs with erect stem. Leaves terete, slender. Flowers in axillary raceme; pinkish or brownish. Lip spurred.

Fls. & Frts.: May July.

Distrib.: Kameng; between 800-1200 m, on branches of trees in primary forests.

Ascocentrum semiteretifolium Seidenf. in Bot. Tidsskr. 65: 358, f.26. 1970; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 75. 1998.

Epiphytic herbs upto 18 cm high including leaves. Leaves semiterete. Flowers in axillary, few flowered upto 5 cm long raceme. Lip 3-lobed, with small spur.

Fls. & Frts.: March April

Distrib.: Kameng; between 100-300 m, on tree branches in dense primary forests.

Biermannia arunachalensis A. N. Rao in Rheedea 16(1): 29. 2006.

Small, monopodial epiphytic herbs; leaves oblanceolate, sub-falcate, obscurely and obliquely bilobed at apex; inflorescence axillary, shorter than leaves; flowers yellow, widely opening, sweetly scented; sepals elliptic to ovate-lanceolate; lip fleshy, 3-lobed with scattered brown patches and many short, glandular villi from base to middle of the disc.

Fls. & Frts.: April – June.

Distrib.: Kameng; at 1100m. on exposed tree trunks in primary forests.

Biermannia bimaculata (King & Pantl.) King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 200, t.267. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 78, f.33. 1998. *Sarcophilus bimaculatus* King & Pantl. in J. As Soc. Bengl 64(3): 340. 1896.

Epiphytic herbs upto 10 cm high. Leaves sessile, obliquely bifid at apex. Scapes erect laxly flowered. Flowers golden-yellow, almost scented.

Fls. & Frts.: April Sept.

Distrib.: Kameng; between 500-1000 m, on large tree trunk in dense tropical primary forests.

Biermannia jainiana S. N. Hegde & A. N. Rao in Bull. Bot. Surv. India 26: 97, f.1-14. 1984; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 78, f.34. 1998.

Epiphytic herbs. Stems 4-8 cm long, decurved. Leaves oblong-ob lanceolate, obliquely bilobed at apex. Flowers in leaf-opposed raceme, white. Lip entire with many calli. Capsules linear-oblong.

Fls. & Frts.: May - June.

Distrib.: Kameng; between 1000-1200 m, on tree trunks in dense forests.

Brachycorythis iantha (Wight) Summerh. in Kew Bull. 1955: 238. 1955; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 81, f.35. 1998. *Platanthera iantha* Wight, Ic. Pl. Ind. Orient. 5: t.1692. 1851. *Habenaria iantha* (Wight) Benth. in Benth. & Hook.f., Gen. Pl. 3: 626. 1883; Hook.f., Fl. Brit. India 6: 164. 1890, *p.p.*

Terrestrial herbs upto 15 cm high. Leaves more or less imbricate on stem, narrowly oblong. Flowers in spikes, purple. Lip suborbicular; spur short, conical.

Fls. & Frts.: Nov. - Jan.

Distrib.: Kameng; between 1500-2000 m, on grassy hill slopes.

Brachycorythis obcordata (Buch.-Ham. ex D. Don) Summerh. in Kew Bull. 1955: 24. 1955; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 81, f.36. 1998. *Orchis obcordata auct. non Willemet*: Buch.-Ham. ex D. Don, Prodr. Fl. Nepal. 230. 1825.

Terrestrial, tuberous herbs up to 25 cm tall. Leaves oblong. Flowers in spikes, purple. Lip broadly cuneiformly obcordate, spurred.

Fls. & Frts.: July - Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1500 m, in moist situations along roadsides.

Bulbophyllum acutiflorum A. Rich. in Ann. Sci. Nat. Ser. 2, 15: 18, t. 7. 1841; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 87, f.37. 1998. *Cirrhopetalum acutiflorum* (A. Rich.) Hook.f., Fl. Brit. India 5: 779. 1890.

Epiphytic herbs. Pseudobulbs ovoid. Leaves oblong. Flowers in umbels, greenish-white. Lip recurved.

Fls. & Frts.: July - Sept.

Distrib.: Kameng; between 1000-2000 m, on moss covered tree trunks in moist forests.

Bulbophyllum affine Lindl., Gen. Sp. Orch. Pl. 48. 1830; Hook. f., Fl. Brit. India 5: 756. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 67, t.91. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 87, f. 38. 1998.

Epiphytic herbs. Pseudobulbs at a distant on stout rhizomes covered with scales, cylindric. Leaves narrowly oblong, obtuse. Flowers in 2-3 flowered raceme, about 2 cm across, greenish-yellow with brown-purple stripe. Lip linear-oblong, obtuse, red-brown.

Fls. & Frts.: June Aug.

Distrib.: Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; between 1200-1800 m, in shaded forests.

Bulbophyllum amplifolium (Rolfe) N. P. Balakr. & S. Chowdhury in Bull. Bot. Surv. India 9: 89. t.14. 1967; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 87, f.39. 1998. *Cirrhopetalum amplifolium* Rolfe in Notes Roy. Bot. Gard. Edinburgh 8: 21, t. 10. 1913.

Epiphytic herbs. Pseudobulbs at a distant on much branched creeping rhizomes, ovoid or oblong. Leaves solitary, elliptic-oblong. Raceme from the base of pseudobulbs, solitary, subumbellate. Flowers about 1.5 cm across, brownish-yellow with purplish spots. Lip oblong, fleshy, dark purple.

Fls. & Frts.: Oct. Dec.

Distrib.: Arunachal Pradesh; 1000-1300 m, on trees in subtropical primary forests.

Bulbophyllum andersonii (Hook.f.) J. J. Sm. in Bull. Jard. Bot. Buitenz. ser. 2, s. 8: 22. 1912; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 92, f.40. 1998. *Cirrhopetalum andersonii* Hook. f., Fl. Brit. India 5: 777. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 90, t.124. 1898.

Epiphytic herbs. Pseudobulbs distant on stout, naked rhizomes, ovate. Leaves oblong. Flowers in umbels, pink with darker pink dots. Lip narrowly oblong, decurved.

Fls. & Frts.: Sept. Nov.

Distrib.: Subansiri; 1400-1800 m, on trees in primary forests.

Bulbophyllum apodum Hook.f., Fl. Brit. India 5: 766. 1890 & Ic. Pl. 21(2): t.2043. 1890. *B. ebulbum* King & Pantl. in J. Asiat. Soc. Bengal 64(3): 334. 1895 *et in* Ann. Roy. Bot. Gard. (Calcutta) 8: 83, t.115. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 104, f.49. 1998.

Nonpseudobulbous, epiphytic herbs. Rhizomes creeping, smooth. Leaves at a long distant, oblong-lanceolate. Scapes smaller than leaves. Flowers in axillary, many flowered raceme, pale-green. Lip oblong, stipitate.

Fls. & Frts.: June Aug.

Distrib.: Kameng; upto 500 m, on tree trunks in tropical dense forests.

Bulbophyllum bisetum Lindl. in Ann. Nat. Hist. 10: 186. 1842; Hook.f., Fl. Brit. India 5: 767. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 73, t.99. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 92, f.41. 1998.

Epiphytic herbs. Pseudobulbs at a distant on wiry rhizomes, ovoid-conic. Leaves solitary, oblong-lanceolate, obliquely bifid at apex. Scapes pendent, filiform. Flowers in 12-15 flowered raceme, purple. Lip ovate-lanceolate, purple; spur run parallel to perianth.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng; between 1500-2000 m, on moss covered branches of trees in dense forests.

Bulbophyllum brienianum (Rolfe) J. J. Sm. in Fedde, Repert. 32: 306. 1933; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 92. 1998. *Cirrhopetalum brienianum* Rolfe in Kew Bull. 1893: 62. 1893. *Bulbophyllum obrienianum* Rolfe in Gard. Chron. 2: 332. 1892; S. N. Hegde & A. N. Rao in Indian. J. For. 5(4): 311, t. 2. 1982; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 123, f. 64. 1998.

Caespitose, epiphytic herbs. Flowers widely opening, about 4.5 cm across, pale-yellow spotted with wine-red.

Fls. & Frts.: April Dec.

Distrib.: Arunachal Pradesh; between 1000-1100 m, on branches of trees in subtropical evergreen moist forests.

Bulbophyllum capillipes C. S. P. Parish & Rehb.f. in Trans.Linn. Soc. London 30 : 150. t.32a. 1874; Hook.f., Fl. Brit. India 5: 755. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 92, f.42. 1998.

Epiphytic herbs. Pseudobulbs narrowly obpyriform. Leaves sessile, linear. Flowers in short scapes, yellow with red nerves. Lip pyramidal, violet-purple.

Fls. & Frts.: July Sept.

Distrib.: Arunachal Pradesh; between 1500-2000 m, on moss covered branches of trees in open forests.

Bulbophyllum careyanum (Hook.) Spreng., Syst. Veg. 16(3): 732. 1826; Hook.f., Fl. Brit. India 5: 760. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 71, t.97. 1898; H. J. Chowdhery,

Orch. Fl. Arunachal Pradesh 95, f. 43. 1998. *Anisopetalon careyanum* Hook., Fl. Exot. 2: t. 149. 1825.

Epiphytic herbs. Pseudobulbs at a distant on woody, creeping rhizomes, ovoid, ribbed. Leaves solitary, oblong, notched. Flowers in densely flowered, decurved raceme, copper-brown. Lip oblong, 3-lobed.

Fls. & Frts.: Oct. Dec.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1500 m, on trees in primary forests.

Bulbophyllum cariniflorum Rehb.f. in Walp., Ann. 6: 253. 1861; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 95. 1998. *Bulbophyllum densiflorum* Rolfe in Kew Bull. 1892 : 139. 1892; N. P. Balakr. & S. Chowdhury in Bull. Bot. Surv. India 9: 88. 1967.

Epiphytic, caespitose herbs. Pseudobulbs in clusters on creeping rhizomes, ovoid or obpyriform. Leaves in pair or 3-4, subsessile, lanceolate. Flowers in many flowered spikes, yellowish-green. Lip tongue shaped, fleshy, dark lemon-yellow.

Fls. & Frts.: July -Sept.

Distrib.: Kameng, Siang, Subansiri; between 1800-2000 m. on moss covered branches of trees in open forests.

Bulbophyllum cauliflorum Hook.f., Fl. Brit. India 5: 758. 1890 *et* Ic. Pl. 21(2): t.2036. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 80, t.100. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 99, f. 45. 1998.

Epiphytic herbs. Pseudobulbs at a distant on slender rhizomes, subcylindric. Leaves solitary, oblong, notched at apex. Flowers in raceme, greenish-yellow. Lip oblong-ovate, curved, fleshy.

Fls. & Frts.: June Nov.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1600-3000 m, on trees along slopes.

Bulbophyllum cornucervi King & Pantl. in J. Asiat. Soc. Bengal 64(3): 332. 1895 *et* in Ann. Roy. Bot. Gard. (Calcutta) 8: 74, t.100. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 99. 1998.

Nonrhizomatous, epiphytic herbs. Pseudobulbs crowded in rows, globular, minute. Leaves shortly petiolate, obovate-elliptic. Scapes longer than leaves. Flowers in laxly flowered raceme, brownish-green. Lip obovate-oblong, stipitate, yellow.

Fls. & Frts.: July -Sept.

Distrib.: Kameng; between 700-1000 m on branches of trees in tropical, primary forests.

Bulbophyllum crassipes Hook.f., Fl. Brit. India 5: 760. 1890; A. N. Rao in Arunachal Forest News 12(1): 25. 1994; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 99. 1998. *Bulbophyllum careyanum auct. non* (Hook.) Spreng.: S. N. Hegde & A. N. Rao in Arunachal Forest News 7(1-2): 58. 1989.

Creeping, pseudobulbous, epiphytic herbs. Pseudobulbs 5-7 cm apart on wiry rhizomes, globose-ovoid. Leaves solitary, oblong with apical notch. Flowers in dense-flowered raceme, reddish-brown or orange. Lip oblong with truncate basal lobe.

Fls. & Frts.: Sept. Oct.

Distrib.: Kameng; between 100-500 m, on trees in tropical primary forests.

Bulbophyllum cupreum Lindl. in Bot. Reg. 24: Misc. 183. 1838; Hook.f., Fl. Brit. India 5: 761. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 101. 1998.

Epiphytic herbs. Pseudobulbs at a distant on woody rhizomes, ovoid. Leaves solitary, subsessile, oblong with apical notch. Flowers in lax-flowered raceme, copper-brown, fragrant. Lip oblong with lateral auricle.

Fls. & Frts.: Oct. Dec.

Distrib.: Arunachal Pradesh; between 1000-1500 m, on trees in primary forests.

Bulbophyllum cylindraceum Lindl., Gen. Sp. Orch. Pl. 53. 1830; Hook.f., Fl. Brit. India 5: 765. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 101, f. 47. 1998.

Epiphytic herbs. Rhizomes stout. Leaves oblong-elliptic. Scape blackish-purple, upper sheaths embracing the base of spike. Flowers in densely crowded spikes, blackish. Lip ovate, papillose, deflexed.

Fls. & Frts.: Oct. Jan.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 3000-3500 m, on tree trunks.

Bulbophyllum delitescens Hance in J. Bot. 14: 44. 1876; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 101, f.48. 1998. *B. mannii auct. non* Hook. f.: Rchb. f. in Flora 275. 1872; Hook. f., Fl. Brit. India 5: 780. 1890.

Epiphytic herbs. Pseudobulbs in clusters, ovate. Leaves solitary, oblong. Flowers in umbels, brown.

Fls. & Frts.: Sept. Nov.

Distrib.: Subansiri; between 500-1200 m, on trunks and branches of trees in wet evergreen forests. Rare.

Bulbophyllum depressum King & Pantl. in J. Asiat. Soc. Bengal 66(3): 585. 1897. *B. hastatum* T. Tang & F. T. Wang in Act. Phytotax. Sin. 12: 44. 1974; S. N. Hegde & A. N. Rao in Indian J. Forestry 10(3): 192. 1987; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 111, f.56. 1998.

Epiphytic or lithophytic herbs. Rhizomes very slender. Pseudobulbs obliquely placed on rhizome, ovoid, profusely rooting below. Leaves ovate, acute. Flowers solitary, from the base of pseudobulbs, dark purple with greenish-yellow lip and sepals.

Fls. & Frts.: May July.

Distrib.: Lohit, Siang, Tirap: between 1800-2200 m, on trunk of small trees in subtemperate, evergreen forests and on moss covered stones.

Bulbophyllum elatum (Hook.f.) J. J. Sm. in Bull. Jard. Bot. Buitenz. Ser. 2, s. 8: 23. 1912; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 104, f.50. 1998. *Cirrhopetalum elatum* Hook. f., Fl. Brit. India 5 : 775. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 93, t.130. 1898.

Caespitose, epiphytic herbs. Pseudobulbs in clusters, subcylindric, brownish. Leaves solitary, oblong, slightly notched at apex. Scapes arising laterally from the base of pseudobulbs, decurved, speckled with purple. Flowers in many flowered umbels, yellowish with purple dots. Lip oblong.

Fls. & Frts.: May July.

Distrib.: Kameng; between 900-1500 m, on branches of large trees in forests.

Bulbophyllum emarginatum (Finet) J. J. Sm. in Bull. Jard. Bot. Buitenz. ser. 2, s. 8: 24. 1912; Seidenf. in Dansk Bot. Ark. 29(1): 57, f. 19. 1973; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 104, f. 51. 1998. *Cirrhopetalum emarginatum* Finet in Bull. Soc. Bot. France 44: 269. t. 8. 1897. *Bulbophyllum brachypodium* var. *geei* A. S. Rao & N. P. Balakr. in Bull. Bot. Surv. India 10: 350. 1968. *B. yoksunense* var. *geei* (A. S. Rao & N. P. Balakr) Bennet in J. Econ. Tax. Bot. 4: 592. 1983.

Epiphytic herbs. Pseudobulbs distant on creeping rhizomes, oblong-cylindric. Leaves solitary, elliptic-oblong. Scape lateral from the base of pseudobulbs. Flowers in raceme, pink. Lip ovate-oblong, purple.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng; between 1800-2200 m, in forests under shade.

Bulbophyllum eublepharum Rchb.f. in Walp., Ann. 6: 252. 1861; Hook.f, Fl. Brit. India 5: 764. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 78, t.107. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 108, f.52. 1998.

Epiphytic herbs. Pseudobulbs in cluster, ovate cylindrical, ribbed, brown. Leaves 1 or 2, oblong, notched at apex. Flowers in long raceme, lax-flowered, greenish. Lip oblong-lanceolate, grooved, glandular-ciliolate at base.

Fls. & Frts.: Aug. Oct.

Distrib.: Changlang, Kameng, Lohit, Siang, Tirap; between 1800-2000 m, in moist forests under shade.

Bulbophyllum gamblei (Hook.f) Hook.f., Fl. Brit. India 6: 188. 1890 *et* Ic. Pl. 21: t.2039(b). 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 82, t.113. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 108, f.53. 1998. *B. leptanthum* var. *gamblei* Hook.f., Fl. Brit. India 5: 759. 1890.

Epiphytic herbs. Rhizomes thread-like. Pseudobulbs at long intervals, obpyriform. Leaves solitary, oblong-lanceolate, notched at apex. Flowers in umbels, yellowish-green. Lip oblong-lanceolate.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 1500-3000 m, forms large tangled masses on trees in damp forests.

Bulbophyllum griffithii (Lindl.) Rchb.f. in Walp., Ann. 6: 247. 1861; Hook.f., Fl. Brit. India 5: 756. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 66, t. 147. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 108. 1998. *Sarcopodium griffithii* Lindl., Fol. Orchid, Sarcopodium : 2. 1853.

Epiphytic herbs. Pseudobulbs in clusters, narrowly ovoid. Leaves solitary, oblong. Flowers solitary, yellowish with reddish-brown spots. Lip oblong, auricled at base.

Fls. & Frts.: July Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 2500-3500 m, on moss covered tree trunk in open forests.

Bulbophyllum guttulatum Wall. ex Hook.f., Fl. Brit. India 5: 776. 1890 *pro syn.*; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 111, f.54. 1998. *Cirrhopetalum guttulatum* Hook.f., Fl. Brit. India 5: 776. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 94, t.131. 1898. *Bulbophyllum guttulatum* (Hook.f.) N. P. Balakr. in J. Bombay Nat. Hist. Soc. 67: 66. 1970. *nom. superfl.*

Epiphytic herbs. Pseudobulbs ovoid. Leaves solitary, oblong, notched at apex. Flowers in umbels, yellowish or purplish. Lip oblong, spurred, purple.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 1000-2000 m, in forests under moist shady conditions.

Bulbophyllum gymnopus Hook.f., Fl. Brit. India 5: 764. 1890 *et* Ic. Pl. 21(2): t.2040. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 68, t.93. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 111, f.55. 1998.

Lithophytic herbs. Pseudobulbs at long interval on scale-covered rhizomes, oblong-ovoid, sheathed at base. Leaves solitary, oblong-lanceolate. Flowers in raceme, white with yellow lip.

Fls. & Frts.: Nov. March.

Distrib.: Subansiri; between 1200-1600 m, on moss covered stones, in forests.

Bulbophyllum helenae (Kuntze) J. J. Sm. in Bull. Jard. Bot. Buitenz. ser 2, s. 8: 24. 1912; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 115, f.57. 1998. *Phyllorchis helenae* Kuntze, Rev. Gen. Pl. 2: 676. 1891. *Cirrhopetalum cornutum* Lindl. in Edw., Bot. Reg. 24: misc.75, no.138. 1838; Hook.f., Fl. Brit. India 5: 774. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 87, t. 120. 1898.

Epiphytic herbs. Pseudobulbs at a distant on stout naked rhizomes, ovoid, ribbed. Leaves solitary, oblong, obliquely notched at apex. Flowers in laxly radiate umbels, reddish, hairy. Lip oblong with two raised lines.

Fls. & Frts.: May Aug.

Distrib.: Kameng; between 1000-2000 m, in moist shaded forests.

Bulbophyllum hirtum (Sm.) Lindl., Gen. Sp. Orch. Pl. 51. 1830; Hook.f., Fl. Brit. India 5: 762. 1890; King & Pantl. in Ann.

Roy. Bot. Gard. (Calcutta) 8: 84, t.117. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 115, f.58. 1998. *Stelis hirta* Sm. in Rees, Cyclop. 34: Stelis no.11. 1819.

Epiphytic herbs. Pseudobulbs in cluster on short rhizomes, ovoid oblong. Leaves in pair, flaccid, oblong-lanceolate, acute. Flowers in dense flowered spikes, yellowish or whitish. Lip oblong, decurved, yellow.

Fls. & Frts.: Oct. Jan.

Distrib.: Kameng, Lohit, Subansiri, Tirap; between 1000-2000 m, on trees in dense primary forests.

Bulbophyllum hymenanthum Hook.f., Fl. Brit. India 5: 767, 1890 *et* Ic. Pl. 21(2): t.2046. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 76, t.103. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 119, f.60. 1998.

Non-pseudobulbous-epiphytic herbs. Rhizomes wiry, creeping, naked. Leaves ovate or elliptic. Flowers in raceme, yellowish with purple streaks. Lip ovate-lanceolate, deflexed.

Fls. & Frts.: May July.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 2000-3000 m on moss covered tree trunks.

Bulbophyllum khasianum Griff., Notul. 3 : 284. 1851; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 119. 1998. *B. conchiferum* Rehb.f. in Walp., Ann. 6: 253. 1861; Hook.f., Fl. Brit. India 5: 766. 1890. *B. cylindraceum* var. *khasianum* (Griff.) Hook. f., Fl. Brit. India 5: 765. 1890.

Non-pseudobulbous epiphytic herbs. Rhizomes stout, creeping. Leaves long petiolate, oblong-elliptic, acute. Scape arising from the base of petiole, longer than leaves, upper sheaths smaller, at a distant from the spikes. Flowers in densely crowded spike blackish. Lip ovate, papillose, deflexed.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-2000 m, on tree trunk in forests.

Bulbophyllum leopardinum (Wall.) Lindl., Gen. Sp. Orch. Pl. 48. 1830; Hook.f., Fl. Brit. India 5: 756. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 67, t.92. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 119, f.61. 1998. *Dendrobium leopardinum* Wall., Tent. Fl. Nepal. 39, t. 28. 1826.

Epiphytic or lithophytic herbs. Pseudobulbs crowded on stout rhizomes, obpyriform, compressed. Leaves solitary elliptic-oblong, mucronate at apex. Flowers solitary or 2-3, from the base of pseudobulbs, whitish with crimson dots. Lip lanceolate, auricled, crimson or purple.

Fls. & Frts.: Oct. Jan.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 2000-2500 m, on trees and rocks.

Bulbophyllum lobbii Lindl., Bot. Reg. 31: subt.29. 1847; Hook. f., Fl. Brit. India 5: 755. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 119, f. 62. 1998.

Epiphytic herbs with stout rhizomes. Pseudobulbs ovoid. Leaves linear-oblong. Flowers solitary, 6-10 cm diam, yellow with red nerves or yellow with pink dots and dashes. Lip broadly ovate, recurved.

Fls. & Frts.: July Sept.

Distrib.: Arunachal Pradesh; between 1000-1500 m, on moss covered tree trunks in dense forests.

Bulbophyllum macraei (Lindl.) Rchb.f. in Walp., Ann. 6: 263. 1861; S. N. Hegde & A. N. Rao in Ind. J. Forestry 10(3): 192. 1987; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 123, f. 63. 1998. *Cirrhopetalum macraei* Lindl., Gen. Sp. Orch. Pl. 59. 1830.

Epiphytic herbs. Pseudobulbs ovoid on creeping rhizomes. Leaves solitary, oblong, acute. Scape 1 or 2 arising from base of the pseudobulbs. Flowers in umbels, pale-yellow to pink.

Fls. & Frts.: Aug. Sept.

Distrib.: Kameng; between 200-1000 m, on large tree trunk in tropical, wet evergreen forests.

Bulbophyllum monanthum (Kuntze) J. J. Sm. in Bull. Jard. Bot. Buitenz. ser.2, s. 8: 16. 1912. *Phyllorchis monantha* Kuntze, Revis. Gen. Pl. 2: 676. 1891. *B. devangiriense* N. P. Balakr. in J. Bombay Nat. Hist. Soc. 67: 66. 1970; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 104. 1998. *B. uniflorum auct. non* Hassk.; Griff., Notul. 3: 293. 1851 & Ic. 3, t. 295. 1851; Hook. f., Fl. Brit. India 5: 755. 1890. *B. tiagii* Chauhan in J. Econ. Tax. Bot. 5: 995. 1984.

Epiphytic herbs. Rhizomes stout, creeping. Pseudobulbs cylindrical. Leaves solitary, oblong. Flowers solitary, arising from rhizomes.

orange-yellow with purple spots. Lip 3-lobed, recurved, auricled, light yellow.

Fls. & Frts.: Aug. Oct.

Distrib.: Changlang, Tirap; between 1000-1500 m, in shaded forests.

Bulbophyllum muscicola Rehb.f. in Flora 55: 275. 1872. *B. hookeri* (Duthie) J. J. Sm. in Bull. Jard. Bot. Buitenz. ser. 2, s. 8: 25. 1912; H.J. Chowdhery, Orch. Fl. Arunachal Pradesh 108, f.59. 1998. *Cirrhopetalum hookeri*. Duthie in J. Asiat. Soc. Bengal. 71: 38. 1902.

Caespitose, epiphytic herbs. Pseudobulbs crowded on rhizomes, ovoid. Leaves lanceolate or elliptic-oblong, shortly petiolate. Flowers in 3-10 flowered umbels, yellow. Lip oblong, deflexed, fleshy, yellow with purplish dots on raised margin base.

Fls. & Frts.: Sept. Dec.

Distrib.: Arunachal Pradesh; between 1200-1500 m on moss-covered trees in forests.

Bulbophyllum nodosum (Rolfe) J. J. Sm. In Bull. Jard. Bot. Buitenz. 2 s. 8: 23. 1912; A. N. Rao & Haridasan in J. Econ. Tax. Bot. 21(3): 718. 1997. *Cirrhopetalum nodosum* Rolfe in Kew Bull. 1895: 35. 1895.

Epiphytic herbs; rhizome creeping, distinctly swollen at nodes; raceme laxly flowered; flowers with papillose ovary; sepals & petals apiculate.

Fls. & Frts.: March May.

Distrib.: Kameng; at 200m., on trees in primary forests.

Bulbophyllum odoratissimum (Sm.) Lindl., Gen. Sp. Orch. Pl. 55. 1830; Hook. f., Fl. Brit. India 5: 758. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 79, t.109. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 123, f.65. 1998. *Stelis odoratissima* Sm. in Rees, Cyclop. 34: Stelis no. 12. 1819. *Bulbophyllum congestum* Rolfe in Kew Bull. 1912: 131. 1912.

Epiphytic herbs. Pseudobulbs at a distant on naked woody rhizomes, subcylindric, smooth. Leaves solitary, oblong-lanceolate, notched at apex. Scapes arising from the base of pseudobulbs. Flowers in compact umbels, white. Lip oblong-lanceolate, concave.

Fls. & Frts.: May Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-2000 m, on trees in moist forests.

Bulbophyllum ornatissimum (Rchb.f.) J. J. Sm. in Bull. Jard. Bot. Buitenz. ser. 2, s. 8 : 26. 1912; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 127, f.66. 1998. *Cirrhopetalum ornatissimum* Rchb.f. in Gard. Chron. 2: 424. 1882; Hook. f., Fl. Brit. India 5: 773. 1890*p.p.*; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 95, t.133. 1898.

Epiphytic herbs. Pseudobulbs at a distant on naked, creeping rhizomes, narrowly ellipsoid. Leaves solitary, sessile, oblong. Scapes arising from the base of pseudobulbs. Flowers solitary, 18-20 cm long, yellow-green with purple markings; sepals prolonged into long, drooping, filiform appendages. Lip oblong, dark, purple.

Fls. & Frts.: Oct. Jan.

Distrib.: Kameng, Siang, Subansiri; between 200-500 m, on branches of large trees in dense tropical forests.

Bulbophyllum parviflorum Parish & Rchb.f. in Trans. Linn. Soc. London 30: 152. 1874; S. N. Hegde & A. N. Rao in Ind. J. Forestry 10(3): 192. 1987; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 127, f. 67. 1998.

Epiphytic herbs. Pseudobulbs distant on creeping rhizomes, ovoid. Leaves oblong, shortly petioled. Flowers in lax, many flowered raceme, green; perianth ciliate at margin.

Fls. & Frts.: June Aug.

Distrib.: Kameng; between 1500-2000 m, on moss covered branches of small trees in wet evergreen subtropical forests.

Bulbophyllum penicillium Parish & Rchb.f. in Trans. Linn. Soc. London 30: 151. 1874; Hook.f., Fl. Brit. India 5: 764. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 79, t.108. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 127, f.68. 1998.

Epiphytic, rhizomatous herbs. Pseudobulbs ovoid. Leaves solitary, linear, petiolate. Scapes arising from the base of pseudobulb, pendent. Flowers in laxly flowered hairy raceme, yellow, striped with purple. Lip lanceolate, crenately hirsute.

Fls. & Frts.: May Oct.

Distrib.: Kameng; between 900-1000 m, on trees in primary forests.

Bulbophyllum piluliferum King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 76, t.104. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 127, f.69. 1998.

Epiphytic or lithophytic herbs. Pseudobulbs caespitose in a chain, globose, depressed. Leaves solitary, linear-oblong. Scapes shorter than leaves, arising between the pseudobulbs. Flowers in compact umbels, small, crimson. Lip elliptic, papillose.

Fls. & Frts.: April -July.

Distrib.: Kameng; between 200-500 m, on main trunks of large trees in wet evergreen forests, on rocky places.

Bulbophyllum polyrhizum Lindl., Gen. Sp. Orch. Pl. 53. 1830; Hook.f., Fl. Brit. India 5: 767. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 70, t.95. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 131, f.70. 1998.

Epiphytic herbs. Pseudobulbs at a distant on thread like naked rhizomes, ovoid. Leaves solitary, narrowly oblong, acute, deciduous. Scapes filiform, longer than leaves, arising from the base of pseudobulbs. Flowers in lax raceme, yellow. Lip stipitate, oblong, deflexed.

Fls. & Frts.: Dec. Feb.

Distrib.: Kameng; between 600-1100 m, on trees in moist tropical forests.

Bulbophyllum protractum Hook.f., Fl. Brit. India 5: 758. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 81, t. 111. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 131, f. 71. 1998.

Epiphytic herbs. Pseudobulbs suberect, at a distant on woody branched rhizomes, cylindric. Leaves solitary, notched at apex. Scapes filiform, arising from the rhizomes. Flowers orange-yellow. Lip lanceolate with parallel ridges, concave.

Fls. & Frts.: June Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1500 m on tree trunks in dense forests.

Bulbophyllum pulchrum (N. E. Brown) J. J. Sm. in Bull. Jard. Bot. Buitenz. ser. 2, 8: 27. 1912; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 131, f.72. 1998. *Cirrhopetalum pulchrum* N. E. Br. in Ill. Hort. 33: 139, t. 608. 1886.

Robust, creeping, epiphytic herbs. Pseudobulbs on thick rhizomes, ovoid, cylindric. Leaves oblong, obtuse. Scapes two, shorter than leaf with pseudobulbs. Flowers in umbels; dorsal sepal and petals long cillate at apex.

Fls. & Frts.: Oct. Dec.

Distrib.: Kameng; between 1500-2200 m, on moss covered main trunk of large trees.

Bulbophyllum repens Griff., Notul. 3: 293. 1851; Ic. Pl. Asiat. 3: t. 294. 1851; Hook.f., Fl. Brit. India 5: 765. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 131, f. 73. 1998.

Creeping, rhizomatous epiphytes, with stout rhizome; Leaves lanceolate, obtuse, with long petioles; inflorescence arise directly from the rhizome, shorter than the leaves; flowers purplish; lip fleshy, decurved.

Fls. & Frts.: Nov. Dec.

Distrib.: Kameng; between 800-1000 m, on trees in dense forests.

Bulbophyllum reptans (Lindl.) Lindl., Gen. Sp. Orch. Pl. 51. 1830; Hook.f., Fl. Brit. India 5 : 768. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 77, t. 106. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 136, f.74. 1998. *Tribrachia reptans* Lindl., Coll. Bot. t. 41a. 1826. *Bulbophyllum reptans* var. *subracemosum* Hook.f., Fl. Brit. India 5: 769.1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 136. 1998.

Epiphytic herbs. Rhizomes wiry. Pseudobulbs at long intervals, subcylindric. Leaves solitary, linear-oblong. Flowers in raceme, greenish-yellow with pink nerves. Lip curved, yellow.

Fls. & Frts.: Oct. Jan.

Distrib.: Kameng, Lohit; Siang, Subansiri, Tirap; between 1600-2000 m, on tree trunks of dense, moist temperate forests.

Bulbophyllum retusiusculum Rehb.f. in Gard. Chron. 1869: 1182. 1869; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 136, f. 75. 1998.

Epiphytic herbs. Pseudobulbs distant, on naked rhizomes, ovoid. Leaves solitary, narrowly oblong, obliquely notched at apex. Scapes arising from the base of pseudobulbs. Flowers in umbel, violet. Lip oblong, decurved.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 2000-3500 m, on tree trunks in forests.

Bulbophyllum rigidum King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 69, t.94. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 701. 1998.

Epiphytic, rhizomatous herbs; pseudobulbs absent; leaves solitary; raceme lax; flowers brownish-yellow with purple veins; lip with minute purple spots towards the base.

Fls. & Frts.: May July.

Distrib.: Arunachal Pradesh; up to 2000 m.

Bulbophyllum rolfei (Kuntze) Seidenf. in Dansk. Bot. Ark. 33: 149. 1979; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 140. 1998. *Phyllorchis rolfei* Kuntze, Rev. Gen. Pl. 2: 677. 1891. *Cirrhopetalum parvulum* Hook. f., Fl. Brit. India 5: 778. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 92, t.128. 1898.

Epiphytic herbs. Rhizomes slender, annulated. Pseudobulbs at intervals. Leaves solitary, narrowly elliptic, notched at apex. Flowers in short raceme or umbels, pendent. Lip oblong. Capsules fusiform or ellipsoid.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; on trees in shaded places.

Bulbophyllum roxburghii (Lindl.) Rehb.f. in Walp., Ann. 6: 263. 1861. *Cirrhopetalum roxburghii* Lindl., Gen. Sp. Orch. Pl. 58. 1830; Hook.f., Fl. Brit. India 5: 774. 1890. *Cirrhopetalum sikkimense* King & Pantl. Ann. Roy. Bot. Gard. (Calcutta) 8: 90, t.125. 1898. *Bulbophyllum sikkimense* (King & Pantl.) J. J. Sm. in Bull. Jard. Bot. Buitenz. ser. 2, s. 8: 28. 1912; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 142, f.79. 1998.

Epiphytic herbs. Pseudobulbs distant, on naked creeping rhizomes, globose or ovoid. Leaves oblanceolate, obliquely notched. Scapes arising from the base of pseudobulbs. Flowers in umbels, greenish with reddish brown marks. Lip ovate.

Fls. & Frts.: May July.

Distrib.: Kameng; between 200-1000 m, on tree trunks in tropical forests.

Bulbophyllum sarcophyllum (King & Pantl.) J. J. Sm. in Bull. Jard. Bot. Buitenz. ser 2, s. 8: 27. 1912; Kataki, Jain & Sastry in Pl. Cons. Bull. 5: 6. 1984; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 140, f.76. 1998. *Cirrhopetalum sarcophyllum* King & Pantl. in J. Asiat. Soc. Bengal 64: 335. 1895 et in Ann. Roy. Bot. Gard. (Calcutta) 8: 91, t.128. 1898.

Epiphytic herbs. Pseudobulbs at a distant on smooth rhizomes, discoid. Leaves solitary, oblong, fleshy, pendent. Scapes arising from the base of pseudobulbs. Flowers in 3-7 flowered umbels, reddish-brown. Lip oblong, deeply grooved, purple with dark purple blotches.

Fls. & Frts.: June Oct.

Distrib.: Arunachal Pradesh; between 1000-1500 m, on trees in sub tropical primary forests.

Bulbophyllum sarcophylloides Garay, Hamer & Siegerist in Nordic J. Bot. 14(6): 620. 1994. *Cirrhopetalum sarcophyllum* var. *minor* King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 91. 1989; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 142. 1998.

Epiphytic herbs. Pseudobulbs discoid with vertical grooves. Leaves fleshy. Scapes shorter than leaves. Flowers white, tinged with purple.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng; between 200-1000 m; on tree trunks in tropical forests.

Bulbophyllum scabratum Rehb.f. in Walp., Ann. 6: 259. 1861; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 142, f.77. 1998. *Cirrhopetalum caespitosum* Wall. ex Lindl. in Edw., Bot. Reg. 24 : Misc.35. no.53. 1838; Hook.f., Fl. Brit. India 5: 775. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 92, t.127. 1898. *Bulbophyllum confertum* Hook.f., Fl. Brit. India 5: 757. 1890.

Epiphytic or lithophytic herbs. Pseudobulbs much crowded, ovoid. Leaves narrowly lanceolate. Scapes shorter than leaves. Flowers in umbels, yellow. Lip oblong.

Fls. & Frts.: July Sept.

Distrib.: Kameng, Tirap; between 500-1500 m, on tree trunks in forests.

Use : Rhizomatous bulbs are made in to paste and applied in the form of plaster in fracture of bones.

Bulbophyllum secundum Hook.f., Fl. Brit. India 5: 764. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 75, t.101. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 142, f.78. 1998.

Epiphytic herbs. Rhizomes slender. Pseudobulbs turbate. Leaves solitary, oblong. Flowers in laxly flowered scapes, purple. Lip

longer than petals, oblong, dark purple with faint lines. Capsules subcylindric, truncate.

Fls. & Frts.: June Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; on wet moss covered tree trunks in dense forests.

Bulbophyllum spathulatum (Rolfe ex Cooper) Seidenf. in Bot. Tidsskr. 65: 347. 1970; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 146, f.80. 1998. *Cirrhopetalum spathulatum* Rolfe ex Cooper in Orchid. Rev. 37: 106. 1929. *Rhytionanthos spathulatum* (Rolfe ex Cooper) Garay *et al* in Nord. J. Bot. 14(6): 639. 1994; A. N. Rao & S. N. Hegde in Manilal & Sath. Kumar (eds.), Orch. Mem.: 131. 2004.

Epiphytic, pseudobulbous herbs. Leaves linear-oblong or lanceolate, bifid at apex. Flowers in few-flowered umbels, pink with purple dots. Lip shortly stipitate.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng; between 200-500 m, on tree trunks in tropical primary forests.

Bulbophyllum stenobulbon Parish & Rchb.f. in Trans. Linn. Soc. London 30: 153. 1874. *Bulbophyllum clarkeanum* King & Pantl. in Jour. Asiat. Soc. Bengal 64: 333. 1895 *et* in Ann. Roy. Bot. Gard. (Calcutta) 8: 82, t.114. 1898; S. N. Hegde in J. Bombay Nat. Hist. Soc. 82(1): 117. 1985; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 99, f.46. 1998.

Epiphytic herbs. Pseudobulbs distant, on wiry naked rhizomes, cylindrical-ovoid. Leaves solitary, elliptic-oblong, notched at apex. Flowers in umbels, whitish. Lip ovate-oblong, recurved.

Fls. & Frts.: June Aug.

Distrib.: Kameng; between 500-1000 m, on trees in primary forests.

Bulbophyllum sterile (Lamarck) Suresh in Nicolson *et al* in Rheede, Hort. Malab.: 298. 1988. *Epidendrum sterile* Lamarck, Encycl. 1: 189. 1783. *Bulbophyllum caudatum* Lindl., Gen. Sp. Orch. Pl. 56. 1830; Hook.f., Fl. Brit. India 5: 759. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 95, f.44. 1998; *Cirrhopetalum caudatum auct. non* Wight, 1851; (Lindl.) King. & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 93, t.129. 1898.

Epiphytic herbs. Pseudobulbs at a distant on wiry rhizomes, ovoid, compressed, furrowed. Leaves solitary, ovate-lanceolate. Scape arising laterally at the base of pseudobulbs. Flowers dorsally depressed, umbellately capitate, white. Lip oblong, stipitate.

Fls. & Frts.: June Aug.

Distrib.: Kameng; between 1000-1500 m, on branches of large trees in subtropical, primary forests.

Bulbophyllum striatum (Griff.) Rehb.f. in Walp., Ann. 6: 257. 1861; Hook. f., Fl. Brit. India 5: 755. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 75, t.102. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 146. 1998. *Dendrobium striatum* Griff., Notul. 3: 318. 1851.

Epiphytic, rhizomatous herbs. Pseudobulbs distant, on creeping rhizomes, obpyriform. Leaves long petioled, elliptic, notched at apex. Scapes arising laterally from the base of pseudobulbs, purplish. Flowers in subumbellate racemes. Lip ovate-lanceolate with purple stripes.

Fls. & Frts.: Oct. Dec.

Distrib.: Kameng; between 1000-2000 m, on moss covered branches of trees in forests.

Bulbophyllum thomsoni Hook.f., Fl. Brit. India 5: 764. 1890 & in Ic. Pl. 21(2): t.2041. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 83, t.116. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 146, f.81. 1998.

Epiphytic herbs. Pseudobulbs distant, on naked, creeping rhizomes, depressed, turbinate. Leaves oblong, acute. Scapes erect, arising from the base of pseudobulbs. Flowers in raceme, yellow-white. Lip, oblong, clawed at base, thick.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1000 m, on large tree trunks in primary tropical forests.

Bulbophyllum tortuosum (Blume) Lindl., Gen. & Sp. Orch. Pl. 50. 1830; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 149, f.82. 1998. *Diphyes tortuosa* Blume, Bijdr. 311. 1825. *Bulbophyllum listeri* King & Pantl. in J. Asiat. Soc. Bengal 64: 334. 1896 et in Ann. Roy. Bot. Gard. (Calcutta) 8: 66, t.90. 1898; Kataki, Jain & Sastry in Pl. Cons. Bull. 5: 5. 1984.

Tiny, epiphytic herbs. Pseudobulbs ovoid, compressed, subimbricately arranged. Leaves solitary, linear-oblong, fleshy. Flowers solitary, on short pedicels dull green. Lip oblong-lanceolate, decurved, ciliolate.

Fls. & Frts.: March May.

Distrib.: Kameng, Siang, Subansiri; between 200-500 m, on branches of large trees in dense, tropical primary forests.

Bulbophyllum trichocephalum (Schltr.) T. Tang & F. T. Wang in Act. Phytotax. Peking 1(1): 90. 1951; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 149, f.83. 1998. *Cirrhopetalum trichocephalum* Schltr. in Fedde, Repert. 4: 72, 255. 1919.

var. **trichocephalum**

Epiphytic herbs. Pseudobulbs subcylindric, on robust, creeping rhizomes. Leaves oblong, notched at apex. Scapes stout, lateral. Flowers in dense globose heads, white.

Fls. & Frts.: April June.

Distrib.: Changlang; between 500-900 m, on trees in tropical primary forests.

var. **wallongense** D. K. Agrawala, Sabapathy & H. J. Chowdhery in Indian J. Forestry 27 (3): 305. 2004.

Epiphytic herbs. Pseudobulbs on creeping rhizomes, subcylindric. Leaves oblong, notched at apex. Scapes stout, lateral. Flowers in dense globose heads, creamy with yellow tips; lip with glandular hairs.

Fls. & Frts.: March May.

Distrib.: Lohit; between 500-1000 m, on trees in tropical primary forests.

Bulbophyllum triste Rehb.f. in Walp., Ann. 6: 253. 1861; Hook. f., Fl. Brit. India 5: 768. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 73, t.98. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 149, f.84. 1998. *Bulbophyllum alopecurum* Rehb.f. in Gard. Cohron. 2: 70. 1880; Hook. f., Fl. Brit. India 5: 768. 1890. *B. micranthum* Hook.f., Fl. Brit. India 5: 768. 1890.

Epiphytic herbs with thick rhizomes. Pseudobulbs turbinate with umbonate apices, leafless at flowering time. Leaves in pair, narrowly oblong. Flowers in densely flowered lateral scapes, dull purple with foul smell. Lip stipitate, oblong-lanceolate, fleshy.

Fls. & Frts.: March June.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1000 m, on tree trunks in dense primary forest.

Bulbophyllum umbellatum Lindl., Gen. Sp. Orch. Pl.: 56. 1830. *Cirrhopetalum bootanense* Griff., Notul. 3: 297. 1851; Hook. f., Fl. Brit. India 5: 775. 1890, p.p. *Bulbophyllum bootanense* (Griff.) Parish & Rehb.f. in Trans. Linn. Soc. London 30: 153. 1874; S. N. Hedge & A. N. Rao in J. Econ. Tax. Bot. 4(2): 384. 1983.

Epiphytic herbs. Pseudobulbs narrowly ovoid on creeping rhizomes. Leaves elliptic, acute. Scales as long as or shorter than pseudobulbs. Flowers rose-red with spots of darker tint.

Fls. & Frts.: July - Feb.

Distrib.: Kameng, Tirap; between 200-500 m, on trees in tropical forests.

Bulbophyllum viridiflorum (Hook.f.) Schltr. in Orchis 4: 108. 1910; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh, 153. 1998. *Cirrhopetalum viridiflorum* Hook.f., Fl. Brit. India 5: 779. 1890.

Crowded epiphytes with ovoid pseudobulbs; leaves in pairs, oblong-lanceolate, acute; raceme pendent, many flowered; flowers purplish-yellow; lip fleshy, entire, oblong.

Fls. & Frts.: Oct. - Nov.

Distrib.: Changlang; between 1500-2500 m, on large tree trunks and branches in primary forests.

Bulbophyllum wallichii (Lindl.) Rehb.f. in Walp., Ann. 6: 259. 1861; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 153, f.85. 1998. *Cirrhopetalum wallichii auct. non* Lindl. 1830: Lindl. in Bot. Reg. 25: misc.72, no.119. 1839. *Cirrhopetalum refractum auct. non* Zollinger 1847: Hook.f., Fl. Brit. Ind. 5: 779. 1890 p.p.; King & Pantl. In Ann. Roy. Bot. Gard. (Calcutta) 8: 87, t.119. 1898 p.p.

Epiphytic herbs. Pseudobulbs in clusters, conical. Leaves in pair deciduous at flowering time. Flowers in drooping raceme, brown to yellowish-brown with purple spots. Lip oblong, concave, fleshy.

Fls. & Frts.: Oct. - Dec.

Distrib.: Kameng; between 1200-2000 m, on tree trunks in moist forests.

Bulbophyllum xylophyllum Parish & Rehb.f. in Trans. Linn. Soc. 30: 151. 1874; Hook.f., Fl. Brit. India 5: 766. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 153. 1998.

Epiphytic herbs with creeping rhizomes; leaves solitary, petiolate, obtusely emarginated at apex; scape slender, arise from the leaf-base or from anywhere in the rhizome; inflorescence capitate; flowers dull purple; lip papillose.

Fls. & Frts.: Sept. Nov.

Distrib.: Changlang; between 500-800 m, on branches of trees in primary forests.

Bulleyia yunnanensis Schltr. in Notes Roy. Bot. Gard. Edinburgh 5: 108, t.82. 1912; Deb in Ind. For. 91(3): 193. 1965; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 156, f.86. 1998.

Lithophytic herbs. Pseudobulbs in clusters, ovate. Leaves solitary, oblong-lanceolate. Flowers in racem, white, showy.

Fls. & Frts.: April June.

Distrib.: Subansiri; between 1600-2000 m, on moss covered rocks along slopes.

Calanthe alismifolia Lindl., Fol. Orchid. Calanthe 8. 1854; Hook.f., Fl. Brit. India 5: 849.1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 170, t.230. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 158, f.87. 1998.

Terrestrial herbs. Pseudobulbs compact, cylindric with annular ring. Leaves broadly elliptic. Flowers in corymbose racemes white. Lip 3-lobed, spurred; terminal-lobe with yellow callus at base. Capsules narrowly elliptic.

Fls. & Frts.: May July.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1200 m, in dense forests.

Calanthe alpina Hook.f. ex Lindl., Fol. Orchid. Calanthe 4. 1854; Hook.f., Fl. Brit. India 5: 850. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 170, t.229. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 158, f.88. 1998.

Terrestrial herbs, up to 40 cm high. Pseudobulbs in rows, subcylindric, tapering at apex, annulate. Leaves unequal, elliptic-lanceolate. Inflorescence a 4-6 flowered raceme. Flowers yellowish-green. Lip pinkish with red veins, suborbicular with deeply inciso-fimbriate upper margin. Spur cylindric, incurved.

Fls. & Frts.: July-Sept.

Distrib.: Kameng, Lohit, Siang; between 1000-3000 m, on moist soil in open and dense forests.

Calanthe biloba Lindl., Fol. Orchid. Calanthe 3. 1854; Hook.f., Fl. Brit. India 5: 848. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 169, t.228. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 162, f.90. 1998.

Terrestrial herbs. Pseudobulbs stem like up to 25 cm long. Leaves unequal, broadly elliptic. Raceme arising from leaf-axils, upto 1 m long, pubescent. Flowers 3.5-4.5 cm across, yellow with purplish tinge. Lip 3-lobed with conical spur; terminal lobe with three ridges at base.

Fls. & Frts.: Sept. Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1200-2000 m, along edge of oak forests at the top of clearings.

Calanthe brevicornu Lindl., Gen. Sp. Orch. Pl. 251. 1833; Hook.f., Fl. Brit. India 5: 848. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 168, t.227. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 162, f.91. 1998. *Calanthe brevicornu* var. *wattii* Hook.f., Fl. Brit. India 5: 848. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 165. 1998.

Terrestrial herbs. Pseudobulbs ovoid. Stems up to 10 cm high with wide sheaths. Leaves oblong-elliptic. Raceme up to 40 cm long, pubescent. Flowers about 3.5 cm across, dark purple or brick-red. Lip 3-lobed, spurred with yellow streaks; lamellae tubercled. Capsules ellipsoid.

Fls. & Frts.: May July.

Distrib.: Kameng, Subansiri; between 2000-3000 m, on forests floor.

Calanthe chloroleuca Lindl., Fol. Orchid. Calanthe 10. 1854; Hook.f., Fl. Brit. India 5: 852. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 171, t.231. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 165, f.92. 1998.

Terrestrial herbs. Pseudobulbs ovoid. Leaves in pair, elliptic-lanceolate. Flowers in raceme, yellowish-green, fragrant. Lip 3-lobed; basal lobe oblong, divergent; spur with 2-callii.

Fls. & Frts.: April June.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 2000-3000 m, on grassy hill slopes.

Calanthe densiflora Lindl., Gen. Sp. Orch. Pl. 250. 1833; Hook.f., Fl. Brit. India 5: 855. 1890; King & Pantl. in Ann. Roy. Bot. Gard.

(Calcutta) 8: 174, t.236. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 165, f.93. 1998.

Terrestrial herbs. Stems stout, sheathed at base. Leaves narrow elliptic. Flowers in raceme, pale-yellow. Lip 3-lobed, apical lobe orbicular; spur inflated at apex.

Fls. & Frts.: Sept. Feb.

Distrib.: Siang; between 1200-1800 m, on humus rich soil in forests.

Calanthe gracilis Lindl., Gen. Sp. Orch. Pl. 251. 1833; Hook.f., Fl. Brit. India 5: 855. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 165, t.222. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 165. 1998.

Terrestrial herbs. Stems cylindrical, swollen and annular at base. Leaves elliptic, caudate-acuminate. Raceme upto 20 cm long, arising from the nodes, hairy. Flowers white. Lip 3-lobed without spur; apical lobe erose at margin with yellow band.

Fls. & Frts.: Sept. Oct.

Distrib.: Subansiri; between 1500-2000 m, underneath open pine forests.

Calanthe griffithii Lindl., in Paxton, Fl. Gard. 3: 37. 1852-1853; Hook.f., Fl. Brit. India 5: 852. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 167. 1998.

Terrestrial herbs. Stems upto 20 cm long. Leaves oblong, small during flowering. Flowers in long raceme, greenish-brown. Lip 3-lobed, spurred, brownish.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 800-1600 m, in primary forests on thick humus.

Calanthe herbacea Lindl., Fol. Orchid. Calanthe 10. 1854; Hook.f., Fl. Brit. India 5: 852. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 172, t.233. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 67, f.94. 1998.

Terrestrial herbs. Pseudobulbs fusiform, broadly annular. Leaves elliptic, caudate-acuminate at apex. Flowers in laxly flowered raceme, greenish-white. Lip 3-lobed, spurred, white; terminal lobe triangular; spur as long as the ovary.

Fls. & Frts.: June Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-2500 m, on thick humus in moist shaded places.

Calanthe mannii Hook.f., Fl. Brit. India 5: 850. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 167, t.225. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 167, f.95. 1998.

Terrestrial herbs. pseudobulbs small. Pseudostems upto 8 cm long. Leaves 2-3, oblanceolate-oblong. Flowers in 10-12 flowered raceme, chocolate-brown. Lip 3-lobed, yellow with a red blotch at base; lateral lobes attached to whole length of the column; spur very short.

Fls. & Frts.: April June.

Distrib.: Kameng, between 500-1000 m, on humus rich soil in dense forests.

Calanthe odora Griff., Notul. 3: 365. 1851; Hook.f., Fl. Brit. India 5: 853. 1890. *C. angusta* Lindl., Fol. Orchid. Calanthe 7. 1854; Hook.f., Fl. Brit. India 5: 849. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 171, t.232. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 158, f.89. 1998.

Terrestrial herbs. Pseudobulbs conical. Leaves narrowly elliptic. Raceme upto 70 cm long, many flowered, pubescent. Flowers about 3 cm across, white, fragrant. Lip 3-lobed with spur terminal, lobe subreniform with two yellow callii. Capsules ellipsoid.

Fls. & Frts.: April June.

Distrib.: Kameng, Siang; between 200-500 m, in dense tropical forests, on thick humus soil.

Calanthe plantaginea Lindl., Gen. Sp. Orch. Pl. 250. 1833, Hook.f., Fl. Brit. India 5: 853. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 171, f.97. 1998.

Terrestrial herbs upto 30 cm high. Leaves elliptic-lanceolate. Rachis pubescent. Flowers in raceme, white. Lip obovate, 3-lobed.

Fls. & Frts.: July Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 800-1500 m, on grassy hill slopes.

Calathe puberula Lindl., Gen. Sp. Orch. Pl. 252. 1833; Hook.f., Fl. Brit. India 5: 848. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 166, t.224. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 171, f.98. 1998.

Terrestrial herbs. Pseudobulbs broadly ovoid. Leaves unequal, elliptic-oblong. Rachis pubescent. Flowers in raceme, about 1.2

cm across, pale-lavender. Lip oblong, 3-lobed, white at base. Capsules narrowly elliptic.

Fls. & Frts.: July Oct.

Distrib.: Subansiri; between 2000-2500 m, on moist humus rich soil in forests.

Calanthe pachystalix Rchb.f. ex Hook.f., Fl. Brit. India 5: 850. 1890; A. N. Rao & Saikia in J. Econ. Tax. Bot. 20(3): 665. 1996.

Terrestrial herbs; pseudobulbs ovoid; leaves long, narrow, plicate; raceme 20 cm long, densely many flowered; flowers widely opening, greenish-yellow; lip 3-lobed.

Fls. & Frts.: July Sept.

Distrib.: Subansiri; between 1000-1500m., on wet evergreen subtropical forest floor.

Calanthe sylvatica (Thou.) Lindl., Gen. Sp. Orch. Pl. 250. 1833. *Centrosia sylvatica* Thou., Hist. Orchid. t.35, 36. 1822. *Bletia masuca* D. Don, Prodr. Fl. Nepal, 30. 1825. *Calanthe masuca* (D. Don) Lindl., Gen. Sp. Orch. Pl. 249. 1833; Hook.f., Fl. Brit. India 5: 850.1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 173, t.234. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 167, f.96. 1998.

Terrestrial herbs upto 1 m high. Pseudobulbs conical with annular scars. Leaves broadly elliptic. Raceme upto 20 cm long, many flowered, hairy. Flowers 6 cm across, violet. Lip 3-lobed, terminal lobe subrhomboid with yellow callii. Capsules elliptic.

Fls. & Frts.: Aug. Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1000 m, in dense tropical forests over thick humus rich soil.

Calanthe tricarinata Lindl., Gen. Sp. Orch. Pl. 252. 1833; Hook.f., Fl. Brit. India 5: 847. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 166, t.223. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 171, f.99. 1998.

Terrestrial herbs. Stems upto 25 cm long. Pseudobulbs broadly ovoid. Leaves oblanceolate. Raceme ca 30 cm long, arising from pseudobulbs, hairy. Flowers greenish-white. Lip 3-lobed, decurved with puberulous callii at base.

Fls. & Frts.: Aug. Oct.

Distrib.: Subansiri; between 1500-2000 m. in open forests.

Calanthe triplicata (Willemet) Ames in Philipp. J. Sci. 2: 326. 1907; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 176, f.100. 1998. *Orchis triplicata* Willemet in Ann. Bot. (Usteri) 6: 52. 1796. *Calanthe veratrifolia* (Willd.) Ker-Gawl. in Bot. Reg. 9 : t. 720. 1823; Hook.f., Fl. Brit. India 5: 851. 1890.

Terrestrial, pseudobulbous herbs. Leaves oblong-lanceolate. Flowers in dense raceme, white. Lip 2-lobed, hairy; spur slender.

Fls. & Frts.: May Aug.

Distrib.: Kameng; between 1000-2000 m, on moist, shady forests floor.

Calanthe trulliformis King & Pantl. in J. Asiat. Soc. Bengal 64: 337, t.2. 1895 *et* in Ann. Roy. Bot. Gard. (Calcutta) 8: 168, t.226. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 176, f.101. 1998.

Terrestrial herbs. Pseudobulbs oblong. Stems short leafy. Leaves sessile, linear-lanceolate. Flowers in laxly flowered raceme, brownish with green lines on sepals and petals. Lip trowel-shaped, white with a triangular pink mark; spur cylindrical.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 1000-1500 m, in primary forests on humus rich soil.

Cephalanthera damasonium (Mill.) Druce in Ann. Scott. Nat. Hist. 1906: 225. 1906; S. N. Hegde & A. N. Rao in Indian J. For. 10(3): 193. 1987; H. J. CHowdhery, Orch. Fl. Arunachal Pradesh 180. 1998. *Serapias damasonium* Mill., Gard. Dict. ed. 8: no. 2. 1768.

Terrestrial herbs upto 50 cm high. Rhizomes short, horizontal with many long roots. Leaves ovate-elliptic in 2-rows, strongly plicate. Flowers in raceme, white with yellow tinge on the lip.

Fls. & Frts.: June Aug.

Distrib.: Kameng; between 1500-1700 m, in forests and amongst grasses on hill slopes.

Cephalanthera longifolia (L.) Fritsch in Oest. Bot. Z. 38: 81. 1888; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 181, f.103. 1998. *Serapias helleborine* var. *longifolia* L., Sp. Pl. 950. 1753. *Cephalanthera ensifolia* L. C. Rich. in Mem. Mus. Hist Nat. Paris 4: 60. 1818; Hook.f. Fl. Brit. India 6: 125. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 271, t.362. 1898.

Terrestrial herbs. Stems upto 60 cm long arising from creeping rhizomes. Leaves lanceolate. Flowers in raceme, white. Lip oblong; epichile concave, 3-4 ribbed with yellow marks.

Fls. & Frts.: July Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1400 -1800 m, on forest floor.

Cephalantheropsis longipes (Hook.f.) Ormerod in Orch. Digest 62(4): 156. 1998. *Calanthe longipes* Hook.f., Fl. Brit. India 6: 195. 1890. *Phaius longipes* (Hook.f.) Holtt. in Gard. Bull. Singapore 11: 286. 1947; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 582, f.355. 1998.

Terrestrial herbs. Stems swollen at base. Leaves elliptic-oblong. Flowers in long, laxly flowered raceme, white. Lip triangular, 3-lobed; disc with calli.

Fls. & Frts.: Sept. Nov.

Distrib.: Tirap; between 1500-2000 m, on humus rich soil in forests.

Ceratostylis himalaica Hook.f., Fl. Brit. India 5: 826. 1890. *Ritaia himalaica* (Hook.f.) King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 157, t.214. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 628, f.383. 1998.

Epiphytic, dichotomously branched, pendulous herbs. Leaves fleshy, linear-oblong. Flowers axillary, solitary, yellowish, pubescent. Lip fleshy.

Fls. & Frts.: May July.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1500 m, on moss covered tree trunks.

Ceratostylis subulata Blume, Bijdr. 7 : 2 : 206. 1825; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 181, f.104. 1998. *Appendicula teres* Griff., Notul. 3: 359. 1851. *Ceratostylis teres* (Griff.) Rchb.f. in Bonpland. 2: 89. 1854; Hook.f., Fl. Brit. India 5: 836. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 247, t.329. 1898.

Epiphytic herbs. Stems crowded, arising from fibrous rhizomes, terete, bearing a single leaf at apex. Leaves terete. Flowers in axillary clusters, pubescent, white with yellow lip. Capsules ellipsoid.

Fls. & Frts.: May. Aug.

Distrib.: Siang; between 500-1000 m, on branches of trees in forests.

Chamaegastrodia shikokiana Makino & Maekawa in Bot. Mag. (Tokyo) 49: 596. 1935; A. N. Rao in J. Econ. Tax. Bot. (Add. Ser. 11): 125. 1995; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 184. 1998.

Saprophytic herbs with branched rhizomes; scape purplish with scattered sheaths; flowers white with orange-yellow lip.

Fls. & Frts.: May - June.

Distrib.: Kameng; between 500-1000m, on leaf-mould on forest floor.

Cheirostylis griffithii Lindl. in J. Linn. Soc., Bot. 1: 188. 1857; Hook.f., Fl. Brit. India 6: 105. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 299, t.397. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 185, f.105. 1998.

Terrestrial herbs upto 22 cm high. Stems with scarious sheaths, decumbent at base. Leaves ovate. Flowers in terminal pubescent spikes, white; sepals hairy. Lip with two setae at base; apical lobe orbicular.

Fls. & Frts.: Dec. - Jan.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1500 m, on humus rich soil in dense, moist evergreen forests.

Cheirostylis gunnarii A. N. Rao in Nord. J. Bot. 18(1): 23. 1998.

Epiphytic herbs, with moniliform stem; leaves many, sessile, alternate, cordate; inflorescence glandular-pubescent, 3-4-flowered; flowers greenish-white.

Fls. & Frts.: March - April.

Distrib.: Lohit; at 300m., on moss covered tree trunks.

Cheirostylis moniliformis (Griff.) Seidenf. in Dansk Bot. Ark. 32 (2): 69, f.40. 1978; Shukla & Deori in J. Econ. Tax. Bot. 8(1) : 201. 1986; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 185, f.106. 1998. *Goodyera moniliformis* Griff., Itin. Pl. Khasyah Mts.: 143, no.679. 1848.

Epiphytic, procumbent herbs. Rhizomes moniliform. Stems upto 12 cm high. Leaves ovate-cordate, 3-nerved. Flowers clustered in short terminal raceme, white. Lip white.

Fls. & Frts.: Dec. - Jan.

Distrib.: Lohit; between 2000 m, on moss covered tree trunks.

Cheirostylis munnacampensis A. N. Rao in Nord. J. Bot. 8(4): 340. 1988; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 185, f.107. 1998.

Terrestrial herbs upto 12 cm high including inflorescence. Stems prostrate, moniliform with many roots from the ventral side of internodes. Flowers in terminal hirsute spikes, white. Lip white with 2 green blotches at the base of epichile.

Fls. & Frts.: May July.

Distrib.: Kameng; between 800-1200 m, on rich humus soil in dense, moist evergreen forests.

Cheirostylis pusilla Lindl., Gen. Sp. Orch. Pl. 489. 1840; Hook.f., Fl. Brit. India 6: 105. 1890*p.p.*; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 189, f.108. 1998.

Terrestrial herbs upto 15 cm high, decumbent at base. Leaves ovate. Flowers in terminal, spicate raceme, white. Lip greenish-white.

Fls. & Frts.: June Aug.

Distrib.: Changlang; between 500-1000 m, in open grasslands.

Cheirostylis sessanica A. N. Rao in Nord. J. Bot. 8(4): 339. 1988; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 189, f.109. 1998.

Terrestrial herbs upto 13 cm long including inflorescence. Stems prostrate, moniliform, dark brown with many roots from ventral side of internodes. Flowers in terminal-hirsute spikes, white. Lip white with 2 blotches at the base of epichile.

Fls. & Frts.: March May.

Distrib.: Kameng; between 1000-1200 m, on rich humus soil in dense, moist evergreen forests.

Cheirostylis tippica A. N. Rao in Arunachal For. News 9(2): 17. 1991; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 189, f.110. 1998.

Terrestrial herbs. Stems prostrate upto 3 cm long, moniliform, fleshy, dark greenish-brown with sterile sheathing bract at base. Leaves ovate-lanceolate. Flowers 3 or 4 at the tip of scapes, dark green with purple tinge, covered with retrorse, glandular hairs. Lip Y-shaped, white with two green blotches at the base of epichile.

Fls. & Frts.: Jan. April.

Distrib.: Kameng; between 100-300 m, on sandy soil mixed with decayed organic matter, amidst low herbs.

Chiloschista parishii Seidenf. in Opera Bot. 95: 176, f.109. 1988; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 194, f.111. 1998. *Thrixspermum luniferum* auct. non. Rchb.f., 1868; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 201. 1898; Banerjee in Candollea 19: 218. 1964. *Chiloschista lunifera* auct. non (Rchb.f.) J. J. Smith, 1905: Tuyama in Hara, Fl. East Himal. 2 : 181. 1971; Rao & Deori in Ind. J. For. 3 : 258. 1980.

Leafless, pendent, epiphytic herbs. Flowers in many flowered pubescent raceme, yellow with brown spots. Lip 3-lobed with triangular pouch, yellow. Capsules narrowly oblong.

Fls. & Frts.: May July.

Distrib.: Kameng; between 100-1000 m, on large tree trunks in dense, primary tropical forests.

Chrysoglossum ornatum Blume, Bijdr. 338. 1825. *C. erraticum* Hook.f., Fl. Brit. India 5: 784. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 97, t.135. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 197, f.112. 1998.

Terrestrial, glabrous herbs. Pseudobulbs erect, ovoid, unifoliate. Leaves lanceolate. Scapes purplish green with sheathing bracts. Flowers in lax raceme, greenish-yellow with purple spots. Lip 3-lobed, white with a yellow spot.

Fls. & Frts.: June Aug.

Distrib.: Kameng; between 1000-1300 m, in primary forests on rich humus soil.

Chusua pauciflora (Lindl.) P.F. Hunt in Kew Bull. 26(1): 175. 1971. *Gymnadenia Pauciflora* Lindl., Gen. Sp. Orch. Pl. : 280. 1835. *Orchis chusua* D. Don, Prodr. Fl. Nepal. 23. 1825. *Ponerorchis chusua* (D. Don) Soo in Acta., Bot. Acad. Sci. Hung. 12: 352. 1966; A. N. Rao & S. N. Hegde in J. Econ. Tax. Bot. 21(3): 718. 1997.

Tuberous terrestrial herbs; stem slender, purple; leaves 2-7, linear-lanceolate, acuminate, green, spotted with purple; inflorescence 3-19 flowered; flowers violet with dark blotches on the lip; lip 3-lobed.

Fls. & Frts.: July Sept.

Distrib.: Kameng; at 4500 m., on alpine meadows.

Cleisocentron pallens (Cathcart ex Lindl.) N. Pearce & P. J. Cribb in Edinb. J. Bot. 58(1): 118. 2001. *Saccolabium pallens*

Cathcart ex Lindl. J. Proc. Linn. Soc., Bot. 3(9): 35. 1858. *Cleisocentron trichromum* (Rchb.f.) Bruhl, Guide Orchids Sikkim 137. 1926; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 199, f.114. 1998. *Saccolabium trichromum* Rchb.f. in Hamb. Garten Zeit. 51. 1859; Hook.f., Fl. Brit. India 6: 65. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 229, t.306. 1898.

Epiphytic, pendent herbs upto 80 cm high. Stems branched, terete. Leaves oblong-lanceolate. Flowers in axillary or supra axillary raceme, brownish with pale-pink tinge. Lip infundibuliform with rose-coloured spur.

Fls. & Frts.: June Sept.

Distrib.: Kameng, Tirap; between 300-2000 m, on tree trunks in dense forests.

Cleisostoma appendiculatum (Lindl.) Benth. & Hook.f. ex Jackson, Index Kew. 1: 555. 1895; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 200, f.115. 1998. *Aerides appendiculatum* Lindl., Gen. Sp., Orch. Pl. 242. 1833. *Sarcanthus appendiculatus* (Lindl.) Parish in Mason, Burma, its people and products 2, Botany 181. 1883; Hook.f., Fl. Brit. India 6: 67. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 240, t.318. 1898.

Epiphytic herbs upto 50 cm high. Stems with a few sheaths near the base. Leaves terete, obtuse. Flowers in extra axillary pendent raceme, pale-yellow with purple or brownish-purple markings. Lip infundibuliform; apical lobe triangular, decurved. Capsules fusiform.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng; between 100-1000 m, in tropical forests.

Cleisostoma aspersum (Rchb.f.) Garay in Bot. Mus. Leaflet. Harv. Univ. 23(4): 169. 1972; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 200, f.116. 1998. *Sarcanthus aspersus* Rchb.f. in Hamb. Garten Zeit. 21: 297. 1865; Hook.f., Fl. Brit. India 6: 70. 1890. *Cleisostoma bicuspidatum* Hook.f., Fl. Brit. India 6: 75. 1890. *Stereochilus bicuspidatum* (Hook.f.) King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 236, t.314. 1898.

Epiphytic herbs upto 30 cm high. Leaves flat, bifid at apex. Flowers in axillary, laxly flowered raceme, yellowish-green. Lip 3-lobed, lateral lobes plicate, white with rosy speckled.

Fls. & Frts.: May Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1000 m, on tree trunks in primary tropical forests.

Cleisostoma discolor Lindl. in Edw., Bot. Reg. 31: misc. 59. n.61. 1845; Hook.f., Fl. Brit. India 6: 75. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 200, f.117. 1998.

Epiphytic herbs upto 30 cm high. Leaves oblong, obliquely truncate at apex. Flowers in raceme, pale-yellow with greenish tinge, peduncles purplish. Lip 3-lobed with spur, white; lateral lobes plicate.

Fls. & Frts.: June Aug.

Distrib.: Kameng; between 500-1200 m, in tropical and subtropical forest preferably in places receiving high rainfall.

Cleisostoma filiforme (Lindl.) Garay in Bot. Mus. Leaf. Harv. Univ. 23(4): 171. 1972; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 204, f.118. 1998. *Sarcanthus filiformis* Lindl. in Edw., Bot. Reg. 28: misc. 61. n.69. 1842; Hook.f., Fl. Brit. India 6: 66. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 240, t.319. 1898.

Epiphytic, drooping herbs upto 60 cm high, roots arising from nodes of stems, tightly enclosing the host trees. Leaves terete. Flowers in extra axillary raceme, brown with yellow mid rib. Lip 3-lobed with a long infundibuliform spur at base, white with purple tinge.

Fls. & Frts.: April June.

Distrib.: Subansiri; between 50-100 m, in tropical dense moist forests.

Cleisostoma paniculatum (Ker-Gawl.) Garay in Bot. Mus. Leaf. Harv. Univ. 23(4): 173. 1972; Deori & Malhotra in Bull. Bot. Surv. India 15(3&4): 274. 1973; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 204, f.119. 1998. *Aerides paniculata* Ker -Gawl. in Bot. Reg. 3: t. 220. 1817.

Epiphytic herbs upto 40 cm high, clothed with leaf sheaths. Leaves unequally bifid. Flowers in axillary panicle about 1.3 cm across, golden-yellow with purple blotches along the middle. Capsules 6-ribbed.

Fls. & Frts.: Sept. Feb.

Distrib.: Lohit; between 800-1800 m, on moss covered tree trunks in forests.

Cleisostoma racemiferum (Lindl.) Garay in Bot. Mus. Leaflet. Harv. Univ. 23(4): 173. 1972; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 204, f.120. 1998. *Saccolabium racemiferum* Lindl., Gen. Sp. Orch. Pl. 224. 1833. *Sarcanthus pallidus* Lindl. in Edw., Bot. Reg. 26: misc. 78, n. 185. 1840; Hook.f., Fl. Brit. India 6: 68. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 241, t.320. 1898.

Epiphytic herbs upto 20 cm high. Leaves flat, bilobed at apex. Flowers in axillary, many flowered raceme, brownish-yellow. Lip 3-lobed with cylindric spur, white.

Fls. & Frts.: July - Sept.

Distrib.: Kameng; between 800-1800 m, on tree trunks in tropical and subtropical primary moist forests.

Cleisostoma simondii (Gagnep.) Seidenf. in Dansk Bot. Ark. 29(3): 66, f.30. 1975; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 208, f.121. 1998. *Vanda simondii* Gagnep. in Bull. Mus. Paris 22(5): 628. 1950. *Sarcanthus appendiculatus auct. non* (Lindl.) Benth. & Hook.f.: King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 240, t.318. 1898.

Erect, epiphytic herbs upto 50 cm high. Leaves fleshy, terete, obtuse. Flowers in extra axillary, few flowered raceme, shining dull yellow with longitudinally purple markings. Lip 3-lobed with infundibuliform spur; apical lobe broadly triangular, decurved. Capsules fusiform.

Fls. & Frts.: Aug. - Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1000 m, on branches of large trees in tropical primary forests.

Cleisostoma striatum (Rehb.f.) N. E. Brown in G. W. Johnson, Suppl. Gard. Dict. 901. 1882; A. N. Rao in J. Econ. Tax. Bot. 22(2): 405. 1998. *Echioglossum striatum* Rehb.f. in Gard. Chron. n.s. 12: 390. 1879; Hook.f., Fl. Brit. India 6: 76. 1890.

Monopodial epiphytic herbs; internodes 2-3 cm long; leaves fleshy, oblong, sub-acute; raceme extra axillary; flowers small, dense, yellow with brown tinge; lip saccate at base, 3-lobed.

Fls. & Frts.: March - May.

Distrib.: Lohit; at 800m., on trees in subtropical forests.

Cleisostoma subulatum Blume, Bijdr. 363.1825; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 208, f.122. 1998. *Sarcanthus secundus* Griff., Notul. 3: 362. 1851; Hook.f. Fl. Brit. India 6: 67. 1890;

King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 241, t.321. 1898;

Epiphytic, pendulous herbs upto 40 cm tall. Leaves narrowly oblong-lanceolate. Flowers in few flowered raceme, pale-yellow with brown margin. Lip 3-lobed with short infundibuliform spur, white. Capsules ellipsoid, faintly ridged.

Fls. & Frts.: July - Sept.

Distrib.: Kameng, Siang, Tirap; between 300-1000 m, on large tree trunks in dense, moist tropical forests.

Cleisostoma tricallosum S. N. Hegde & A. N. Rao in Orch. Rev. 91(1072): 54. 1983.

Monopodial epiphytic herbs, with short, recurved stem; leaves oblong, emarginated; raceme lax, drooping; flowers greenish-yellow with white spur; lip 3-lobed with 3-callus.

Fls. & Frts. : June - Sept.

Distrib.: Kameng; at 1100m., epiphytic on moss covered tree trunks.

Cleisostoma williamsonii (Rchb.f.) Garay in Bot. Mus. Leaflet. Harv. Univ. 23(4): 176. 1972; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 208, f.123. 1998. *Sarcanthus williamsonii* Rchb.f. in Hamb. Gartenzeit. 21: 333. 1865 & in Gard. Chron. 1865: 674. 1865.; Hook.f., Fl. Brit. India 6: 67. 1890.

Epiphytic herbs. Leaves filiform. Flowers in laxly many flowered raceme, whitish. Lip oblong with spur.

Fls. & Frts.: April - June.

Distrib.: Kameng; between 500-1000 m, on branches of large trees in primary tropical forests.

Coelogyne arunachalensis H. J. Chowdhery & G. D. Pal in Nordic J. Bot. 17(4): 369. 1997; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 214, f.124. 1998.

Epiphytic herbs. Rhizomes creeping, covered with grey, imbricating sheaths. Pseudobulbs oblong-cylindric, sheathed at base. Leaves in pair, elliptic-oblong. Scapes terminal, in between the leaves. Flowers 2.5-3 cm across, pale-yellow. Lip oblong, yellowish.

Fls. & Frts.: Oct.- Dec.

Distrib.: Lower Subansiri; between 500-800m; in open evergreen or mixed forests.

Coelogyne barbata Griff., Itin. Pl. Khasyah Mts.: 72. 1848; Notul. 3: 280. 1851; Hook.f., Fl. Brit. India 5: 839. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 216. 1998; Das & Jain, Fasc. Fl. India 5: 7. 1980.

Epiphytic herbs. Pseudobulbs large, ovoid, ridged. Leaves oblong-lanceolate. Flowers in 4-12 flowered raceme, white. Lip 3-lobed, fimbriate, white, brown within.

Fls. & Frts.: Sept. Dec.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1500 m, on tree trunks in forests.

Coelogyne corymbosa Lindl., Fol. Orchid. Coelogyne 7. 1854; Hook.f., Fl. Brit. India 5: 831. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 134, t.185. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 216, f.125. 1998; Das & Jain, Fasc. Fl. India 5: 9. 1980.

Epiphytic herbs. Pseudobulbs linear, crowded, ellipsoid, 2-leaved. Leaves elliptic-oblong. Flowers in raceme, about 6 cm across, white. Lip oblong, 3-lobed, brown with yellow blotches. Capsules clavate.

Fls. & Frts.: March June.

Distrib.: Kameng, Lohit, Siang, Subansiri; Tirap; between 2000-3000 m, on tree trunks.

Coelogyne cristata Lindl., Coll. Bot. subt.33. 1821; Hook.f., Fl. Brit. India 5: 829. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 133, t.184. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 216, f.126. 1998; Das & Jain, Fasc. Fl. India 5: 9. 1980.

Epiphytic herbs. Pseudobulbs ovoid, polished, sheathed at base. Leaves in pair, linear-oblong. Flowers in lax raceme, 5-8 cm across, white. Lip oblong, 3-lobed, fimbriate, yellow. Capsules narrowly clavate.

Fls. & Frts.: Jan. June.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1500-2200 m, on tree trunks in forests.

Coelogyne fimbriata Lindl. in Bot. Reg. 11: t. 868. 1825; Hook.f., Fl. Brit. India 5: 836. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 219, f.127. 1998; Das & Jain, Fasc. Fl. India 5: 10. 1980.

Epiphytic or lithophytic herbs. Pseudobulbs in clusters, cylindric or fusiform. Flowers in 1-6 flowered raceme, yellow. Lip 3-lobed, fimbriate, light yellow. Capsules clavate.

Fls. & Frts.: Aug. Dec.

Distrib.: Subansiri; between 1000-2000 m, in open or shady places in forests.

Coelogyne flaccida Lindl., Gen. Sp. Orch. Pl. 39. 1830; Hook.f., Fl. Brit. India 5: 829. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 133, t.183. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 219, f.128. 1998; Das & Jain, Fasc. Fl. India 5: 10. 1980.

Epiphytic herbs. Pseudobulbs in clusters, ridged, ovoid-cylindric, sheathed at base. Leaves in pair, oblong, acuminate. Flowers in many flowered raceme, about 4 cm across, brown. Lip oblong, 3-lobed; apical lobe white with yellow patch at base. Capsules ellipsoid.

Fls. & Frts.: March June.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1500 m, in dense forests.

Coelogyne fuliginosa Hook., Bot. Mag. 75: t.4440. 1849; Hook.f., Fl. Brit. India 5: 836. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 223, f.130. 1998; Das & Jain, Fasc. Fl. India 5: 11. 1980.

Epiphytic herbs. Pseudobulbs at distant on slender rhizomes, cylindric or fusiform. Leaves 1-3, lanceolate. Flowers in raceme, orange-yellow. Lip 3-lobed, brown.

Fls. & Frts.: Sept. Jan.

Distrib.: Kameng, Subansiri, Siang, Tirap; between 1000-1600 m, on large tree trunks in forests.

Coelogyne fuscescens Lindl., Gen. Sp. Orch. Pl. 41. 1830; Hook.f., Fl. Brit. India 5: 833. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 132, t.181. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 226, f.131. 1998; Das & Jain, Fasc. Fl. India 5: 13. 1980.

var. **fuscescens**

Epiphytic herbs. Pseudobulbs cylindric, furrowed. Leaves in pair, elliptic. Flowers in raceme arising from rhizomes, pale-brown. Lip oblong, 3-lobed with dark brown dots; lateral lobes less than 5 mm long; mid lobe acute. Capsules pyriform.

Fls. & Frts.: Sept. Jan.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 600-1500 m, on tree trunks in forests.

var. **brunnea** (Lindl.) Lindl., Fol. Orch. Coelogyne 11. 1854; Hook.f., Fl. Brit. India 5: 833. 1890 (excl. descr.) H. J. Chowdhery,

Orch. Fl. Arunachal Pradesh 223. 1998. *C. brunnea* Lindl. in Gard. Chron. 1841: 71. 1848; Das & Jain, Fasc. Fl. India 5: 13. 1980.

Tip of the lateral lobes of lip more than 5 mm long; midlobe truncate or rounded.

Fls. & Frts.: Nov. Feb.

Distrib.: Kameng; between 1200-2000 m, on trees in forests.

Coelogyne griffithii Hook.f., Fl. Brit. India 5: 838. 1890; Ic. Pl. 22(1): t.2108. 1892; Das & S. K. Jain in Fasc. Fl. India 5: 14. 1980; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 226, f.133. 1998.

Epiphytic herbs. Pseudobulbs oblong, ridged. Leaves oblong. Flowers in 6-18 flowered raceme, brownish. Lip 3-lobed, whitish with broad brown patch on margin of lateral lobes. Capsules ellipsoid.

Fls. & Frts.: April Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-2000 m, on tree trunks in forests.

Coelogyne hajrae Phukan in Orch. Rev. 105(1214): 94. 1997.

Epiphytic herbs with stout rhizomes; pseudobulbs oblong-ovoid, ridged, sheathed at base; leaves in pair, narrowly lanceolate, acuminate; raceme laxly 9-10 flowered; flowers white with dark brown streaks; lip 3-lobed, mid-lobe broadly ovate-acuminate.

Fls. & Frts.: April June.

Distrib.: Tirap; between 800-1000 m., on moss covered tree trunks and rock boulders.

Coelogyne holochila P. F. Hunt. & Summerh. in Kew Bull. 20: 52. 1966; Das & S. K. Jain in Fasc. Fl. India 5: 15. 1980; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 226, f.133. 1998.

Epiphytic herbs. Pseudobulbs oblong-cylindric. Leaves petioled. Inflorescence hysteranthous, 6-10 flowered raceme. Flowers 3.5-5 cm across, white or creamy-white. Lip obscurely 3-lobed, tinged with orange or yellow.

Fls. & Frts.: April July.

Distrib.: Kameng; between 500-1500 m, on tree trunks in primary forests.

Coelogyne longipes Lindl., Fol. Orchid. Coelogyne 10. 1854; Hook.f., Fl. Brit. India 5: 839. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 136, t.189. 1898; Das & Jain, Fasc. Fl.

India 5: 16. 1980.H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 226, f.134. 1998.

Epiphytic herbs. Pseudobulbs cylindric. Leaves in pair, rarely 3, petiolate. Flowers in 3-6 flowered raceme, yellowish-brown. Lip 3-lobed, brownish-yellow with brown tinge on mid lobe.

Fls. & Frts.: April July.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1500-2100 m, on tree trunks in primary forests.

Coelogyne micrantha Lindl. in Gard. Chron. 1855: 173. 1855; Hook.f., Fl. Brit. India 5: 836. 1890; Das & Jain, Fasc. Fl. India 5: 16. 1980.H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 230, f.135. 1998.

Epiphytic herbs. Pseudobulbs oblong or obovoid with long roots. Leaves in pair, oblong or linear-lanceolate. Flowers in 3-9 flowered raceme, about 2 cm across, creamy or light brownish. Lip oblong, 3-lobed with 3 callii. Capsules ellipsoid.

Fls. & Frts.: Sept. Jan.

Distrib.: Subansiri; between 1200-1800 m, on tree trunks in moist forests.

Coelogyne nitida (Wall. ex D. Don) Lindl., Gen. Sp. Orch. Pl. 40. 1830 (excl. syn *Cymbidium nitidum* Roxb.); Das & Jain, Fasc. Fl. India 5: 19. 1980.H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 230, f.136. 1998. *Cymbidium nitidum* Wall ex D. Don, Prodr. Fl. Nepal. 35. 1825 (*non Cymbidium nitidum* Roxb.). *Coelogyne ochracea* Lindl. in Edw., Bot. Reg. 32: t.69. 1846; Hook.f., Fl. Brit. India 5: 831. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 132, t.182. 1898.

Epiphytic or lithophytic herbs. Pseudobulbs crowded, oblong, 4-angled. Leaves elliptic-lanceolate. Flowers in 4-8 flowered raceme, white. Lip 3-lobed, white with orange-red border and yellow patches.

Fls. & Frts.: March June.

Distrib.: Siang, Subansiri; between 1200-1800 m, in forests.

Coelogyne occultata Hook.f., Fl. Brit. India 5: 832. 1890; Ic. Pl. 22(1): t.2104. 1892; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 135, t.186. 1898; Das & Jain, Fasc. Fl. India 5: 20. 1980.H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 230, f.137. 1998.

Epiphytic herbs. Pseudobulbs turbinate. Leaves elliptic. Flowers in 5-12 flowered raceme, about 4 cm across, white. Lip rounded, 3-lobed with orange-red bordered yellow blotches, lateral lobes with reddish-brown streaks.

Fls. & Frts.: May Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-2000 m, on tree trunks in forests.

Coelogyne ovalis Lindl. in Edw., Bot. Reg. 24: misc.91, n.171. 1838; Hook.f., Fl. Brit. India 5: 836. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 135, t.187. 1898; Das & Jain, Fasc. Fl. India 5: 23. 1980. H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 234. 1998.

Epiphytic herbs. Pseudobulbs 4-6 cm apart on scale covered stout rhizomes, fusiform. Leaves lanceolate. Flowers in 1-3 flowered raceme, 4-4.5 cm across, pale-brown. Lip 3-lobed; disc 2-lamellate.

Fls. & Frts.: Aug. Dec.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 800-1800 m, on tree trunks in primary forests.

Coelogyne prolifera Lindl., Gen. Sp. Orch. Pl. 40. 1830; Hook.f., Fl. Brit. India 5: 838. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 8: 137, t.190. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 234, f.138. 1998; Das & Jain, Fasc. Fl. India 5: 23. 1980. *C. flavida* Wall. ex Lindl., Fol. Orchid. Coelogyne 10. 1854; Hook.f., Fl. Brit. India 5: 839. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 138, t.191. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 219, f.129. 1998.

Epiphytic herbs. Pseudobulbs at distant on stout scale covered rhizomes, ovoid, sheathed at base. Leaves in pair, elliptic-lanceolate. Flowers in terminal, zig-zag few flowered raceme, yellowish-brown. Lip 3-lobed, orange-brown.

Fls. & Frts.: March Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1900-1500 m, on trees in forests.

Coelogyne punctulata Lindl., Coll. Bot. 7: subt.33. 1821; Hook.f., Fl. Brit. India 5: 838. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 234, f.139. 1998; Das & Jain, Fasc. Fl. India 5: 24. 1980. *C. goweri* Rehb.f. in Gard. Chron. 1869: 443. 1869; Hook.f., Fl. Brit. India 5: 843. 1890. *C. nitida* (Roxb.) Hook.f., Fl. Brit. India 5: 837. 1890 [*non* (Wall. ex D. Don) Lindl.].

Epiphytic herbs. Pseudobulbs subglobose, yellow, glossy. Leaves in pair, lanceolate. Flowers in 6-8 flowered raceme, about 5 cm across, white. Lip 3-lobed; lateral lobes white with 2 orange-bordered yellow patches.

Fls. & Frts.: Sept. March.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1500-2500 m, in forests.

Coelogyne radicata Ridl. in J. Fed. Mal. St. Mus. 6: 57. 1915; Seidenf. in Dansk.Bot. Ark. 29. 9. 1975; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 237, f.140, 141. 1998. *Coelogyne carnea auct. non* (Blume) Rehb.f., 1861; Hook.f., Fl. Brit. India 5: 838. 1890; Ic. Pl. 22(1): t.2107. 1892; Rao & Joseph in Bull. Bot. Surv. India 7: 152. 1965.

Epiphytic herbs. Pseudobulbs distant on stout rhizomes, fusiform. Leaves in pair, oblanceolate. Scapes arising from the top of mature pseudobulbs. Flowers in 6-15 flowered zig-zag raceme. Capsules ellipsoid.

Fls. & Frts.: July Dec.

Distrib.: Siang; between 500-1200 m, on branches of trees in primary forests.

Coelogyne raizadae S. K. Jain & Das in Proc. Ind. Acad. Sci. 87B (5): 119.1978; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 237. 1998. *C. longipes auct non* Lindl. 1854; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 136, t.189. 1890.

Epiphytic or lithophytic herbs. Pseudobulbs cylindric. Leaves petiolate, lanceolate. Flowers in 2-6 flowered raceme, white or creamy. Lip 3-lobed; lateral lobes yellow or light brown tinged at apex.

Fls. & Frts.: March Sept.

Distrib.: Kameng; between 1800-3000 m, on trees in open and dense forests.

Coelogyne rigida Parish & Rehb.f. in Trans. Linn. Soc. London 30: 146. 1874; Hook.f., Fl. Brit. India 5: 839.1890; Das & S. K. Jain in Fasc. Fl. India 5: 26. 1980; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 237, f.142. 1998.

Epiphytic herbs. Pseudobulbs oblong-elliptic, ridged. Leaves petiolate, lanceolate. Flowers in many flowered long raceme, pale-green. Lip 3-lobed, pale-green; mid-lobe light brown tinged at base.

Fls. & Frts.: June Oct.

Distrib.: Kameng, Siang, Tirap; between 1500-2000 m, on tree trunks in forests.

Coelogyne schultesii S. K. Jain & Das in Proc. Ind. Acad. Sci. 87B (5): 121. 1978; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 241. 1998. *C. prolifera auct. non* Lindl. 1830: King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 137, t.190. 1898.

Epiphytic herbs. Pseudobulbs ovoid or ellipsoid. Leaves petiolate, lanceolate. Flowers in long racemes, yellow to dark brown. Lip 3-lobed with dark brown mid lobe; lateral lobes dark brown at tip. Capsules ellipsoid.

Fls. & Frts.: March Jan.

Distrib.: Kameng; between 1500-2500 m, on trees in primary forests.

Coelogyne stricta (D. Don) Schltr. in Fedde, Repert. Beih. 4: 184. 1919; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 241, f.143. 1998; Das & Jain, Fasc. Fl. India 5: 28. 1980. *Cymbidium strictum* D. Don, Prodr. Fl. Nepal. 35. 1825. *Coelogyne elata* Lindl., Gen. Sp. Orch. Pl. 40. 1830; Hook.f., Fl. Brit. India 5: 838. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 136, t.188. 1898.

Epiphytic herbs. Pseudobulbs at distant on stout sheathed rhizomes, oblong-cylindric. Leaves in pair, elliptic-oblong. Flowers in 5-11 flowered raceme. Lip 3-lobed with golden-yellow mid lobe.

Fls. & Frts.: March Sept.

Distrib.: Kameng; between 500-1500 m, on tree trunks in primary forests.

Coelogyne suaveolens (Lindl.) Hook.f., Fl. Brit. India 5: 832. 1890 *et* in Ann. Roy. Bot. Gard. (Calcutta) 5: 27, t.40. 1895; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 241, f.144. 1998; Das & Jain, Fasc. Fl. India 5: 29. 1980. *Pholidata suaveolens* Lindl. in Gard. Chron. 1856 : 372. 1856.

Epiphytic herbs. Pseudobulbs on stout, scale-covered rhizomes, ovoid, ribbed. Leaves elliptic, undulate at margin. Flowers in raceme, white. Lip 3-lobed, reflexed; disc 4-6 ridged.

Fls. & Frts.: May Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1500-2000 m, in forests.

Coelogyne viscosa Rchb.f. in Otto & Dietr., Allg. Garten. Zeitung 24, 28: 218. 1856; Hook.f., Fl. Brit. India 5: 832. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 245, f.145. 1998; Das & Jain, Fasc. Fl. India 5: 30. 1980. *C. graminifolia* Parish & Rchb.f. in Trans. Linn. Soc. London 30: 146. 1874. Hook.f., Fl. Brit. India 5: 831. 1890.

Epiphytic herbs. Pseudobulbs compact on scale covered rhizomes, ovoid. Leaves in pair, linear. Flowers in 2-4 flowered raceme, white, about 5 cm across. Lip 3-lobed, white tinged with yellow at base of midlobe and on sinuses of lateral lobes.

Fls. & Frts.: Dec. June.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1200-2000 m, in forest on tree trunks in shade.

Collabium assamicum (Hook.f.) Seidenf. in Op. Bot. 72: 24, f.9. 1983. *Chrysoglossum assamicum* Hook.f., Fl. Brit. India 5: 784. 1890; A. N. Rao in J. Orch. Soc. India 14(1-2): 63. 2000.

Terrestrial herbs; rhizome stout, closely noded, sheathed; pseudobulbs elongated-ovoid, covered with a large scarious sheath; leaf solitary, long petioled; raceme laxly 7-10 flowered; flowers greenish-white with yellow tinged lip.

Fls. & Frts.: Feb. April.

Distrib.: Kameng; 200-500 m., on humus rich forest floor.

Collabium chinense (Rolfe) T. Tang & F. T. Wang in Anon., Ic. Corom. Sinic. 5: 684. 1976; S. N. Hegde & A. N. Rao in Indian J. Forestry 10(3): 193. 1987; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 245. 1998. *Nephelaphyllum chinense* Rolfe in Kew Bull. 1896: 194. 1896. *Chrysoglossum robinsonii* Ridl. in J. Fed. Mal. St. Mus. 5: 157. 1915; S. N. Hegde & A. N. Rao in Himal. Pl. J. 3(5): 15, t.1, f.1. 1985; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 197, f.113. 1998.

Terrestrial herbs. Rhizomes creeping, rooting at nodes. Pseudobulbs cylindrical, tinged with purple., 1-leaved. Leaves broadly ovate, plicate. Raceme from the base of pseudobulbs. Flowers about 2 cm across. Lip white with yellow tinge in basal half.

Fls. & Frts.: July Oct.

Distrib.: Kameng; between 1000-1200 m, on humus rich forest floor, near stream banks.

Corymborkis veratrifolia (Reinw.) Blume, Coll. Orchid. Arch. Ind. 125, t.42(e) & 43(i). 1859; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 246, f.146. 1998. *Hysteria veratrifolia* Reinw. in Bot. Zeit. 2: 5. 1825. *Corymbis veratrifolia* (Reinw.) Blume, Coll. Orchid. Arch. Ind. 125. tt. 42(e), 43(f). 1859; Hook.f., Fl. Brit. India 6: 91. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 274, t.354. 1898.

Terrestrial herbs upto 1.25 m high. Stems thick. Leaves elliptic-lanceolate. Flowers in axillary panicle, white, fragrant. Lip orbicular.

Fls. & Frts.: March Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1000 m, in swampy ground.

Cottonia peduncularis (Lindl.) Rehb.f. in Cat. Orch. Schiller 52. 1857; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 701. 1998. *Vanda peduncularis* Lindl., Gen. Sp. Orch. Pl. 216. 1833.

Epiphytic herbs; stems 10-20 cm long; leaves lorate, coriaceous, recurved; raceme short, terminal; flowers orange with red streaks; lip dark-purple with golden, villous margins.

Fls. & Frts.: June-Sept.

Distrib.: Arunachal Pradesh.

Cremastra appendiculata (D. Don) Makino in Bot. Mag. Tokyo 18: 24. 1904; Deori & Das in Bull. Bot. Surv. India 18 (1-4): 235. 1976; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 246. 1998. *Cymbidium appendiculatum* D. Don, Prodr. Fl. Nepal. 36. 1825. *Cremastra wallichiana* Lindl., Gen. Sp. Orch. Pl. 173. 1833; Hook.f., Fl. Brit. India 6: 16. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 182, t.246. 1898.

Tuberous herbs. Leaves radical, elliptic, plicate. Scape solitary, sheathed. Flowers purple. Lip linear, base subsaccate, tip 3-lobed.

Fls. & Frts.: April June.

Distrib.: Kameng, between 1000-2500 m, on moist humus rich soil.

Cryptochilus lutea Lindl. in J. Linn. Soc., Bot. 3: 21. 1858; Hook.f., Fl. Brit. India 5: 827. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 163, t.221. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 248, f.147. 1998.

Epiphytic herbs. Pseudobulbs cylindric, compact, 2-leaved. Leaves petioled, linear. Flowers in raceme, yellow. Lip oblong, curved at base. Capsules ellipsoid.

Fls. & Frts.: May - Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1500-2000 m, on trees in dense forests.

Cryptochilus sanguinea Wall., Tent. Fl. Nepal. 36, t.26. 1824; Hook.f., Fl. Brit. India 5: 827. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 163, t.220. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 248, f.148. 1998.

Epiphytic herbs. Pseudobulbs ovoid, 1-2 leaved. Leaves lanceolate. Flowers in erect spikes, pinkish-yellow. Lip oblong, recurved, pale-yellow. Capsules oblong.

Fls. & Frts.: June - Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1400-1800 m, on tree trunks in primary forests.

Cymbidium aloifolium (L.) Sw. in Nov. Act. Reg. Soc. Sci. Upsal. 2, 6: 73. 1799; Hook. f., Fl. Brit. India 6: 10.1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 189, t.252. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 253, f.149. 1998. *Epidendrum aloifolium* L., Sp. Pl. 953. 1753. *Cymbidium simulans* Rolfe in Orchid. Rev. 25: 175. 1917.

Epiphytic herbs. Pseudostems stout, short. Leaves narrowly oblong, obliquely notched at apex. Flowers in many flowered raceme, about 4 cm across, yellowish with purple strips. Lip 3-lobed; lateral lobes oblong, obtuse. Capsules elliptic.

Fls. & Frts.: April - Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri; Tirap; between 500-1000 m, on tree trunks in dense tropical forests.

Cymbidium bicolor Lindl. ssp. **obtusum** Du Puy & P. J. Cribb, Genus Cymbidium: 70. 1988. *Cymbidium bicolor auct. non* Lindl.: H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 253, f.150. 1998.

Epiphytic, pseudobulbous herbs. Leaves narrowly oblong, notched at apex. Flowers in many flowered raceme, yellow with purple bands. Lip 3-lobed, saccate at base, epichile longer than hypochile.

Fls. & Frts.: May - Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 100-800 m on tree trunks in primary forests.

Cymbidium cochleare Lindl. in J. Proc. Linn. Soc., Bot. 3: 28. 1859; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 194, t.260. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 256, f.151. 1998. *Cyperorchis cochlearis* (Lindl.) Benth. in J. Linn. Soc., Bot. 18: 318. 1881; Hook.f., Fl. Brit. India 6: 15. 1890.

Epiphytic herbs. Pseudostems stout. Leaves linear, acuminate. Flowers in raceme, brownish green. Lip 3-lobed, yellow; apical lobe suborbicular, pubescent. Capsules elliptic.

Fls. & Frts.: Aug. Dec.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1200-2000 m, on tree trunks in primary forests.

Cymbidium cyperifolium Lindl., Gen. Sp. Orch. Pl. 163. 1833; Hook.f., Fl. Brit. India 6: 13. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 186, t.248. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 256, f.152. 1998.

Terrestrial herbs. Leaves linear, sheathing at base. Raceme arising from the base of pseudostems. Flowers about 4.5 cm across, green or yellowish-green. Lip oblong, 3-lobed; apical lobe deflexed. Capsules ellipsoid-clavate.

Fls. & Frts.: Nov. March.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1800 m, on humus rich soil in primary forests.

Cymbidium dayanum Rchb.f. in Gard. Chron. 1869: 710. 1869; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 256, f.153. 1998. *C. eburneum* var. *dayana* (Rchb.f.) Hook.f., Fl. Brit. India 6: 12. 1890. *Cymbidium dayanum* var. *austrojaponicum* Tuyama in Nakai, Ic. Pl. As. Orient. 4: 363, t.118. 1941.

Epiphytic or terrestrial herbs. Stems short stout. Leaves numerous, linear. Flowers in few flowered raceme, about 10 cm across, white. Lip oblong-obovate, 3-lobed; disc pubescent with 3-ridged yellow band. Capsules broadly ellipsoid.

Fls. & Frts.: March July.

Distrib.: Subansiri; between 500-1000 m, in primary forests.

Cymbidium devonianum Paxton in Paxton's Mag. Bot. 10: 97. 1843; Hook.f., Fl. Brit. India 6: 10. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 190, t.253. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 260, f.154. 1998.

Epiphytic herbs. Pseudostems short, stout. Leaves 2-3, oblong-ob lanceolate. Raceme as long as leaves, many flowered. Flowers about 4 cm across, brownish or purple. Lip oblong, lateral lobes obscure. Capsules ovoid.

Fls. & Frts.: May Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1500-2000m, on tree trunks in dense forests.

Cymbidium eburneum Lindl. in Bot. Reg. 33: t.67. 1847; Hook.f., Fl. Brit. India 6:11. 1890; King & Pantl. In Ann. Roy. Bot. Gard. (Calcutta) 8: 196, t.262. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 260, f.155. 1998.

Epiphytic herbs with bilaterally compressed pseudobulbs; leaves linear, distichous, narrowly ligulate; raceme 1-3-flowered; flowers 8-12 cm across, white with yellow patches on the mid-lobe of lip, sweetly scented.

Fls. & Frts.: March-May.

Distrib.: Tirap; between 1000-1500 m., on trees in primary forests.

Cymbidium ensifolium (L.) Sw. in Nov. Act. Upsal. 6: 77. 1799; Hook.f., Fl. Brit. India 6: 13. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 263, f.157. 1998. *Epidendrum ensifolium* L., Sp. Pl. 90. 1753. *Cymbidium munronianum* King & Pantl. in J. Asiat. Soc. Bengal 64: 238, t. 2. 1895.

Terrestrial herbs. Leaves stiff, erect, linear. Flowers in stout, erect raceme, brownish, scented. Lip lanceolate, pink with yellow blotches.

Fls. & Frts.: April July.

Distrib.: Kameng; between 1000-2000 m, on humus rich soil in primary forests.

Cymbidium faberi var. szechuanicum (Y. S. Wu & S. C. Chen) Y. S. Wu & S. C. Chen in Acta phytotax. Sin. 18: 299. 1980; A. N. Rao in J. Econ. Tax. Bot. 24(1): 213. 2000.

Terrestrial herbs with bulbous stem; leaves upto 60 cm long, minutely serrate at margin; scape 3-5 flowered; flowers pale-green; lip red spotted, 3-lobed.

Fls. & Frts.: Feb. March.

Distrib.: Kameng; at 2000 m., on humus rich forest floors.

Cymbidium gammieanum King & Pantl. in J. Asiat. Soc. Bengal 64: 339. 1895 *et* in Ann. Roy. Bot. Gard. (Calcutta) 8: 193, t.257. 1898; S. N. Hegde & A. N. Rao in Ind. J. Forestry 7(1): 77. 1984; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 263. 1998.

Erect, tufted, epiphytic herbs. Leaves linear. Raceme from the base of stem. Flowers creamy with purple veins scented. Lip oblong, pubescent.

Fls. & Frts.: Dec. March.

Distrib.: Kameng; between 1000-1500 m, on tree trunks in dense forests.

Cymbidium goeringii (Rchb.f.) Rchb.f. in Walp., Ann. Bot. Syst. 3: 547. 1852; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 263, f.158. 1998. *Maxillaria goeringii* Rchb.f. in Bot. Zeit. 3: 334. 1845. *Cymbidium mackinnonii* Duthie in J. Asiat. Soc. Bengal 71(2): 41. 1902; S. N. Hegde & A.N. Rao in Ind. J. Forestry 10(3): 194. 1987. *Cymbidium goeringii* var. *mackinnoni* (Duthie) A. N. Rao in J. Econ. Tax. Bot. 24(1): 214. 2000.

Terrestrial herbs. Leaves linear. Scapes shorter than leaves, 1-flowered covered with loose, lanceolate-acuminate, hyaline sheaths. Flowers green, long lasting. Lip pale-yellow, blotched with purple.

Fls. & Frts.: Nov. Feb.

Distrib.: Kameng; between 1500-1800 m, in shady places.

Cymbidium hookerianum Rchb.f. in Gard. Chron. 1866: 7. 1866; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 267, f.159. 1998. *C. grandiflorum auct. non Sw.*: Griff. Notul. 3: 342. 1851; Hook.f., Fl. Brit. India 6: 12. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 192, t.256. 1898.

Epiphytic herbs with short pseudostems. Leaves oblong, acute. Flowers in lateral many flowered raceme, 10-12 cm diam, greenish, scented. Lip 3-lobed, pubescent with ciliate margin, yellow speckled with purple.

Fls. & Frts.: Feb. May.

Distrib.: Kameng; between 1500-2500 m, on tree trunks in forests.

Cymbidium iridioides D. Don, Prodr. Fl. Nepal. 36. 1825; Hook.f., Fl. Brit. India 6: 14. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 267, f.160. 1998. *C. giganteum auct. non Sw.*: Lindl., Gen. Sp. Orch. Pl. 163. 1833; Hook.f., Fl. Brit. India 6: 12. 1890.

Epiphytic herbs. Pseudostems very short. Leaves linear-lanceolate, acuminate. Flowers in many flowered lateral raceme, greenish white. Lip 3-lobed, pubescent, yellow-green with purple streak and blotches. Capsules elliptic.

Fls. & Frts.: Oct. Nov.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1200-1800 m, on tree trunks in shaded primary forests.

Cymbidium lancifolium Hook., Exot. Fl. 1: t.51. 1823; Hook.f., Fl. Brit. India 6: 9. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 185, t.247. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 270, f.161. 1998.

Terrestrial herbs with 3-4 leaves, pseudobulbs fusiform. Leaves oblong-oblongate. Flowers in short raceme, green with reddish tinge. Lip 3-lobed, recurved, white with transverse band. Capsules fusiform, beaked.

Fls. & Frts.: May July.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1800-2500 m, in thick humus rich places in forests.

Cymbidium longifolium D. Don, Prodr. Fl. Nepal. 36. 1825; Hook.f., Fl. Brit. India 6: 13. 1890. *C. elegans* Lindl., Gen. Sp. Orch. Pl. 161. 1833; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 194, t.259. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 260, f.156. 1998. *Cyperorchis elegans* (Lindl.) Blume, Rumph. 4: 47. 1848; Hook.f., Fl. Brit. India 6: 14. 1890.

Robust herbs with swollen base covered with imbricating leaf bases and scales. Leaves linear. Flowers in 10-15 flowered raceme, about 8 cm across, brownish-purple striped with green background. Lip oblong, 3-lobed; apical lobe hairy.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-2000 m, on moist tree trunks in forests.

Cymbidium lowianum Rchb.f. in Gard. Chron. n.s.11: 332, 405, t.56. 1879; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 270, f.162. 1998. *C. giganteum* var. *lowianum* (Rchb.f.) Rchb.f. in Gard. Chron. 1887: 684. 1887; Hook.f., Fl. Brit. India 6: 13. 1890.

Epiphytic herbs with very short stems. Leaves linear-oblong, equitant. Scape arising from the base of stems, as long as or longer

than leaves, decurved. Flowers in laxly 10-20 flowered raceme, yellow with brown bands. Lip 3-lobed; lateral lobes pale-yellow, mid-lobe dark purple with golden margin.

Fls. & Frts.: Oct. Dec.

Distrib.: Kameng; between 800-1000 m, on tree trunks in tropical primary forests.

Cymbidium macrorhizon Lindl., Gen. Sp. Orch. Pl. 162. 1833; Hook.f., Fl. Brit. India 6: 9. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 270, f.163. 1998.

Saprophytic herbs with thick creeping rootstocks. Leaves narrowly oblong. Flowers in 6-8 flowered raceme, white or pale-yellow with pink stripes. Lip 3-lobed, white with red spots.

Fls. & Frts.: May-July.

Distrib.: Kameng; between 1200-2000 m, in forests.

Cymbidium mastersii Griff. ex Lindl. in Edw., Bot. Reg. 31: t.50. 1845; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 195, t.261. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 274, f.164. 1998. *Cyperorchis mastersii* (Griff. ex Lindl.) Benth. in J. Linn. Soc., Bot. 18: 318. 1881; Hook.f., Fl. Brit. India 6: 15. 1890.

Epiphytic herbs, sometimes branched. Leaves linear, bifid at apex. Flowers crowded in axillary, decurved raceme, pinkish-white, scented. Lip pubescent, yellow without. Capsules ellipsoid.

Fls. & Frts.: Oct. Dec.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1500-2200 m, on tree trunks in primary forests.

Cymbidium parishii Rehb. f. in Trans. Linn. Soc. London 30: 144. 1874; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 274. 1998. *Cymbidium eburneum* var. *parishii* (Rehb.f.) Hook.f., Fl. Brit. India 6: 12. 1890.

Epiphytic herbs. Pseudostems very short, stout. Leaves many, linear. Flowers in raceme, white. Lip oblong-obovate; hypochile with glabrous callus. Capsules broadly ellipsoid.

Fls. & Frts.: Marh June.

Distrib.: Tirap; between 1000-1500 m, in primary forests.

Cymbidium sinense (Jack. in Andr.) Willd., Sp. Pl. ed.4: 111. 1805; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 274. 1998.

Cymbidium ensifolium auct non (L.) Sw.: Hook.f., Fl. Brit. India 6: 13. 1890 p.p.

Terrestrial pseudobulbous herbs; leaves linear-elliptic, acute; raceme 6-12 flowered; flowers 4-4.5 cm across, purple-brown with dark veins; lip pale yellow, 3-lobed, mid-lobe blotched with dark red.

Fls. & Frts.: Oct. Dec.

Distrib.: Kameng, Subansiri; between 300-700 m, in open to mixed evergreen forests.

Cypripedium tibeticum King ex Hemsl. in J. Linn. Soc., Bot. 29: 320. 1892; Haridasan *et al.* in J. Econ. Tax. Bot. 13(1): 110. 1989. *Cypripedium macranthum* Sw. in Acta Holm. 251. 1800; Hook.f., Fl. Brit. India 6: 170. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 276, f.165. 1998.

Terrestrial herbs upto 15 cm high. Leaves 6, close together, broadly ovate. Flowers solitary, pendent, purple to dark maroon; lip slipper shaped, with inrolled white margin.

Fls. & Frts.: July Sept.

Distrib.: Lohit; between 2500-3500 m, in grasslands.

Dactylorhiza hatagirea (D. Don) Soo in Nom. Nova Gen. Dactylorhiza 5: 4. 1962; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 278. 1998. *Orchis hatagirea* D. Don, Prodr. Fl. Nepal 23. 1825. *Orchis latifolia* auct. non L., 1753; Hook.f., Fl. Brit. India 6: 127. 1890.

Terrestrial herbs; root tuberous with 3-5 finger-like lobes; stem robust; leaves sessile, broadly lanceolate to oblong, acute; spike densely many flowered; flowers purplish-lilac or pinkish; lip pink spotted, entire or obscurely 3-lobed.

Fls. & Frts.: June Sept.

Distrib.: Kameng, Subansiri; between 2500-3500m., in moist, humus rich soil among grasses and other herbs.

Dendrobium acinaciforme Roxb., Fl. Ind. 3: 487. 1832; Hook.f., Fl. Brit. India 5: 723. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 283, f.166. 1998.

Epiphytic herbs upto 1 m high. Leaves lanceolate. Flowers in raceme, yellowish-white. Lip cuneate.

Fls. & Frts.: Aug. Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 200-500 m, on tree trunks in moist forests.

Dendrobium aduncum Wall. ex Lindl. in Edw., Bot. Reg. 28: misc. 58, n.62. 1842 & Bot. Reg. 32: t.15. 1846; Hook.f., Fl. Brit. India. 5: 730. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 283, f.167. 1998.

Epiphytic herbs upto 60 cm high, pendent. Leaves narrowly lanceolate. Flowers in flexuous raceme, pale-purple. Lip broadly elliptic, concave.

Fls. & Frts.: June Sept.

Distrib.: Kameng; between 800-1000 m, on tree trunks in dense tropical forests.

Dendrobium amoenum Wall. ex Lindl., Gen. Sp. Orch. Pl. 78. 1830; Hook.f., Fl. Brit. India 5: 738. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 49, t.69. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 283, f.168. 1998.

Epiphytic herbs upto 60 cm high, pendent. Leaves oblong-lanceolate. Flowers 2-3 at the nodes of leafless stems, white. Lip oblong-ovate, 3-lobed., white with purple dots, disc villous.

Fls. & Frts.: May July

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1500 m, on tree trunks in primary forests.

Dendrobium anceps Sw. in Act. Holm. 21: 246. 1800; Hook.f., Fl. Brit. India 5: 724. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 41, t.54. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 287, f.169. 1998.

Terrestrial or epiphytic herbs with compressed stems, 30-50 cm long. Leaves lanceolate. Flowers axillary, solitary, yellowish-green. Lip oblong, obscurely 3-lobed, concave.

Fls. & Frts.: April July.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1000 m, in primary moist forests.

Dendrobium aphyllum (Roxb.) C. E. C.Fisch. in Gamble, Fl. Pres. Madras 1416.1928; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 287. 1998. *Limodorum aphyllum* Roxb., Pl. Corom. 1: 34. t.41. 1795. *Dendrobium pierardi* Roxb. ex Hook., Exot. Fl. 1: t.9. 1822; Hook.f., Fl. Brit. India 5: 738. 1890.

Epiphytic herbs with pendent slender stem upto 1.25 m long; internodes striate. Leaves lanceolate. Flowers 1-3 together on leafless stem, about 4 cm across, creamy-white peduncles short. Lip orbicular, ciliate at margin, pubescent.

Fls. & Frts.: May Nov.

Distrib.: Kameng Lohit, Subansiri, Srang, Tirap; between 200-1000 m, on tree trunks in shaded places and in forests.

Dendrobium arunachalense C. Deori *et al* in J. Orch. Soc. India 20(1-2): 81. 2006.

Sub-erect epiphytic herbs; stem 13-35 cm long, leafy throughout, leaves broadly lanceolate, obliquely obtuse at apex; sheaths hirsute; inflorescence lateral, 1-2-flowered; flowers white with deeply fimbriate lip.

Fls. & Frts.: Oct. Nov.

Distrib.: Dibang Valley; on tree trunks in primary forests.

Dendrobium bicameratum Lindl. in Edw., Bot. Reg. 25: misc.59, n.85. 1839; Hook.f., Fl. Brit. India 5: 729. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 42, t.56. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 287, f.170. 1998.

Epiphytic herbs with clavate or fusiform stems. Leaves elliptic-oblong. Flowers densely clustered on short rachis, yellow marked with red. Lip triangular, concave.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng; between 1200-1600 m, on tree trunks in forests.

Dendrobium candidum Lindl. in Edw., Bot. Reg. 24: misc. 36, n.54. 1838; Hook.f., Fl. Brit. India 5: 735. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 49, t.68. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 290, f.171. 1998. *D. spathaceum* Lindl. in J. Linn. Soc., Bot. 3: 15. 1859; Hook.f., Fl. Brit. India 5: 737. 1890.

Epiphytic herbs with cylindrical stems. Leaves narrowly lanceolate, obliquely bifid at apex. Flowers 1-3 on leafless stems, short peduncles white. Lip oblong-lanceolate.

Fls. & Frts.: May Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 2000-2500 m, on tree trunks in forests.

Dendrobium cathcartii Hook.f., Fl. Brit. India 5: 727. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 43, t.57. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 290, f.172. 1998.

Epiphytic herbs with erect, terete stems upto 1 m high, many leaved. Leaves linear-lanceolate. Flowers in fascicles, golden-yellow. Lip elliptic-oblong, yellow with purple mark. Capsules ovoid.

Fls. & Frts.: April July.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; on tree trunks in open and shady forests.

Dendrobium chrysanthum Lindl., Gen. Sp. Orch. Pl. 80. 1830 & in Edw., Bot. Reg. 15: t.1299. 1830; Hook.f., Fl. Brit. India 5: 747. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 55, t.77. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 290. 1998.

Epiphytic herbs upto 60 cm long, pendent. Leaves lanceolate. Flowers on leafless stems, 3.5-4.5 cm across, yellow. Lip ovate-orbicular with two blood red patches.

Fls. & Frts.: July Feb.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1200-1800 m, on tree trunks in primary forests.

Dendrobium chrysotoxum Lindl. in Edw., Bot. Reg. 33: subt.19, t.36. 1847; Hook.f., Fl. Brit. India 5: 750. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 293. 1998.

Epiphytic herbs. Stem clavate, 4-5 angled. Leaves 2-3, subterminal, oblong-lanceolate. Flowers in lateral raceme, golden-yellow. Lip orbicular with deep yellow blotch, pubescent.

Fls. & Frts.: April June.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 300-1000 m, on tree trunks in primary forests.

Dendrobium crepidatum Lindl. & Paxton in Paxton, Fl. Gard. 1: 63, t.45. 1850; Hook.f., Fl. Brit. India 5: 740. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 48, t.66. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 293, f.173. 1998.

Epiphytic herbs upto 60 cm long. Stems striate, pendent. Leaves linear-lanceolate. Flowers solitary or 2-3 on short peduncle, leafless stems, pink or purplish. Lip obovate with large yellow spots. Capsules clavate.

Fls. & Frts.: March June.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1000 m, on trees in primary forests.

Dendrobium cretaceum Lindl. in Edw., Bot. Reg. 33: t.62. 1847; Hook.f., Fl. Brit. India 5: 736. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 293. 1998.

Epiphytic, pendulous herbs with stout, cylindrical stems, 20-40 cm long. Leaves lanceolate. Flowers on leafless stems, about 3.5 cm diam, white. Lip orbicular, ciliate at margin, crimson red, disc hairy.

Fls. & Frts.: May Dec.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1200-1800 m, on tree trunks of tropical forests.

Dendrobium cumulatum Lindl. in Gard. Chron. 1855: 756. 1855; Hook.f., Fl. Brit. India 5: 731. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 46, t.63. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 295, f.174. 1998.

Epiphytic herbs upto 70 cm high. Leaves oblong-lanceolate. Flowers in corymbiform raceme, purplish. Lip obovate spatulate, white with pink tinge at apex and yellow at base.

Fls. & Frts.: May Aug.

Distrib.: Kameng; between 100-1000 m, on tree trunks in tropical dense forests.

Dendrobium densiflorum Wall. ex Lindl., Gen. Sp. Orch. Pl. 90. 1830 & in Wall., Pl. As. Rar. 1: 34, t.40. 1830; Hook.f., Fl. Brit. India 5: 748. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 56, t.79. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 295. 1998.

Epiphytic herbs. Stems 30-60 cm long, clavate. Leaves oblong-lanceolate. Flowers densely crowded in raceme, pale-yellow. Lip orbicular-rhomboid, orange-yellow. Capsules fusiform.

Fls. & Frts.: April July.

Distrib.: Kameng; between 500-1500 m, on tree trunks in forests.

Dendrobium denudans D. Don, Prodr. Fl. Nepal. 34. 1825; Hook.f., Fl. Brit. India 5: 715. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 45, t.62. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 295, f.175. 1998.

Epiphytic herbs. Stems terete. Leaves many, narrowly oblong. Flowers in leaf-opposed, many flowered raceme, greenish-white. Lip 3-lobed, decurved, red marked.

Fls. & Frts.: Oct. Jan.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1500 m, on tree trunks in forests.

Dendrobium devonianum Paxton in Paxton, Mag. Bot. 7: t.169. 1840; Hook.f., Fl. Brit. India 5: 743. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 298. 1998.

Epiphytic herbs, 40-100 cm long. Leaves linear-lanceolate. Flowers on leafless stems, 8-9 cm diam, white or pale-yellow with purple tinge. Lip orbicular-cordate, fimbriate.

Fls. & Frts.: March June.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1500 m, on tree trunks in forests.

Dendrobium eriiflorum Griff., Notul. 3: 316. 1851; Hook.f., Fl. Brit. India 5: 715. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 44, t.61. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 298, f.176. 1998.

Epiphytic, erect herbs upto 35 cm long. Leaves linear-lanceolate. Flowers in many flowered raceme, white with red vein. Lip broadly ovate, serrate; disc with thick median lamellae.

Fls. & Frts.: Nov. Jan.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 600-1000 m, on tree trunks in moist shaded forests.

Dendrobium falconeri Hook. in Bot. Mag. 82: t.4944. 1856; Hook.f., Fl. Brit. India 5 : 742. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 298. 1998.

Epiphytic herbs, 50-100 cm long, pendent. Stems branched. Flowers solitary on leafless stem, 10 -12 cm diam, pink or white. Lip broadly ovate, recurved, ciliate at margin.

Fls. & Frts.: Oct. Jan.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1200 m, on large tree trunks in humid forests.

Dendrobium farmeri Paxton in Paxton, Mag. Bot. 15: 241. 1849; Hook.f., Fl. Brit. India 5: 750. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 57, t.80. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 298, f.177. 1998.

Epiphytic herbs with 4-angled clavate stems. Leaves elliptic or oblong. Flowers in lateral raceme, about 5 cm across, golden-yellow tinged with pink. Lip orbicular, pubescent, yellow.

Fls. & Frts.: April July.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1200 m, on tree trunks in dense primary forests.

Dendrobium fimbriatum Hook., Exot. Fl. t. 71. 1823; Hook.f., Fl. Brit. India 5: 745. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 58, t.82. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 301. 1998. *Dendrobium fimbriatum* var. *oculatum* Hook. in Bot. Mag. 71: t.4160. 1845; Hook.f., Fl. Brit. India 5: 745. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 301. 1998.

Epiphytic herbs upto 1.5 m high. Leaves oblong-lanceolate. Flowers in raceme, 7-8 cm diam, bright yellow. Lip orbicular, fimbriate.

Fls. & Frts.: March June.

Distrib.: Subansiri; between 500-1200 m, on tree trunks in primary tropical forests.

Dendrobium formosum Roxb. ex Lindl. in Wall., Pl. As. Rar. 1: 34, t.29. 1830; Hook. f., Fl. Brit. India 5: 721. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 47, t.65. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 301. 1998.

Epiphytic, erect herbs with terete stems, 20-60 cm long; sheaths pubescent. Leaves oblong, notched at apex. Flowers in terminal or lateral raceme, 10-13 cm diam, white. Lip broadly obovate, fimbriate; disc yellow ridged.

Fls. & Frts.: May July.

Distrib.: Kameng; between 100-1000 m, on tree trunks in tropical forests.

Dendrobium gibsonii Lindl. in Paxton, Mag. Bot. 5: 169. 1838; Hook.f., Fl. Brit. India 5: 746. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 58, t.81. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 302, f.178. 1998.

Epiphytic herbs, 50-100 cm long with ribbed stems. Leaves ovate-lanceolate. Flowers in raceme from the base of fallen leaves, dull yellow. Lip orbicular-reniform with two brownish spots.

Fls. & Frts.: July Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 800-1500 m, on tree trunks in moist forests.

Dendrobium heterocarpum Lindl., Gen. Sp. Orch. Pl.: 78. 1830; Hook.f., Fl. Brit. India 5: 737. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 53, t.74. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 302, f.179. 1998.

Erect or pendulous epiphytes; stem tufted, sub-cylindrical to clavate; leaves oblong-lanceolate, acute-obtuse; flowers arise on leaf-less stems, pale creamy-yellow, fragrant; lip yellow, with many red or purple radiating veins from base.

Fls. & Frts.: April - May.

Distrib.: Kameng; between 1000-1200 m., on tree trunks in sub-tropical dense forests.

Dendrobium hookerianum Lindl. in J. Linn. Soc., Bot. 3: 8. 1859; Hook.f., Fl. Brit. India 5: 745. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 59, t.83. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 302, f.180. 1998.

Epiphytic or lithophytic herbs, up to 1.25 m high, pendent. Leaves oblong-lanceolate. Flowers in 2-4 flowered raceme, golden-yellow, pendant. Lip orbicular, deeply fringed at apex.

Fls. & Frts.: Aug. - Nov.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1200 m, on tree trunks in open forests, on moss covered stones in rock crevices.

Dendrobium jenkinsii Wall. ex Lindl. in Edw., Bot. Reg. 25: t.37. 1839; Hook.f., Fl. Brit. India 5: 750. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 305. 1998. *Dendrobium aggregatum* var. *jenkinsii* (Wall. ex Lindl.) King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 61, t.85. 1898.

Epiphytic herbs. Pseudobulbs fusiform, angled. Leaves solitary, oblong, obtuse. Flowers in drooping raceme, yellow. Lip oblong, ciliolate; disc pubescent. Capsules fusiform.

Fls. & Frts.: April - June.

Distrib.: Kameng; between 500-1000 m, in tropical forests.

Dendrobium khasianum Deori in J. Orch. Soc. India 2(1-2): 73. 1988; A. N. Rao & S. N. Hegde in Manilal & Sath. Kumar (eds.), Orch. Mem. 128. 2004.

Epiphytic herbs; stem long, cylindrical; leaves oblong-ovate to broadly lanceolate; raceme laxly flowered, drooping; flowers yellow.

Fls. & Frts.: April July.

Distrib.: Arunachal Pradesh.

Dendrobium lindleyi Steud., Nomencl. Bot. ed. 2: 490. 1840; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 305, f.182. 1998. *D. aggregatum auct. non* Kunth, 1816: Roxb., Fl. Ind. 3: 477. 1832; Hook.f., Fl. Brit. India 5: 749. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 60. 1898.

Epiphytic, pseudobulbous herbs. Leaves solitary, oblong, bifid at apex. Flowers in raceme, about 4 cm across, primrose-yellow. Lip oblong, bright yellow blotch at base. Capsules fusiform.

Fls. & Frts.: April June.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1500 m, on tree trunks in forests.

Dendrobium lituiflorum Lindl. in Gard. Chron. 1856: 372. 1856; Hook.f., Fl. Brit. India 5: 740. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 308. 1998.

Epiphytic, pendulous herbs, 30-60 cm long with purplish stems. Leaves linear-lanceolate. Flowers in raceme on leafless stems, white. Lip trumpet shaped, purplish, pubescent.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1500 m, on tree trunks in dense forests.

Dendrobium longicornu Lindl., Gen. Sp. Orch. Pl. 80. 1830 & in Edw., Bot. Reg. 16: t.1315. 1830; Hook.f., Fl. Brit. India 5: 720. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 46, t.64. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 308, f.183. 1998.

Epiphytic, tufted, erect, hairy herbs upto 40 cm high. Leaves linear-lanceolate, pubescent. Flowers in lateral or terminal, 2-3 flowered raceme or rarely solitary, white. Lip broadly triangular, 3-lobed, brownish.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1500 m, on tree trunks in primary forests.

Dendrobium macrostachyum Lindl., Gen. Sp. Orch. Pl. 78. 1830; Hook.f., Fl. Brit. India 5: 735. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 702. 1998.

Large epiphytic herbs; stems slender, drooping; leaves membranous, ovate-oblong, acute; flowers arise from the leafless stems, yellow, fragrant.

Fls. & Frts.: July Sept.

Distrib.: Arunachal Pradesh.

Dendrobium manni Ridl. in J. Linn. Soc., Bot. 32 : 246. 1896; A. N. Rao in J. Econ. Tax. Bot. 14(2) : 469. 1990; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 308, f.184. 1998.

Epiphytic, tufted, erect or pendent herbs. Stems 15-30 cm long, laterally compressed. Leaves oblong, deciduous before flowering. Flowers in terminal or axillary fascicles, 1-4, white or yellow. Lip oblanceolate.

Fls. & Frts.: Nov. Jan.

Distrib.: Kameng: between 100-500 m, on main trunk of large trees in mixed deciduous, tropical forests.

Dendrobium monticola P.F. Hunt & Summerh. in Taxon 10(4) : 110. 1961; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 311, f.185. 1998. *D. alpestre* Royle, Ill. Bot. Himal. 1: 370, t. 88, f. 2. 1839; Hook.f., Fl. Brit. India 5: 715. 1890.

Epiphytic, pseudobulbous herbs. Leaves 3-4, linear-oblong. Flowers in 3-5 flowered raceme, white. Lip lanceolate; disc 2-lamellate.

Fls. & Frts.: April June.

Distrib.: Kameng: between 500-1000 m, on tree trunks in primary forests.

Dendrobium moschatum (Buch.-Ham.) Sw. in Schrad., Neu. J. Bot. 1 : 94. 1805; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 60, t.84. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 311. 1998. *Epidendrum moschatum* Buch.-Ham. in Symes, Emb. Kingdom Ava 1: 478. 1800; 2: 315, t.26. 1802. *D. calceolare* Carey ex Hook., Exot. Fl. 3: t.184.1826; Hook.f., Fl. Brit. India 5: 744. 1890.

Epiphytic, tufted, erect herbs upto 1.5 m high. Leaves oblong or lanceolate, obliquely notched at apex. Flowers in raceme on

leafless stems, 8-9 cm diam, yellow with reddish veins. Lip forming subglobose or pyriform open-mouthed pouch, brownish-purple.

Fls. & Frts.: May - Aug.

Distrib.: Kameng; Lohit, Siang, Subansiri, Tirap; between 500-1000 m, on tree trunks in tropical primary forests.

Dendrobium nareshbahadurii Naithani in Ind. For. 112(1) : 66. f.1. 1986; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 314. 1998.

Epiphytic herbs, 15-20 cm long. Leaves narrowly oblong. Flowers in axillary, drooping raceme, 3-10 flowered, about 4.5 cm diam, white. Lip inconspicuously 3-lobed, dark purple.

Fls. & Frts.: Oct. - Dec.

Distrib.: Kameng; between 600-1000 m, on tree trunks in primary humid forests.

Dendrobium nobile Lindl., Gen. Sp. Orch. Pl. 79. 1830; Hook.f., Fl. Brit. India 5: 740. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 51, t.71. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 314. 1998.

Epiphytic herbs with compressed stem, 30-80 cm long. Leaves oblong, obliquely notched at apex. Flowers solitary or in 2-3 flowered raceme on leafless stems, about 8 cm across, purple. Lip ovate oblong, with deep purple blotch at centre.

Fls. & Frts.: April - June.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000 -1500 m, on tree trunks in forests.

Dendrobium palpebrae Lindl. in J. Hort. Soc. 5: 33. 1849; Hook.f., Fl. Brit. India 5: 750. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 314, f.186. 1998.

Epiphytic herbs with 4-angled clavate stems. Leaves oblong-lanceolate. Flowers in loose lateral raceme, about 6 cm across, white or pink. Lip oblong, orange-yellow.

Fls. & Frts.: May - July.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1000 m, on tree trunks in tropical deciduous forests.

Dendrobium parviflorum Rehb. f. ex Lindl. in J. Linn. Soc., Bot. 3 : 4. 1859; Hook. f., Fl. Brit. India 5 : 725. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 314, f.187. 1998. *Dendrobium*

kentrophyllum auct non Hook.f.: S. N. Hegde & A. N. Rao in J. Econ. Tax. Bot. 4(2): 385. 1983; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 305, f.181. 1998.

Epiphytic herbs. Stems 15-30 cm long, terete. Leaves oblong-lanceolate, obtuse at apex. Flowers solitary, terminal, white. Lip obovate-truncate, crenulate and crisped at apex, yellow.

Fls. & Frts.: May -Sept.

Distrib.: Kameng, Siang, Subansiri, Tirap; between 100-500 m, on trees in tropical primary forests.

Dendrobium parishii Rchb.f. in Bot. Zeit. 21: 237. 1863; Hook.f., Fl. Brit. India 5: 740. 1890; Deori & Das in Bull. Bot. Surv. India 18: 233. 1976; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 316. 1998.

Erect epiphytes; stem yellowish, uniformly thick throughout; leaves ovate-elliptic, obtuse, notched at apex; raceme arise from the nodes of leafless stem; flowers pinkish-purple; lip obscurely 3-lobed, with deep purple blotch on either side of the throat, disc with 3-callus.

Fls. & Frts.: Sept. Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri; between 1200-1500 m on branches of trees in dense primary forests.

Dendrobium pendulum Roxb., Fl. Ind. 3 : 482. 1832; Hook. f., Fl. Brit. India 5: 741. 1890 (*excl. syn. D. wardianum* Warner); H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 316, f.189. 1998.

Epiphytic herbs with stout stems upto 40 cm long. Flowers lateral, 1-4-nate on leafless stems, 5.5 -6 cm across, white with, purple tips. Lip orbicular, pubescent ciliolate, purple with yellow disc.

Fls. & Frts.: April June.

Distrib.: Lohit, Tirap; between 800-1200 m, on trees in forests.

Dendrobium porphyrochilum Lindl. in J. Linn. Soc., Bot. 3: 18. 1859; Hook.f., Fl. Brit. India 5 : 716. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 44, t.59. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 319, f.190. 1998. *Dendrobium caespitosum* King & Pantl. in J. Asiatic Soc. Bengal 64: 332. 1895.

Small, epiphytic herbs. Pseudobulbs cylindrical or conical with short stems. Leaves narrowly oblong. Flowers in terminal 6-10 flowered raceme, greenish with red nerves. Lip elliptic, decurved,

brownish-purple with greenish tinge along margin. Column white spotted.

Fls. & Frts.: April July.

Distrib.: Kameng, Siang; between 1000-2000 m, on moss clad branches of trees and shrubs in open forests.

Dendrobium praecinctum Rehb.f. in Gard. Chron. n.s. 7: 750. 1877. *D. pauciflorum* King & Pantl. in J. Asiat. Soc. Bengal 64(3): 332, t. 2. 1895 *et. in* Ann. Roy. Bot. Gard. (Calcutta) 8: 61, t.85. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 316, f.188. 1998.

Epiphytic herbs, 70 -100 cm long. Stems terete with pendent branches. Leaves linear-lanceolate. Flowers solitary or in 2-4 flowered raceme on leafless stems, golden-yellow. Lip 3-lobed; apical lobe flat, hispid, spotted with red.

Fls. & Frts.: June Aug.

Distrib.: Kameng; between 1500-2000 m, on branches of large trees in forests.

Dendrobium primulinum Lindl. in Gard. Chron. 1858: 400. 1858; Hook.f., Fl. Brit. India 5 : 135. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 319. 1998.

Epiphytic, pendulous herbs. Stems 30-40 cm long. Leaves broadly oblong. Flowers solitary on leafless stems, white or pink. Lip orbicular or reniform with a short convolute base, ciliate at margin, pink.

Fls. & Frts.: April June.

Distrib.: Kameng; between 200-1000 m, on trees in tropical primary forests.

Dendrobium pulchellum Roxb. ex Lindl., Gen. Sp. Orch. Pl. 82. 1830; Hook.f., Fl. Brit. India 6: 186. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 319. 1998. *Dendrobium dalhousieanum* Wall. in Paxton, Mag. Bot. 11: 145. 1844; Hook.f., Fl. Brit. India 5: 743. 1890. *p.p.*

Epiphytic herbs with slender stem; leaf-sheath purple striped; leaves linear-oblong, sub-acute at apex; Raceme pendulous, from leafy or leafless stem; flowers creamy yellow with pinkish tinge; lip white, with large maroon patches on both side of the disc.

Fls. & Frts.: June August.

Distrib.: Kameng; between 400-600 m., in primary tropical forests.

Dendrobium stuposum Lindl. in Edw., Bot. Reg. 24: misc.52, no.94. 1838; Hook. f., Fl. Brit. India 6: 186. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 322, f.191. 1998. *D. sphegidoglossum auct. non* Rchb.f.:Hook.f., Fl. Brit. India 5: 737. 1890. *p.p.*

Epiphytic herbs. Stems cylindric or more or less clavate. Leaves narrowly oblong, slightly notched at apex. Flowers few in short raceme on leafless stems, white. Lip oblong-obovate, 3-lobed; apical lobe ovate-orbicular with gland-tipped hairs, white with yellowish blotches.

Fls. & Frts.: June Aug.

Distrib.: Kameng, Lohit, Siang,; upto 500 m, on trees in tropical primary forests.

Dendrobium sulcatum Lindl. in Bot. Reg. 24: t.65. 1838; Hook.f., Fl. Brit. India 5: 749. 1890; King & Pantl. In Ann. Roy. Bot. Gard. (Calcutta) 8: 55, t.78. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 322, f.192. 1998.

Suberect epiphytes; stem clavate, compressed, sulcate, apically 2-5 leaved; leaves elliptic-oblong, strongly veined; raceme pendulous; flowers yellow; lip orange yellow, suborbicular, clawed.

Fls. & Frts.: June -August.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1000 m., in dense forests.

Dendrobium terminale Parish & Rchb.f. in Trans. Linn. Soc. London 30: 149. 1874; Hook.f., Fl. Brit. India 5 : 725. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 42, t.55. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 322, f.193. 1998.

Epiphytic, erect herbs upto 15 cm high. Leaves oblong. Flowers in terminal raceme, white with pink tinge. Lip obovate, recurved, pubescent at apex.

Fls. & Frts.: July Jan.

Distrib.: Kameng; between 1200-1800 m, in tropical dense forests.

Dendrobium transparens Lindl., Gen. Sp. Orch. Pl. 79. 1830; Hook.f., Fl. Brit. India 5 : 738. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 327. 1998.

Epiphytic herbs with pendulous stems upto 80 cm long. Leaves linear-lanceolate. Flowers in pair, on leafless stems, white. Lip elliptic-oblong with 1 or 2 purple blotches.

Fls. & Frts.: June Aug.

Distrib.: Kameng; between 500-1200 m, on tree trunks in tropical mixed forests.

Dendrobium wardianum Warner, Sel. Orchid. Pl. 1: t. 19. 1862; Hook.f., Fl. Brit. India 5 : 742. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 327, f.194. 1998.

Epiphytic herbs. Stems stout with few nodes. Leaves linear-lanceolate. Flowers solitary or in pairs on leafless stems, white. Lip 3-lobed; apical lobe orbicular, recurved at margin, densely pubescent, purple with maroon blotches.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng; between 1000-1200m, on moss covered trees in forests.

Dendrobium vexabile Rchb.f. in Gard. Chron. 1884: 271. 1884; A. N. Rao & K. Haridasan in Arunachal Forest News 21(1-2): 14. 2005.

Epiphytic herbs with repeatedly branched stem; leaves solitary at each node, narrowly lanceolate, acute; raceme arise at the nodes of leafless stem, 1-3-flowered; flowers pale-yellow, with purple streaks along the branched veins in side-lobes of lip.

Fls. & Frts.: March April.

Distrib.: Siang; at 1600m, on moss covered tree trunks.

Didymoplexis pallens Griff., Calcutta J. Nat. Hist. 4: 383, t.17.1843; Hook.f., Fl. Brit. India 6: 122. 1890; S. N. Hegde & A. N. Rao in J. Econ. Tax.Bot. 4(2): 386. 1983; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 329, f.195. 1998.

Saprophytic herbs. Roots large, moniliform, tuberous. Stems erect. Flowers in terminal, 4-8 flowered raceme, white with yellow tinge on lip. Ovary green.

Fls. & Frts.: May July.

Distrib.: Kameng; between 500-1000 m, in open grass-lands experiencing heavy rainfall in tropical regions.

Diglyphosa latifolia Blume, Bijdr. 337. t. 60. 1825; A. N. Rao in J. Orchid Soc. India 3 (1 & 2): 47. 1989; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 329, f.196. 1998. *Chrysoglossum macrophyllum* King & Pantl. in J. Asiatic Soc. Bengal 64: 435. 1895. *Diglyphosa macrophylla* (King & Pantl.) King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 98, t.136. 1898.

Terrestrial herbs; pseudobulbs cylindrical, purplish-green to dark violet. Leaves solitary on each pseudobulb, 25-40 cm long. Flowers in many flowered raceme, about 1.3 cm across, purplish-yellow to golden-brown. Lip oblong, deflexed with two vertical lamellae, yellow with dark red spots, clawed at base.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng; between 1200-1500 m, in dense, wet evergreen, subtropical forests.

Diphylax urceolata (C. B. Clarke) Hook.f., Ic. Pl. 19: t.1865. 1889; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 331, f.197,198. 1998. *Habenaria urceolata* C. B. Clarke in J. Linn. Soc., Bot. 25: 73, t.30. 1889; Hook. f., Fl. Brit. India 6: 165. 1890.

Fls. & Frts.: April Aug.

Distrib.: Kameng; between 500-1200 m, on moist, sandy soil in open places.

Diplomeris hirsuta (Lindl.) Lindl., Gen. Sp. Orch. Pl. 330. 1835; Hook.f. Fl. Brit. India 6: 167. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 331, f.199. 1998. *Diplochilus hirsuta* Lindl. in Edw., Bot. Reg. 18: sub t.1499. 1832.

Lithophytic tuberous herbs. Leaves solitary, oblong, hairy. Flowers solitary, about 3 cm across, white, showy. Lip sub-orbicular, pubescent within.

Fls. & Frts.: June Aug.

Distrib.: Kameng; between 500-1500 m, on moss covered stones in open places.

Diplomeris josephii A. N. Rao & Swaminathan in Indian Orchid. J. 2(1): 5. 1987.

Fls. & Frts.:

Distrib.:

Diplomeris pulchella D. Don, Prodr. Fl. Nepal. 26. 1825; Hook. f., Fl. Brit. India 6 : 167. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 336, f.200. 1998.

Terrestrial herbs with creeping rootstocks. Leaves in pair, ensiform. Flowers solitary, 2-2.5 cm diam, white, showy. Lip obovate with incurved spur.

Fls. & Frts.: July Dec.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1000 m, on humus rich soil in primary forests.

Diploprora championii (Lindl.) Hook.f., Fl. Brit. India 6: 26. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 205, t.274. 1898; A. N. Rao in J. Econ. Tax. Bot. 20(3): 707. 1996.

Epiphytic herbs; stems dorsiventrally flattened; leaves alternate, elliptic-oblong; raceme clavate, strongly flexuous; flowers pale yellow; lip white with purple veins on the side-lobes.

Fls. & Frts.: July August.

Distrib.: Kameng; between 800-1000m., in primary forests.

Diploprora truncata Rolfe ex Downie in Kew Bull. 1925: 385. 1925; A. N. Rao in J. Econ. Tax. Bot. 20(3): 707. 1996.

Epiphytic herbs, with cylindrical stem; leaves alternate at long intervals, emarginated; inflorescence branched, many flowered; lip with truncate apex.

Fls. & Frts.: June-July.

Distrib.: Kameng; at 250m., on moss covered branches of small trees.

Epigeneium amplum (Lindl.) Summerh. in Kew Bull. 12: 260. 1957; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 337, f.201. 1998. *Dendrobium amplum* Lindl. in Wall., Pl. As. Rar. 1: 25, t.29. 1830; Hook.f., Fl. Brit. India 5 : 711. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 63, t.89. 1898.

Epiphytic herbs. Pseudobulbs distant on pendulous rhizomes, ellipsoid. Leaves in pair, elliptic-oblong. Flowers solitary, 7.5-8.5 cm diam, greenish-brown with dark brown blotches. Lip 3-lobed, rhomboid with 3-lamellae, purple.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng; between 1500-1800 m, on tree trunks in primary forests.

Epigeneium chapaense Gagnep. in Bull. Mus. Hist. Nat. Paris 2, 4: 596. 1932; Sukhla & Kulshrestha in J. Econ. Tax. Bot. 8(1): 196. 1986; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 337. 1998.

Epiphytic herbs. Pseudobulbs elliptic or fusiform in cluster on elongated rhizomes. Leaves solitary, obovate-oblong. Flowers solitary, inserted on pseudobulbs, maroon. Lip 3-lobed, 11-nerved.

Fls. & Frts.: Nov. Jan.

Distrib.: Tirap; between 100-1500 m, on tree trunks in primary forests.

Epigeneium fargesii (Finet) Gagnep. in Bull. Mus. Hist. Nat. Paris 2, 4(5): 592. 1932; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 337, f.202. 1998. *Dendrobium fargesii* Finet in Bull. Soc. Bot. France 50 : 374, t.7. 1903.

Rhizomatous, epiphytic herbs. Pseudobulbs closely arranged, elliptic or fusiform. Leaves solitary, obovate-oblong, subequally bilobed at apex. Flowers solitary, purplish-brown. Lip 3-lobed, brownish-purple; apical lobe diamond shaped; disc with two fleshy lamellae.

Fls. & Frts.: June Oct.

Distrib.: Kameng; between 500-1500 m, on moss covered branches of large trees in dense, primary forests.

Epigeneium fuscescens (Griff.) Summerh. in Kew Bull. 12: 262. 1957; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 339, f.203. 1998. *Dendrobium fuscescens* Griff., Notul. 3 : 308. 1851; Hook. f., Fl. Brit. India 5 : 712. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 62, t.88. 1898.

Epiphytic herbs with branched rhizomes. Pseudobulbs at distant on sheathed rhizomes, ovoid. Leaves in pair, narrowly oblong-lanceolate. Flowers solitary, about 5 cm across, purplish-brown. Lip obovate-oblong with 3-lamellae.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng, Tirap; between 1500-2000 m, on tree trunks in dense forests.

Epigenium navicularis (N. P. Balakr. & S. Chowdhury) A. N. Rao in J. Econ. Tax. Bot., Addit. Ser. 11: 59. 1995. *Katherinea navicularis* N. P. Balakr. & S. Chowdhury in Bull. Bot. Surv. India 8: 316. 1966; Deori & Das in Bull. Bot. Surv. India 18(1-4): 235. 1976; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 462, f.277. 1998.

Epiphytic herbs. Pseudobulbs uninodal, narrowly ellipsoid, yellowish-green. Flowers solitary, dull purplish-brown.

Fls. & Frts.: July Oct.

Distrib.: Kameng; between 1000-2000 m, on moss covered tree trunks in forests.

Epigeneium rotundatum (Lindl.) Sumerh. in Kew Bull. 12: 264. 1957; Hegde in J. Bombay Nat. Hist. Soc. 82(1): 118. 1985; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 339. 1998. *Sarcopodium rotundatum* Lindl., Fol. Orchid. *Sarcopodium* 2. 1853. *Dendrobium rotundatum* (Lindl.) Hook.f., Fl. Brit. India 5: 712. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 62, t.87. 1898.

Epiphytic herbs. Pseudobulbs at distant on woody pendulous rhizomes, ellipsoid or ovoid. Leaves in pair, elliptic-oblong, bifid at apex. Flowers solitary, about 4 cm across, brown. Lip oblong, 3-lobed.

Fls. & Frts.: April - June.

Distrib.: Kameng; between 2000-2500 m, on tree trunks in open forests.

Epipactis helleborine (L.) Crantz., Strip. Austr. Fasc. ed. 2: 467. 1769 *emend* Watson & Coulter in Asa Gray, Manual ed. 6: 504. 1890; A. N. Rao & K. Haridasan in J. Econ. Tax. Bot. 21(3): 718. 1997. *Serapias helleborine* L., Sp. Pl. : 949. 1753.

Terrestrial herbs with sessile plicate leaves; inflorescence subdensely many flowered; lip with saccate hypochile and entire epichile.

Fls. & Frts. : Jan. - March.

Distrib.: Lohit; at 2200 m., on open slopes.

Epipogium africanum Schltr. in Engl. Jahrb. 45: 399. 1911; A. N. Rao in Higher Pl. Indian Subcontinent 2: 9. 1992; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 342. 1998.

Saprophytic tuberous herbs; tubers without annular rings; raceme terminal, laxly flowered; flowers drooping, white; lip with purple dots, obscurely 3-lobed.

Fls. & Frts.:

Epipogium aphyllum Sw., Summa Veg. Scand.: 32. 1814; A. N. Rao & S. N. Hegde in Manilal & Sath. Kumar (eds.), Orch. Mem. 129. 2004.

Saprophytic herbs; rhizome coralloid, branching; stem stout, swollen at base; sheaths two, unequal; inflorescence 1-8 flowered; flowers pendent, yellowish with red tinge; lip whitish-yellow with red streaks on the spur.

Fls. & Frts.: July - Sept.

Distrib.: Arunachal Pradesh.

Epipogium indicum H. J. Chowdhery, G. D. Pal & G. S. Giri in *Nordic J. Bot.* 13(-4): 419. 1993; H. J. Chowdhery, *Orch. Fl. Arunachal Pradesh* 342, f.204. 1998.

Saprophytic, leafless, delicate herbs, 30-50 cm high. Tubers fusiform, white. Stems arising from the broader end of tuber, sheathed, white. Flowers in terminal, 12-40 flowered, spicate raceme, white with pinkish streaks and dots, mild fragrant. Lip 3-lobed, spurred, fleshy, white with pink dots; apical lobe orbicular with short, blunt apicule.

Fls.: April May.

Distrib.: Subansiri; between 500-600 m, in bamboo forests in moist shady places rich in organic matter.

Epipogium roseum (D. Don) Lindl. in *J. Linn. Soc., Bot.* 1: 177. 1857; H. J. Chowdhery, *Orch. Fl. Arunachal Pradesh* 343, f.205. 1998. *Limodorum roseum* D. Don, *Prodr. Fl. Nepal.* 30. 1825. *Epipogium nutans* Rchb.f. in *Bonplandia* 36. 1857; Hook.f., *Fl. Brit. India* 6: 124. 1890.

Saprophytic tuberous herbs up to 50 cm high, yellowish; tubers fusiform; sheaths few, lax. Flowers in terminal, several flowered raceme, white with reddish-brown dots. Lip elliptic, concave with carunculate ridges.

Fls. & Frts.: April July.

Distrib.: Kameng; Subansiri; between 500-1000 m, on dried leaf litter in wet subtropical forest floor.

Epipogium sessanum Hegde & A. N. Rao in *J. Econ. Tax. Bot.* 3 : 598. 1982; H. J. Chowdhery, *Orch. Fl. Arunachal Pradesh* 343, f.206. 1998.

Erect, saprophytic herbs with horizontal, tuberous rhizomes. Stems hollow, pale-yellow, white towards apex. Flowers in terminal, many flowered raceme, resupinate, drooping.

Fls. & Frts.: June July.

Distrib.: Kameng; between 1000-2000 m, in moist subtropical forests in humus rich soil.

Epipogium tuberosum Duthie in *Ann. Roy. Bot. Gard. (Calcutta)* 9: 151. 1906; S. N. Hegde & A. N. Rao in *J. Econ. Tax. Bot.* 4(2): 386. 1983.

Saprophytic herbs; rhizome tuberous, tomentose; stem slender; raceme 3-4 flowered; flowers drooping, white with purple dotted lip.

Fls. & Frts.: May - June.

Distrib.: Kameng; at 1100 m., on dried leaf-litter of wet subtropical forest floor.

Eria acervata Lindl. in J. Hort. Soc. 6: 57. 1850; Hook.f. Fl. Brit. India 5: 796. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 123, t.170. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 350, f.207. 1998.

Epiphytic herbs with crowded, compressed, ellipsoid pseudobulbs. Leaves 3-4, narrowly oblong. Flowers in few flowered raceme, white. Lip obovate, 3-lobed, white with yellow tinge.

Fls. & Frts.: May - July.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1000 m, on moss covered tree trunks.

Eria amica Rchb.f., Xen. Orchid. 2: 162, t.168. f. 6-9. 1870; Hook.f. Fl. Brit. India 5: 800. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 350, f.208a-b. 1998. *Eria confusa* Hook.f., Ic. Pl. t.1850. 1889. *Eria andersonii* Hook.f., Fl. Brit. India 5: 795. 1890.

Epiphytic herbs with cylindric pseudobulbs. Leaves oblong, ligulate. Flowers few in raceme, brownish with red nerves. Lip 3-lobed, purple with yellow-tinge

Fls. & Frts.: March- July

Distrib.: Kameng; between 500-1000 m, on tree trunks in moist forests.

Eria apertiflora Summerh. In Kew Bull. 1929: 9. 1929; A. N. Rao in J. Econ. Tax. Bot. 20(3): 708. 1996; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 702. 1998.

Tufted epiphytic herbs; pseudobulbs cylindrical, apically 4-5leaved; leaves lanceolate, acuminate; raceme laxly 8-16 flowered; flowers white with yellow midlobe of the lip.

Fls. & Frts.: Aug. - Sept.

Distrib.: Kameng; at 1000 m., on large tree trunks in wet subtropical forests.

Eria arunachalensis A. N. Rao in J. Econ. Tax. Bot. 21 (3): 711. 1997.

Epiphytic herbs; pseudobulbs cylindrical, stem-like, apically 4-7-leaved; leaves elliptic-lanceolate, acuminate; raceme 2-flowered, leaf-opposed; floral bracts large, yellow; flowers white, with brown-pubescent pedicel and ovary.

Fls. & Frts.: March April.

Distrib.: Siang, Dibang Valley; between 900 - 1200m., on large tree trunks in primary forests.

Eria bambusifolia Lindl. in J. Linn. Soc., Bot. 3: 61. 1859; Hook.f., Fl. Brit. India 5 : 805. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 119, t.163. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 350, f.209. 1998.

Epiphytic herbs upto 1 m high. Stems enveloped in large, tubular sheaths. Leaves elliptic-oblong. Flowers in axillary, few flowered raceme, pale-brown with dark brown stripes; rachis rusty pubescent. Lip 3-lobed, ovate-oblong with three hairy ridges.

Fls. & Frts.: Oct. Jan.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000 -2000 m, on trees in primary forests.

Eria biflora Griff., Notul. 3 : 302. 1851; Hook f., Fl. Brit. India. 5 : 800. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 117, t.160. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 354, f.210. 1998.

Tufted, epiphytic herbs. Pseudobulbs stem like, compressed. Leaves 3 -5, elliptic. Flowers solitary or paired, yellowish. Lip oblong with papillose margin.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng, Subansiri; between 100-1000 m, on tree trunks, primary forests.

Eria bipunctata Lindl in Edw., Bot. Reg. 27: 83. Misc. 179. 1841; Hook.f., Fl. Brit. India 5: 792. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 354. 1998.

Erect, epiphytic herbs. Pseudobulbs more or less in cluster, 2-3 noded, ellipsoid, compressed laterally. Raceme laxly many flowered, axillary. Flowers non resupinate, white. Lip brown with yellow tinge.

Fls. & Frts.: Sept.-Oct.

Distrib.: Subansiri; between 1000-1500 m, on moss covered tree trunks in moist sub-tropical evergreen forests.

Eria bractescens Lindl. in Bot. Reg. 27: misc.18, n.46. 1841 *et in* Bot. Reg. 30: t.29. 1844; Hook.f., Fl. Brit. India 5 : 796. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 120, t.166. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 354, f.211. 1998.

Epiphytic herbs with cylindric pseudobulbs. Leaves 3 -6, elliptic-oblong. Flowers in axillary raceme, yellowish. Lip oblong, 3-lobed with 3 lamellae, red.

Fls. & Frts.: April June.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 200-1000 m, on tree trunks in tropical primary forests.

Eria carinata Gibson in Calcutta J. Nat. Hist. 5: 365. 1845; Hook.f., Fl. Brit. India 5 : 808. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 129, t.179. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 357, f.212. 1998.

Epiphytic or lithophytic herbs with ovoid pseudobulbs. Leaves lanceolate. Flowers 3-4 in raceme, pinkish-brown. Lip 3-lobed, shortly clawed at base; disc with 3-lamellae.

Fls. & Frts.: July Nov.

Distrib.: Kameng, Siang; between 1200-1800 m, in primary forests.

Eria clausa King & Pantl. in J. Asiat. Soc. Bengal 65: 121. 1896 *et in* Ann. Roy. Bot. Gard. (Calcutta) 8: 121, t.167. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 357. 1998.

Epiphytic herbs. Pseudobulbs distant on rhizomes, ovoid-ellipsoid. Leaves 2-3, narrowly lanceolate. Flowers in raceme from the base of pseudobulbs, greenish. Lip oblong, 3-lobed, purplish.

Fls. & Frts.: March May.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000 -1500 m, in forests.

Eria clavicaulis Wall. ex Lindl. in Bot. Reg. 26. misc.90. 1840; Hook.f., Fl. Brit. India 5: 799. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 357, f.213. 1998.

Epiphytic herbs with subclavate stems. Leaves 2-4, lanceolate. Flowers in raceme, white. Lip 3-lobed, white with purple edges; disc with two lateral callii.

Fls. & Frts.: Nov. April.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 200-1000 m, on tree trunks in primary forests.

Eria connata Joseph, S. N. Hegde & Abbar. in Bull. Bot. Surv. India 24: 114, f. 1-7. 1982; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 361, f.214. 1998.

Caespitose, pseudobulbous, epiphytic herbs. Leaves terminal, narrowly elliptic. Flowers in axillary or leaf-opposed, racemose head, white with yellow lip, sparsely gland-dotted, fragrant.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 1100-1500 m, on tree trunks in evergreen, subtropical rain forests.

Eria corneri Rehb.f. in Gard. Chron. N.s. 10: 106. 1878; A. N. Rao in J. Econ. Tax. Bot. 20(3): 708. 1996; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 703. 1998.

Epiphytic herbs; pseudobulbs conical-ovoid, angled, sheathed; leaves elliptic, acute; inflorescence subterminal; flowers white with purple veins.

Fls. & Frts.: Aug. Sept.

Distrib.: Kameng; 1100m., on moss covered tree trunks and rock boulders.

Eria coronaria (Lindl.) Rehb.f. in Walp., Ann. 6 : 272. 1861; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 124, t.172. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 361, f.215. 1998. *Coelogyne coronaria* Lindl. in Bot. Reg. 27: misc.83. 1841; Hook.f., Fl. Brit. India 5 : 827. 1890.

Tufted, epiphytic herbs with cylindric stems. Leaves lanceolate. Flowers in 2-4 (-6) flowered raceme, white with purple streak on lip. Lip 3-lobed with two, thick, yellow lamellae and 3 faint ridges.

Fls. & Frts.: Nov. Feb.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1500 m, on tree trunks in forests.

Eria cristata Rolfe in Kew Bull. 1892: 139. 1892; S. N. Hegde in Arunachal Forest News 11(2): 4. 1993; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 361, f.216. 1998.

Epiphytic herbs; pseudobulbs stem like, cylindrical, clavate, apically 4-5 leaved; leaves elliptic-lanceolate, sub-acute; inflorescence

axillary, 2-flowered; floral bracts petaloid; flowers white, pubescent externally; lip 3-lobed, with 5 calluses.

Fls. & Frts.: Feb. April.

Distrib.: Siang, Subansiri, Tirap; between 500-1000 m., in primary forests.

Eria discolor Lindl. in J. Linn. Soc., Bot. 3: 51. 1859. *Tylostylis discolor* (Lindl.) Hook. f. in Ann. Roy. Bot. Gard. (Calcutta) 5: 22. 1895; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 677, f.410. 1998. *E. pulchella auct non* Lindl. 1841: Hook. f., Fl. Brit. India 5: 802. 1890. *p.p.*

Epiphytic herbs. Stems stout, thick and furrowed. Leaves 4-6, narrowly oblong. Flowers in extra axillary, few flowered raceme, greenish-yellow. Lip broadly cordate, pubescent.

Fls. & Frts.: Jan. March.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1200 m, on branches of trees in primary forests.

Eria excavata Lindl., Gen. Sp. Orch. Pl. 67. 1830; Hook.f., Fl. Brit. India 5 : 795. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 124, t.171. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 363, f.217. 1998.

Epiphytic herbs with oblong pseudobulbs. Leaves 4-6, membranous, elliptic-lanceolate. Flowers in terminal, few flowered raceme, dull white; peduncles pubescent. Lip obovate, 3-lobed, yellow with red marking at base. Capsules oblong, ribbed.

Fls. & Frts.: June July.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1500-2000 m, on large tree trunks in forests.

Eria ferruginea Lindl. in Bot. Reg. 25 : t.35. 1839; Hook. f., Fl. Brit. India 5 : 804. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 363. 1998.

Rhizomatous, epiphytic herbs upto 30 cm high. Leaves ovate-lanceolate. Flowers in raceme, white; peduncles tomentose. Lip 3-lobed, pink; disc with dark ridge, purple dotted.

Fls. & Frts.: May Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1200-1600 m, on trees in primary forests.

Eria globulifera Seidenf. in Opera Bot. 62: 125. 1982; Naithani, A. N. Rao & Haridasan in Ind. J. Forestry 8(4): 333. 1985; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 363, f.218. 1998.

Caespitose, epiphytic herbs. Stems subclavate, 3-4 noded. Leaves upto 4 in number, terminal. Flowers many in dense, globose heads, white with yellow tinge on the midlobe of lip.

Fls. & Frts.: Aug. Nov.

Distrib.: Tirap; between 300-1500 m, on moss covered branches of large trees in evergreen tropical and subtropical forests.

Eria graminifolia Lindl. in J. Linn. Soc. 3: 54. 1859; Hook.f., Fl. Brit. India 5: 794. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 119, t.164. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 367, f.219. 1998.

Erect, epiphytic herbs with cylindric stems. Leaves 2-6, linear-lanceolate. Inflorescence solitary or many, produced among young leaves, pubescent. Flowers white. Lip oblong, 3-lobed with calli.

Fls. & Frts.: July Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1500-2000 m, on moss covered tree trunks in forests.

Eria javanica (Sw.) Blume, Rumph. 2: 23. 1836; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 367, f.220. 1998. *Dendrobium javanicum* Sw. in Kgl. Sv. Vet. Akad. Nya. Handl. 21: 247. 1800. *E. fragrans* Rehb.f. in Bot. Zeit. 22: 415. 1864; Hook.f., Fl. Brit. India 5: 794. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 122, t.168. 1898.

Epiphytic herbs. Pseudobulbs distant on creeping, stout rhizomes, ellipsoid. Leaves in pair, elliptic-oblong. Flowers in lax raceme, white, pubescent, fragrant. Lip oblong, 3-lobed.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 500-1000 m, on tree trunks in dense tropical forests.

Eria jengingensis S. N. Hegde in J. Orch. Soc. India 7(1-2): 13. 1993; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh: 371. 1998.

Crowded epiphytes; pseudobulbs stem like, narrow, cylindrical, apically leaved; leaves elliptic-lanceolate, acute; raceme axillary, 2-3-flowered; flowers not fully opening, yellowish-brown with pink tinge; lip 3-lobed, pink with yellow tinge towards base.

Fls. & Frts.: March June.

Distrib.: Siang, Subansiri; between 600-800 m, on branches of big trees in tropical evergreen forests.

Eria kamlangensis A. N. Rao in J. Orch. Soc. India 15(1-2): 61. 2002.

Rhizomatous epiphytic herbs; pseudobulbs ovoid, laterally compressed; leaves elliptic-oblong, acute, with long petiole; flowers large, densely white-tomentose, pale greenish-yellow with maroon tinge on the disc of the lip; floral bracts large, 4-5 cm long, glabrous; lip 3-lobed, with 3-oblong callii.

Fl. & Fr.: July September.

Distribution: Lohit; between 500-700m., on tree branches in tropical primary forests

Eria lasiopetala (Willd.) Ormerod in Op. Bot. 124: 22. 1995. *E. pubescens* (Hook.) Lindl. ex Loudon, Hort. Brit.: 372. 1830; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 373, f.225. 1998. *Dendrobium pubescens* Hook., Exot. Fl. 2: t. 124. 1824. *Eria flava* Lindl., Gen. Sp. Orch. Pl. 65. 1830; Hook.f., Fl. Brit. India. 5: 801. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 126, t.175. 1898.

Epiphytic herbs with ovoid pseudobulbs on creeping rhizome. Leaves lanceolate. Raceme lateral on pseudobulbs, densely woolly. Flowers pale-yellow, woolly, scented. Lip 3-lobed, wavy at margin; disc with 2-3 thickened ridges,

Fls. & Frts.: March July.

Distrib.: Siang, Subansiri Tirap; between 100-1000 m, on tree trunks in dense, tropical primary forests.

Eria lohitensis A.N. Rao *et al* in J. Bombay Nat. Hist. Soc. 86 (2): 229. 1989; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 371, f.221. 1998.

Epiphytic herbs. Stems stout, clavate, about 20 cm long. Leaves upto 6 in number, terminal, oblong-lanceolate. Raceme arising laterally, 2-flowered. Rachis white, pubescent. Flowers white.

Fls. & Frts.: May June.

Distrib.: Lohit; between 1500-1700 m, on tree trunks in forests.

Eria muscicola (Lindl.) Lindl. in J. Linn. Soc. 3: 47.1859; Hook.f., Fl. Brit. India 5: 789. 1890; King & Pantl. in Ann. Roy.

Bot. Gard. (Calcutta) 8: 117, t.159. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 371, f.222. 1998. *Dendrobium muscicola* Lindl., Gen. Sp. Orch. Pl. 75. 1830.

Tiny, epiphytic herbs. Pseudobulbs clustered, depressed globose. Leaves 2-4, oblanceolate, apiculate. Flowers in 3-6 flowered raceme, pale-green. Lip lanceolate with two callii.

Fls. & Frts.: July Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1200-1800 m, on moss covered tree trunks in forests.

Eria paniculata Lindl. in Wall., Pl. As. Rar. 1: 32, t. 36. 1830; Hook.f., Fl. Brit. India 5 : 789. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 126, t.174. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 373, f.223. 1998.

Epiphytic or lithophytic herbs with compact, terete stems. Leaves many, linear. Raceme simple or branched, terminal or sub-terminal, tomentose. Flowers greenish with white lip, purple dotted. Lip 3-lobed; disc with large, fleshy lamellae.

Fls. & Frts.: Dec. March.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1500 m, in open and shaded forests.

Eria pannea Lindl. in Edw., Bot. Reg. 28: misc.64, n.79. 1842; Hook.f., Fl. Brit. India 5: 804.1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 127, t.176. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 373, f.224. 1998. *Eria calamifolia* Hook.f., Fl. Brit. India 6: 191. 1890.

Epiphytic herbs with creeping, hairy rhizomes. Stems very short, 1-4 leaved. Leaves cylindrical, fleshy. Flowers in terminal raceme, whitish hairy outside and yellow within. Lip fleshy, oblong.

Fls. & Frts.: May July.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1000 m, on tree trunks among lichens in tropical primary forests.

Eria pudica Ridl. in J. Linn. Soc., Bot. 32: 294. 1896; Deori & Malhotra in J. Bombay Nat. Hist. Soc. 14(1): 205. 1977; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 377. 1998. *Eria hindei* Summerh. in Kew Bull. 1932: 321. 1932.

Epiphytic herbs with crowded pseudobulbs. Leaves oblong-lanceolate. Raceme lateral, hairy. Flowers whitish. Lip 3-lobed, flushed with purple.

Fls. & Frts.: April July.

Distrib.: Kameng, Subansiri; between 500-1200 m, on trees in forests.

Eria pumila Lindl., Gen. Sp. Orch. Pl. 68. 1830; Hook.f., Fl. Brit. India 5: 791. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 118, t.162. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 377, f.226. 1998.

Caespitose epiphytes. Pseudobulbs subcylindric with 3-4 terminal raceme. Flowers minute in dense heads, white flushed.

Fls. & Frts.: Jan. March.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 200-500 m, on tree branches in tropical valleys.

Eria pusilla (Griff.) Lindl. in J. Linn. Soc., Bot. 3: 48. 1859; Hook.f., Fl. Brit. India 5: 787. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 377, f.227. 1998. *Conchidium pusillum* Griff., Notul. 3: 321. 1851.

Pseudobulbous, epiphytic herbs. Leaves spatulately obovate with a terminal seta. Flowers in raceme, pale-white. Lip lanceolate, obscurely serrulate at margin.

Fls. & Frts.: March June.

Distrib.: Kameng, Subansiri; between 1000-1200 m, on trees in primary subtropical forests.

Eria sharmae H. J. Chowdhery, G. S. Giri & G. D. Pal in Ind. J. Forestry 16(4): 91. 1993; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 381, f.228. 1998.

Epiphytic herbs, 15-22 cm high. Pseudobulbs 4-7 together, elongate-clavate. Leaves in pair, oblong-lanceolate, acute at apex. Flowers in 6-10 flowered raceme, pinkish-yellow; rachis densely puberulous. Lip obovate-oblong, 3-lobed; apical lobe rectangular, 3-lobulate at apical margin, bright yellow.

Fls. & Frts.: Feb. May.

Distrib.: Subansiri; between 200-800 m, on branches of trees in moist tropical forests.

Eria spicata (D. Don) Hand.-Mazz., Symb. Sin. 7: 1352. 1936; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 381, f.229. 1998. *Octomeria spicata* D. Don, Prodr. Fl. Nepal. 31. 1825. *Eria convallarioides* Lindl., Gen. Sp. Orch. Pl. 70. 1830; Hook.f., Fl. Brit. India 5 : 791. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 118, t.161. 1898.

Epiphytic herbs with compressed, stout stems. Leaves elliptic-lanceolate. Flowers in dense flowered raceme, brownish-yellow with purple tinge. Lip orbicular, 3-lobed.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1500 m, on trees in forests.

Eria stricta Lindl., Coll. Bot. t. 41.B. 1825; Hook. f., Fl. Brit. India 5: 791. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 125, t.173. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 381, f.230. 1998.

Epiphytic herbs with cylindrical pseudobulbs. Pseudobulbs compact, ribbed. Leaves in pair, oblong-lanceolate. Flowers in pubescent raceme, pinkish. Lip suborbicular, 3-lobed, yellowish; disc with 3 callii.

Fls. & Frts.: Dec. April.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1000 m, on trees in tropical primary forests.

Eria tomentosa (Koen.) Hook.f., Fl. Brit. India 5 : 803. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 385. 1998. *Epidendrum tomentosum* Koen. in Retz., Obs. Bot. 6: 53. 1791.

Epiphytic herbs. Pseudobulbs ovoid. Leaves 3-4, elliptic-oblong. Flowers in terminal raceme, brown, tomentose; rachis brown villous. Lip oblong, 3-lobed, strongly nerved.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng; between 100-1000 m, on branches of trees in primary, humid forests.

Eria vittata Lindl. in J. Linn. Soc., Bot. 3: 51. 1859; Hook. f., Fl. Brit. India 5: 794. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 120, t.165. 1898.

Epiphytic rhizomatous herbs. Pseudobulbs distant on rhizomes, cylindric, ridged. Leaves in pair, elliptic-lanceolate. Flowers in densely flowered, decurved raceme pale-green with purplish-brown spots, fragrant. Lip oblong with five crenulate ridges.

Fls. & Frts.: March May.

Distrib.: Kameng; between 1200-2500 m, on moss covered branches of trees in forests.

Eriodes barbata (Lindl.) Rolfe in Orch. Rev. 23: 326. 1915. *Tainia barbata* Lindl. in Gard. Chron. 1857: 68. 1857. *Eria barbata*

(Lindl.) Rehb.f. in Walp., Ann. 6: 270. 1861; Hook.f., Fl. Brit. India 5: 803. 1890. *Neotainiopsis barbata* (Lindl.) Raizada & Bennet in Indian For. 107: 433. 1981; S. N. Hegde & A. N. Rao in Indian J. For. 10(3): 195. 1987; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 521. 1998.

Epiphytic herbs; pseudobulbs sheathed at base, leaves 1-3, elliptic-lanceolate, acute, long petiolate; raceme laxly 8 – 10 flowered, pubescent; flowers yellow with red stripes, fragrant.

Fls. & Frts.: Oct. Jan.

Distrib.: Kameng; upto 1100 m., in subtropical wet evergreen forests.

Erythroides blumei (Lindl.) Schltr.....; A. N. Rao & S. N. Hegde in Manilal & Sath. Kumar (eds.), Orch. Mem. 129. 2004.

Fls. & Frts.:

Distrib.:

Erythroides hirsuta (Griff.) Ormerod in Sedenf., Contr. Orch. Fl. Thail. 13: 12. 1998. *Goodyera hirsuta* Griff., Notul. 3: 393. 1851 & Ic. Pl. Asiat. 3: t.347. 1851. *Physurus hirsutus* (Griff.) Lindl. in J. Linn. Soc., Bot. 1: 180. 1857; Hook.f., Fl. Brit. India 6: 94. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 600, f.366. 1998. *Physurus herpysmoides* King & Pantl. In J. Asiat. Soc. Bengal 65: 124. 1896. *Erythroides seshagiriana* A. N. Rao in Indian For. 123(7): 643. 1997.

Terrestrial, hairy, leafy herbs. Leaves ovate, glaucous beneath. Flowers in terminal raceme, brownish-white.

Fls. & Frts.: June Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1500 m, on humus rich soil in forests.

Erythrorchis ochobiensis (Hayata) Garay in Bot. Mus. Leaflet. Harv. Univ. 30(4): 234. 1986; A. N. Rao in J. Econ. Tax. Bot. Add. Ser. 11: 125. 1995; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 387. 1998. *Galeola ochobiense* Hayata, Ic. Pl. Form. 6: 87. 1916.

Saprophytic, climbing herbs; stem slender, rooting at nodes; flowers in large panicle, pale yellow; lip 3-lobed, with a median hairy groove.

Fls. & Frts.: May July.

Distrib.: Tirap; between 200-600 m., on decayed wood.

Esmeralda cathcartii (Lindl.) Rchb.f., Xen. Orch. 2: 39. 1862; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 387, f.232. 1998. *Vanda cathcartii* Lindl., Fol. Orchid. Vanda 8. 1853. *Arachnis cathcartii* (Lindl.) J. J. Sm. in Natuurw. Tijdschr. Nederl. Ind. 72 : 75. 1912. *Arachnanthe cathcartii* (Lindl.) Benth. in Benth & Hook. f., Gen. Pl. 3 : 573. 1883; Hook. f., Fl. Brit. India 6: 27. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 208, t.278. 1898.

Epiphytic herbs upto 1 m high. Stems stout, pendent. Leaves oblong, obliquely notched at apex. Flowers in leaf-opposed raceme, 10-12 cm across, white with yellow tinge. Lip oblong; epichile broadly ovate, yellow. Capsules cylindrical, ridged.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-2000 m, on moss covered tree trunks in moist forest

Esmeralda clarkei Rchb.f. in Gard. Chron. 2, 26: 552. 1886; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 390, f.233. 1998. *Arachnanthe clarkei* (Rchb.f.) Rolfe in Gard. Chron. 2: 567. 1888; Hook. f., Fl. Brit. India 6: 28. 1890.

Epiphytic up to 1m long. Leaves 2-3, oblong lanceolate, obtusely bifid at apex. Flowers in 2-3 flowered raceme, yellow. Lip 3-lobed. Capsules oblong.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng; between 1000-1500 m, on trees in primary forests.

Eulophia bicallosa (D. Don) P. F. Hunt & Summerh. in Kew Bull. 20: 60. 1966; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 391, f.234. 1998. *Bletia bicallosa* D. Don, Prodr. Fl. Nepal. 30. 1825. *Cyrtopera bicarinata* Lindl., Gen. Sp. Orch. Pl. 190. 1833. *Eulophia bicarinata* (Lindl.) Hook.f., Fl. Brit. India 6: 6. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 180, t.244. 1898.

Terrestrial, tuberous herbs. Leaves linear, absent at flowering time. Flowers in densely flowered long raceme, yellowish-green. Lip 3-lobed, saccate at base, purplish at margin.

Fls. & Frts.: March May.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1200 m, on humus rich soil in primary forests.

Eulophia dabia (D. Don) Hochr. in Bull. New York Bot. Gard. 6: 270. 1910; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 391, f.235. 1998. *Bletia dabia* D. Don, Prodr. Fl. Nepal. 30. 1825. *Eulophia campestris* Wall. ex Lindl., Gen. Sp. Orch. Pl. 185. 1833; Hook.f., Fl. Brit. India 6: 4. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 178, t.241. 1898. *E. hormusjii* Duthie in Ann. Roy. Bot. Gard. (Calcutta) 9(2): 125. Pl. 109. 1906; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 393, f.236. 1998.

Terrestrial, tuberous herbs. Leaves 2, linear. Flowers in short raceme, pink streaked with pinkish back ground. Lip elliptic or elliptic-obovate, spurred, 3-lobed.

Fls. & Frts.: March May.

Distrib.: Kameng; between 100-400 m, on humus rich soil in dense tropical forests.

Eulophia spectabilis (Dennst.) Suresh in Nicolson *et al*, Interpret. Hort. Malabar. 300. 1988. *Wolfia spectabilis* Dennst., Schulussel Hortus Malab. 11, 25, 38. 1818. *Eulophia nuda* Lindl., Gen. Sp. Orch. Pl. 180. 1833; Hook.f., Fl. Brit. India 6: 5. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 180, t.243. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 393, f.237. 1998. *E. nuda* var. *purpurea* Hook.f. in Ann. Roy. Bot. Gard. (Calcutta) 5: 49. 1895.

Terrestrial herbs with globose tubers. Pseudostems short, arising laterally from tubers. Leaves 2-3, elliptic-lanceolate. Scapes 50-100 cm long, arising from the base of pseudostems. Flowers in few flowered, lax raceme, greenish. Lip 3-lobed, saccate at base, pinkish tinged at margin.

Fls. & Frts.: April July.

Distrib.: Kameng; between 100-500 m, on moist forest floor.

Eulophia zollingeri (Rchb.f.) J. J. Sm., Orch. Java 228. 1905; S. N. Hegde in J. Bombay Nat. Hist. Soc. 81(1): 120. 1985; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 398. 1998. *Cyrtopera zollingeri* Rchb.f. in Bonpland. 5: 38. 1857. *Cyrtopera sanguinea* Lindl. in J. Linn. Soc., Bot. 3: 32. 1858. *Eulophia sanguinea* (Lindl.) Hook.f., Fl. Brit. India 6: 8. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 179, t.241. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 398, f.238. 1998.

Terrestrial, rhizomatous herbs. Leaves absent. Flowers in many flowered raceme, 5.5-6 cm diam, brownish. Lip oblong, 3-10bed, white with pink marks.

Fls. & Frts.: May June.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 300-800 m, underneath primary forests on humus rich soil.

Flickingeria albopurpurea Seidenf. in Dansk Bot. Arkiv 34:48.1980; A. N. Rao in Ind. Forest. 122(4): 1171. 1996; A. N. Rao & S. N. Hegde in Manilal & Sath. Kumar (eds.) Orch. Mem. 129. 2004.

Tufted epiphytic, rhizomatous herbs, upto 50 cm high. Pseudobulbs ellipsoid, subfalcate, slightly compressed. Flowers produced adaxially as well as abaxially. Lip apically white, purple at base, with two purple, lateral keels.

Fls. & Frts.: May June.

Distrib.: Lohit; Changlang, upto 300 m.

Flickingeria bancana (J. J. Sm.) A. D. Hawkes in Orquidea 27: 301. 1965; S. N. Hegde & A. N. Rao in Himal. Pl. J. 3(5): 15. 1985; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 399, f.239. 1998.

Crowded epiphytes; stems terete, branched several times, each branch ending in a fleshy pseudobulb; leaves ovate-lanceolate; flower solitary, extra-axillary, pale-yellow, tinged with brownish-purple at the lip.

Fls. & Frts.: May August.

Distrib.: Kameng; up to 1100m., on large, exposed tree trunks in open slopes in evergreen forests.

Flickingeria fugax (Rchb.f.) Seidenf. in Dansk. Bot. Ark. 34: 46. 1980; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 399, f.240. 1998. *Dendrobium fugax* Rchb.f. in Gard. Chron. 1257. 1871; Hook.f., Fl. Brit. India 5: 752. 1890. *Dendrobium macraei auct. non* Lindl., 1830: King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 61, t.86. 1898.

Epiphytic herbs. Pseudobulbs fusiform. Leaves solitary, cuneate-ligulate, obtusely acute. Flowers solitary, terminal, yellow. Lip 3-lobed, dilated from a cuneate base, white with yellow and purple streaks.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng; between 500-1500 m, on trees in forests.

Flickingeria macraei (Lindl.) Seidenf. in Dansk. Bot. Ark. 34: 39. 1980; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 399,

f.241. 1998. *Dendrobium macraei* Lindl., Gen. Sp. Orchid. Pl. 75. 1830; Hook.f., Fl. Brit. India 5 : 714. 1890 *p.p.*

Epiphytic, rhizomatous herbs upto 1 m long, pendent. Stems polished with fusiform pseudobulbs. Leaves solitary, linear-oblong. Flowers solitary or in pair from the base of leaf, white or pink. Lip elliptic-oblong, 3-lobed, pink with purple spots.

Fls. & Frts.: May July.

Distrib.: Kameng; between 200-1000 m, on tree trunks in forests.

Flickingeria ritaeana (King & Pantl.) Hawkes in Orchid Weekly 2, 46: 459. 1961; S. N. Hegde & A.N. Rao in Ind. J. Forestry 10(3): 194. 1987; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 404, f.242. 1998. *Dendrobium ritaeana* King & Pantl. in J. Asiat. Soc. Bengal 66: 583. 1897.

Epiphytic herbs. Stems repeatedly branching. Pseudobulbs cylindrical. Leaves narrowly lanceolate. Flowers appearing just below the base of leaves, green. Lip 3-lobed.

Fls. & Frts.: Aug. Oct.

Distrib.: Tirap; between 1000-1200 m, on the main trunks of large trees in mixed deciduous forests.

Galeola altissima (Blume) Rehb.f., Xen. Orchid 2: 77. 1862; Hook.f., Fl. Brit. India 6 : 89. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 405. 1998. *Cyrtosia altissima* in Blume, Bijdr. 396. 1825.

Large, saprophytic, pubescent climbers. Flowers in laxly flowered raceme, about 3 cm diam., yellow. Lip suborbicular, erose-fimbriate. Capsules cylindrical.

Fls. & Frts.: June Aug.

Distrib.: Tirap; between 500-1000 m, in primary forests on decaying wood.

Galeola falconeri Hook.f., Fl. Brit. India 6: 88. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 265, t.353. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 405, f.243. 1998.

Large, saprophytic herbs upto 3 m high, yellow. Rhizomes stout, clothed with triangular scales. Flowers in large drooping panicle, bright yellow. Lip deeply concave. Capsules oblong, 3-angled, yellow when ripe.

Fls. & Frts.: Aug. Nov.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1500-2500 m, on decaying organic matter in open places.

Galeola javanica (Blume) Benth. & Hook. f., Gen. Pl. 3: 590. 1883; Hook.f., Fl. Brit. India 6: 88.1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 406. 1998. *Cyrtosia javanica* Blume, Bijdr. 39, t. 6. 1825.

Saprophytic herbs. Roots tuberous. Rhizomes creeping with scales. Leaves erect. Flowers in terminal, upto 70 cm long raceme, partly or widely opening, yellow tinged with red.

Fls. & Frts.: June Aug.

Distrib.: Kameng; between 1000-1200 m, on rich humus mixed with decayed wood in moist subtropical evergreen forests floor.

Galeola lindleyana (Hook.f. & Thom.) Rchb.f., in Xen. Orchid. 2: 78. 1862; Hook.f., Fl. Brit. India 6: 88.1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 406. 1998. *Cyrtosia lindleyana* Hook.f. & Thom. in Hook.f., Ill. Himal. Pl. t.22. 1855. *Erythrorchis lindleyana* Rchb.f. in Bonpland. 5: 37. 1857.

Erect, saprophytic herbs upto 1.5 m high, brownish-purple. Flowers in drooping panicle, 4.0-4.5 cm diam, yellow. Lip cup shaped, 3-lobed with reddish blotches. Capsules oblong.

Fls. & Frts.: Aug. Nov.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1500 m, on rich humus soil in forests.

Galeola nudifolia Lour., Fl. Cochinch. 2: 520. 1790; G. D. Pal & A. N. Rao in Bull. Bot. Surv. India 24(1-4): 205. 1982; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 406, f.244. 1998. *Galeola hydra* Rchb.f., Xen. Orch. 2: 77. 1862; Hook.f., Fl. Brit. India 6: 89. 1890.

Sprawling, large, saprophytic herbs, profusely prickly all over, yellowish-brown. Flowers in axillary, lax panicle, yellow, densely papillose. Capsules linear-oblong.

Fls. & Frts.: April June.

Distrib.: Subansiri; between 500-1000 m, on decaying woody substrata along slopes in open places.

Gastrochilus acutifolius (Lindl.) Kuntze., Rev. Gen. Pl. 2: 661. 1891; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 410, f.245. 1998. *Saccolabium acutifolium* Lindl., Gen. Sp. Orch. Pl.

223. 1833; Hook. f., Fl. Brit. India 6 : 61. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 226, t.302. 1898.

Epiphytic herbs, 20-40 cm tall. Leaves oblong -lanceolate, subamplexicaul at base, obliquely bifid at apex. Flowers in leaf-opposed raceme, greenish or yellow. Lip 3-lobed; apical lobe reniform, fimbriate-erose at margin, white.

Fls. & Frts.: Oct. Dec.

Distrib.: Kameng; between 800-1200 m, on tree trunks in forests.

Gastrochilus affinis (King & Pantl.) Schltr. in Fedde. Repert. 12: 314. 1913; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 410, f.246. 1998. *Saccolabium affine* King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 228, t.304. 1898.

Epiphytic herbs upto 30 cm long. Stems slender, drooping, many-leaved. Leaves lanceolate with 2-3 setae at apex. Flowers 2-3 in short raceme, green flushed with brown. Lip 3-lobed with conical sac at base, yellow; apical lobe decurved, broadly triangular.

Fls. & Frts.: June Aug.

Distrib.: Kameng, between 1000-1500 m, on tree branches in primary forests.

Gastrochilus arunachalensis A. N. Rao in J. Econ. Tax. Bot. 16 (3): 723. 1992; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 410. 1998

Small, epiphytic herbs. stems about 4 cm long, arcuate. Leaves oblong, obtusely and unequally bilobed at apex with 2 mucro, one at each lobe apex, margin undulate. Inflorescence umbellate, leaf-opposed. Flowers about 1 cm across, pale-green, densely spotted with dark brown or maroon-red.

Fls. & Frts.: Nov.

Distrib.: Kameng; at 150 m, on moss covered branches of small trees in mixed, deciduous tropical forests.

Gastrochilus calceolaris (Buch.-Ham. ex Sm.) D. Don, Prodr. Fl. Nepal. 32. 1825; A. S. Rao & N. P. Balakr. in Rec.Bot. Surv. India 20(2): 213. 1973; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 413, f.247. 1998. *Aerides calceolare* Buch.-Ham. ex Sm. in Rees, Cycl. (Addenda) 39: *Aerides*, n.11. 1819. *Saccolabium calceolare* (Buch.-Ham. ex Sm.) Lindl., Gen. Sp. Orch. Pl. 223. 1833; Hook.f.,

Fl Brit. India 6: 60. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 225, t.300. 1898.

Epiphytic herbs with pendulous stems. Leaves narrowly oblong, unequally bifid at apex. Flowers in many flowered corymbiform raceme, greenish with brown blotches. Lip saccate at base, yellow with brown blotches.

Fls. & Frts.: March June.

Distrib.: Tirap; between 500-1000m, on tree trunks in tropical primary forests.

Gastrochilus crassilabris (King & Pantl.) Garay in Bot. Mus. Leaflet. Harv. Univ. 23(4): 179. 1972; S. N. Hegde in J. Bombay Nat. Hist. Soc. 82(1): 117. 1985; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 416. 1998. *Saccolabium crassilabre* King & Pantl. in J. Asiat. Soc. Bengal 66 : 593.1897.

Epiphytic herbs. Leaves oblong-lanceolate, obliquely bifid at apex. Flowers in subcorymbose raceme, dull white or pale-yellow.

Fls. & Frts.: April June.

Distrib.: Kameng; between 500-1000m, on trees in primary forests.

Gastrochilus dasypogon (Sm.) Kuntze, Rev. Gen. Pl. 2: 661. 1891; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 413, f.248. 1998. *Aerides dasypogon* Sm. in Rees, Cyclop. 39: 10. 1819. *Saccolabium dasypogon* (Sm.) Lindl., Gen. Sp. Orch. Pl. 222. 1833; Hook. f., Fl. Brit. India 6 : 66. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 224, t.299. 1898.

Epiphytic, pendent herbs. Leaves oblong, minutely bifid at apex. Flowers in corymbiform raceme, bright yellow with brownish blotches. Lip saccate, white with yellow blotch at apex.

Fls. & Frts.: Nov. Jan.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1000m, on tree trunks in dense tropical forests.

Gastrochilus distichus (Lindl.) Kuntze, Rev. Gen. Pl. 2: 661. 1891; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 413. 1998 *Saccolabium distichum* Lindl., J. Linn. Soc., Bot. 3: 36. 1859; Hook.f., Fl. Brit. India 6 : 64.1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 227, t.303. 1898.

Epiphytic, pendent herbs upto 16cm long. Leaves distichous, lanceolate with 2-3 setae at apex. Flowers in 2-4 flowered lax raceme, greenish with brown spots. Lip saccate at base; apical lobe yellowish.

Fls. & Frts.: Sept. Nov.

Distrib.: Subansiri, Tirap; between 1200-1800m, on fallen tree trunks in forests.

Gastrochilus intermedius (Griff. ex Lindl.) Kuntz, Rev. Gen. Pl. 2: 661. 1891; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 416, f.249. 1998. *Saccolabium intermedium* Griff. ex Lindl. in J. Linn. Soc., Bot. 3: 33. 1858; Hook. f., Fl. Brit. India 6: 61. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 226, t.301. 1898.

Epiphytic, pendent herbs, 20-80cm long. Leaves linear. Flowers in 3-4 flowered umbels, yellow with brownish-purple blotches. Lip saccate, white

Fls. & Frts.: July Sept.

Distrib.: Kameng, Subansiri, Tirap; between 500-1200m, on trees in primary forests.

Gastrochilus obliquus (Lindl.) Kuntze, Rev. Gen. Pl. 2: 661. 1891. *Saccolabium obliquum* Lindl., Gen. Sp. Orch. Pl. 223. 1833. *Saccolabium bigibbum* Rchb.f. ex Hook.f. in Bot. Mag. 95: t.5767. 1967. *Gastrochilus bigibbus* (Rchb.f. ex Hook.f.) Kuntze, Rev. Gen. Pl. 2: 661. 1891; A. N. Rao in Rheedeia 7(2): 128. 1997.

Monopodial epiphytic herbs; leaves 2-3cm broad with unequally bilobed apex; sepals and petals greenish yellow, with or without faint minute purple dots; lip white, blotched with purple along the rim of the sac; epichile with erose margin at base.

Fls. & Frts.: Oct. Nov.

Distrib.: Kameng; at 200m., on tree branches in primary forests.

Gastrochilus rutilans Seidenf. in Op. Bot. 95: 293, f.190. 1988; A. N. Rao in J. Econ. Tax. Bot. 22(1): 239. 1998.

Drooping epiphyte with branching stem; leaves narrow, alternate, narrow, acute, with 1-2 setae at apex; inflorescence umbellate, extra-axillary; flowers greenish-white with yellow blotches; lip white, disc yellow with red dots.

Fls. & Frts.: Kameng; between 900-1500 m., on branches of small trees.

Gastrochilus sessanicus A. N. Rao in J. Orch. Soc. India 11(1-2): 1.1997.

Small, monopodial, epiphytic herbs; stem reduced; leaves sessile, elliptic-lanceolate, acuminate; inflorescence umbellate, 6-8-flowered; flowers green, dotted with purple; lip white, blotched with purple at rim of the sac.

Fls. & Frts.: Oct. Dec.

Distrib.: Kameng; at 1100m., on moss covered slender twigs.

Gastrochilus suavis Seidenf. in Op. Bot. 95: 298, f.194. 1988; A. N. Rao in Rheedeia 7(2): 128. 1997.

Epiphytic herbs; stem short; leaves unequally bilobed at apex; inflorescence corymbose, 4-flowered; sepals and petals densely dotted with red; lip white with yellow tinge inside the spur, blotched with purple.

Fls. & Frts.: Oct. Dec.

Distrib.: Kameng; at 200m., on tree branches in primary forests.

Gastrodia arunachalensis S. N. Hegde & A. N. Rao in Orch. Rev. 93(1099): 171. 1985.

Saprophytic herbs; rhizome fusiform; stem sheathed at each node; raceme laxly 10-25 flowered; flowers drooping, bluish-green, tinged with yellow.

Fls. & Frts.: July Sept.

Distrib.: Kameng; at 1100 m., on humus rich soil in wet evergreen forests.

Gastrodia mishmensis A. N. Rao, Haridasan & Hegde in Arunachal For. News 9(1): 10. 1991; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 418, f.250. 1998.

Saprophytic, tuberous herbs upto 60cm tall. stems erect, pale-brown. Sterile bracts 2, tubular. Flowers in many-flowered lax raceme, yellowish-green. Lip 3-lobed with a claw at base; callii 2, reniform; apical lobe, oblong, fringed at lateral margin.

Fls. & Frts.: Aug. Sept.

Distrib.: Lohit; between 1900-2000m, on rich humus in moist shady areas of temperate-broad leaved forest floor.

Geodorum densiflorum (Lam.) Schltr. in Fedde. Repert. 4: 259. 1919; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 418, f.251. 1998. *Limodorum densiflorum* Lam., Encycl. 3: 516.

1791-92. *Geodorum purpureum* R. Br. in Aiton, Hort. Kew. ed. 2(5): 207. 1813; Hook.f., Fl. Brit. India 6 : 16.1890.

Terrestrial, tuberous herbs. Leaves elliptic, plicate. Flowers in pendent corymbs, white. Lip ventricose at base; purple; callii yellow.

Fls. & Frts.: April June.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 200-800 m, underneath primary forests.

Goodyera biflora (Lindl.) Hook.f., Fl. Brit. India 6: 114. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 422, f.252,253. 1998. *Georchis biflora* Lindl., Gen. Sp. Orch. Pl. 496. 1840.

Terrestrial, stout leafy herbs. Leaves ovate. Flowers in hairy spikes, pale-green or yellowish. Lip saccate at base with a long, recurved beak, sac setose within.

Fls. & Frts.: April Aug.

Distrib.: Kameng, between 1000-2000 m, on moist sandy soil along roadsides.

Goodyera clavata N. Pearce & P. J. Cribb in Edinb. J. Bot. 58(1): 116. 2001. *G. grandis auct. non* Blume: King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 284, t.379. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 427, f.256. 1998.

Terrestrial herbs, 40 -70 cm tall. Stems leafy at base. Leaves obliquely elliptic. Flowers in densely flowered raceme, reddish. Lip fleshy, subglobose saccate at base.

Fls. & Frts.: July Sept.

Distrib.: Siang; between 500-1000 m, underneath primary forests.

Goodyera foliosa (Lindl.) Benth. ex C. B. Clarke in J. Linn. Soc., Bot. 25: 73. 1889; Hook.f., Fl. Brit. India 6: 113. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 281, t.374. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 425, f.254. 1998. *Georchis foliosa* Lindl., Gen. Sp. Orch. Pl. 496. 1840.

Decumbent, terrestrial herbs upto 40cm long. Leaves ovate-lanceolate, undulate at margin. Flowers in glandular-pubescent raceme, pinkish-yellow. Lip saccate at base, hispid within, yellow; apical lobe white.

Fls. & Frts.: Oct. Dec.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 200-1000 m, on moist sandy soil in open places.

Goodyera fumata Thwaites, Enum. Pl. Zeyl. 314. 1864; Hook. Fl. Brit. India 6 : 111. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 284, t.377. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 425. 1998.

Terrestrial, stout herbs, 1-1.3 m high. Leaves obliquely oblong-elliptic. Flowers in glandular hairy spike, green. Lip rhomboid with elongate sac at base, abruptly constricted into linear, revolute apical lobe.

Fls. & Frts.: March May.

Distrib.: Kameng; between 1000-1400 m, in open moist forest areas.

Goodyera fusca (Lindl.) Hook.f., Fl. Brit. India 6 : 112. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 280, t.371. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 425, f.255. 1998. *Aetheria fusca* Lindl., Gen. Sp. Orch. Pl. 491. 1840.

Terrestrial herbs upto 40 cm high with cluster of leaves at base. Leaves ovate 5-nerved. Flowers in many flowered hairy spikes, white. Lip with deep, subglobose sac at base, green; apical lobe deflexed.

Fl. & Frt.: Aug. Oct.

Distrib.: Kemeng; between 1500-2500 m, in open moist places along road sides.

Goodyera hemsleyana King & Pantl. in J. Asiat. Soc. Bengal 64 : 342. 1895 *et* in Ann. Roy. Bot. Gard. (Calcutta) 8: 281, t.373. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 427, f.257. 1998.

Terrestrial, delicate herbs upto 30 cm high. Stem enveloped with leaf-sheath. Leaves 3-5, broadly ovate, unequal, dark green with white nerves. Flowers in terminal raceme, peduncle hairy. Lip oblong with subsaccate base; disc scabrid.

Fl. & Frts.: June Sept.

Distrib.: Kameng, Subansiri; between 1500-2500 m, on thick humus soil in forests.

Goodyera hispida Lindl. in J. Linn. Soc., Bot. 1: 183. 1857; Hook.f., Fl. Brit. India 6 : 114. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 282, t.375. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 427, f.258. 1998.

Terrestrial herbs, 10-20 cm tall with rhizome. Stems enveloped in leaf-sheath. Leaves elliptic-lanceolate with reticulated white veins. Flowers in twisted, hairy raceme, greenish-white. Lip with subglobose sac at base, dull white.

Fls. & Frts.: Aug. Oct.

Distrib.: Siang; between 100-500 m, in primary forests on humus rich soil.

Goodyera macrantha Maxim. in Fl. Des. Serres 2, 7: 113. 1867; A.N.Rao & Hajra in Ind. For. 102: 197. 1976; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 431. 1998.

Terrestrial herbs upto 30 cm tall. Leaves ovate-lanceolate. Flower in dense flowered raceme. pink or white. Lip with globose sac at base.

Fls. & Frts.: July Sept.

Distrib. : Kameng; between 500-1200 m, in forests on humus rich soil.

Goodyera procera (Wall. ex Ker-Gawl.) Hook., Exot. Fl. 1: t.39. 1823; Hook.f., Fl. Brit. India, 6: 111. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 431. f.259. 1998. *Neottia procera* Wall. ex Ker-Gawl. in Bot. Reg. 8: t. 639. 1822.

Terrestrial herbs upto 1 m high. Stems stout, enveloped in the wide leaf-sheaths. Leaves narrowly elliptic. Flowers in dense flowered raceme with a pubescent rachis, white with greenish tinge. Lip large, saccate at base, white.

Fls. & Frts.: Feb. April.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-800 m, on humus rich soil in forest.

Goodyera recurva Lindl. in J. Linn. Soc., Bot. 1: 183. 1857; Hook.f., Fl. Brit. India. 6: 112. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 431. 1998.

Decumbent herbs. Stems creeping, fleshy. Roots solitary at nodes. Flowers in recurved raceme, white. Lip longer than column. Capsules ellipsoid.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng; between 2000-3000 m, on decayed leaf mould in temperate forests.

Goodyera repens (L.) R. Br. in Aiton, Hort. Kew. (ed.) 2(5): 198. 1813; Hook.f., Fl. Brit. India. 6 : 111. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 279, t.370. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 434. 1998. *Satyrium repens* L., Sp. Pl. 945. 1753.

Terrestrial herbs upto 25 cm long with leafy stems. Leaves ovate-elliptic or elliptic, beautifully reticulated with white veins. Flowers globular and pointed in spike, white flushed with brownish-pink. Lip saccate at base; apical lobe oblong-ovate, concave.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 1000-1200 m, in open moist places.

Goodyera schlechtendaliana Rchb.f. in Linnaea. 22: 861. 1849; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 434, f.260. 1998. *G. secundiflora auct. non* Griff.: Lindl. in J. Linn. Soc., Bot.1: 82, 1853; Hook.f., Fl. Brit. India 6: 113. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 283, t.376. 1898.

Terrestrial herbs, 18-40 cm tall. Stems enveloped with leaf-sheaths. Leaves ovate-lanceolate, greenish. Flowers in densely glandular pubescent raceme, yellowish-pink. Lip saccate at base, white; disc with two lamellae.

Fls. & Frts.: Sept. Dec.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1500-2500 m, on humus rich soil inside forests.

Goodyera viridiflora (Blume) Lindl. ex Dietrich, Syn. Pl. 5: 165. 1852; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 434, f.261. 1998. *Neottia viridiflora* Blume, Bijdr. 415. 1825. *Georchis cordata* Lindl., Gen. Sp. Orch. Pl. 496. 1640. *Goodyera cordata* (Lindl.) Nicolson, Dict. Gard. 2: 81. 1885; Hook. f., Fl. Brit. India 6: 114. 1890.

Terrestrial herbs, 15-40 cm tall. Leaves subradical, ovate-cordate. Flowers in lax raceme, pubescent, white or yellow.

Fls. & Frts.: July Sept.

Distrib.: Kameng, Lohit, Sieng, Subansiri, Tirap; between 500-1500 m, leaf-mould in forests.

Goodyera vittata (Lindl.) Benth. ex Hook.f., Fl. Brit. India 6: 113. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 280, t.372. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh

438, f.262. 1998. *Georchis vittata* Lindl. in J. Linn. Soc., Bot. 1: 184. 1857.

Terrestrial herbs, 10-25 cm long with stout stems. Leaves thick, ovate-lanceolate with silvery band along midrib. Flowers horizontal in many flowered raceme, pink with white tinge at base. Lip oblong-lanceolate.

Fls. & Frts.: July Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 2000-4000 m, on moist soil along slopes.

Gymnadenia orchidis Lindl., Gen. Sp. Orch. Pl. 278. 1835; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 440, f.263. 1998. *Habenaria orchidis* (Lindl.) Hook.f., Fl. Brit. India 6: 142. 1890. *Orchis habenarioides* King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 302, t.401. 1898.

Terrestrial, leafy herbs upto 60 cm tall. Stems clothed with tubular sheaths. Leaves elliptic-oblong or linear-oblong. Flowers in densely flowered spike, pinkish or violet. Lip broadly oblong with hairy spur.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng; between 3000-4000 m, on moist humus soil along slopes.

Habenaria acuifera Wall. ex Lindl., Gen. Sp. Orch. Pl. 325. 1835; Hook.f., Fl. Brit. India 6: 146. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 441, f.264. 1998.

Terrestrial herbs upto 20 cm high. Tubers 2, unequal. Leaves linear-lanceolate. Flowers in spikes about 1.5 cm across, golden-yellow. Lip 3-lobed with clavate spur.

Fls. & Frts.: July Dec.

Distrib.: Kameng; between 1200-1800m, on open grassy slopes.

Habenaria arietina Hook.f., Fl. Brit. India 6: 138. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 311, t.407. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 441, f.265. 1998.

Terrestrial herbs upto 1 m high with stout base. Leaves sessile, elliptic. Flowers in raceme, green. Lip 3-lobed, spurred; lateral lobes with few teeth; spur longer than ovary.

Fls. & Frts.: July Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1500-3000 m, on moist humus soil.

Habenaria dentata (Sw.) Schltr. in Fedde, Repert. 4: 125. 1919; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 444, f.267. 1998. *Orchis dentata* Sw. in Vet. Acad. Handl. Stockh. 21: 207. 1800. *Habenaria geniculata* D. don, Prodr. Fl. Nepal, 25. 1825; Hook.f., Fl. Brit. India 6 : 138. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 309, t.405. 1898.

Terrestrial herbs upto 90 cm tall. Tubers ellipsoid, hairy. Stems leafy at the middle. Leaves oblong-elliptic, 5-7 nerved. Flowers in laxly flowered raceme, white. Lip suborbicular or broadly obcordate; lateral lobes fimbriate; spur infundibuliform at base. Capsule fusiform, ribbed.

Fls. & Frts.: April Aug.

Distrib.: Kameng, Siang, Subansiri; between 1000-2500 m on moist soil in shaded forests.

Habenaria digitata Lindl., Gen. Sp. Orch. Pl. 307. 1835; Hook.f., Fl. Brit. India 6: 134. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 444, f.268. 1998.

Terrestrial herbs up to 60 cm long. Stems leafy. Leaves ovate or ovate-oblong. Flowers in raceme, greenish. Lip 3-lobed, spurred. Capsules fusiform.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 1000-1500 m, in forests.

Habenaria pantlingiana Kraenzl., Orch. Gen. Sp. 1: 892. 1901. *Habenaria seshagiriana* A. N. Rao in J. Econ. Tax. Bot. 6(1): 223. 1985; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 448, f.270. 1998. *H. stenopetala* var. *polytricha* Hook.f. in Ann. Roy. Bot. Gard. (Calcutta) 5: 64, t.96. 1895; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 308, t.404. 1898.

Terrestrial herbs, 50-125 cm high. Leaves oblong-lanceolate, narrowed at base. Flowers in raceme, about 4 cm long, dull green. Lip hastately 3-partite, spurred. Capsules linear-oblong.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 800-2000 m, on humus rich soil in primary forests.

Habenaria pectinata (Sm.) D. Don, Prodr. Fl. Nepal. 24. 1825; Hook.f., Fl. Brit. India 6: 137. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 310, t.406. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 448, f.269. 1998. *Orchis pectinata* Sm.,

Exot. Bot. 2: 77, t. 99. 1804 (*non* Thunb). *Habenaria ensifolia* Lindl., Gen. Sp. Orch. Pl. 321. 1835; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 448. 1998.

Terrestrial herbs, 30-100 cm long. Stems stout with tubular, clasping sheaths at base. Leaves linear-lanceolate. Flowers greenish-white. Lip deeply 3-lobed, spurred. Capsules fusiform.

Fls. & Frts.: July Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1500 m, in open moist soil along roadsides.

Habenaria stenopetala Lindl., Gen. Sp. Orch. Pl. 319. 1835; Hook.f., Fl. Brit. India 6: 134. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 308, t.404. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 452, f.271. 1998.

Terrestrial herbs, 30-100 cm long. Stems enclosed by closely fitting sheaths. Leaves sessile, oblong-lanceolate, entire. Flowers in densely flowered raceme, about 2.5 cm across, white. Lip 3-lobed, brown. Capsules linear-oblong.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 200-1500 m, in open moist forests.

Herminium haridasanii A. N. Rao in J. Econ. Tax. Bot. 16(3): 725. 1992; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 453, f.272. 1998.

Small, terrestrial herbs upto 10 cm high. Leaves radical, 2, unequal, ovate-lanceolate, acute. Inflorescence a short spike. Flowers upto 8 mm long, decurved, pale-green.

Fls. & Frts.: Aug. Sept.

Distrib.: Lohit; around 3000 m, amidst grasses on sun exposed hill tops.

Herminium jaffreyanum King & Pantl. in J. As. Soc. Bengal 65: 130. 1896 *et* in Ann. Roy. Bot. Gard. (Calcutta) 8: 333. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 453. 1998.

Terrestrial, tuberous herbs upto 25 cm high. Leaves 2, narrowly oblong, sheathing at base. Flowers in terminal, densely flowered spike. Lip flat, narrowly oblong-triangular, 3-lobed.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng, Subansiri; between 2200-3500 m, on moist humus rich soil in shady places.

Herminium josephi Rchb.f. in Flora 55: 276. 1872; Hook.f., Fl. Brit. India 6: 129. 1890; King & Pantl. in A. Roy. Bot. Gard. (Calcutta) 8: 335, t.441. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 453, f.273. 1998.

Terrestrial herbs; tubers subglobose; leaves arise near the base, elliptic-oblong; spike terminal, densely flowered; flowers green; lip simple, ovate-lanceolate.

Fls. & Frts.: June August.

Distrib.: Kameng; between 3500-4000m., in rock crevices in open forests.

Herminium kamengensis A. N. Rao in J. Econ. Tax. Bot. 25(2): 287. 2001.

Terrestrial herbs; tubers 2, unequal; stem slender, basally sheathed; leaves linear-oblong or narrowly lanceolate, acuminate; raceme laxly many flowered; flowers green; lip apically 3-lobed.

Fls. & Frts.: Sept. Oct.

Distrib.: Kameng; upto 2500m., on open sun exposed hill slopes.

Herminium kumaunensis Deva & H. B. Naithani, Orch. Fl. N. W. Himalaya 159. 1986; A. N. Rao in J. Econ. Tax. Bot. 24(1): 214. 2000.

Tuberous terrestrial herbs; stem slender, leafy at apex; flowers lax, pale green; lip with saccate base, epichile 3-lobed.

Fls. & Frts.: Aug. Sept.

Distrib.: Lohit; at 3000m., on open temperate grasslands and alpine meadows.

Herminium lanceum (Thunb. ex Sw.) Vuijk in Blumea 11: 228. 1961; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 453. 1998. *Ophrys lancea* Thunb. ex Sw. in Kongl. Vet. Acad. Handl. Stockh. 21: 223. 1800. *Aceras angustifolia* Lindl. in Bot. Reg. 18: sub.t.1525. 1832. *Herminium angustifolium* (Lindl.) Benth. & Hook.f., Gen. Pl. 3: 622. 1883; Hook.f., Fl. Brit. India 6: 129. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 332, t.434. 1898.

Epiphytic, tuberous herbs. Tubers oblong or ellipsoid. Leaves 2-3, linear. Flowers in spikes, greenish. Lip oblong, 3-lobed, deflexed.

Fls. & Frts.: July Aug.

Distrib.: Kameng; between 1500-2000 m, on tree branches in forests.

Herminium longilobatum S. N. Hegde & A. N. Rao in Himal. Pl. J. 1(2): 47. 1982 *et in* J. Econ. Tax. Bot. 4(2): 387. 1983; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 456, f.274. 1998.

Epiphytic, tuberous herbs. Tubers 2, ovoid. Leaves in pair, linear, acuminate, sheathing at base. Flowers in many flowered spikes, greenish-white. Lip 3-lobed with a cupular disc; lateral lobes more than 10 times longer than midlobe.

Fls. & Frts.: Sept. Oct.

Distrib.: Tawang; between 3300-3800 m, on trees covered with moss cushions in temperate-alpine region.

Herminium monophyllum (D. Don) P. F. Hunt & Summerh. In Kew Bull. 20(1): 51. 1966; A. N. Rao in J. Econ. Tax. Bot. 20(1): 223. 1996; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 703. 1998. *Neottia monophylla* D. Don, Prodr. Fl. Nepal 27. 1825. *Herminium graminium* Lindl., Gen. Sp. Orch. Pl. 305. 1835; Hook.f., Fl. Brit. India 6: 131. 1890.

Tuberous terrestrial herbs; stem slender; leaves solitary, sessile, linear-oblong; spike laxly 15-20 flowered; flowers pale green, small; lip with saccate hypochile.

Fls. & Frts.: Aug. Sept.

Distrib.: Kameng; amidst grasses on sun exposed hill slopes around 2000m.

Herpysma longicaulis Lindl., Gen. Sp. Orch. Pl. 506. 1840; Hook.f., Fl. Brit. India 6: 98. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 456, f.275. 1998.

Terrestrial, decumbent herbs, about 1 m long. Stems enveloped with pubescent sheaths. Leaves ovate-lanceolate. Flowers in terminal raceme, white. Lip oblong with spur, deflexed, 3-lobed; disc with 2 compressed callii.

Fls. & Frts.: July sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1200-1800 m, underneath primary forests on humus rich soil.

Hetaeria affinis (Griff.) Seidenf. & Ormerod in Oasis, Suppl. 2: 9. 2001. *Goodyera affinis* Griff., Notul. 3: 391. 1851 & in Ic. Pl. Asiat. 3: t.351.B, f.7. 1851. *Cerochilus rubens* Lindl. in Gard. Chron. 87. 1854. *Hetaeria rubens* (Lindl.) Benth. ex Hook.f., Fl.

Brit. India 6: 115. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 459, f.276. 1998.

Terrestrial or epiphytic herbs, 30-60 cm long. Flowers in many flowered terminal raceme, green with pinkish tinge; peduncles glandular-hairy. Lip suborbicular, green tipped with white.

Fls. & Frts.: Jan. March.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 600-1000 m, on tree trunks and in humus rich soil in deep forests.

Hygrochilus parishii (Veitch & Rehb.f.) Pfitzer in Engler, Nat. Pflanzenfam. 1: 112. 1897. *Vanda parishii* Veitch & Rehb.f. in Gard. Chron. 180. 1867; Hook. f., Fl. Brit. India 6: 51. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 686. 1998.

Epiphytic herbs. Stems stout. Leaves narrowly oblong, obtusely bilobed at apex. Flowers in axillary, 6-8 flowered pendent raceme, about 6cm diam, purple spotted. Lip 3-lobed, white with purple streaks and with yellow blotches at base.

Fls. & Frts.: May Aug.

Distrib.: Kameng: between 100-2000 m, on branches of trees in primary forests.

India arunachalensis A. N. Rao in J. Econ. Tax. Bot. 22(3): 701, f.1-11. 1998.

Small, monopodial, epiphytic herbs; leaves oblong, subacute, subsessile; Raceme drooping, longer than leaves; flowers small, partly opening, pale-green with deep rose-purple calus on the disc of lip; lip 3-lobed, mid-lobe larger than the side-lobes.

Fls. & Frts.: April June

Distrib.: Kameng; at 200 m., on moss covered branches of small trees in evergreen tropical forest.

Ione andersonii King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 159. t.217. 1898. *Sunipia andersonii* (King & Pantl.) P. F. Hunt in Kew Bull. 26(1): 183. 1971; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 651. 1998.

Epiphytic herbs. Pseudobulbs compact, ovoid, unifoliate. Leaves linear, obliquely forked at apex. Scapes arising from the base of pseudobulbs. Flowers solitary, about 1 cm across, greenish-white. Lip panduriform with two auricles.

Fls. & Frts.: May June.

Distrib.: Kameng; between 1000-1200 m, on moss covered tree trunks in subtropical wet evergreen forests.

Ione arunachalensis A.N. Rao in *Rheedea* 7(1): 48. 1997.

Small epiphytic herbs. Pseudobulbs upto 1 cm long, ovoid, unifoliate. Leaves oblong, subacute, with a distinct petiole. Flowers solitary on about 2 cm long scapes, crimson coloured.

Fls. & Frts.: June.

Distrib.: Lower Subansiri; at 1200 m, in wet evergreen subtropical forests.

Ione bicolor (Lindl.) Lindl., *Fol. Orchid.* 3. 1853. *Sunipia bicolor* Lindl., *Gen. Sp. Orch. Pl.* 179. 1833; H. J. Chowdhery, *Orch. Fl. Arunachal Pradesh* 652, f.397. 1998. *Bulbophyllum bicolor* (Lindl.) Hook.f., *Fl. Brit. India* 5: 770. 1890.

Epiphytic, rhizomatous herbs. Pseudobulbs obpyriform. Leaves linear, obliquely notched at apex. Flowers in 3-6 flowered raceme; lateral sepals 3-nerved. Lip panduriform, wine coloured.

Fls. & Frts.: Oct. Jan.

Distrib.: Kameng; Subansiri; between 1000-2500 m, on tree trunks in open forests.

Ione candida Lindl., *Fol. Orchid. Ione* 3. 1853. *Bulbophyllum candidum* (Lindl.) Hook.f., *Fl. Brit. India* 5: 770. 1890. *Sunipia candida* (Lindl.) P. F. Hunt. in *Kew Bull.* 26: 183. 1971; H. J. Chowdhery, *Orch. Fl. Arunachal Pradesh* 652, f.398. 1998.

Epiphytic herbs. Pseudobulbs at a distant, obpyriform. Leaves subpetioled, linear, obtuse. Flowers in spikes; white; lateral sepals 3-nerved. Lip dagger shaped, serrulate at margin, yellow.

Fls. & Frts.: Sept. Dec.

Distrib.: Kameng, Tirap; between 1000-2000 m, on trees in forests.

Ione cirrhata Lindl., *Fol. Orchid. Ione* 1. 1853. *Ione virens* Lindl., *Fol. Orchid. Ione* 1. 1853. *Sunipia virens* (Lindl.) P. F. Hunt in *Kew Bull.* 26: 185. 1971; H. J. Chowdhery, *Orch. Fl. Arunachal Pradesh* 655. 1998. *Bulbophyllum virens* (Lindl.) Hook.f., *Fl. Brit. India* 5: 770. 1890. *Bulbophyllum mishmeense* Hook.f., *Fl. Brit. India* 5: 770. 1890.

Epiphytic herbs with creeping rhizomes. Pseudobulbs obpyriform. Flowers in 4-6 flowered raceme, purple; lateral sepals 5-7 nerved,

white with greenish margin and purple nerves. Lip oblong, serrulate at margin.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 1000-1200 m, on branches of trees in primary forests.

Ione jainii (Hynniewta & Malhotra) Seidenf. in Op. Bot. 124: 53. 1995. *Sunipia jainii* Hynniewta & Malhotra in J. Ind. Bot. Soc. 57: 31. 1978; S. N. Hegde & A. N. Rao in Ind. J. Forestry 10(3): 196. 1987; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 655. 1998.

Epiphytic herbs. Pseudobulbs distant on creeping rhizomes, pyriform. Leaves small. Flowers solitary from the base of pseudobulbs, pinkish-yellow with dark pink lip.

Fls. & Frts.: Dec. Jan.

Distrib.: Kameng; between 1400-1600 m, on branches of small trees in subtropical wet evergreen forests.

Kingidium deliciosum (Rchb.f.) Sweet in Amer. Orchid Soc. Bull. 39: 1095. 1970; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 463, f.278. 1998. *Phalaenopsis deliciosa* Rchb.f. in Bonplandia 2: 93. 1854. *Doritis wightii* (Rchb.f.) Benth. ex Hook.f., Fl. Brit. India 6: 32. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 198, t.265. 1898.

Epiphytic herbs with short roots. Leaves 3, oblong, obliquely notched at apex, pendulous. Flowers in pendent raceme, yellowish. Lip yellow with purple blotch; epichile obovate.

Fls. & Frts.: June Aug.

Distrib.: Kameng; between 500-1000 m, on moss covered tree trunks in moist tropical forests.

Liparis assamica King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 36, t.50. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 468, f.280. 1998.

Epiphytic, tufted, pseudobulbous herbs. Leaves 2-4, linear-lanceolate. Flowers in raceme, white. Lip broadly oblong, dull white.

Fls. & Frts.: Oct. Dec.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1000 m, on tree branches in tropical primary forests.

Liparis bistrata Parish & Rehb.f. in Trans. Linn. Soc. London 30: 155. 1874; Hook.f., Fl. Brit. India 5: 702. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 468, f.281. 1998.

Epiphytic herbs. Pseudobulbs tufted, stem-like. Leaves 2, elliptic-oblong. Flowers in many flowered lax raceme, pale-green. Lip quadrate-oblong with callii, dull white.

Fls. & Frts.: June Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1200-1500 m, on tree trunks in open forests.

Liparis bootanensis Griff., Itin. Pl. Khasyah Mts.: 98. 1848; Notul. 3: 278. 1851; Hook.f., Fl. Brit. India 5: 700. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 468, f.282. 1998.

Epiphytic herbs. Pseudobulbs oblong. Leaves solitary, narrowly oblong. Flowers in lax few flowered raceme, brownish. Lip oblong, deflexed with teeth like callii.

Fls. & Frts.: July Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1200-1500 m, on large tree trunks in primary forests.

Liparis caespitosa (Lam.) Lindl. in Bot. Reg. 11: sub t.882. 1825; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 472, f.283. 1998. *Epidendrum caespitosa* Lam., Encycl. 1: 187. 1783. *Malaxis caespitosa* Thouars, Orchid. Ill. Afr. t. 89. 1822. *Liparis pusilla* Ridl. in J. Linn. Soc., Bot. 22: 294. 1886; Hook.f., Fl. Brit. India 5: 701. 1890. *L. duthiei* Hook.f., Fl. Brit. India 5: 701. 1890.

Epiphytic herbs. Pseudobulbs tufted, ellipsoid. Leaves solitary, linear-lanceolate. Flowers in densely flowered raceme, greenish. Lip oblong with or without callii.

Fls. & Frts.: July Oct.

Distrib.: Tirap; between 1500-2500 m, on tree trunks in forests.

Liparis cathcartii Hook.f., Ic. Pl. 19: t.1808. 1889; Fl. Brit. India 5: 694. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 472, f.284. 1998.

Terrestrial herbs. Pseudobulbs ellipsoid. Stems decumbent at base. Leaves ovate. Flowers in laxly flowered raceme, green or purple. Lip flat, obovate, purplish.

Fls. & Frts.: April July.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1600-2500 m, on humus rich forest floor.

Liparis cordifolia Hook.f., Ic. Pl. 19: t.1811. 1889; Fl. Brit. India 5: 692. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 472, f.285. 1998.

Terrestrial herbs. Pseudobulbs ellipsoid, unifoliate. Leaves large, cordate. Flowers in laxly flowered raceme, greenish-yellow; peduncles prominently winged.

Fls. & Frts.: Oct. Nov.

Distrib.: Subansiri; between 500-1000 m, on decayed leaf mould near stream bank in wet evergreen forests.

Liparis delicatula Hook.f., Ic. Pl. 19: t.1889. 1889; Fl. Brit. India 5: 705. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 476, f.286. 1998.

Epiphytic herbs. Pseudobulbs tufted, ovoid. Leaves in pair, narrowly elliptic. Flowers in few flowered raceme, pale-green. Lip orbicular, recurved, hispidulous.

Fls. & Frts.: July Oct.

Distrib.: Kameng, Lohit; between 1500-1800 m, on tree trunks in primary forests.

Liparis distans C. B. Clarke in J. Linn. Soc., Bot. 25: 71, t. 29. 1889; Hook.f., Fl. Brit. India 5: 704. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 476. 1998.

Epiphytic herbs with cylindric pseudobulbs. Leaves in pair, narrowly oblanceolate. Flowers in few flowered raceme, green; peduncles winged. Lip obovate, recurved with paired calli.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1000 m, on branches of trees in moist tropical forests.

Liparis elliptica Wight, Ic. Pl. Ind. Or. 5(1): 17, t.1735. 1851; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 476, f.287. 1998. *L. viridiflora auct. non*. Lindl.: Fischer in Gamble, Fl. Pres. Madras 1411. 1928 *p.p.*; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 35, t.47. 1898.

Epiphytic herbs. Pseudobulbs compact, orbicular, much compressed. Leaves in pair, oblong-lanceolate, keeled. Scapes arising from the apex of pseudobulbs, pendent. Flowers in many flowered raceme, green. Lip broadly ovate, pointed at apex, concave.

Fls. & Frts.: Nov. Jan.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1200 m, on branches of trees in subtropical primary forests.

Liparis gamblei Hook.f., Ic. Pl. ser.3(19); t.1812. 1889; Fl. Brit. India 5: 693. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 24, t.29. 1898.

Terrestrial herbs; leaf solitary, elliptic-oblong; inflorescence longer than leaf, laxly few flowered; flowers small, green.

Fls. & Frts. : Aug. Sept.

Distrib.: Kameng; at 1000 m., on open slopes.

Liparis luteola Lindl., Gen. Sp. Orch. Pl. 32. 1830; Hook.f., Fl. Brit. India 5: 704. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 479. 1998.

Epiphytic herbs. Pseudobulbs ovoid. Leaves in pair. Flowers in raceme, greenish-yellow. Lip oblong, curved, truncate at apex.

Fls. & Frts.: May Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1500 m, on branches of trees in primary forests.

Liparis mannii Rehb.f. in Flora 55: 275. 1872; Hook.f., Fl. Brit. India 5: 701. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 31, t.51. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 479, f.289,290. 1998. *L. tenuifolia* Hook.f., Ic. Pl. t. 2013. 1890 & Fl. Brit. India 6: 182. 1890.

Epiphytic herbs. Pseudobulbs compact, narrowly ovoid, flattened, unifoliate. Leaves linear-oblong. Flowers in densely flowered raceme, yellowish; peduncles winged. Lip 3-lobed.

Fls. & Frts.: Nov. Jan.

Distrib.: Kameng; between 500-1000 m, on tree trunks in primary forests.

Liparis nervosa (Thunb.) Lindl., Gen. Sp. Orch. Pl. 26. 1830; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 483, f.291. 1998. *Ophrys nervosa* Thunb., Fl. Jap. 27. 1784. *Cymbidium bituberculatum* Hook., Exot. Fl. 2: t.116. 1824. *Liparis bituberculata* (Hook.) Lindl. in Bot. Reg. 11: sub t. 882. 1825; Hook.f., Fl. Brit. India 5: 696. 1890.

Terrestrial herbs with short, cylindrical stems upto 15 cm long. Leaves 2-4, ovate-elliptic. Flowers in many flowered raceme, about 1.5 cm diam, purple. Lip obovate, decurved with two tubercles at base.

Fls. & Frts.: June Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1500 m, on humus covered soil in primary forests in shade.

Liparis odorata (Willd.) Lindl., Gen. Sp. Orchid. Pl. 26. 1830. *Malaxis odorata* Willd., Sp. Pl. ed. 4(1): 91. 1805. *Empusa paradoxa* Wall. ex Lindl. in Bot. Reg. 10: sub t. 825. 1824. *Liparis paradoxa* (Wall. ex Lindl.) Rehb.f. in Walp., Ann. 6: 218. 1861; Hook.f., Fl. Brit. India 5: 697. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 483, f.292. 1998.

Terrestrial herbs with ovoid pseudobulbs. Stems upto 20 cm long with several sheaths. Leaves 2-3, elliptic-lanceolate. Flowers in few flowered raceme, green. Lip quadrate with two, erect, tooth like callii, dark purple.

Fls. & Frts.: July Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri; between 100-500 m, on tree branches in primary tropical forests.

Liparis perpusilla Hook.f., Ic. Pl. t.1856B. 1889; Fl. Brit. India 5: 706. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 703. 1998.

Epiphytic herbs with tufted, oblong-ovoid pseudobulbs; leaves recurved, coriaceous; scape curved, much longer than the leaves; flowers yellow; lip 3-lobed.

Fls. & Frts.: July Sept.

Distrib.: Arunachal Pradesh.

Liparis plantaginea Lindl., Gen. Sp. Orch. Pl. 29. 1830; Hook.f., Fl. Brit. India 5: 702. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 29, t.36. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 483, f.293. 1998.

Epiphytic herbs. Pseudobulbs oblong, compressed, sheathed. Leaves linear-oblong. Flowers in laxly flowered raceme, green; peduncles winged. Lip orbicular, curved with two callii.

Fls. & Frts.: June Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 200-1000 m, on tree trunks in moist tropical forests.

Liparis resupinata Ridl. in J. Linn. Soc., Bot. 22: 290. 1886; Hook.f., Fl. Brit. India 5: 705. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 487, f.294. 1998. *Liparis resupinata* var. *ridleyi* King. & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 37, t.49. 1898.

Epiphytic herbs with tufted, ovoid-cylindric pseudobulbs. Leaves 2-4, linear-lanceolate. Flowers in lax, many flowered raceme, yellow or brownish-yellow. Lip oblong with two calli.

Fls. & Frts.: Oct. Dec.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1500-2000 m, on moss cushioned tree trunks in forests.

Liparis stricklandiana Rehb.f. in Gard. Chron. 1: 232. 1880; Hook.f., Fl. Brit. India 5: 707. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 487, f.295. 1998. *L. Griffithii* Ridl. in J. Linn. Soc., Bot. 22: 285. 1886*p.p.*; Hook.f., Fl. Brit. India 5: 700. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 33, t.52. 1898.

Epiphytic or terrestrial herbs. Pseudobulbs subglobose. Leaves in pair, oblanceolate. Flowers in densely flowered raceme, yellowish-green; peduncles winged. Lip obdeltoid with green calli.

Fls. & Frts.: Oct. Dec.

Distrib.: Kameng; Lohit, Siang, Subansiri, Tirap; between 1500-1800 m, on moss cushioned tree trunks in forests or on humus rich forest floor.

Liparis viridiflora (Blume) Lindl., Gen. Sp. Orch. Pl. 31. 1830; Hook.f., Fl. Brit. India 5: 704. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 487, f.296. 1998. *Malaxis viridiflora* Blume, Bijdr. 392, t. 54. 1825. *L. longipes* Lindl. in Wall., Pl. As. Rar. 1: 31, t. 35. 1829; Hook.f., Fl. Brit. India 5: 704. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 29, t.37. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 479, f.288. 1998.

Epiphytic herbs. Pseudobulbs cylindric, thicker at base. Leaves in pair, linear-lanceolate. Flowers in densely flowered raceme, greenish-yellow or white. Lip obovate, reflexed.

Fls. & Frts.: Sept. March.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 600-1500 m, on tree trunks covered with moss in dense forests.

Liparis wrayii Hook.f., Fl. Brit. India 6: 181. 1890; Joseph & Abbar. in Bull. Bot. Surv. India 22 (1-4): 183. 1980; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 492, f.297. 1998.

Dwarf, terrestrial herbs. Leaves 3, ovate or ovate-elliptic. Flowers in terminal, laxly flowered raceme, 1.2-1.5 cm diam, green or greenish-white.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1000 m, on humus rich soil in dense forests.

Listera divaricata Panigrahi & P. Taylor in Kew Bull. 30: 559. 1975; Sarkar in J. Bombay Nat. Hist. Soc. 83(1): 277. 1986; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 492, f.298. 1998.

Terrestrial herbs, 20-40 cm high. Stems 3-4 sheathed. Flowers in hairy, laxly flowered raceme, reddish-brown. Lip oblong, deeply cleft into two lobules. Capsules turgid, ridged.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 3000-4000 m, on moist soil.

Luisia brachystachys (Wall. ex Lindl.) Blume, Rumphia 4: 50. 1849; Hook.f., Fl. Brit. India 6: 23. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 494, f.299. 1998. *Mesoclastes brachystachys* Wall. ex Lindl., Gen. Sp. Orch. Pl. 45. 1830; *Luisia indivisa* King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 201, t.269. 1898.

Pendulous, epiphytic herbs, 50-100 cm tall. Leaves terete, filiform. Flowers in extra axillary, 3-4 flowered spike, white with pale-yellow tip. Lip cuneate-quadrate, auricled at base, wine-red coloured.

Fls. & Frts.: April June.

Distrib.: Kameng; between 300-1000 m, on tree trunks in tropical forests.

Luisia filiformis Hook.f., Fl. Brit. India 6: 23. 1890; S. N. Hegde & A. N. Rao in J. Econ. Tax. Bot. 4(2): 387. 1983; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 495, f.300. 1998. *Luisia grovesii* Hook.f., Fl. Brit. India 6: 25. 1890. *Luisia volucris* auct. non Lindl.: King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 204, t.273. 1898.

Monopodial, pendulous, epiphytic herbs; leaves terete, second; inflorescence extra-axillary; flowers white; lip wine-red, fleshy, auricled at base.

Fls. & Frts.: April June.

Distrib.: Kameng; between 300-1000m., on exposed branches in tropical forests.

Luisia psyche Rehb.f. in Bot. Zeit. 98. 1863; Hook.f., Fl. Brit. India 6: 24. 1890; Katakai, Jain & Sastry in Pl. Cons. Bull. 5: 23. 1984; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 495, f.301. 1998.

Tufted, epiphytic herbs upto 30 cm high. Leaves elongate, terete, stout. Flowers few in axillary raceme, about 4 cm across, greenish-yellow. Lip broadly ovate-oblong, deflexed, violet-brown. Capsules narrowly oblong.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng; between 500-1000 m, on branches of trees in primary forests.

Luisia trichorhiza (Hook.) Blume in Rumphia 4: 50. 1849; Hook.f., Fl. Brit. India 6: 23. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 495, f.302. 1998. *Vanda trichorhiza* Hook., Exot. Fl. 1: t. 72. 1823.

Epiphytic herbs upto 30 cm high. Stems stout, branched. Leaves terete, acute. Flowers on short, thick tubercles, purplish-green. Lip purple.

Fls. & Frts.: March May.

Distrib.: Kameng, Tirap; between 100-1000 m, on branches of trees in tropical primary forests.

Luisia zeylanica Lindl., Fol. Orchid. Luisia 3. 1853; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 501, f.303. 1998. *L. teretifolia* auct. non Gaud.: Hook.f., Fl. Brit. India 6: 22. 1890.

Terrestrial or epiphytic herbs upto 40 cm long. Stems stout, terete. Leaves terete. Flowers in short, axillary tubercles, greenish-purple. Lip saccate at base, deflexed, purple.

Fls. & Frts.: May July.

Distrib.: Kameng; between 500-1000 m, on tree trunks and forest floor in moist tropical forests.

Luisiopsis inconspicua (Hook.f.) Sath. Kumar & Suresh in Rheedia 15(1): 48. 2005. *Saccolabium inconspicuum* Hook. f., Fl. Brit. India 6: 56. 1890. *Luisia inconspicua* (Hook.f.) Hook.f. ex King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 203, t.272. 1898. *Gastrochilus inconspicuus* (Hook.f.) Kuntze., Rev. Gen. Pl. 2: 661. 1891; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 416. 1998.

Epiphytic herbs upto 30cm long. Leaves terete, obtuse. Flowers in clusters, greenish. Lip purple.

Fls. & Frts.: March May.

Distrib.: Kameng, Subansiri; between 500-1000m. on tree trunks in primary forests.

Malaxis acuminata D. Don, Prodr. Fl. Nepal. 29. 1825; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 502, f.304. 1998. *Microstylis wallichii* Lindl., Gen. Sp. Orchid. Pl. 20. 1830; Hook.f., Fl. Brit. India 5: 686. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 16, t.18. 1898. *Microstylis biloba* Lindl., Gen. Sp. Orch. Pl. 20. 1830. *M. wallichii* var. *biloba* (Lindl.) Hook.f., Fl. Brit. India 5: 686. 1888. *Malaxis acuminata* var. *biloba* (Lindl.) Ames, Bur. Sci. publ. 18: 302. 1925; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 502. 1998. *Malaxis acuminata* f. *biloba* (Lindl.) Tuyama in Hara, Fl. E. Himal. 443. 1966.

Terrestrial herbs. Stems upto 10 cm long, sheathed at base. Leaves 3-4, ovate-lanceolate, membranous. Flowers in terminal raceme, yellowish-green. Lip narrowly ovate, convex.

Fls. & Frts.: July - Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1500 m, on humus rich soil in forest floor.

Malaxis aphylla (King & Pantl.) T. Tang & F. T. Wang in Act. Phytotax. Sin. 1: 71. 1951; S. N. Hedge & A. N. Rao in Ind. J. Forestry 10(3): 194. 1987; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 502, f.305. 1998. *Microstylis aphylla* King & Pantl. in Ann. Roy Bot. Gard. (Calcutta) 8: 18, t.22. 1898. *Crepidium aphyllum* (King & Pantl.) A. N. Rao in J. Orch. Soc. India 14(1-2): 65. 2000.

Terrestrial, leafless, tuberous herbs upto 10 cm high. Tubers ellipsoid, hairy. Stems green with 2-3 small, tubular, green sheaths at base. Flowers in raceme, small with wide opening, green. Lip flat, ovate.

Fls. & Frts.: Aug. - Oct.

Distrib.: Kameng; between 200-1000 m, among grasses in shady places.

Malaxis calophylla (Rchb.f.) Kuntze, Rev. Gen. Pl. 2: 673. 1891; A. N. Rao in Rheedeia 7(2): 130. 1997. *Microstylis calophylla* Rchb.f. in Gard. Chron. n.s. 12: 718. 1879. *Crepidium calophyllum* (Rchb.f.) Szlachetko in Fragm. Florist. Geobot. Suppl. 3: 125. 1995.

Terrestrial herbs; stem cylindrical, sheathed at base; leaves white with brown band along the mid-vein and brown spotted along margin; flowers pale green or cream, tinged with purple; lip obscurely 3-lobed.

Fls. & Frts.: June - July.

Distrib.: Kameng; at 200m., under shade on humus rich forest floor.

Malaxis cylindrostachya (Lindl.) Kuntze, Rev. Gen. Pl. 2: 673, 1891. *Dienia cylindrostachya* Lindl., Gen. Sp. Orch. Pl. 22, 1830; A. N. Rao in J. Econ. Tax. Bot. 24(2): 262, 2000.

Terrestrial herbs; stem tuberous at base; leaf solitary; raceme erect, cylindrical with many densely arranged flowers; flowers small, green; lip entire.

Fls. & Frts.: July Aug.

Distrib.: Kameng; at 2500 m., on sun-exposed hill slopes.

Malaxis josephiana (Rchb.f.) Kuntze., Rev. Gen. Pl. 2: 673, 1891; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 504, f.306, 1998. *Microstylis josephiana* Rchb.f. in Bot. Mag. 103: t.6325, 1877; Hook.f., Fl. Brit. India 5: 687, 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 21, t.27, 1898.

Terrestrial herbs with compressed, fusiform, pseudobulbs. Stems short, sheathed. Leaves 3-5, elliptic-lanceolate, pruplish-brown above. Flowers in terminal, 6-12 flowered raceme, brownish-yellow. Lip gibbous with auricles.

Fls. & Frts.: May Aug.

Distrib.: Kameng; between 500-1000 m, on humus rich forest floor.

Malaxis khasiana (Hook.f.) Kuntze, Rev. Gen. Pl. 2: 673, 1891; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 504, f.307,308, 1998. *Microstylis khasiana* Hook.f., Fl. Brit. India 5: 686, 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 15, t.17, 1898.

Terrestrial herbs. Pseudobulbs cylindric. Stems upto 10 cm long, sheathed. Leaves 3-4, ovate-elliptic, undulate at margin, greyish-green with purple tinge, showy. Flowers in terminal, lax-flowered raceme, purple. Lip broad, concave, yellowish.

Fls. & Frts.: July Oct.

Distrib.: Kameng, Tirap; between 200-1000 m, on humus rich soil in tropical primary forest.

Malaxis muscifera (Lindl.) Kuntze, Rev. Gen. Pl. 2: 673, 1891; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 511, f.310, 1998. *Dienia muscifera* Lindl., Gen. Sp. Orch. Pl. 23, 1830; *Microstylis muscifera* Ridl. in J. Linn. Soc., Bot. 24: 333, 1888; Hook.f., Fl. Brit. India 5: 689, 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 20, t.25, 1898.

Terrestrial, pseudobulbous herbs. Leaves usually in pair, ovate-lanceolate. Flowers in laxly flowered raceme, yellowish-green. Lip broadly ovate with concave lateral lobes.

Fls. & Frts.: April July.

Distrib.: Kameng; Siang; between 1500-2500 m, on humus rich soil in forests.

Malaxis ophrydis (Koenig) Ormerod in Seidenf., *Descrip. Epidend.* Koenig 1791: 18. 1995. *Epidendrum ophrydis* Koenig in Retz., *Observ. Bot.* 6: 46. 1791. *Malaxis latifolia* Sm. in Rees, *Cyclop.* 22. no. 3. 1819; H. J. Chowdhery, *Orch. Fl. Arunachal Pradesh* 504, f.309. 1998. *Dienia congesta* Lindl. in *Bot. Reg.* 10: t.825. 1825. *Microstylis congesta* (Lindl.) Rchb.f. in *Walp., Ann.* 6: 206. 1861; Hook.f., *Fl. Brit. India* 5: 689. 1890; King & Pantl. in *Ann. Roy. Bot. Gard. (Calcutta)* 8: 19, t.23. 1898.

Terrestrial herbs. Stems upto 30 cm long, thickened at base. Leaves 3-6, elliptic-lanceolate, undulate at margin. Flowers in dense flowered raceme, red or yellow, peduncles striate. Lip oblong, concave; apical part 3-lobed.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng; Tirap; between 200-1000 m, on tropical forest floor.

Malaxis purpurea (Lindl.) Kuntze, *Rev. Gen. Pl.* 2: 673. 1891; A. N. Rao in *J. Econ. Tax. Bot.* 19(3): 637. 1995. *Microstylis purpurea* Lindl., *Gen. Sp. Orch. Pl.* 20. 1830. *Crepidium purpureum* (Lindl.) Szlachetko in *Fragm. Florist. Geobot. Suppl.* 3: 127. 1995.

Small terrestrial herbs; leaves 4-5, obliquely ovate, acute; inflorescence laxly many flowered; flowers dark-purple; lip 3-lobed.

Fls. & Frts.: July Aug.

Distrib.: Kameng; at 200 m, on humus rich soil in tropical rain forest floor.

Micropera mannii (Hook.f.) T. Tang & F. T. Wang in *Act. Phytotax. Sin.* 1(1): 94. 1951; H. J. Chowdhery, *Orch. Fl. Arunachal Pradesh* 512, f.311. 1998. *Sarcochilus mannii* Hook.f., *Fl. Brit. India* 6: 36. 1890. *Camarotis mannii* King & Pantl. in *Ann. Roy. Bot. Gard. (Calcutta)* 8: 239, t.317. 1898; H. J. Chowdhery, *Orch. Fl. Arunachal Pradesh* 180, f.102. 1998.

Epiphytic, pendulous herbs upto 40 cm long. Stems terete, stout. Leaves linear, bifid at apex. Flowers in extra axillary raceme, pinkish. Lip 3-lobed, saccate at base, red dotted.

Fls. & Frts.: May Aug.

Distrib.: Kameng; between 200-1000 m, on branches of trees in tropical primary forests.

Micropera obtusa (Lindl.) T. Tang & F. T. Wang in Act. Phytotax. Sin. 1(1): 94. 1951; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 512, f.312. 1998. *Camarotis obtusa* Lindl. in Edw., Bot. Reg. 30: misc.73, no.71. 1844. *Sarcochilus obtusus* (Lindl.) Benth. ex Hook.f., Fl. Brit. India 6: 36. 1890.

Epiphytic herbs, 20-40 cm long. Stems stout, erect. Leaves horizontal, narrowly oblong, notched at apex. Flowers in leaf-opposed, horizontal raceme, white. Lip fleshy with large callii, yellow.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 100-1000 m, on large tree trunks in tropical forests.

Micropera rostratum (Roxb.) N. P. Balakr. in J. Bombay Nat Hist. Soc. 67: 66. 1970; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 512. 1998. *Aerides rostratum* Roxb., Fl. Ind. 3: 474. 1832. *Sarcochilus purpureus* (Lindl.) Benth. ex Hook.f., Fl. Brit. India 6: 36. 1890.

Epiphytic herbs upto 1 m high. Leaves obtusely bifid at apex. Flowers in lax, many flowered raceme, purplish. Lip strongly, laterally compressed. Capsules slender, narrowly oblong.

Fls. & Frts.: July Setp.

Distrib.: Kameng; between 500-1500 m, on branches of trees in dense forests.

Mischobulbum megalanthum T. Tang & F. T. Wang in Acta Phytotax. Sin. 1: 76. 1951. *Nephelaphyllum grandiflorum* auct. non Hook.f.: King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 104, t.144. 1898. *Mischobulbum grandiflorum* auct. non (Hook.f.) Schltr.: Rolfe in Orch. Rev. 20: 127, 1912. *Tainia wrayana* auct. non (Hook.f.) J. J. Sm.: S. N. Hegde & A. N. Rao in J. Econ. Tax. Bot. 4(2): 389. 1983; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 661, f.401. 1998. *Mischobulbum wrayanum* auct. non (Hook.f.) Rolfe: H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 515, f.313. 1998.

Terrestrial herbs; pseudobulbs narrowly fusiform, covered with membranous sheath; leaf solitary, sessile, ovate-elliptic, cordate at base; raceme longer than leaves, laxly 6 – 10 flowered; flowers greenish-brown; lip white with many small purple dots; disc with 3-calluses.

Fls. & Frts.: March July.

Distrib.: Changlang; between 200-500m., on moist leaf-litter in tropical evergreen forests.

Monomeria barbata Lindl., Gen. Sp. Orch. Pl. 61. 1830; Hook.f., Fl. Brit. India 5: 781. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 517, f.314. 1998.

Robust, creeping, epiphytic herbs. Rhizomes stout, woody. Pseudobulbs ovoid. Leaves solitary, oblong. Flowers in 10-15 flowered raceme, yellow, spotted with brown; lateral sepals hispid. Lip deflexed.

Fls. & Frts.: Aug. Oct.

Distrib.: Tirap; between 1000-1200 m, on tree trunks in forests.

Myrmechis pumila (Hook.f.) T. Tang & F. T. Wang in Act. Phytotax. Sin. 1: 69. 1951; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 517, f.315,316. 1998. *Odontochilus pumilus* Hook.f., Fl. Brit. India 6: 99. 1890. *Zeuxine pumila* (Hook.f.) King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 291, t.389. 1898.

Terrestrial, decumbent herbs upto 15 cm tall. Leaves ovate, undulate at margin. Flowers 2 or 4 in raceme, white; peduncles hairy. Lip 3-lobed with wide sac at base; apical lobe divided into two broad diverging lobules.

Fls. & Frts.: June Aug.

Distrib.: Kameng, Subansiri; between 1000-1200 m, on humus rich soil in primary forests.

Neogyna gardneriana (Lindl.) Rehb.f. in Bot. Zeit. 10: 931. 1852; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 521. 1998. *Coelogyne gardneriana* Lindl. in Wall., Pl. As. Rar. 1: 33, t.38. 1830; Hook.f., Fl. Brit. India 5: 829. 1890.

Epiphytic herbs. Pseudobulbs conical. Leaves elliptic-lanceolate. Flowers in raceme, white. Lip bisaccate, erose; disc with two wavy ridges.

Fls. & Frts.: June Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1500 m, on moss covered tree trunks in forests.

Neottia acuminata Schltr. in Act. Hort. Gothob. 1: 141. 1924; Haridasan *et al.* in J. Econ. Tax. Bot. 13(1): 112. 1989; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 522, f.317. 1998. *Aphyllorchis parviflora* King & Pantl. in J. Asiat. Soc. Bengal 65: 128. 1896 *et in* Ann. Roy. Bot. Gard. (Calcutta) 8: 262, t.348. 1898.

Erect, saprophytic herbs upto 20 cm long, dirty brown. Stems sheathed at base. Flowers in 12 cm long raceme, pale-brown, non resupinate. Lip ovate.

Fls. & Frts.: Aug. Sept.

Distrib.: Lohit; between 2500-3000 m, on shady humus rich forest floor.

Neottia alternifolia (King & Pantl.) Szlach. in Fragm. Flor. Geobot. Suppl. 3: 117. 1995; M. Bhaumik & M. K. Pathak in J. Orch. Soc. India 18(1-2): 59. 2004. *Listera alternifolia* King & Pantl. in J. Asiat. Soc. Bengal 65: 126. 1896.

Slender terrestrial herbs; stem unbranched, terete, glabrous, light-yellow; leaves sub-opposite to alternate, broadly ovate, acute, entire; raceme terminal, 1-4-flowered; flowers reddish-brown, widely opening; lip 2-lobed at apex.

Fls. & Frts.: July Aug.

Distrib.: Dibang Valley; at 2600 m. in marshy meadows.

Nephelaphyllum cordifolium (Lindl.) Blume, Fl. Javae nov. ser. 1: t.61.3.1858; A. N. Rao in J. Econ. Tax. Bot. 24(2): 262. 2000. *Cytheris cordifolia* Lindl., Gen. Sp. Orch. Pl. 129. 1831.

Decumbent, terrestrial herbs with fleshy rhizome; pseudobulbs elongated, cylindrical; leaf solitary, cordate, green, mottled with purple; flowers green with purple veins.

Fls. & Frts.: June July.

Distrib.: Kameng; at 1100 m., in shady soil near streams.

Nephelaphyllum sikkimensis (Hook.f.) Karthik. in Karthik. *et al.*, Fl. Ind. Enum. Monocot. 154. 1989; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 525, f.318. 1998. *N. pulchrum* var. *sikkimensis* Hook.f., Fl. Brit. India 5: 819. 1890.

Small, terrestrial herbs. Pseudobulbs narrowly cylindrical, purple. Leaves ovate, cordate at base, yellowish-green, mottled with purple on upper surface and deep purple beneath. Flowers generally in 4-flowered raceme, purple.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng; between 1000-1200 m, on humus in dense wet evergreen subtropical forests.

Nervilia aragoana Gaud. in Freyc., Voy. Bot. 422, t. 35. 1829; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 526, f.319. 1998. *Epipactis carinata* Roxb., Fl. India 3: 452. 1832. *Pogonia carinata* (Roxb.) Lindl., Gen. Sp. Orch. Pl. 414. 1840; Hook.f., Fl. Brit. India 6: 121. 1890.

Terrestrial, tuberous herbs. Leaves orbicular-cordate. Flowers in long raceme, greenish. Lip 3-lobed; midlobe hairy, white with purple veins.

Fls. & Frts.: July Sept.

Distrib.: Kameng, between 100-1000 m, on humus rich forest floor.

Nervilia gammieana (Hook.f.) Schltr. in Engler, Bot. Jahrb. 45: 404. 1911; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 526, f.320. 1998. *Pogonia gammieana* Hook.f. in Curtis, Bot. Mag. 109, t. 6671. 1863 et Fl. Brit. India 6: 120. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 259, t.359. 1898.

Terrestrial herbs with globose tuber. Leaves orbicular-cordate, undulate at margin. Flowers in 8-10 flowered raceme, pendent, pink with white and dark pink streaks. Lip elliptic-obovate, greenish.

Fls. & Frts.: May July

Distrib.: Kameng; between 1000-1200 m, on humus rich soil in forests.

Nervilia hookeriana (King & Pantl.) Schltr. in Engler, Bot. Jahrb. 45: 403. 1911; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 526. 1998. *Pogonia hookeriana* King & Pantl. in J. Asiat. Soc. Bengal 65: 129. 1896.

Terrestrial, 1-leaved herbs. Stems upto 6 cm long. Leaves reniform-orbicular, undulate at margin, appearing with flowers. Flowers in pair. Lip oblong, 3-lobed; apical lobe ovate-oblong.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng; between 1000-1500 m, on thick humus in humid forests.

Nervilia infundibulifolia Blatt. & Mc Cann in J. Bombay Nat. Hist. Soc. 35: 725, t.3. 1932; S. N. Hedge & A. N. Rao in J. Econ.

Tax. Bot. 4(2): 388. 1983; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 529, f.321. 1998.

Terrestrial herbs. Leaves cordate, acute or acuminate, undulate at margin. Flowers solitary, pale-green, streaked and spotted with purple.

Fls. & Frts.: June July.

Distrib.: Kameng; between 1200-1500 m, on partially open forest floor over dry leaf mould.

Nervilia juliana (Roxb.) Schltr. in Engler, Bot. Jahrb. 45: 402. 1911; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 529, f.322. 1998. *Epipuctis juliana* Roxb., Fl. Ind. 3: 453. 1832. *Pogonia juliana* (Roxb.) Lindl., Gen. Sp. Orch. Pl. 414. 1840; Hook.f., Fl. Brit. India 6: 119. 1890.

Terrestrial herbs. Leaves flat on ground, dark green above and pinkish beneath, glabrous. Flowers solitary, green-purple, spotted with rose-red, scented.

Fls. & Frts.: May July.

Distrib.: Kameng; between 200-500 m, in open grasslands.

Nervilia macroglossa (Hook.f.) Schltr. in Bot. Jahrb. Syst. 45: 403. 1911; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 529, f.323. 1998. *Pogonia macroglossa* Hook.f., Fl. Brit. India 6: 120. 1890; Ic. Pl. 22: t.2195A. 1894; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 267, t.356. 1898.

Terrestrial herbs, with subglobose, warted tuber; scape laxly sheathed; leaves appear after flowering, reniform with subundulate edges; flowers solitary, white, streaked with faint pink; lip gibbous at base.

Fls. & Frts.: July Sept.

Distrib.: Kameng, Siang; between 500-1000 m., on humus rich soil.

Oberonia acaulis Griff., Itin. Pl. Khasyah Mts. 76. 1848; Notul. 3: 275; Ic. 3: t.286. 1851; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 534, f.324. 1998. *O. myriantha* Lindl., Fol. Orchid. Oberonia 4. 1859; Hook.f., Fl. Brit. India 5: 679. 1888.

Epiphytic herbs. Leaves ensiform, falcate. Flowers in pendent raceme, brown. Lip 3-lobed. Capsule cylindrical.

Fls. & Frts.: Oct. Dec.

Distrib.: Kameng; between 1500-2000 m, on branches of trees in forests.

Oberonia anthropophora Wall. ex Lindl., Gen. Sp. Orch. Pl. 16. 1830; Hook.f., Fl. Brit. India 5: 684. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 534, f.325. 1998.

Small, pendulous, epiphytic herbs. Leaves linear. Inflorescence longer than leaves. Flowers small, reddish-brown. Lip broad, decurved; midlobes with two long divergent, acute lobules.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 1000-1200 m, on tree trunks in sub tropical forests.

Oberonia arunachalensis A. N. Rao in Rheedeia 7(2): 130. 1997.

Epiphytic herbs; leaves jointed; inflorescence longer than leaves, drooping; flowers green, in verticillate rows; lip 3-lobed; side-lobes dentate at margin.

Fls. & Frts.: July Aug.

Distrib.: Lohit; at 500m., on moss covered branches of small trees.

Oberonia caulescens Lindl., Gen. Sp. Orch. Pl. 15. 1830; Hook.f., Fl. Brit. India 5: 682. 1888; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 11, t.13. 1898; Ansari & N.P. Balakr. in Orch. Monogr. 4: 30. 1990; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 536, f.326. 1998. *O. auriculata* King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 13. t.16A. 1898; S. N. Hedge & A. N. Rao in Ind. J. Forestry 10(3): 195. 1987; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 536. 1998.

Epiphytic herbs with about 6 cm long stems. Leaves 5, linear-ensiform, fleshy. Flowers in raceme, reddish-brown. Lip 3-lobed; midlobe split into two lobules.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 100-1000 m, on trees in moist tropical forests.

Oberonia denticulata Wight, Ic. 5(1): 3, t.1625. 1851. Ansari & N.P. Balakr. in Orch. Monogr. 4: 20. 1990. *O. iridifolia* Lindl., Gen. Sp. Orch. Pl. 15. 1830 (*nom. superfl. & illegt.*); Hook.f., Fl. Brit. India 5: 675. 1888; King & Pantl. in Ann. Roy. Bot. Gard.

(Calcutta) 8: 8, t.8. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 543, f.331. 1998.

Epiphytic herbs with very short stems. Leaves broadly ensiform. Flowers in densely flowered spike, yellowish or greenish, minute; peduncles winged. Lip 3-lobed. Capsules ovoid, sessile.

Fls. & Frts.: Sept. Dec.

Distrib.: Kameng; Lohit, Siang, Subansiri, Tirap; between 100-1000 m, on large trees in wet tropical forests.

Oberonia emarginata King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 6, t.2A 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 536, f.327. 1998. *O. micrantha* King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 6, t.5. 1898 (non A. Rich. 1834)

Small, epiphytic herbs. Leaves lianar. Flowers in densely flowered spike, minute, greenish.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1600-2000 m, on moss covered tree trunks in dense moist forests.

Oberonia ensiformis (Sm.) Lindl., Fol. Orchid. Oberonia 4. 1859; Hook.f., Fl. Brit. India 5: 679. 1888; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 8, t.9. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 539, f.328. 1998. *Malaxis ensiformis* Sm. In Rees, Cyclop. 22: 14. 1812.

Epiphytic herbs with tufted stems. Leaves lianar-ensiform, falcate. Scapes shorter than leaves. Flowers in raceme, pale-brown. Lip 3-lobed; terminal lobe with two lobules separated by apical sinus.

Fls. & Frts.: Oct. Dec.

Distrib.: Kameng, Siang, Subansiri; between 500-1000 m, on branches of small trees in primary forests.

Oberonia falcata King & Pantl. in J. Asiat. Soc. Beng. 64: 329. 1895 & in Ann. Roy. Bot. Gard. (Calcutta) 8: 12, t.14. 1898; seidenf. in Dansk. Bot. Ark. 33(1): 30. 1978; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 539, f.329. 1998.

Caulescent, tufted, epiphytic herbs. Stems upto 15 cm long. Leaves falcate, ensiform. Flowers in terminal raceme, yellowish-green. Lip oblong; apical lobe with two lobules.

Fls. & Frts.: July Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1800-2200 m, on moss cushioned tree trunks in wet forests.

Oberonia helferi Hook.f., Ic. Pl. : t.1785A. 1888; Hook.f., Fl. Brit. India 6: 279. 1888; M. Bhaumik & M. K. Pathak in Bull. Bot. Surv. India 45(1-4): 217. 2003.

Acaulescent, epiphytic herbs; leaves distichous, membranous, laterally compressed, ensiform; inflorescence longer than the leaves, erect or curved; flowers membranous, pale green; sepals spreading, entire; lip 2-lobed at apex.

Fls. & Frts.: Aug. Sept.

Distrib.: Dibang Valley; at 700 m.. on short tree branches in primary forests.

Oberonia falconeri Hook.f., Fl. Brit. India 5: 678: 1888; Ic. Pl. t.1780. 1888; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 543, f.330. 1998.

Small, epiphytic herbs. Leaves broadly ensiform. Flowers in raceme, greenish-yellow; peduncles grooved. Lip oblong. Capsules shortly pedicelled.

Fls. & Frts.: July Sept.

Distrib.: Siang; between 500-1500 m, on tree trunks in primary forests.

Oberonia jenkinsiana Griff. ex Lindl., Fol. Orchid. Oberonia 4. 1859; Hook.f., Fl. Brit. India 5: 676. 1888; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 7, t.7. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 543, f.332. 1998.

Tufted, epiphytic herbs. Leaves narrowly ensiform or subfalcate. Flowers in decurved, densely flowered spikes, minute, brown. Lip fleshy, 3-lobed.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 200-500 m, on trees in wet primary tropical forests.

Oberonia kamlangensis A. N. Rao in J. Econ. Tax. Bot. 24(2): 269. 2000.

Tufted, acaulescent epiphytes; leaves jointed, ensiform; raceme erect, densely many flowered; flowers pale green, arranged in whorls; lip 3-lobed.

Fls. & Frts.: Oct. Nov.

Distrib.: Lohit; at 150 m., on moss covered branches of small trees.

Oberonia katakiana A. N. Rao in J. Econ. Tax. Bot. 20(3): 711. 1996; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 704. 1998.

Small, tufted epiphytes; stem reduced; leaves oblong, ensiform; peduncle free from leaves; flowers many, arranged in whorls on the rachis, green, with gland-dotted perianth.

Fls. & Frts.: Sept. Oct.

Distrib.: Kameng; at 200m., on branches of small trees.

Oberonia maxima Hook.f., Fl. Brit. India 5: 677. 1888; Deori & Hajra in Bull. Bot. Surv. India 17(1-4): 171. 1975; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 547, f.333. 1998.

Epiphytic, caespitose herbs. Leaves large. Flowers in large, densely flowered spikes, greenish-yellow. Lip orbicular; disc thickened. Capsules ellipsoid.

Fls. & Frts.: June Oct.

Distrib.: Kameng; between 1500-1800 m, on trees in primary forests.

Oberonia obcordata Lindl., Fol. Orchid. Oberonia 7. 1859; Hook.f., Fl. Brit. India 5: 684. 1888; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 9, t.11. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 547, f.334. 1998. *O. treutleri* Hook.f., Fl. Brit. India 5: 683. 1888.

Small, tufted, epiphytic herbs. Leaves linear-oblong. Scapes adnate below the upper leaves. Flowers in dense whorls, pale-green. Lip 3-lobed.

Fls. & Frts.: May June.

Distrib.: Kameng; between 1600-1800 m, on moss covered branchlets of small trees in subtropical evergreen forests.

Oberonia pachyrachis Rehb.f. ex Hook.f., Fl. Brit. India 5: 681. 1888; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 4, t.3. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 547, f.335. 1998. *Oberonia orbicularis* Hook.f., Fl. Brit. India 5: 677. 1888.

Tufted, epiphytic herbs. Stems very short. Leaves ensiform, falcate. Flowers in spikes, pale-brown; peduncles fleshy, terete. Lip orbicular-elliptic. Capsules gibbous, turgid.

Fls. & Frts.: Nov. March.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 800-1500 m, on trees in forests.

Oberonia prainiana King & Pantl. in J. Asiat. Soc. Bengal 64 (3): 331. 1896; A. N. Rao in Ind. Forest. 122(4): 1172. 1996; A. N. Rao & S. N. Hegde in Manilal & Sath. Kumar. (eds.), Orch. Mem. 130. 2004.

Pendent epiphytic herbs; leaves not jointed, oblong-ovate, acute; inflorescence verticillate; floers uniformly brown; lip unlobed.

Fls. & Frts.: April June.

Distrib.: Changlang (Namdapha National Park), 300 m.

Oberonia pumilio Rchb.f. in Bonplandia 5: 58. 1857; A. N. Rao in J. Econ. Tax. Bot. 24(2): 261. 2000.

Tufted epiphytes; leaves not jointed, narrow, slightly curved; inflorescence slender; flowers many, small, reddish-brown; lip 3-lobed.

Fls. & Frts.: Jan. Feb.

Distrib.: Kameng; at 200 m., on moss covered branches of small trees.

Oberonia pyrulifera Lindl. Fol. Orchid. Oberonia 3. 1859; Hook.f., Fl. Brit. India 5: 678. 1888; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 14, t.16B. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 551, f.336. 1998.

Epiphytic herbs upto 10 cm long. Stems very sort. Leaves ensiform, subfalcate. Flowers in laxly flowered raceme, greenish. Lip oblong with quadrate hypochile. Capsules ovoid-cylindric, ribbed.

Fls. & Frts.: Nov. Jan.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 300-800 m, on trees in moist tropical forests.

Oberonia recurva Lindl. In Bot. Reg. 25: misc. 14, no.8. 1839; Hook.f., Fl. Brit. India 5: 680. 1888; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 704. 1998; A. N. Rao in J. Econ. Tax. Bot. 24(1): 214. 2000. *Oberonia parvula* King & Pantl. In J. Asiat. Soc. Bengal 64(3): 330. 1896. *Oberonia croftiana* King & Pantl. In Ann. Roy. Bot. Gard. (Calcutta) 8: 7, t.6A. 1898.

Epiphytic herbs; stem short; leaves ensiform-lanceolate, straight to weakly falcate; raceme densely many flowered, strongly recurved; flowers minute, hyaline, sparsely gland-dotted; lip 3-lobed.

Fls. & Frts.: March May.

Distrib.: Kameng; at 200 m., on moss covered branches of small trees.

Oberonia rufilabris Lindl., Sert. Orchid. 2: t.8A. 1838; Hook.f., Fl. Brit. India 5: 686. 1888; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 12, t.15. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 551, f.337. 1998.

Tiny, tufted, epiphytic herbs. Leaves oblong, subensiform. Inflorescence longer than leaves. Flowers reddish-brown. Lip deep brown.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng; between 1000-1500 m, on small trees in subtropical evergreen forests.

Oberonia sulcata J. Joseph & Chowdhury in J. Bombay Nat. Hist. Soc. 63(1): 54. 1966.

Epiphytic herbs. Leaves ensiform. Flowers in raceme, dull green.

Fls. & Frts.: Oct. Dec.

Distrib.: Kameng; between 100-1000 m, on moist tree trunks in forests.

Odontochilus elwesii C.B. Clarke ex Hook.f., Fl. Brit. India 6: 100. 1890. *Anoectochilus elwesii* (C.B. Clarke ex Hook.f.) King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 296, t.394. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 57, f.22. 1998.

Terrestrial herbs upto 30 cm tall, decumbent at base. Leaves ovate, acute, 3-nerved, membranous. Flowers in raceme, white; sepals green with white midrib. Lip white with brown teeth at base.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 1000-1500 m, on humus in wet evergreen forest floor.

Odontochilus grandiflorus (Lindl.) Benth. & Hook.f. ex Hook.f., Fl. Brit. India 6: 100. 1890. *Anoectochilus grandiflorus* Lindl. in J. Linn. Soc., Bot. 1: 179. 1857; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 296, t.393. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 57, f.23. 1998.

Robust, fleshy, decumbent herbs upto 30 cm high. Leaves long petioled, elliptic, many nerved. Flowers in raceme, pale-green, mottled with white and purplish at tip; rachis pubescent. Lip white with yellow sac at base.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 1000 - 1500 m, growing in association with *Chrysoglossum robinsonii* on humus in dense, moist evergreen subtropical forests.

Odontochilus lanceolatus (Lindl.) Blume, Coll. Orch. Arch. Ind. 8: 80. 1858. *Anoectochilus lanceolatus* Lindl., Gen. Sp. Orch. Pl. 499. 1840; Hook.f., Fl. Brit. India 6: 101. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 295, t.392. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 61, f.24. 1998. *Anoectochilus luteus* Lindl. in J. Lin. Soc., Bot. 1: 179. 1857; A. N. Rao in J. Econ. Tax. Bot. 24(2): 262. 2000.

Terrestrial, decumbent herbs, 25 - 40 cm tall. Leaves ovate or ovate-lanceolate. Flowers in laxly flowered terminal raceme, pale-green with brownish tinge. Lip with a didymous basal sac containing two long spur-like processes, yellow; apical lobe with two diverging, oblong, obliquely truncate lobules.

Fls. & Frts.: July - Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri; between 1000-2000 m, on thick humus in subtropical primary forests.

Odontochilus tortus King & Pantl. in J. Asiat. Soc. Bengal 65: 125. 1896. *Anoectochilus tortus* (King & Pantl.) King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 298, t.396. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 65, f.27. 1998.

Terrestrial, decumbent herbs, 15 - 25 cm tall. Leaves ovate or ovate-lanceolate, 3-nerved, green. Flowers in terminal, 3-6 flowered spikes, greenish-white; peduncles pubescent. Lip with subglobose saccate base, white; apical lobes twisted, deeply lobed.

Fls. & Frts.: Dec. - Feb.

Distrib.: Kameng; between 1000-1500 m, on moist and shaded forest floor.

Oreorchis micrantha Lindl. in J. Linn. Soc. 3: 27. 1858; Hook.f., Fl. Brit. India 5: 709. 1890; S. N. Hegde & A. N. Rao in Arunachal Forest News 10(1): 34. 1987; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 551, f.338. 1998.

Terrestrial herbs; pseudobulbs corm-like, ovoid-conical; leaves linear, prominently veined; raceme laxly few flowered; flowers yellowish-brown; lip white with purple spots, deflexed from middle.

Fls. & Frts.: May - July.

Distrib.: Kameng; upto 2500 m.,; on open slopes and grasslands.

Ornithochilus difformis (Wall. ex Lindl.) Schltr. in Fedde, Repert. Beih. 4: 277. 1919; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 555, f.339. 1998. *Aerides difformis* Wall. ex Lindl., Gen. Sp. Orch. Pl. 242. 1833 (*nom. nud.*). *Ornithochilus fuscus* Wall. ex Lindl. in Hook.f., Fl. Brit. India 6: 76. 1890.

Epiphytic herbs. Leaves broadly oblong, sheathed at base. Inflorescence much longer than leaves. Flowers greenish-yellow with brown streaks. Lip 3-lobed, spurred. Capsules cylindrical.

Fls. & Frts.: July - Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1400-2000 m, on tree trunks in dense primary moist forests.

Otochilus albus Lindl., Gen. Sp. Orch. Pl. 35. 1830; Hook.f., Fl. Brit. India 5: 843. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 143, t.200. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 557, f.340. 1998.

Caespitose, epiphytic herbs. Pseudobulbs cylindrical. Leaves elliptic-oblong with short petioles. Flowers in laxly flowered, pendent raceme, brownish. Lip 3-lobed. Capsules ellipsoid.

Fls. & Frts.: May - Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-2000 m, on large tree trunks in dense moist forests.

Otochilus fuscus Lindl., Gen. Sp. Orch. Pl. 35. 1830; Hook.f., Fl. Brit. India 5: 844. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 143, t.199. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 557, f.341. 1998.

Drooping, epiphytic herbs. Stems jointed, branched, cylindrical or fusiform. Leaves linear-lanceolate. Flowers in laxly flowered pendent raceme, brown. Lip 3-lobed with pinkish tinge, Saccate at base. Capsules ellipsoid.

Fls. & Frts.: Nov. - Jan.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1200-1600 m, on tree trunks in dense moist forests.

Otochilus lancilabius Seidenf. in Bot. Tidssk. 71: 13, t.11. 1976; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 559. 1998. *Otochilus porrectus auct. non* Lindl.: Hook.f., Fl. Brit. India 5: 844. 1890 *p.p.*

Epiphytic herbs with slender pseudobulbs. Leaves two at each internode, ovate-lanceolate. Flowers in laxly flowered, pendent raceme, white-creamy or pink. Lip 3-lobed, saccate at base, lanceolate.

Fls. & Frts.: Oct. Jan.

Distrib.: Kameng; between 1000-1500 m, on moss covered trees in forests.

Otochilus porrectus Lindl., Gen. Sp. Orch. Pl. 36. 1830; Hook.f., Fl. Brit. India 5: 844. 1890*p.p.*; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 559, f.342. 1998.

Epiphytic herbs. Stems jointed, cylindrical. Leaves in pair, elliptic-lanceolate. Flowers in laxly flowered raceme, white. Lip 3-lobed, deflexed with brown tinged sac.

Fls. & Frts.: Oct. Jan.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1500-2000 m, on moss cushioned tree branches in primary forests.

Pachystoma pubescens Blume, Bijdr. 376, t.29. 1825. *Apaturia senile* Lindl., Gen. Sp. Orch. Pl. 130. 1831. *P. senile* (Lindl.) Rchb.f. in Bonplandia 3: 250. 1859; Hook.f., Fl. Brit. India 5: 812. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 562, f.343. 1998.

Terrestrial rhizomatous herbs. Leaves solitary, linear, membranous. Scapes arising from rhizomes. Flowers in erect raceme, greenish-white with pink tinge, glandular hairy. Lip cuneate-elliptic, 3-lobed, white; disc with 3-lamellae.

Fls. & Frts.: June Aug.

Distrib.: Kameng, Tirap; between 1000-1500 m, on humus rich soil in moist forests.

Panisea demissa (D. Don) Pfitz. in Engler, Pflanzenr. 141, t. 49. 1907; S. N. Hegde & A. N. Rao in Ind. J. Forestry 7(1): 78. 1984; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 565. 1998. *Dendrobium demissum* D. Don, Prodr. Fl. Nepal. 34. 1825. *Coelogyne parviflora* Lindl., Gen. Sp. Orch. Pl. 44. 1830. *Panisea parviflora* (Lindl.) Lindl., Fol. Orchid. 1. 1854; Hook.f., Fl. Brit. India 5: 783. 1890.

Epiphytic, erect herbs. Roots long, wiry. Pseudobulbs fusiform, glossy green. Raceme from the base of pseudobulbs, pendulous, upto 10-flowered. Flowers white.

Fls. & Frts.: Nov. Jan.

Distrib.: Kameng; between 1000-1500 m, on tree trunks in forests.

Panisea tricallosa Rolfe in Kew Bull. 1901: 148. 1901; N. P. Balakr. & Chowdhury in Bull. Bot. Surv. India 9: 90. 1967; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 565, f.344. 1998.

Epiphytic herbs. Pseudobulbs oblique, adpressed to rhizomes. Leaves elliptic-lanceolate, puberulous in both surfaces. Scapes shorter than leaves. Flowers solitary, about 3 cm across, pale-yellow.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng; between 1200-1500 m, on moss covered tree trunks in forests.

Paphiopedilum fairrieianum (Lindl.) Stein, Orchid.-Buch 467. 1892; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 566. 1998. *Cypripedium fairrieianum* Lindl. in Gard. Chron. 1857: 740. 1857; Hook.f., Fl. Brit. India 6: 173. 1890.

Dwarf, compact, terrestrial herbs. Leaves greyish-green. Flowers solitary on scapes, 6-8 cm diam with dorsal sepal standing out majestically like hood, stripped and reticulated with purplish brown on white backgrounds.

Fls. & Frts.: Oct. Feb.

Distrib.: Kameng; between 1500-1800 m, in calcareous soil on steep hill slopes.

Paphiopedilum venustum (Wall.) Pfitz. ex Stein, Orchid-Buch.: 489. 1892; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 566, f.345. 1998. *Cypripedium venustum* Wall. in Bot. Mag. 47: t.2129. 1820; Hook.f., Fl. Brit. India 6: 173. 1890.

Terrestrial herbs; leaves 4-5, purple mottled beneath, elliptic-oblong, emarginated; scape deep purple, 1-3-flowered; flowers white with green veined sepals and petals; petals mottled at base; lip yellowish-brown with dark-green veins, saccate, with edges of the mouth reflexed.

Fls. & Frts.: December February.

Distrib.: Kameng; on grassy, wet, humid slopes.

Paphiopedilum wardii Summerh. in Gard. Chron. 3, 92: 446. 1932; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 568, f.346. 1998.

Terrestrial herbs. Leaves oblong-elliptic, acute at apex. Flowers solitary on scape; dorsal sepal ovate, pale-greenish with dark green lines, margin ciliate. Lip green with reddish spot.

Fls. & Frts.: Dec. Feb.

Distrib.: Lohit; between 1500-3000 m, on open granite rocky surfaces covered with moss and leaf-litter.

Papilionanthe cylindricum (Lindl.) Seidenf., Descr. Epidendr. Koenig. 33. 1995. *Aerides cylindricum* Lindl., Gen. Sp. Orch. Pl. 240. 1833; Hook.f., Fl. Brit. India 6: 44. 1890. *Papilionanthe subulata* auct. non (Willd.) Garay: H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 568, f.347. 1998.

Epiphytic herbs. Leaves terete, very obliquely acuminate. Flowers in short 2-3 flowered raceme, 4-4.5 cm across, white tinged with pink. Lip 3-lobed with spur. Capsules fusiform or subclavate.

Fls. & Frts.: April - June.

Distrib.: Kameng; between 500-1500 m, on branches of trees in open forests.

Papilionanthe teres (Roxb.) Schltr., Orchis 9: 78, f.12. 1915; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 570. 1998. *Dendrobium teres* Roxb., Fl. Ind. 3: 485. 1832. *Vanda teres* (Roxb.) Lindl., Gen. Sp. Orch. Pl., 217. 1833; Hook.f., Fl. Brit. India 6: 49. 1890. *Epidendrum subulatum* auct. non Sw. 1788; Koenig in Retz., Observ. Bot. 6: 51. 1791. *Papilionanthe subulata* (Willd.) Garay in Bot. Mus. Leafl. 23(10): 372. 1974.

Monopodial epiphytic herbs, with cylindrical stem; leaves terete, suberect or curved; raceme laxly 3 - 6 flowered; flowers large, showy, white to pink; lip dark-pink with mouth of the spur yellow.

Fls. & Frts.: April - May.

Distrib.: Kameng, Subansiri, Tirap; between 50-100m., grow gregariously on large trees in open patches and road-sides.

Papilionanthe uniflora (Lindl.) Garay in Bot. Mus. Leafl. Harv. Univ. 23: 372. 1974; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 570, f.348. 1998. *Mesoclastis uniflora* Lindl., Gen. Sp. Orch. Pl. 45. 1830. *Aerides longicornu* Hook.f., Fl. Brit. India 6: 44. 1890.

Epiphytic, branched herbs upto 40 cm long. Stems slender, terete. Flowers extra axillary, solitary or in pair, about 3 cm across, white. Lip 3-lobed with infundibuliform spur, pinkish. Capsules cylindrical, ridged.

Fls. & Frts.: Sept. - Nov.

Distrib.: Subansiri; between 500-1000 m, on tree trunks in tropical primary forests.

Papilionanthe vandarum (Rchb.f.) Garay in Bot. Mus. Leafl. 23(10): 372. 1874; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh

704. 1998. *Aerides vandarum* Rechb.f. in Gard. Chron. 1867: 997. 1867; Hook.f., Fl. Brit. India 6: 44. 1890.

Monopodial epiphytic herbs; stem pendent, branched, cylindrical; leaves terete, grooved, jointed; raceme leaf-opposed, 1-4 flowered; flowers white with a purple flushed base to the lip and spur; lip 3-lobed.

Fls. & Frts.: Aug. Oct.

Distrib.: Arunachal Pradesh.

Pecteilis susannae (L.) Rafin., Fl. Tellure 2: 38. 1836; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 574, f.349. 1998. *Orchis susannae* L., Sp. Pl. : 939. 1753. *Habenaria susannae* (L.) R. Br., Prodr.: 312. 1810; Hook.f., Fl. Brit. India 6: 137. 1890*p.p.*

Large terrestrial herbs with elongated tubers; stem stout with several funnel shaped sheath in its lower portion; leaves confined to the middle of the stem; raceme 3-5 flowered; flowers white with greenish-yellow tinge.

Fls. & Frts. : August October.

Distrib.: Kameng, upto 1200 m., on open forest floor.

Pennilabium proboscideum A. S. Rao & Joseph in Bull. Bot. Surv. India 10(2): 231. 1968.

Monopodial epiphytic herbs; stem short; leaves fleshy, elliptic-oblong, bifarious, obliquely emarginated at apex; raceme 4 – 5 flowered, axillary; flowers long spurred, creamy white with purple dots; lip 3-lobed.

Fls. & Frts.: July August.

Distrib.: Kameng; at 1100 m., on moss covered branches of small trees.

Pennilabium struthio Carr. in Gard. Bull. Sing. 5: 151, t.4. 1930; A. N. Rao in J. Econ. Tax. Bot. 20(3): 708. 1996.

Epiphytic herbs with reduced stem; leaves 3-5. oblong, obliquely emarginated at apex, undulate; raceme 3-6 flowered; flowers pale yellow with dark red spots; lip white with purple streaks on the mid-lobe.

Fls. & Frts.: July-August.

Distrib.: Kameng; at 250 m., on twigs of small trees near streams.

Peristylus affinis (D. Don) Seidenf. in Dansk Bot. Ark. 31(3): 48. t.23. 1977; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 575,

f.350. 1998. *Habenaria affinis* D. Don, Prodr. Fl. Nepal. 25. 1825. *H. goodyeroides auct. non* D. Don: Hook.f., Fl. Brit. India 6: 161. 1890p.p. *H. goodyeroides var. affinis* King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 327. 1898. *Peristylus goodyeroides var. affinis* (King & Pantl.) Cooke, Fl. Pres. Bombay 712. 1908.

Terrestrial herbs, 25-30 cm high. Leaves clustered at the base of the stem, ovate or ovate-elliptic, Flowers in laxly flowered spike, white or greenish-yellow. Lip 3-lobed with globular spur.

Fls. & Frts.: July Oct.

Distrib.: Arunachal Pradesh; between 1000-2500 m, in moist open places.

Peristylus fallax Lindl., Gen. Sp. Orch. Pl. 298. 1835; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 575, f.351. 1998. *Herminium fallax* (Lindl.) Hook.f., Fl. Brit. India 6: 129. 1890. *Habenaria fallax* (Lindl.) King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 325, t.428. 1898.

Terrestrial, tuberous herbs, 12-40 cm long. Tubers ellipsoid. Leaves solitary, narrowly elliptic. Flowers in laxly flowered spike, greenish. Lip hastately 3-lobed with saccate spur.

Fls. & Frts.: June Aug.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 200-1000 m, on moist sandy soil in open places.

Peristylus goodyeroides (D. Don) Lindl., Gen. Sp. Orch. Pl. 299. 1835; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 575, f.352. 1998. *Habenaria goodyeroides* D. Don, Prodr. Fl. Nepal. 25. 1825; Hook.f., Fl. Brit. India 6: 161. 1890.

Terrestrial tuberous herbs, 30-100 cm tall. Tubers ellipsoid, hairy. Leaves ovate or ovate-elliptic. Flowers in densely flowered spike, dull white, scented. Lip triangular, 3-lobed, brown tinged.

Fls. & Frts.: April July.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 300-1000 m, in loamy soil in open forests.

Peristylus prainii (Hook.f.) Kraenzl., Orchid. Gen. Sp. 514. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 579, f.353. 1998. *Habenaria prainii* Hook.f., Fl. Brit. India 6: 159. 1890.

Terrestrial, tuberous herbs, 30-60 cm tall. Tubers ellipsoid or ovoid. Leaves 3-5, oblong, Flowers in spike, brownish-green. Lip 3-lobed with globose sac at base.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 1200-1500 cm, in moist soil along forest edges.

Peristylus richardianus Wight, Ic. Pl. Ind. Or. 5(1): 12, t.1697. 1851; J. Joseph & Abbar. in Bull. Bot. Surv. India 22: 182. 1980; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 579, f.354. 1998. *Habenaria bicornuta* Hook.f., Fl. Brit. India 6: 156. 1890.

Terrestrial herbs upto 80 cm high with irregularly oblong, hairy tubers. Leaves elliptic-oblong. Flowers in spikes, brownish. Lip 3-lobed with globose spur, gland and caudicles rest in twin pouches.

Fls. & Frts.: June Aug.

Distrib.: Kameng; between 1500-1800 m, on moist soil along forest edges.

Phaius flavus (Blume) Lindl., Gen. Sp. Orch. Pl. 128. 1831; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 582. 1998. *Limodorum flavum* Blume, Bijdr. 8: 375. 1825. *Bletia woodfordii* Hook., Bot. Mag. 54: t.2719. 1827. *Phaius maculatus* Lindl., Gen. Sp. Orch. Pl. 127. 1831; Hook.f., Fl. Brit. India 5: 817. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 107, t.149. 1898. *Phaius woodfordii* (Hook.) Merr. in J. Arn. Arb. 24: 211. 1948; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 583. 1998. *P. maculatus auct. non* Lindl.: Hook.f., Fl. Brit. India 5: 817. 1890 *p.p.*

Terrestrial herbs. Pseudobulbs ovoid-cylindric without sheaths. Leaves elliptic-lanceolate, plicate, spotted with yellowish-white. Flowers in raceme, pale-yellow. Lip oblong, 3-lobed, concave, spurred with red blotches. Capsules globose-ovoid, ribbed.

Fls. & Frts.: April June.

Distrib.: Kameng; between 500-1000 m, on moist humus rich soil in forests.

Phaius mishmensis (Lindl. & Paxton) Rehb.f. in Bonplandia 5: 43. 1857; Hook.f., Fl. Brit. India 5: 817. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 109, t.152. 1898; H.J. Chowdhery, Orch. Fl. Arunachal Pradesh 583, f.356. 1998. *Limatodis mishmensis* Lindl. & Paxton in Paxton, Fl. Gard. 3: 36. 1852.

Terrestrial, 50-80 cm high herbs, with elongated pseudobulbs, swollen at base. Leaves 6-8, plicate. Flowers pink in lax raceme Lip subreniform, with long, yellow spur.

Fls. & Frts.: Nov. Jan.

Distrib.: Lohit, Siang, Subansiri, Tirap; between 1200-2000 m., on humus rich forest floor.

Phaius tankervilleae (Banks ex L'Herit.) Blume, Mus. Bot. Lugd.-Bat. 2: 177. 1856; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 583, f.357. 1998. *Limodorum tankervilleae* Banks ex L'Herit., Sert. Angl. 28. 1789. *Phaius wallichii* Lindl. in Wall, Pl. As. Rar. 2: 46, t. 158. 1831; Hook.f., Fl. Brit. India 5: 816. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 108, t.150. 1898.

Terrestrial herbs, 80-120 cm tall. Pseudobulbs conical with annular rings. Leaves elliptic-lanceolate. Flowers in axillary, many flowered raceme, about 15 cm diam, dull white. Lip with curved spur, white with yellow tinge.

Fls. & Frts.: April June.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1000 m, in dense moist tropical forests.

Phalaenopsis lobbii (Rchb.f.) Sweet, Genus Phalaenopsis 53. 1980; A. N. Rao in Rheedeia 7(2): 131. 1997. *Phalaenopsis parishii* var. *lobbii* Rchb.f. in Saunder's Refug. Bot. 2: sub. t. 85. 1870.

Small epiphytes; roots flat, long, undulate, gree; leaves unequal, elliptic-oblancoate; scape shorter than leaves, straight, few flowered; flowers white with chestnut colour bands on lip, widely opening; lip 3-lobed.

Fls. & Frts. : March May

Distrib.: Lohit; at 400 m., on horizontal branches in primary forests.

Phalaenopsis mannii Rchb.f. in Gard. Chron. 1871: 902. 1871; Hook.f., Fl. Brit. India 6: 30. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 587. 1998.

Epiphytic herbs. Leaves oblong-lanceolate. Flowers in many flowered pendent raceme, yellow with brown markings. Lip with 2-callii; apical lobe sagittate. Capsules clavate-ellipsoid.

Fls. & Frts.: March May.

Distrib.: Kameng, Subansiri; between 200-1000 m, on tree trunks close to the ground in deep forests.

Phalaenopsis parishii Rchb.f. in Bot. Zeit. 33: 146. 1865; Hook.f., Fl. Brit. India 6: 31. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 587. 1998.

Dwarf, suberect, lushy green, epiphytic herbs. Roots many, thick, wiry, greenish-white. Stems compressed. Leaves oblong to oblanceolate. Flowers in laxly flowered raceme, white, scented. Lip reniform, purplish-brown.

Fls. & Frts.: March April.

Distrib.: Kameng, Siang; between 300-1000 m, on tree trunks in evergreen forests.

Phalaenopsis taenialis (Lindl.) Christenson & Pradhan in Selbyana 9: 168, 1986. *Aerides taeniale* Lindl., Gen. Sp. Orch. Pl. 239, 1833. *Kingidium taenialis* (Lindl.) P. F. Hunt. in Kew Bull. 24: 98, 1970; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 463, f.279, 1998. *Doritis taenialis* (Lindl.) Hook.f., Fl. Brit. India 6: 31, 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 199, t.166, 1898.

Epiphytic herbs with numerous long, flat roots. Leaves solitary, elliptic-oblong, pendent. Flowers in 6-8 flowered raceme, purplish. Lip with spur; epichile dark purple.

Fls. & Frts.: May July.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-2000 m, on moss covered tree trunks in deep forests.

Pholidota articulata Lindl., Gen. Sp. Orch. Pl. 38, 1830; Hook.f., Fl. Brit. India 5: 844, 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 589, f.358, 1998.

Epiphytic herbs. Pseudobulbs cylindrical. Leaves narrowly oblong. Flowers in terminal, pendent raceme, white with brownish-pink tinge. Lip cymbiform; disc with five lamellae.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng, Subansiri, Tirap; between 500-1000 m, on trees in primary tropical forests. between 1000-1500 m.

Pholidota convallariae var. **breviscapa** Deori & J. Joseph in Bull. Bot. Surv. India 20: 159, 1979; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 589, f.359, 1998.

Leaves small. Flowers in few flowered raceme; bract rhomboid. Lip 5-nerved.

Fls. & Frts.: Nov. Dec.

Distrib.: Kameng; between 1600-1700 m, on branches of trees in forests.

Pholidota imbricata Hook., Exot. Fl. 2: t.138. 1825; Hook.f., Fl. Brit. India 5: 845. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 589, f.360,361. 1998. *Cymbidium imbricatum* Roxb., Fl. Ind. 3: 460. 1832.

Epiphytic herbs. Pseudobulbs cylindric, furrowed, unifoliate. Leaves elliptic-oblongate. Flowers in pendent raceme, brownish. Lip 3-lobed. Capsules ellipsoid.

Fls. & Frts.: May Aug.

Distrib.: Subansiri, Tirap; between 1500-2000 m, on trees in primary forests.

Pholidota pallida Lindl. in Bot. Reg. 21: subT.1777. 1835. *Pholidota imbricata* var. *sessilis* Hook.f., Fl. Brit. India 5: 846. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 594. 1998. *Pholidota pallida* var. *sessilis* (Hook.f.) Sarkar in J. Econ. Tax. Bot. 5: 1008. 1984.

Epiphytic herbs. Pseudobulbs cylindric, furrowed, unifoliate; raceme sessile, flowers creamy-yellow; floral bracts caduceus.

Fls. & Frts.: July Aug.

Distrib.: Kameng, Subansiri; between 1200-1800 m, on trees in primary forests.

Pholidota chinensis Lindl. in J. Linn. Soc., Bot. 11: 308. 1867; A. N. Rao in J. Orch. Soc. India 14(1-2): 61. 2000.

Epiphytic herbs with stout rhizome; pseudobulbs fusiform, close together, angled; leaves in pairs, elliptic-oblong, acute; raceme drooping, laxly 15-20 flowered; flowers widely opening, pale brownish-green; lip with blackish-brown tinge on side lobes.

Fls. & Frts.: June August.

Distrib.: Kameng; at 2000 m., in wet evergreen sub-tropical forests.

Pholidota protracta Hook.f., Ic. Pl. : t.1877. 1889; Fl. Brit. India 5: 845. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 594. 1998.

Rhizomatous epiphytic herbs; pseudobulbs distant, fusiform, sheathed at base; leaves in pairs, narrowly elliptic; raceme few flowered; flowers green; lip yellowish blotched, 3-lobed at apex.

Fls. & Frts.: Oct. Dec.

Distrib.: Kameng, Subansiri; between 1500-2500 m., on tree trunks in primary forests.

Pholidota pygmaea H. J. Chowdhery & G. D. Pal in Nord. J. Bot. 15(4): 411. 1995; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 594, f.362. 1998.

Epiphytic herbs with stout rhizomes; pseudobulbs ovoid-conical, sheathed at base; leaf solitary, broadly elliptic to elliptic-lanceolate; raceme slender, drooping, laterally compressed, with many imbricate sterile bracts; flowers purplish-brown; lip 3-lobed.

Fls. & Frts.: Oct. Dec.

Distrib.: Subansiri; between 300-600m., in dense tropical forests.

Pholidota undulata Lindl., Gen. Sp. Orch. Pl. 37. no.2. 1830; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 598, f.363. 1998. *P. rubra* Lindl., Gen. Sp. Orch. Pl. 37. no.3. 1830; Hook.f., Fl. Brit. India 5: 847. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 145, t.202. 1898.

Epiphytic herbs. Pseudobulbs fusiform, sheathed at base, furrowed, 2-leaved. Leaves narrowly elliptic. Flowers in pendent raceme, yellowish-green. Lip oblong, pinkish-brown.

Fls. & Frts.: Nov. Jan.

Distrib.: Kameng; between 1000-2000 m, on branches of trees in moist forests.

Pholidota wattii King & Pantl. in J. Asiat. Soc. Bengal 66: 590. 1897; Phukan in Nayar & Sastry, Red Data Book Ind. Pl. 1: 275. 1987; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 598, f.364. 1998.

Epiphytic herbs with stout creeping rhizomes. Pseudobulbs narrowly ovoid or fusiform. Leaves in pair, elliptic or oblanceolate, plicate. Scapes arising from the young shoot. Flowers in many flowered spicate raceme, pale-green or straw coloured. Lip 3-lobed, saccate at base, brown tinged.

Fls. & Frts.: April June.

Distrib.: Subansiri; between 500-1000 m, on moss covered trees, associated with *Pholidota imbricata*.

Phreatia elegans Lindl., Gen. Sp. Orch. Pl. 63. 1830; Hook.f., Fl. Brit. India 5: 810. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 598, f.365. 1998.

Epiphytic herbs. Pseudobulbs compact, ovoid, compressed. Leaves narrowly elliptic. Flowers in axillary densely flowered racemes, white. Lip oblong, deflexed, hairy.

Fls. & Frts.: July - Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1800-2200 m, on moss covered tree trunks in primary forests.

Distrib.: Lohit; between 2500-3300 m, in grasslands.

Platanthera arcuata Lindl., Gen. Sp. Orch. Pl. 289. 1833. *Platanthera clavigera* Lindl., Gen. Sp. Orch. Pl. 289. 1835; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 602. 1998. *Habenaria densa* Lindl., Gen. Sp. Orch. Pl. 326. 1835; Hook.f., Fl. Brit. India 6: 153. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 319, t.420. 1898. *Habenaria clavigera* (Lindl.) Dandy in J. Bot. 68: 246. 1930.

Terrestrial herbs upto 1 m high. Leaves ovate. Flowers in densely flowered spike, whitish-green. Lip linear, entire; spur clavate, half as long as the ovary.

Fls. & Frts.: May - July.

Distrib.: Kameng, Siang, Subansiri; Tirap; between 600-1200 m, in forests.

Platanthera bakeriana (King & Pantl.) Kraenzl., Orchid. Gen. Sp. 1: 632. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 602, f.367. 1998. *Habenaria bakeriana* King & Pantl. in J. Asiat. Soc. Bengal 65(2): 132. 1896 et in Ann. Roy. Bot. Gard. (Calcutta) 8: 314, t.413. 1898.

Terrestrial herbs upto 35 cm long. Stems sheathed at base. Leaves in pair. Flowers in laxly flowered spikes, pale-green. Lip oblong, fleshy; spur as long as ovary.

Fls. & Frts.: Aug. - Sept.

Platanthera cumminsiana (King & Pantl.) Renz in Edinb. J. Bot. 58(1): 117. 2001. *Habenaria cumminsiana* King & Pantl. in J. Asiat. Soc. Bengal 64: 343. t.2. 1895 et in Ann. Roy. Bot. Gard. (Calcutta) 8: 321, t.424. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 444, f.266. 1998.

Erect terrestrial herbs. Tuber oblong. Leaves restricted to basal half of the stems. Flowers in densely flowered spike, green. Lip entire, fleshy with slender, curved spur.

Fls. & Frts.: Sept. - Nov.

Distrib.: Tawang; between 3300-3500 m, in open grasslands, alpine forests.

Platanthera dyeriana (King & Pantl.) Kraenzl., Orchid. Gen. Sp. 1: 636. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh

604, f.368. 1998. *Habenaria dyeriana* King & Pantl. in J. Asiat. Soc. Bengal 65: 133. 1896 et in Ann. Roy. Bot. Gard. (Calcutta) 8: 318, t.418. 1898. *Platanthera dyeriana* (King & Pantl.) Pradhan, Indian Orchids.: 2: 682. 1979 *nom. illeg.*

Terrestrial, slender herbs upto 35 cm high. Leaves 3-4, sessile, oblong-lanceolate. Flowers in laxly flowered terminal raceme, green. Lip oblong-triangular, deflexed, fleshy; spur incurved.

Fls. & Frts.: July Sept.

Distrib.: Kameng, Siang, Subansiri; between 500-1200 m, in open moist soil along roads.

Platanthera latilabris Lindl., Gen. Sp. Orch. Pl. 289. 1835; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 604, f.369. 1998. *Habenaria latilabris* (Lindl.) Hook.f., Fl. Brit. India 6: 153. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 321, t.423. 1898. *Peristylus latilabris* (Lindl.) A. N. Rao.....; S. N. Hegde & A. N. Rao in J. Econ. Tax. Bot. 4(2): 387. 1983.

Terrestrial herbs. Tubers oblong. Leaves 4-5, elliptic-oblong. Flowers in laxly flowered spike, greenish-yellow. Lip linear-blong with cylindric, curved spur.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 900-2000 m, on sun exposed rocky hill slopes of subtropical and temperate zone.

Platanthera leptocaulon (Hook.f.) Soo in Ann. Hist. Nat. Mus. Natl. Hung. 26: 360. 1929; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 604, f.370. 1998. *Habenaria leptocaulon* Hook.f., Fl. Brit. India 6: 154. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 320, t.421. 1898.

Terrestrial herbs, 20-40 cm tall, leafy at base. Leaves linear-lanceolate, erect. Flowers in 3-8 flowered, slender spike, whitish or yellowish. Lip 3-lobed with curved spur.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng; between 1000-1500 m, on moist soil along roadsides.

Platanthera stenantha (Hook.f.) Soo in Ann. Hist. Nat. Mus. Natl. Hung. 26: 363. 1929; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 609, f.371. 1998. *Habenaria stenantha* Hook.f., Fl. Brit. India 6: 153. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 314, t.412. 1898.

Terrestrial herbs, 30-80 cm tall. Stems stout, sheathed at base. Leaves 3-4, oblong-lanceolate. Flowers in laxly flowered raceme, greenish-yellow. Lip lanceolate with cylindrical spur, yellow.

Fls. & Frts.: July - Oct.

Distrib.: Kameng; 2000-3000 m, on open moist slopes.

Pleione hookeriana (Lindl.) B.S. Williams, *Orchid. Grow. Man.* ed. 6. 548. 1885; H. J. Chowdhery, *Orch. Fl. Arunachal Pradesh* 610, f.372. 1998. *Coelogyne hookeriana* Lindl., *Fol. Orchid. Coelogyne* 14. 1854; Hook.f., *Fl. Brit. India* 5: 842. 1890; King & Pantl. in *Ann. Roy. Bot. Gard. (Calcutta)* 8: 139, t.193. 1898.

Epiphytic herbs. Pseudobulbs caespitose, oval, sheathed, unifoliate. Leaves narrowly elliptic. Flowers solitary, about 5 cm across, white with violet-tinge. Lip subreniform, white with yellow blotch.

Fls. & Frts.: May - July.

Distrib.: Kameng; between 2200-4000 m, on moss covered tree trunks.

Pleione humilis (Sm.) D. Don, *Prodr. Fl. Nepal.* 37. 1825; H. J. Chowdhery, *Orch. Fl. Arunachal Pradesh* 610, f.373. 1998. *Epidendrum humile* Sm., *Exot. Bot.* 2: 75, t. 98. 1806. *Coelogyne humilis* (Sm.) Lindl., *Coll. Bot. Sub. t.* 37. 1825; Hook.f., *Fl. Brit. India* 5: 840. 1890; King & Pantl. in *Ann. Roy. Bot. Gard. (Calcutta)* 8: 139, t.194. 1898.

Epiphytic herbs. Pseudobulbs narrowly ovoid with fibrous sheaths. Leaves elliptic, membranous. Flowers solitary or in pair, white. Lip suborbicular with fringed lamellae, purple dotted.

Fls. & Frts.: Feb. - April.

Distrib.: Kameng; between 2200-3000 m, on moss cushioned tree trunks in forests.

Pleione maculata (Lindl.) Lindl. in Paxton, *Fl. Gard.* 2: 5, t.39. f.1. 1851; H. J. Chowdhery, *Orch. Fl. Arunachal Pradesh* 615, f.374. 1998. *Coelogyne maculata* Lindl., *Gen. Sp. Orch. Pl.* 43. 1830; Hook.f., *Fl. Brit. India* 5: 841. 1890; King & Pantl. in *Ann. Roy. Bot. Gard. (Calcutta)* 8: 140, t.195. 1898.

Epiphytic herbs. Pseudobulbs shortly cylindrical, abruptly constricted into a beak, 2-leaved. Leaves appearing after flower, narrowly elliptic-oblong. Flowers solitary, 6-7 cm across, white. Lip broadly elliptic, 3-lobed, purple and yellow streaked. Capsules ellipsoid.

Fls. & Frts.: Jan. - March.

Distrib.: Tirap; between 1000-1400 m, on tree trunks in wet evergreen forests.

Pleione praecox (Sm.) D. Don, Prodr. Fl. Nepal. 37. 1825; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 615, f.375. 1998. *Epidendrum praecox* Sm., Exot. Bot. 2: 73, t. 97. 1806. *Coelogyne praecox* (Sm.) Lindl., Coll. Bot. sub t.37. 1821; Hook.f., Fl. Brit. India 5: 840. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 141, t.196. 1898.

Epiphytic herbs. Pseudobulbs caespitose, turbinate, mottled with purple or brown sheathes, 2-leaved. Leaves elliptic-oblong. Flowers solitary or in pair, 9-10 cm across, pink. Lip orbicular, lobulate, white blotch within.

Fls. & Frts.: July Sept.

Distrib.: Kameng, Siang, Tirap; between 1200-1800 m, on moist tree trunks in evergreen forests.

Podochilus cultratus Lindl., Gen. Sp. Orch. Pl. 234. 1833; Hook.f., Fl. Brit. India 6: 80. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 245, t.326. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 616. 1998.

Epiphytic herbs clothed with equitant flattened leaves. Leaves falcately lanceolate. Flowers in terminal raceme, white with pinkish tinge. Lip oblong.

Fls. & Frts.: Sept. Nov.

Distrib.: Tirap; between 500-1000 m, on trees in primary forests.

Podochilus khasianus Hook.f., Fl. Brit. India 6: 81. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 246, t.327. 1898; S. N. Hegde & A. N. Rao in J. Econ. Tax. Bot. 4(2): 388. 1983; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 616, f.376. 1998.

Epiphytic herbs. Stems tufted, slender, leafy all along. Leaves articulate, ridged, linear, acute. Flowers in terminal spikes, white.

Fls. & Frts.: June Aug.

Distrib.: Kameng; between 800-1300 m, on tree branches in tropical and subtropical forests.

Polystachya concreta (Jacq.) Garay & Sweet in Revista Soc. Colomb. Orquideol. 9(3): 206. 1974; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 619, f.377. 1998. *Epidendrum concretum* Jacq.,

Enum. Pl. Carib 30. 1760. *Polystachya purpurea* Wight, Ic. t. 1679. 1851; Hook.f., Fl. Brit. India 6: 21. 1890. *P. wightii* Rchb.f. in Walp., Ann. 6: 640. 1864; Hook.f., Fl. Brit. India 6: 21. 1890.

Epiphytic herbs. Stems upto 18 cm long, sheathed. Leaves 2-3, narrowly oblong. Flowers in raceme, yellow. Lip 3-lobed. Capsule ellipsoid.

Fls. & Frts.: Aug. Oct.

Distrib.: Tirap; between 1000-1500 m, on trees in dense moist forests.

Pomatocalpa armigerum (King & Pantl.) T. Tang & F. T. Wang in Act. Phytotax. Sin. 1: 98. 1951; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 619, f.378. 1998. *Cleisostoma armigera* King & Pantl. in J. Asiat. Soc. Bengal 65: 123. 1896.

Epiphytic herbs with rigid, erect stems upto 15 cm long. Leaves fleshy, semiterete. Flowers in extra axillary raceme, brownish. Lip 3-lobed with spur.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng, Subansiri; between 500-1000 m, on trees in dense, tropical primary forests.

Pomatocalpa undulatum (Lindl.) T. Tang & F. T. Wang in Acta. Phytotax. Sin. 1(1-2): 100. 1951; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 622, f.379. 1998. *Saccolabium undulatum* Lindl., Gen. Sp. Orch. Pl. 222. 1833. *Pomatocalpa undulatum* (Rchb.f.) J. J. Sm. in Nat. Tijdschr. Ned. Ind. 72: 107. 1912 (nom. superfl.) *Cleisostoma undulatum* Rchb.f. in Flora 274. 1872 (nom. illeg.).

Epiphytic, arcuate herbs. Root thick. Raceme, many flowered, much shorter than leaves. Flowers yellow. Lip saccate at base with purple blotch.

Fls. & Frts.: March May.

Distrib.: Kameng; between 500-1000 m, on tree trunks in tropical evergreen forests.

Pomatocalpa spicatum Breda, Gen. Sp. Orch. Asclep.: t.15. 1829. *Cleisostoma wendlandorum* Rchb.f. in Otto & Dietr., Allg. Gart. 219. 1856; Hook.f., Fl. Brit. India 6: 74. 1890. *Pomatocalpa wendlandorum* (Rchb.f.) J. J. Sm. in Nat. Tijdschr. Ned. Ind. 72: 108. 1912; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 622. 1998.

Epiphytic herbs with very short stems. Leaves crowded, oblong, obliquely bilobed at apex. Flowers in axillary, branched raceme,

yellowish with pinkish tinge. Lip. 3-lobed; apical lobe with two bright red dots; spur subglobose. Capsules narrowly oblong.

Fls. & Frts.: May Aug.

Distrib.: Kameng; between 500-1200 m, on trees in primary moist forests.

Porpax elwesii (Rchb.f.) Rolfe in *Orchid Rev.* 16: 8. 1908; H. J. Chowdhery, *Orch. Fl. Arunachal Pradesh* 624, f.380. 1998. *Eria elwesii* Rchb.f. in *Gard. Chron.* 1: 402. 1883.

Tiny epiphytic herbs. Pseudobulbs aggregated, turbinate or discoid, 2-leaved, leafless at flowering time. Leaves elliptic-oblong, mucronate at apex. Flowers solitary, arising from the centre of pseudobulbs, dull brown. Lip suborbicular, 3-lobed; apical lobe oblong.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng, Lohit, Siang; between 500 800 m, on large tree trunks in primary forests.

Porpax seidenfadenii A. N. Rao in Manilal & Sath. Kumar (eds.), *Orch. Memories*: 24. 2004.

Pseudobulbs aggregate, covered with reticulate sheath; leaves sub-opposite, elliptic-oblong to oblanceolate; flowers 2, rusty brown pubescent; sepals and petals connate to form a tube; lip obscurely 3-lobed, with 2-parallel ridges on the disc.

Fls. & Frts.: May Sep.

Distrib.: Kameng; at 1000 m. on moss covered tree trunks in sub-tropical wet evergreen forests.

Pteroceras teres (Blume) Holtt. in *Kew Bull.* 14: 271. 1960. *Dendrocella teres* Blume, *Bijdr.* 289. 1825. *Aerides suaveolens* Roxb., *Fl. Ind.* 3: 473. 1832. *Pteroceras suaveolens* (Roxb.) Holtt. in *Kew Bull.* 14: 271. 1960; H. J. Chowdhery, *Orch. Fl. Arunachal Pradesh* 624, f.381. 1998. *Sarcochilus suaveolens* (Roxb.) Hook.f., *Fl. Brit. India* 6: 33. 1890.

Epiphytic herbs with woody, sheathed stems. Leaves oblong, obliquely bilobed at apex, pendent. Flowers in leaf-opposed raceme, yellow with brown dots. Lip infundibuliform, 3-lobed, yellow at base and purple at tip.

Fls. & Frts.: April Aug.

Distrib.: Kameng; between 500-1000 m, on moist tree trunks in primary tropical forests.

Renanthera imschootiana Rolfe in Kew Bull. 1891: 200. 1891; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 626, f.382. 1998.

Monopodial epiphytes; stem covered with imbricate, sheathing leaf-bases; leaves linear, emarginated; panicle laxly flowered; flowers orange-red; lip small, bright red.

Fls. & Frts.: Sept. Oct.

Distrib.: Kameng; between 500-1500 m., on small trees.

Rhomboda arunachalensis A. N. Rao in J. Econ. Tax. Bot. 22(2): 426. 1998.

Terrestrial herbs; stem decumbent, fleshy; leaves ovate-elliptic, long petioled; raceme laxly 7-8-flowered, shortly pubescent; flowers sparsely pubescent on sepals outside.

Fls. & Frts.: Nov. Dec.

Distrib.: Kameng; at 1100 m., grows on humus rich soil.

Rhynchostylis retusa (L.) Blume, Bijdr. 286: t.49. 1825; Hook.f., Fl. Brit. India 6: 32. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 213, t.284. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 626. 1998. *Epidendrum retusum* L., Sp. Pl. 953. 1753.

Epiphytic herbs with stout stems covered with sheaths. Leaves oblong, keeled, bluntly bilobed at apex, curved. Flowers in axillary, densely flowered, cylindric raceme, white or pink with purple marks. Lip spurred.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1000 m, on branches of lofty trees in tropical primary forests.

Robiquetia spathulata (Blume) J. J. Sm. in Nat. Tijdschr. Ned. Ind. 72: 142. 1912; S. N. Hegde & A. N. Rao in J. Econ. Tax. Bot. 4(2): 388. 1983; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 630, f.384. 1998. *Cleisostoma spathulatum* Blume, Bijdr. 364. 1825.

Epiphytic, pendulous herbs. Leaves oblong, unequally notched at apex. Flowers in densely flowered pendent raceme, yellow with reddish-brown band.

Fls. & Frts.: May Aug.

Distrib.: Kameng; between 200-500 m, on tree branches in dense evergreen rain forests.

Robiquetia succisa (Lindl.) Seidenf. & Garay in Bot. Tidsskr. 67: 119. 1972; S. N. Hegde & A. N. Rao in J. Econ. Tax. Bot.

4(2): 389. 1983; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 630, f.385. 1998. *Sarcanthus succisus* Lindl. in Bot. Reg. 12: t.1014. 1826. *Saccolabium buccosum* Rchb.f. in Gard. Chron. 938. 1871; Hook.f., Fl. Brit. India 6: 58. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 224, t.298. 1898.

Epiphytic, pendulous herbs. Leaves narrowly oblong, unequally bilobed at apex. Flowers in leaf-opposed, paniculate raceme, greenish-yellow with purplish-brown markings. Lip with bottle shaped spur.

Fls. & Frts.: May Aug.

Distrib.: Kameng; between 200-500 m, on branches of trees in evergreen rain forests.

Saccolabiopsis pusilla (Lindl.) Seidenf. & Garay in Bot. Tidsskr. 67: 118, f.33. 1972; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 633, f.386. 1998. *Oeceoclades pusilla* Lindl., Gen. Sp. Orch. Pl. 237. 1833. *Saccolabium pusillum* Lindl. in J. Linn. Soc., Bot. 3: 36. 1858. *Saccolabium pumilio* Rchb.f. in Walp., Ann. 6: 886. 1864; Hook.f., Fl. Brit. India 6: 56. 1890.

Epiphytic herbs with very short stems. Leaves 2-3, linear-oblongate, obliquely bifid at apex. Flowers in many flowered raceme, creamy-yellow with purple dashes at mouth. Lip 3-lobed with spur; apical lobe broadly triangular. Capsules cylindric.

Fls. & Frts.: April June.

Distrib.: Kameng; between 500-1000 m, on branches of large trees in tropical primary forests.

Sarcoglyphis arunachalensis A. N. Rao in Nord. J. Bot. 10(2): 161. 1990; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 635, f.387. 1998.

Small, epiphytic herbs with many slender roots. Stems 2-3 m long, strap shaped. Flowers in drooping panicle, white tinged with red-purple. Lip 3-lobed, incurved; mid lobe triangular, sagittate.

Fls. & Frts.: May July.

Distrib.: Kameng; between 200-1100 m, on branches of small trees in dense, evergreen tropical and subtropical forests.

Satyrium nepalense D. Don, Prodr. Fl. Nepal. 26. 1825; Hook.f., Fl. Brit. India 6: 168. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 635, f.388. 1998.

var. **nepalense**

Terrestrial, leafy, erect herbs with tubers. Leaves fleshy, narrowly elliptic. Flowers in spike, pink or white. Lip broadly oblong.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng; between 2000-3000 m, on moist humus rich soil in open places.

var. **ciliatum** (Lindl.) Hook.f., Fl. Brit. India 6: 168. 1890. *Satyrium ciliatum* Lindl., Gen. Sp. Orch. Pl. 341. 1838; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 705. 1998.

Tuberous terrestrial herbs; leaves sessile, fleshy, oblong to linear-oblong; flowers pink to white, in dense spikes; lip with two spurs; spurs shorter than the ovary.

Fls. & Frts.: July Aug.

Distrib.: Arunachal Pradesh; at 2200-3800m.

Schoenorchis gemmata (Lindl.) J. J. Sm. in Nat. Tijdschr. Ned. Ind. 72: 100. 1912; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 638, f.389. 1998. *Saccolabium gammatum* Lindl. in Edw., Bot. Reg. 24. Misc. 50. 1838; Hook.f., Fl. Brit. India 6: 55. 1890; *Cleisostoma gemmata* (Lindl.) King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 234, t.313. 1898.

Epiphytic, pendulous herbs. Stems slender. Leaves linear, curved. Flowers in axillary panicle, purple. Lip 3-lobed, longer than sepals, fleshy, concave, white.

Fls. & Frts.: July Sept.

Distrib.: Tirap; between 800-2000 m, on branches of large trees in dense humid forests.

Schoenorchis roseus (Wight) Bennet in J. Econ. Tax. Bot. 6: 456. 1985; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 638, f.390. 1998. *Sarcanthus roseus* Wight, Ic. t. 1685. 1852. *Saccolabium filiforme* (Wight) Lindl. in J. Linn. Soc., Bot. 3: 36. 1858; Hook.f., Fl. Brit. India 6: 56. 1890.

Epiphytic herbs, 18-30 cm long. Leaves terete. Flowers in short, stout raceme, orange-red, streaked with crimson. Lip ovate with recurved spur. Capsules pyriform.

Fls. & Frts.: July Sept.

Distrib.: Kameng, Tirap; between 200-1000 m, on branches of trees in primary forests.

Smitinandia micrantha (Lindl.) Holtt. in Gard. Bull. Singapore 25: 106. 1969; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 642,

f.391. 1998. *Saccolabium micranthum* Lindl., Gen. Sp. Orch. Pl.220. 1833; Hook.f., Fl. Brit. India 6: 59. 1890. *Cleisostoma micrantha* (Lindl.) King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 234, t.312. 1898.

Epiphytic herbs, 20-30 cm long. Leaves obtusely and unequally bilobed. Flowers in densely flowered raceme, pink or purple. Lip shorter than sepals with two basal callii, rosy-red. Capsules subfusiform.

Fls. & Frts.: July - Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1000 m, on branches of trees in tropical dense forests.

Spathoglottis ixioides (D. Don) Lindl., Gen. Sp. Orch. Pl. 120. 1831; Hook.f., Fl. Brit. India 5: 814. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 643, f.392. 1998. *Cymbidium ixioides* D. Don, Prodr. Fl. Nepal. 36. 1825.

Terrestrial, pseudobulbous herbs. Pseudobulbs globose with sheath like fibres at base. Leaves linear. Scapes arising from the side of pseudobulbs. Flowers in 3-4 flowered raceme, yellow, hairy. Lip oblong, 3-lobed, concave with red dots.

Fls. & Frts.: July - Sept.

Distrib.: Kameng; between 3000-4000 m, on moist humus rich soil.

Spathoglottis plicata Blume, Bijdr. 401, t.76. 1825; Hook.f., Fl. Brit. India 5: 813. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 643, f.393. 1998.

Terrestrial, rhizomatous herbs. Pseudobulbs broadly conical, 1-3 leaved. Leaves long petioled, oblong-lanceolate, plicate. Flowers in many flowered raceme, reddish-pink. Lip 3-lobed; callii yellow. Capsules pendulous.

Fls. & Frts.: April - June.

Distrib.: Kameng; between 200-500 m, in primary forests.

Spathoglottis pubescens Lindl., Gen. Sp. Orch. Pl. 120. 1831; Hook.f., Fl. Brit. India 5: 814. 1890. *S. pubescens* var. *parvifolia* (Lindl.) Hook.f., Fl. Brit. India 5: 814. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 643. 1998. *S. parvifolia* Lindl. in Bot. Reg. 31: t.19. 1845.

Terrestrial, pseudobulbous herbs. Leaves linear. Scapes much longer than leaves. Flower in 2-3 flowered raceme, yellow-red at lip base.

Fls. & Frts.: June Aug.

Distrib.: Kameng; between 1500-3000 m, on moist humus rich soil.

Spiranthes sinensis (Pers.) Ames, Orchid. 2: 53. 1908; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 646, f.394. 1998. *Neottia sinensis* Pers., Syn. Pl. 2: 511. 1807. *Spiranthes australis* (R.Br.) Lindl. in Bot. Reg. 10: t. 823. 1824; Hook.f., Fl. Brit. India 6: 92. 1890. *Neottia australis* R.Br., Prodr. 319. 1810.

Epiphytic, tuberous herbs upto 35 cm high. Leaves 3-5, clustered at base. Flowers in spirally twisted spike, white; peduncles pubescent. Lip oblong with subsaccate base. Capsules fusiform.

Fls. & Frts.: April June.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1500-2000 m, on moist sandy soil in exposed areas and road sides.

Stereochilus hirtus Lindl. in J. Linn. Soc., Bot. 3: 38. 1858; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 237, t.315. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 646, f.395. 1998. *Sarcochilus hirtus* (Lindl.) Benth. In Benth. & Hook.f., Gen. Pl. 3: 576. 1883; Hook.f., Fl. Brit. India 6: 35. 1890.

Monopodial epiphytes with erect, stout stem; leaves narrowly oblong, coriaceous; raceme laxly flowered, glandular-pubescent; flowers pink; lip saccate at base, with 2 large callus at the opening of the sac.

Fls. & Frts.: June August.

Distrib.: Kameng, Subansiri; between 1500-2000 m., on large tree trunks in subtemperate to temperate forests.

Stereosandra javanica Blume, Mus. Bot. 2: 176. 1856; S. N. Hegde & A. N. Rao in Ind. J. Forestry 10(3): 196. 1987; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 648, f.396. 1998.

Saprophytic herbs. Rhizomes tuberous, ellipsoid. Stems white to pale-yellow. Flowers in erect raceme, white. Lip with two globular, yellow callii at base.

Fls. & Frts.: May July

Distrib.: Kameng; between 200-800 m, on rich humus forest floor.

Sunipia intermedia (King & Pantl.) P. F. Hunt. in Kew Bull. 26: 184. 1971; S.N. Hegde & A.N. Rao in Ind. J. Forestry 10(3): 196. 1987; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 652.

1998. *Ione intermedia* King & Pantl. in J. As. Soc. Bengal 65: 120. 1896.

Epiphytic herbs. Pseudobulbs at distant on creeping rhizomes, ovoid, unifoliate. Leaves linear. Flowers solitary or in pair from the base of pseudobulbs on zigzag scapes, pale-green. Lip lanceolate.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 1500-1800 m, on moss covered branches in subtropical forests.

Sunipia scariosa Lindl., Gen. Sp. Orch. Pl. 179. 1833; Hook.f., Fl. Brit. India 5: 772. 1890. *Ione scariosa* (Lindl.) King & Pantl. in Ann. Roy. Bot. Gard. Calcutta 8: 161, t.219. 1898. *Sunipia racemosa* (Sm.) T. Tang & Wang in Acta Phytotax. Sin. 1:90. 1951; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 655. 1998. *Stelis racemosa* Sm. In Rees, Cyclop. 34, Stelis no.10. 1816.

Epiphytic herbs. Pseudobulbs distantly placed on creeping rhizomes, obliquely ovoid, spongy. Leaves in pair, oblong, notched at apex. Scapes arcuate, longer than leaves, arising from the base of pseudobulbs. Flowers many in laxly flowered raceme, greenish with purple tinge. Lip fleshy, ovate-elliptic.

Fls. & Frts.: June Aug.

Distrib.: Kameng; between 1000-1200 m, on branches of trees in subtropical wet evergreen forests.

Taeniophyllum arunachalense A. N. Rao & Jagdish Lal in Bioved 2(2): 225. 1991; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 656. 1998.

Tiny, leafless, epiphytic herbs with flat green roots. Scapes pubescent; peduncles with two sterile bracts. Sepals and petals linear-lanceolate. Lip linear-lanceolate with small, retrorse, slender, fleshy needle like toothed, globose spurred. Capsules short, pubescent.

Fls. & Frts.: March April.

Distrib.: Subansiri; between 50-100 m, on large tree trunks in primary forests.

Taeniophyllum companulatum Carr in Gard. Bull. Straits Settle. 7: 68, t.8. 1932; A. N. Rao in Rheedea 8(2): 164. 1998.

Epiphytic herbs with photosynthetic roots; spike with 2 sterile bracts at basal half; flowers pale greenish-white; sepals and petals connate basally to form a tube; lip shortly spurred.

Fls. & Frts.: Aug. Sept.

Distrib.: Kameng; at 200 m., on slender branches of small trees in moist forests.

Taeniophyllum crepidiforme (King & Pantl.) King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 245, t.325. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 656. 1998. *Sarcochilus crepidiformis* King & Pantl. in J. Asiat. Soc. Bengal 64: 340. 1895.

Tiny, leafless, epiphytic herbs with spreading roots. Flowers in erect raceme, greenish. Lip sessile, cup like; spur dilated, pilose, white.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng; between 500-1000 m, on moss covered branches of large trees in dense tropical primary forests.

Taeniophyllum stella Carr in Gard. Bull. Straits Settlements 7: 69. 1932; A. N. Rao in Rheedeia 8(2): 164. 1998.

Epiphytic herbs; roots long, flattened, green; spikes shortly muriculate with sterile bracts in lower half; flowers star-like when widely open, pale yellow; lip spurred.

Fls. & Frts.: Aug. Sept.

Distrib.: Kameng; at 200 m., on branches of small trees.

Tainia latifolia (Lindl.) Rehb.f. in Bonpland. 5: 54. 1857; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 103, t.142. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 657, f.399. 1998. *Ania latifolia* Lindl., Gen. Sp. Orch. Pl. 130. 1831. *Tainia latifolia* (Lindl.) Benth. ex Hook.f., Fl. Brit. India 5: 820. 1890 (nom. superfl.).

Terrestrial, rhizomatous herbs with woolly roots. Pseudobulbs fusiform. Leaves petiolate, elliptic, plicate. Flowers many in long raceme, dark brown. Lip oblong-panduriform, 3-lobed; apical lobe triangular.

Fls. & Frts.: March June.

Distrib.: Kameng, Siang, Subansiri; Tirap; between 300-1000 m, underneath primary forests on leaf moulds.

Tainia minor Hook.f., Fl. Brit. India 5: 821. 1890 & in Hook., Ic. Pl. 21: t.2091. 1892; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 102, t.141. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 661, f.400. 1998.

Terrestrial herbs. Rhizomes stout with woolly roots. Pseudobulbs cylindrical, unifoliate. Leaves narrowly elliptic, plicate. Inflorescence

from the base of pseudobulbs, as long as leaf. Flowers purplish-brown. Lip cuneate-elliptic, 3-lobed.

Fls. & Frts.: June Aug.

Distrib.: Kameng; between 1800-2200 m, on humus rich soil in forests.

Thelasis khasiana Hook.f., Fl. Brit. India 6: 87. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 705. 1998.

Epiphytic herbs; pseudobulbs depressed, globose; leaves solitary, linear; flowers small in elongated laxly flowered spikes; lip elliptic-ovate, sub-acute.

Fls. & Frts.: July Aug.

Distrib.: Arunachal Pradesh.

Thelasis longifolia Hook.f., Fl. Brit. India 6: 87. 1890 & in Hook., Ic. Pl. 22: t.2155. 1893; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 250, t.332. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 662, f.402. 1998.

Epiphytic herbs. Pseudobulbs ovoid or conical in clusters, unifoliate. Leaves oblanceolate. Flowers in terminal raceme, greenish. Lip elliptic.

Fls. & Frts.: July Sept.

Distrib.: Kameng, Tirap; between 500-1000 m, on branches of large trees in tropical evergreen forests.

Thelasis pygmaea (Griff.) Blume, Fl. Java. nov. ser. 22. 1858; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 662, f.403. 1998. *Euproboscis pygmaea* Griff. in Calcutta J. Nat. Hist. 5: 372, t. 26. 1844. *Thelasis pygmaea* (Griff.) Lindl. in J. Proc. Linn. Soc. 3: 63. 1859 (nom. superfl.); Hook.f., Fl. Brit. India 6: 86. 1890.

Epiphytic herbs. Pseudobulbs in clusters, ovoid-globose, 1-2 leaved. Leaves linear-oblong, obliquely bifid at apex. Raceme arising from the base of pseudobulbs. Flowers crowded, pale-green. Lip oblong. Capsules subcylindric.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 200-1000 m, on tree trunks in tropical primary forests.

Thrixspermum centipeda Lour., Fl. Cochinch. 520. 1790; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 665. 1998. *Sarcochilus arachnites* (Blume) Rchb.f. in Walp., Ann. 6: 498. 1861; Hook.f., Fl. Brit. India 6: 41. 1890.

Epiphytic herbs upto 40 cm high. Leaves loriform. Flowers in many flowered raceme, yellow. Lip 3-lobed, saccate at base, mottled with red. Capsules fusiform

Fls. & Frts.: May Aug.

Distrib.: Kameng; upto 200 m, on branches of large trees in dense primary forests.

Thrixspermum muscaeflorum A. S. Rao & Joseph in Bull. Bot. Surv. India 11(1-2): 204. 1969; S. N. Hegde in J. Econ. Tax. Bot. Add. Ser. 11: 121-123. 1995; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 665. 1998.

Epiphytic herbs; leaves fleshy, channeled, narrowly oblong; raceme 3-5-flowered; flowers white; lip shallowly 3-lobed.

Fls. & Frts.: Oct. Nov.

Distrib.: Kameng, Subansiri; between 100-500m., on branches in primary forests.

Thrixspermum pygmaeum (King & Pantl.) Holtt. in Kew Bull. 14: 275. 1960; S. N. Hegde in J. Bombay Nat. Hist. Soc. 82(1): 118. 1985; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 666. 1998. *Sarcochilus pygmaeus* King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 207, t. 277. 1898.

Epiphytic, pendulous herbs. Leaves 2-3, fleshy, linear-oblong. Flowers in pendent, 2-3 flowered raceme. Lip 3-lobed.

Fls. & Frts.: April June.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1500 m, on branches of trees in subtropical forests.

Thunia alba (Lindl.) Rchb.f. in Bot. Zeit. (Berlin) 10: 764. 1852; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 666, f.404. 1998. *Phaius albus* Lindl., Gen. Sp. Orchid. Pl. 128. 1830; Hook.f., Fl. Brit. India 5: 818. 1890.

Erect, epiphytic herbs upto 1 m high. Stems stout. Leaves distichous, narrowly elliptic-lanceolate. Flowers in terminal, 4-6 flowered, pendent raceme, 10-12 cm diam, white. Lip broadly oblong, white, spur bifid. Capsules narrowly elliptic.

Fls. & Frts.: April June.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 600-1200 m, on large trunks in primary forests.

Trias disciflora (Rolfe) Rolfe in Hand-list Orchid Cult. Roy. Bot. Gard. Kew 1: 35, 215. 1896; A.N. Rao & S. N. Hegde in

Arunachal For. News 6(2): 60. 1988; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 668, f.405. 1998. *Bulbophyllum disciflorum* Rolfe in Kew Bull. 1895: 7. 1895.

Epiphytic herbs. Pseudobulbs ovoid, distant on rhizomes. Flowers solitary or 2 per pseudobulb, covered with 1 or 2 infundibular, imbricate bracts on pedicels, about 2.5 cm long, pale-green spotted with purple. Lip oblong, obtuse; auricles obtuse or acute.

Fls. & Frts.: Dec. Feb.

Distrib.: Kameng; between 800-1200 m, on moss covered main trunks of small trees.

Trias nasuta (Rchb.f.) Stapf., Bot. Mag. 152, t.9150. 1928; A.N. Rao & S. N. Hegde in Arunachal For. News 6(2): 60. 1988; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 668, f.406. 1998. *Bulbophyllum nasutum* Rchb.f., Gard. Chron. 1482. 1871; Hook.f., Fl. Brit. India 5: 754. 1890.

Epiphytic herbs. Pseudobulbs crowded on creeping rhizomes, obturbinate. Leaves sessile, lanceolate. Flowers subsessile, about 3 cm across, pale-yellow. Lip oblong with lateral hooked auricles, red-purple.

Fls. & Frts.: Oct. Dec.

Distrib.: Kameng, Subansiri; between 1000-1500 m, on moss covered tree trunks in forests.

Trias stocksii Benth. ex Hook. f., Fl. Brit. India 5: 781. 1890; S. N. Hegde & A. N. Rao in Ind. J. Forestry 10(3): 196. 1987.

Epiphytic caespitose herbs. Pseudobulbs ovoid. Leaves elliptic. Flowers solitary or two from the base of the pseudobulbs, greenish-yellow with crimson tinge on the petal and lip.

Fls. & Frts.: Oct. Nov.

Distrib.: Kameng; between 150-1000 m, on large tree trunks in tropical evergreen forests.

Trichotosia dasyphylla (Parish & Rchb.f.) Kraenzl. in Engler, Pflanzenr. 50: 138. 1911; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 671, f.407. 1998. *Eria dasyphylla* Parish & Rchb.f. in Trans. Linn. Soc. London 30: 147. 1874; Hook.f., Fl. Brit. India 5: 808. 1890.

Epiphytic, creeping, hairy herbs. Leaves fleshy, sessile, elliptic or obovate, hairy. Flowers solitary on short hairy peduncles, greenish with yellowish tinge. Lip 3-lobed, cuneately oblong, ciliolate.

Fls. & Frts.: April June.

Distrib.: Kameng; between 200-500 m, on branches of trees in tropical valleys experiencing heavy rainfall.

Trichotosia pulvinata (Lindl.) Kraenzl. in Engler, *Pflanzenr.* 50: 138. 1911; H. J. Chowdhery, *Orch. Fl. Arunachal Pradesh* 672, f.408. 1998. *Eria pulvinata* Lindl. in *J. Linn. Soc., Bot.* 3: 56. 1859; Hook.f., *Fl. Brit. India* 5: 807. 1890. *E. rufinula* Rehb.f. in *Hamb. Gartenzeit.* 19: 13. 1863; Hook.f., *Fl. Brit. India* 5: 807. 1890.

Epiphytic, pendulous herbs. Stems terete, rufous hispid. Leaves narrowly lanceolate, rusty pubescent. Flowers in leaf-opposed 3-6 flowered raceme, pinkish-white. Lip spatulate with red blotch at base, scabrid.

Fls. & Frts.: April June.

Distrib.: Kameng; Lohit, Siang, Subansiri, Tirap; between 200-1000 m, on branches of trees in tropical dense forests.

Trichotosia velutina (Lodd. ex Lindl.) Kraenzl. in Engler, *Pflanzenr.* 50: 140. 1911; S. N. Hegde & A. N. Rao in *Indian J. For.* 10(3): 197. 1987; H. J. Chowdhery, *Orch. Fl. Arunachal Pradesh* 672, f.409. 1998. *Eria velutina* Lodd. ex Lindl. in *Edw., Bot. Reg.* 26. misc. 209. 1840.

Tufted, epiphytic herbs upto 30 cm long. Stem woody, covered with tubular leaf-base, hairy. Leaves sheathed. Flowers in extra axillary, 3-7 flowered raceme, pale-brown.

Fls. & Frts.: Aug. Oct.

Distrib.: Kameng; between 200-500 m, on main trunks and branches of large trees in tropical evergreen forests.

Tropidia angulosa (Lindl.) Blume, *Coll. Orchid.* 122. 1859; Hook. f., *Fl. Brit. India* 6: 92. 1890; H. J. Chowdhery, *Orch. Fl. Arunachal Pradesh* 676. 1998. *Cnemidia angulosa* Lindl., *Gen. Sp. Orch. Pl.* 463. 1840.

Terrestrial herbs upto 40cm long. Leaves broadly elliptic. Plicate. Flowers in solitary terminal spikes, white with brownish-tinge. Lip oblanceolate-oblong. Spurred. Capsules clavate-cylindric, ridged.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng; between 200-500 m, on forest floor in evergreen tropical rain forests.

Tropidia curculigoides Lindl., Gen. Sp. Orch. Pl.: 497. 1840; S. N. Hegde & A. N. Rao in J. Econ. Tax. Bot. 4(2): 389. 1983; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 676. 1998.

Terrestrial herbs; stem slender, erect, sometimes branched; leaves narrowly elliptic, many veined; raceme condensed, few flowered; flowers white, faintly tinged with yellow.

Fls. & Frts.: Sept. Nov.

Distrib.: Kameng; between 200-500m., on humus rich forest floors.

Tropidia pedunculata Blume, Coll. Orch. Arch. Ind. 122, t.40. 1858; A. N. Rao in J. Econ. Tax. Bot. add. Ser. 11: 126. 1995; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 677. 1998.

Terrestrial herbs, with long roots; stems woody; leaves elliptic, plicate; spike solitary, densely many flowered; flowers dirty white with reflexed lip.

Fls. & Frts. : May July.

Distrib.: Kameng; between 500-1000m., in moist, shady places.

Uncifera acuminata Lindl. in J. Linn. Soc., Bot. 3: 40. 1858; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 679, f.411. 1998. *Saccolabium acuminatum* (Lindl.) Hook.f., Fl. Brit. India 6: 65. 1890.

Epiphytic, pendulous herbs. Stems upto 20 cm long with tubular sheaths. Leaves linear. Flowers in leaf-opposed, 8-12 flowered raceme, pale-green. Lip 3-lobed, infundibuliform with long spur, white.

Fls. & Frts.: July Sept.

Distrib.: Subansiri, Tirap; between 2000-2500 m, on branches of small trees in open forests.

Uncifera obtusifolia Lindl. in J. Linn. Soc., Bot. 3: 40. 1859; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 679, f.412. 1998. *Saccolabium obtusifolium* (Lindl.) Hook. f., Fl. Brit. India 6: 65. 1890. *Gastrochilus obtusifolius* (Lindl.) A. S. Rao & Mukherjee in Rec. Bot. Surv. India 20(2): 213. 1973.

Epiphytic, pendulous herbs upto 20cm long. Leaves oblong. Flowers in leaf-opposed, many flowered raceme, yellowish. Lip 3-lobed, infundibuliform with short spur, yellow. Capsules fusiform.

Fls. & Frts.: Aug. Oct.

Distrib.: Tirap; between 1000-1500 m, on branches of trees along forest slopes.

Vanda alpina (Lindl.) Lindl., Fol. Orchid. Vanda 10. 1853; Hook. f., Fl. Brit. India 6: 53. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 217, t.289. 1898; S. N. Hegde in J. Bombay Nat. Hist. Soc. 82(1): 119. 1985; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 683, f.413. 1998. *Luisia alpina* Lindl. in Bot. Reg. 24: misc.56, n.101. 1838.

Epiphytic herbs with leafy stems. Leaves linear-oblong, truncate, notched at apex. Flowers axillary, solitary or in pair, greenish or yellowish. Lip 3-lobed, spurred at base. Capsules narrowly clavate.

Fls. & Frts.: July - Sept.

Distrib.: Kameng; between 1800-2200 m, on branches of small trees in open forests.

Vanda bicolor Griff., Itin. Pl. Khasyah Mts. 132, n.546. 1848; Notul. 3: 354. 1851; Hook. f., Fl. Brit. India 6: 52. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 683. 1998.

Epiphytic herbs, 30-100cm long. Leaves oblong, obtusely bilobed. Flowers in axillary, 4-6 flowered raceme, brownish-purple. Lip 3-lobed, dilated in the middle, purple-yellow at margin.

Fls. & Frts.: Feb. - April.

Distrib.: Siang; between 200-500 m, on branches of trees.

Vanda coerulea Griff. ex Lindl. in Edw., Bot. Reg. 33: t. 30. 1847; Hook. f., Fl. Brit. India 6: 51. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 683, f.414. 1998.

Epiphytic herb with leafy stems upto 30cm long. Leaves oblong, keeled, truncate or bilobed at apex. Flowers in many flowered long raceme, 8-12 cm across, pale-blue. Lip linear-oblong, 3-lobed, spurred, dark blue. Capsules fusiform.

Fls. & Frts.: July - Sept.

Distrib.: Tirap; between 1200-1500 m, on tree trunks in subtropical evergreen forests.

Vanda coerulescens Griff., Notul. 3: 352. 1851; Hook. f., Fl., Brit. India 6: 50. 1890; S. N. Hegde in J. Bombay Nat. Hist. Soc. 82(1): 118. 1985; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 686. 1998.

Epiphytic herbs. Stems upto 20cm long. Leaves linear. Flowers in pendent raceme, 4cm across, pale-blue. Lip 3-lobed; disc with fleshy, dark blue ridges.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 300-1000 m, on tree trunks in primary forests.

Vanda cristata Lindl., Gen. Sp. Orchid. Pl. 216. 1833; Hook. f., Fl. Brit. India 6: 53. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 216, t.287. 1898; Hegde in J. Bombay Nat. Hist. Soc. 82(1): 119. 1985; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 686, f.415. 1998.

Epiphytic, erect herbs. Stems upto 35cm long, covered with old sheaths. Leaves many, narrowly oblong, conduplicate, unequally bilobed at apex. Flowers in axillary, 2-5 flowered raceme, about 5cm across, greenish or yellowish. Lip 3-lobed with infundibuliform spur, green with purplish-brown blotches. Capsules clavate.

Fls. & Frts.: July Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-2000 m, on branches of trees in subtropical and temperate forests.

Vanda pumila Hook. f., Fl. Brit. India 6: 53. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 216, t.288. 1898; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 688, f.416. 1998.

Epiphytic herbs. Stems stout, covered with old sheaths. Leaves narrowly oblong, conduplicate, bilobed at apex. Flowers in axillary, 2-5 flowered raceme, yellowish, fragrant. Lip 3-lobed with infundibuliform sac; apical lobe large, broadly ovate, fleshy, yellow with red dashes.

Fls. & Frts.: May July.

Distrib.: Kameng; between 1000-2000 m, on moss covered branches of trees along forest edges.

Vanda stangeana Rehb.f. in Bot. Zeit. 16: 351. 1858; Hook. f., Fl. Brit. India 6: 54. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 688. 1998.

Epiphytic herbs. Stems stout, covered with old sheaths. Leaves conduplicate, oblong, bilobed at apex. Flowers in short raceme, green with brownish tinge. Lip 2-lobed, spurred, auricle of lip semiovate, divergent.

Fls. & Frts.: May July.

Distrib.: Kameng, Lohit; between 1000-2000 m, on moss covered tree trunks in forests.

Vanda testacea (Lindl.) Rchb.f. in Gard. Chron. n.s. 8: 166. 1877; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 688, f.417. 1998. *Aerides testacea* Lindl., Gen. Sp. Orch. Pl. 238. 1833. *Vanda parviflora* Lindl. in Bot. Reg. 30: misc.45. 1844; Hook.f., Fl. Brit. India 6: 50. 1890.

Monopodial epiphytes with thick, stout stem; leaves linear, strongly folded at mid-vein; raceme axillary, equaling the leaves; flowers yellowish-brown, long pedicelled; lip reflexed, 3-lobed.

Fls. & Frts. : May – July.

Distrib.: Subansiri; between 300 – 2000m., in primary forests.

Vandopsis undulata (Lindl.) J. J. Sm. in Nat. Tijd. Ned.-Ind. 72: 77. 1912; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 692, f.418. 1998. *Vanda undulata* Lindl. in J. Linn. Soc., Bot. 3: 42. 1859. *Stauroopsis undulatus* (Lindl.) Benth. ex Hook. f., Fl. Brit. India 6: 27. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 205, t.275. 1898.

Erect, epiphytic herbs, 20-40 cm tall. Stems warty. Leaves narrowly oblong, notched at apex. Flowers in leaf-opposed, few flowered, lax raceme, about 5 m across, white with pinkish tinge. Lip yellowish-green, striped with pink.

Fls. & Frts.: April – June.

Distrib.: Kameng, Tirap; between 1500-2200m, on branches of trees in primary forests.

Zeuxine clandestine Blume in Coll. Orch. Arch. Ind. 70.t.39.f. 4. 1858; A.N.Rao in Ind. Forest. 114(2): 95.1988.

Erect terrestrial herbs upto 25 cm high. Leaves ovate-lanceolate, acute. Scape erect, pubescent, few flowered. Flower green with white lip. Lip with squarish apical lobes.

Fls. & Frts.: March.

Distrib.: Changlang (Namdapha National Park), 500 m.

Zeuxine flava (Wall. ex Lindl.) Trim. in J. Ceylon Br. Roy. As. Soc. 9: 90. 1885; Hook. f., Fl. Brit. India 6: 108. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 693, f.419. 1998. *Monochilus flavus* Wall. ex Lindl., Gen. Sp. Orch. Pl. 487. 1840.

Terrestrial herbs upto 30 cm high. Stems with 2-3 sheaths at base. Leaves ovate-lanceolate with inflated, hyaline sheaths. Flowers in sparsely flowered raceme, greenish-white with brownish tinge. Lip 3-lobed with two calli.

Fls. & Frts.: May - July.

Distrib.: Kameng; between 500-1000 m, in grass land.

Zeuxine goodyeroides Lindl., Gen. Sp. Orch. Pl. 486. 1840; Hook. f., Fl. Brit. India 6: 107. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 693, f.420. 1998.

Decumbent herbs upto 15 cm tall. Leaves green with white median vein, ovate. Scapes and rachis pubescent. Flowers in few flowered spikes, green with tinge. Lip woolly.

Fls. & Frts.: Oct. - Feb.

Distrib.: Subansiri; between 1000-1200 m, on rich humus soil in subtropical forests.

Zeuxine lindleyana A. N. Rao in Arunachal For. News 6(1): 34. 1988; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 695, f.421. 1998.

Erect, grass like herbs upto 12 cm tall. Rhizomes vertical or subhorizontal; bracts hyaline. Stems pink with 2 to 3 small, pinkish bracts towards base. Leaves linear, sheathing at base. Spikes 1-4 cm long. 3-20 flowered. Flowers about 1.2cm long, facing all sides, white. Lip ovate-lanceolate, 3-nerved, sparsely gland dotted, concave, white with green tinge at base and pink tinge towards apex.

Fls. & Frts.: March - May.

Distrib.: Kameng, Subansiri; between 300-800 m, on open meadows in association with grasses and *Ophioglossum* sp.

Zeuxine longilabris (Lindl.) Trim. in J. Ceylon Br. Roy. Asiat. Soc. 9: 90. 1885; Hook.f., Fl. Brit. India 6: 107. 1890; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 695, f.422. 1998. *Monochilus longilabre* Lindl., Gen. Sp. Orch. Pl. 487. 1840.

Decumbent, terrestrial herbs. Stems fleshy, rooting at nodes. Leaves upto 5 in number, drooping, copper-brown white. Scapes long, purple. Flowers in terminal, laxly flowered spikes, purplish. Lip sessile at base, bilobed at apex, white; lobes v-shaped.

Fls. & Frts.: March - May.

Distrib.: Kameng, Tirap; between 200-500 m, on moist forest floor.

Zeuxine nervosa (Wall. ex Lindl.) Benth. ex C. B. Cl. in J. Linn. Soc., Bot. 25: 73. 1889; A. N. Rao & S. N. Hegde in

Manilal & Sath. Kumar (eds.), Orch. Mem. 131. 2004. *Monochilus nervosus* Wall. ex Lindl., Gen. Sp. Orch. Pl. 487. 1840.

Terrestrial herbs with glabrous stem; leaves towards top of the stem, obliquely ovate-lanceolate, acute, sheathing at base; inflorescence laxly 3-8 flowered; flowers greenish white with yellowish lip; pedicel and ovary pubescent.

Fls. & Frts.: Feb. April.

Distrib.: Changlang (Namdapha National Park), 500 m.

Zeuxine strateumatica (L.) Schltr. in Engler., Bot. Jahrb. 45: 394. 1911; H. J. Chowdhery, Orch. Fl. Arunachal Pradesh 695, f.423. 1998. *Orchis strateumatica* L., Sp. Pl. 943. 1753. *Zeuxine sulcata* (Roxb.) Lindl. in Royle, Ill. Bot. Himalaya 1: 368. 1839; Hook.f., Fl. Brit. India 6: 106. 1890; King & Pantl. in Ann. Roy. Bot. Gard. (Calcutta) 8: 286, t.381. 1898.

Terrestrial herbs upto 20 cm high. Leaves linear, almost throughout stems. Flowers in terminal, densely flowered spikes, white or pink. Lip with cymbiform sac and two lamellae near midrib, purple at base and yellow at apex.

Fls. & Frts.: Jan. March.

Distrib.: Kameng; between 300-100 m, on grassy slopes.

Insufficiently known materials

Callostylis pulchella (Lindl.) A.N.Rao

Cheirostylis yunnanensis Rolfe

Cleisostoma sagittiforme Garay

Coelogyne pectata Lindl.

Collabium lowianum Rchb.f.

Diplomeris josephii A.N. Rao & Swaminathan in Indian Orchid J. 2(1): 5. 1987.

Malaxis wrayii Hook. f.

Pecteilis henryi Schltr.

Pleione scopulorum W.W.Smith

Stigmatogyne tricallosa (Rolfe) Pfitz.

Thunia marshalliana Rolfe

ZINGIBERACEAE

Achasma loroglossum (Gagnep.) K. Larsen in Nord. J. Bot. 1: 46. 1981. *Amomum loroglossum* Gagnep. in Bull. Soc. Bot. France 1(4): 258. 1902. *Hornstedtia loroglossa* (Gagnep.) K. Schum. In Engler, Pflanzenr. 46: 196. 1904. A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 11: 247. 1969.

Rhizomatous, creeping herbs, 1.5-2.5 m long. Leaves distichous, oblong-lanceolate. Flowers in spikes on a leafless peduncle; bracts reddish. Corolla red; lip yellow with red median band.

Fls. & Frts.: July Oct.

Distrib.: Tirap: in swampy localities.

Alpinia bracteata Roxb., Fl. Ind. 1: 63. 1820; Baker in Hook. f., Fl. Brit. India 6: 255. 1892; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 139. 1972.

Erect, perennial herbs upto 1m high. Leaves oblong - lanceolate, villous beneath. Flowers in raceme, dense flowered; corolla tube white; lip white, center variegated with red and yellow. Capsules globose.

Fls. & Frts.: April Oct.

Distrib.: Lohit; in wastelands.

Alpinia malaccensis (Burm.f.) Roscoe in Trans. Linn. Soc. London 8: 345. 1807; Baker in Hook. f., Fl. Brit. India 6: 255. 1892. *Maranta malaccensis* Burm. f., Fl. Ind. 2: 1768.

Stout herbs. Stems 1.5-2 m high. Leaves oblong or oblong-lanceolate, villous. Flowers in densely pubescent, terminal raceme; corolla white with red or reddish and yellow centered lip. Capsules globose, hairy, orange-red.

Fls. & Frts.: March Sept.

Distrib.: Kameng, Siang, Subansiri, Tirap; between 100-1500 m, common along nallas and in wastelands.

Use: Fruits are aromatic and edible.

Alpinia nigra (Gaertn.) Burt. in Notes Roy. Bot. Gard. Edinburgh 35: 213. 1977. *Zingiber nigrum* Gaertn., Fruct. 1: 35, t. 12. 1788. *Heritiera allughas* Retz., Obs. Bot. 6: 17, t. 1. 1791. *Alpinia allughas* (Retz.) Roscoe in Trans. Linn. Soc. London 8: 346. 1807; Baker in Hook. f., Fl. Brit. India 6: 346. 1807.

Erect, perennial. Tuberos herbs, 1-2 m high. Leaves oblong-lanceolate, glabrous. Flowers in terminal, racemose panicle; corolla white with radiating pink lines on lip. Capsules black.

Fls. & Frts.: May Dec.

Distrib.: Changlang, Dibang Valley, Kameng, Lohit, Siang, Tirap; between 150-1000 m, common in swampy localities along river bank, way sides and in wastelands.

Amomum aromaticum Roxb., Fl. Ind. 1: 45. 1820; Baker in Hook. f., Fl. Brit. India 6: 241. 1892; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14: 135. 1972.

Rhizomatous or stoloniferous herbs upto 1m high. Leaves oblong-lanceolate to linear-lanceolate, glabrous. Flowers in radical, oblong or clavate, villous spikes, white with a median yellow band. Capsules ovoid, fleshy.

Fls. & Frts.: April Sept.

Distrib.: Kameng, Lohit, Tirap; between 150-1500 m, in shaded, moist places along forest borders and in moist grooves.

Amomum maximum Roxb., Fl. Ind. 1: 41. 1820. *A. dealbatum* Roxb., Fl. Ind. 1: 43. 1820; Baker in Hook. f., Fl. Brit. India 6: 239. 1892; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14: 135. 1972.

Local name: Tajah (Abor).

Erect, rhizomatous herbs, 1-2.5m high. Leaves oblong, brown pubescent beneath. Flowers in subglobose, 4-7cm broad spikes, yellowish-white. Capsules oblong or subglobose.

Fls. & Frts.: April Sept.

Distrib.: Kameng, Lohit, Siang, Tirap; between 500-1500 m, common in moist shady places.

Amomum subulatum Roxb., Pl. Corom. 3:75, t. 277. 1819 & Fl. Ind. 1: 44. 1820; Baker in Hook. f., Fl. Brit. India 6: 240. 1892; A.S. Rao & D.M. Verma in Bull Bot. Surv. India 14: 135. 1972.

Rhizomatous or stoloniferous herbs, 1-2 m high. Leaves oblong-lanceolate, glabrous. Flowers in clavate spikes; bracts pinkish or dark brown with horny cups at tips; corolla tube white, lobes yellow. Capsules ellipsoid, rosy-pink or reddish-brown.

Fls. & Frts.: April Nov.

Distrib.: Siang, Tirap; between 500-1000 m, in wastelands.

Use: The fruits 'Bora Elaichi' are commonly used for flavouring food.

Cautleya cathcartii Baker in Hook. f., Fl. Brit. India. 6: 208. 1890.

Herbs upto 2m high. Leaves lanceolate or oblong-lanceolate. Flowers in dense, peduncled spikes; calyx red; corolla yellow. Capsules globose, red.

Fls. & Frts.: May Oct.

Distrib.: Tawang; between 2500-3000 m, on moist rocky slopes.

Cautleya gracilis (Sm.) Dandy in J. Bot. 70: 328. 1954; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 121. 1972. *Roscoea gracilis* Sm. in Trans. Linn. Soc. London 13: 460. 1822. *R. lutea* Royle, Ill. Bot. Himal. 361: t.89, f. 2. 1839. *Cautleya lutea* (Royle) Hook. f. in Bot. Mag. t. 6991. 1888 & Fl. Brit. India 6: 208. 1890.

Terrestrial or epiphytic herbs with reddish sheath, 0.5-2m high. Leaves lanceolate, pubescent beneath. Flowers in laxly, 1-6 flowered spike; calyx red; corolla yellow. Capsules globose, red; seeds blue.

Fls. & Frts.: June Nov.

Distrib.: Kameng, Siang, Tirap; between 500-2500 m, in moist shaded places of primary forests, on rocky slopes.

Cautleya spicata (Sm.) Baker in Hook. f., Fl. Brit. India 6: 209. 1890. *Roscoea spicata* Sm. in Trans. Linn. Soc. London 13: 461. 1812.

Terrestrial or epiphytic herbs upto 1m high. Leaves oblong or narrowly elliptic. Flowers in terminal dense spike; bracts bright red; calyx reddish; corolla bright yellow. Capsules small, globose, red. Seeds black, encircled by white aril.

Fls. & Frts.: June Oct.

Distrib.: Kameng; between 2500-3000 m, on moist rocky slopes, along forest margins.

Curcuma amada Roxb. in As. Res. 11: 341. 1810 & Fl. Ind. 1: 33. 1820; Baker in Hook. f., Fl. Brit. India 6: 213. 1890.

Rhizomatous herbs, rhizome yellow. Leaves oblong or oblanceolate, puberulous above, glabrous beneath. Flowers on terminal leafy shoots; plume bract pinkish; flowering bracts whitish; corolla tubular; lip cream coloured with deep yellow center.

Fls. & Frts.: June - Nov.

Distrib.: Siang; between 200-1500 m, in moist places of primary forests and in wastelands. It is also cultivated for rhizome.

Use: Rhizome is used as condiment and also used for making dye.

Curcuma angustifolia Roxb. in As. Res. 11: 338. t. 3. 1810; Baker in Hook. f., Fl. Brit. India 6: 210. 1890.

Rhizomatous herbs, rhizomes aromatic, pale-yellow. Leaves oblong-lanceolate, ligulate. Inflorescence a separate spike, produced before leaves. Plume bracts red; flowering bracts greenish-purple; corolla white.

Fls. & Frts. June - Nov.

Distrib.: Tirap; between 1000-1500 m, in moist shaded places of forests and in wastelands.

Use: Decoction of rhizomes is given to persons suffering from pox. It is also said to be used as a stimulant for pregnant women.

Curcuma aromatica Salisb., Parad. Lond. 20: t. 96. 1807; Baker in Hook. f., Fl. Brit. India 6: 210. 1890; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 122. 1972.

Rhizomatous, strongly aromatic herbs. Rhizomes greyish outside and yellow inside. Leaves oblong, silky pubescent beneath. Flowers in spike on separate, leafy shoots; upper bracts mauve; corolla pink.

Fls. & Frts. July - Dec.

Distrib.: Kameng, Lohit; in moist shady localities.

Curcuma longa L., Sp. Pl. 2. 1753; Baker in Hook. f., Fl. Brit. India 6: 214. 1890; Burt in Notes Roy. Bot. Gard. Edinburgh 35(2): 212. 1977. *C. domestica* Valet. in Bull. Jard. Bot. Buitenz. 27(3): 31. 1918.

Rhizomatous herbs upto 1m high, rhizomes orange-yellow, aromatic. Leaves oblong-lanceolate, sparsely white dotted. Flowers on terminal leafy shoots; plume bracts pinkish; flowering bracts greenish; corolla white, lip yellowish.

Fls. & Frts.: June - Nov.

Distrib.: Siang; between 200-2000 m, on moist shaded forest floor; also widely cultivated for rhizome.

Use: Rhizome is used as condiment 'Turmeric or Haldi. It is also used as a colouring agent and has antiseptic, medicinal properties.

Curcuma montana Roxb., Pl. Corom. t. 115. 1799 & Fl. Ind. 1: 35. 1820; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 122. 1972.

Rhizomatous herbs, rhizomes pale-yellow, strongly aromatic. Leaves oblong-lanceolate. Flowers in terminal leafy shoot; Plume bracts pale-pink, flowering bracts greenish; corolla pale-yellow.

Fls. & Frts.: July Oct.

Distrib.: Siang; between 500-1500 m, on moist forest floor.

Use: Rhizome is said to be used in curing wounds.

Curcuma rubescens Roxb. in As. Res. 11: 336. 1810 & Fl. Ind. 1: 28. 1820; Baker in Hook. f., Fl. Brit. India. 6: 213. 1890.

Rhizomatous herbs, rhizomes white inside. Leaves oblong with reddish-brown midrib. Flowers in separate, lateral spike; plume bracts pale-red; floral bracts greenish; corolla tube yellow; lip reddish.

Fls. & Frts.: July-Nov.

Distrib.: Lohit; between 200-1000m, in swampy localities.

Curcuma zedoaria (Christm.) Roscoe in Trans. Linn. Soc. London 8: 354. 1862; Baker in Hook. f., Fl. Brit. India 6: 210. 1890. *Amomum zedoaria* Christm. in Christm. & Panz., Linn. Pflanzen Syst. 5: 12. 1779. *Curcuma zerumbet* Roxb. in As. Res. 11: 332. 1810.

Rhizomatous herbs, Rhizomes yellowish or brownish. Leaves oblong, purple near midrib. Flowers in separate, lateral spike, usually produced before leaves; plume bracts pink; flowering bracts greenish; calyx pinkish; corolla white or yellowish. Capsule ovoid.

Fls. & Frts.: April Sept.

Distrib.: Kameng; between 200-1500 m, in open forests or along forest edges amidst grasses.

Use: Rhizome is used in perfumery and cosmetics.

Curcumorpha longiflora (Wall.) A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 13(3&4): 339. 1971. *Gastrochilus longiflora* Wall., Pl. As. Rar. 1: 22, t. 25. 1829; Baker in Hook. f., Fl. Brit. India 6: 217. 1890.

Rhizomatous herbs, Rhizomes short, faintly aromatic. Leaves oblong-lanceolate. Flowers in separate, long peduncled spike; bracts purplish-green; corolla tube white or pinkish-white; lip reddish.

Fls. & Frts.: April Oct.

Distrib.: Kameng; 150-2000 m, along forest margins in shady places.

Etlingera linguiformis (Roxb.) Reb.M.Sm. in Notes Roy. Bot. Gard. Edinburgh 43: 246. 1986. *Alpinia linguiforme* Roxb., Pl. Corom. 3: 74, t. 276. 1819 & Fl. Ind. 1: 75. 1820. *Amomum linguiforme* (Roxb.) Baker in Hook. f., Fl. Brit. India 6: 235. 1892, *excl. syn.* *Elettaria linguiformis* Schult. *Achasma linguiforme* (Roxb.) Loes. in Notizbl. Bot. Gard. Berl. 10: 62. 1927.

Rhizomatous, erect herbs, 1-2m high. Leaves oblong-lanceolate spikes; bracts whitish or pinkish; corolla tube bright-red; lip yellow, bifid. Capsules oblong, glabrous.

Fls. & Frts.: April Aug.

Distrib.: Changlang, Tirap; between 1200-1600 m, undergrowth in tropical forests.

Globba clarkei Baker in Hook. f., Fl. Brit. India 6: 201. 1890; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 11(3-4): 246. 1969.

Perennial, stout, erect herbs upto 1m high. Leaves oblong-lanceolate, glabrous or pubescent beneath. Flowers in terminal, elongate panicle associated with many bulbils; calyx purplish-brown; corolla yellow. Capsules trilobed.

Fls. & Frts.: June Oct.

Distrib.: Subansiri, Tirap; between 500-1500 m, along forest margins.

Globba hookeri C.B. Clarke ex Baker in Hook. f., Fl. Brit. India 6: 202. 1890.

Rhizomatous, robust herbs. Bulbils sometimes present. Leaves oblong or oblanceolate, pubescent on midnerve beneath. Flowers bright yellow in long, narrow panicle.

Fls. & Frts.: June Nov.

Distrib.: Subansiri; between 1000-1500 m, on moist hilly slopes.

Globba multiflora Wall. ex Baker in Hook. f., Fl. Brit. India 6: 202. 1890; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 118. 1972.

Rhizomatous, erect herbs upto 1m high. Bulbils present at lower nodes. Leaves oblong-lanceolate, pubescent beneath. Flowers in long, narrow, villous panicle; corolla orange-yellow, hairy without. Capsules subglobose.

Fls. & Frts.: May Sept.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1500 m, common as undergrowth in evergreen forests, along river bank and on moist hill slopes.

Globba orixensis Roxb. in As. Res. 11: 358. 1810; Baker in Hook. f., Fl. Brit. India 6: 201. 1890.

Erect herbs upto 1m high. Bulbils absent. Leaves oblong or elliptic-oblong, glabrous. Flowers in narrow, terminal panicle; calyx yellowish; corolla orange-yellow. Capsules warty.

Fls. & Frts.: July Oct.

Distrib.: Tirap; between 100-1500 m, as undergrowth in primary forests.

Globba rubromaculata Jagdish Lal & D.M. Verma in Bull. Bot. Surv. India 29(1-4): 26. 1987.

Perennial herbs upto 2m high. Leaves oblong-lanceolate, pubescent along midrib. Flowers in terminal panicle; calyx yellowish; corolla saffron-yellow; lip deeply bilobed with two red blotches.

Fls. & Frts.: Aug. Dec.

Distrib.: Subansiri; between 200-500 m, in moist places near water sources.

Hedychium aurantiacum Wall. ex Roscoe, Monandr. Pl. t. 39. 1828; Baker in Hook. f., Fl. Brit. India 6: 232. 1892; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-): 134. 1972.

Rhizomatous herbs upto 1.5m high. Leaves lanceolate. Spike lax-flowered; bracts greenish-white; corolla orange coloured with deep orange blotched mouth. Capsules oblong.

Fls. & Frts.: July Nov.

Distrib.: Kameng; between 1000-2000 m, in moist places of primary forests, on open slopes.

Hedychium aureum C.B. Clarke & Mann ex Baker in Hook. f., Fl. Brit. India 6: 229. 1892; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 131. 1972.

Terrestrial or epiphytic herbs upto 1 m high. Leaves petioled, lanceolate, puberulous beneath. Spike dense-flowered; calyx whitish-green; corolla yellow or orange-yellow. Capsules oblong, yellow.

Fls. & Frts.: June Oct.

Distrib.: Kameng, Tirap; between 1000-2000 m, on moist slopes and along forest fringes.

Hedychium coccineum Buch.-Ham. ex Sm. in Rees., Cyclop. 17: 5. 1811; Baker in Hook. f., Fl. Brit. India 6: 231. 1892. *H. angustifolium* Roxb., Pl. Corom. t. 251. 1821. *H. coccineum* var. *angustifolium* (Roxb.) Baker in Hook. f., Fl. Brit. India 6: 231. 1892.

Rhizomatous, erect herbs upto 2m high. Leaves lanceolate, purplish and villous beneath. Spikes 2-20cm long, dense-flowered. Flowers bright crimson-red; lip suborbicular.

Fls. & Frts.: May Nov.

Distrib.: Tirap; between 400-1500m, in shady places of forests and grasslands.

Hedychium coccineum var. **carneum** (Roscoe) Baker in Hook. f., Fl. Brit. India 6: 232. 1892. *Hedychium carneum* Roscoe, Monandr. Pl. t.57. 1828.

Flowers white tinged with pale-red; lip orbicular.

Fls. & Frts.: May. Nov.

Distrib.: Tirap; in moist, shaded localities.

Hedychium coccineum var. **longifolium** (Roscoe) Baker in Hook. f., Fl. Brit. India 6: 231. 1892; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 133. 1972. *H. longifolium* Roscoe, Monandr. Pl. t.59. 1828.

Leaves linear, purplish and villous through out beneath when young. Spikes lax-flowered. Flowers red; lip orbicular, abruptly clawed.

Fls. & Frts.: June Dec.

Distrib.: Siang, Tirap; between 100-2000 m, common on open hilly slopes and along forest margins.

Hedychium coronarium K.D.Koenig in Retz., Obs. Bot. 3: 73. 1783; Baker in Hook. f., Fl. Brit. India 6: 225. 1892; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 11: 121. 1969.

Perennial herbs upto 2 m high. Leaves oblong-lanceolate, hairy beneath. Spike dense, cone like; bracts green. Flowers white with pale-yellow blotch at mouth; filaments white. Capsules subglobose.

Fls. & Frts.: April Oct.

Distrib.: Tirap; between 200-1000 m, in swampy localities near streams.

Hedychium coronarium var. **chrysoleucum** (Hook.) Baker in Hook. f., Fl. Brit. India 6: 226. 1892; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 128. 1972. *H. chrysoleucum* Hook. in Curtis, Bot. Mag. t. 4516. 1850.

Leaves lanceolate. Flowers white with deep yellow or orange blotch at mouth. Filaments pinkish-yellow.

Fls. & Frts.: May Oct.

Distrib.: Tirap; between 100-1500 m, frequent in swampy localities.

Hedychium densiflorum Wall. in Hook., Kew J. Bot. 5: 368. 1853; Baker in Hook. f., Fl. Brit. India 6: 227. 1892; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 130. 1972.

Herbs upto 1.5m high. Leaves linear-lanceolate, glabrous. Spikes long, densely flowered. Flowers orange-yellow with red blotches at mouth; filaments orange-red. Capsules oblong.

Fls. & Frts.: June Oct.

Distrib.: Kameng; between 600-2000 m, common in moist areas.

Hedychium gardnerianum Sheppard ex Ker-Gawl. in Edgew., Bot. Reg. 9: t. 774. 1824; Baker in Hook. f., Fl. Brit. India 6: 230. 1892.

Rhizomatous herbs upto 1.5m high. Leaves oblong, white pulverulent beneath. Spikes long, moderately dense-flowered; rachis and bracts white pulverulent. Flowers bright lemon-yellow; filaments bright red. Capsules oblong.

Fls. & Frts.: June Nov.

Distrib.: Siang; between 1000-1500 m, in moist and swampy localities and also cultivated as ornamental plant.

Hedychium gomezianum Wall. in Hook., Kew J. Bot. 5: 368. 1853; Baker in Hook f., Fl. Brit. India 6: 228. 1892; Srivastava in Ind. J. Forestry 9: 85, f. 1. 1986.

Herbs upto 1m high. Leaves oblong-lanceolate. Spikes moderately dense. Flowers white. Capsules magenta-red.

Fls. & Frts.: July Nov.

Distrib.: Lohit; between 600-1800 m, in moist localities.

Hedychium gracile Roxb., Pl. Corom. 3: 48. t.251. 1820 & Fl. Ind. 1: 14. 1820; Baker in Hook. f., Fl. Brit. India 6: 229.

1892; A.S.Rao & D.M.Verma in Bull. Bot. Surv. India 14(1-4): 132. 1972. *H. glaucum* Roscoe, Monandr. Pl. t. 53. 1828. *H. gracile* var. *glaucum* (Roscoe) Baker in Hook. f., Fl. Brit. India 6: 229. 1892.

Small herbs, 20-60 cm high. Leaves lanceolate or oblong-lanceolate, pubescent beneath. Spikes lax to moderately dense-flowered. Flowers white with yellowish tinge; filaments red.

Fls. & Frts.: July Dec.

Distrib.: Kameng, Lohit; between 800-1800 m, on moist slopes, along forest margins.

Hedychium gracillinum A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 11(1-4): 124. 1969.

Small, epiphytic herbs, 20-60 cm high. Leaves oblong-lanceolate, glabrous. Spikes moderately dense-flowered. Flowers white, yellow or creamy-yellow; filaments white.

Fls. & Frts.: May Sept.

Distrib.: Subansiri; between 800-1200 m, in moist places near water sources.

Hedychium longipedunculatum A.R.K.Sastry & D.M.Verma in J. Bombay Nat. Hist. Soc. 6: 293. 1968.

Epiphytic herbs, 25-50 cm tall. Leaves oblong or oblong-lanceolate, purplish beneath. Spike dense-flowered, cone like. Flowers creamy-yellow with reddish-brown dots. Capsules subglobose.

Fls. & Frts.: May Sept.

Distrib.: Subansiri; between 1000-2000m, in swampy localities.

Hedychium marginatum C.B.Clarke in J. Linn. Soc., Bot. 25; 75, t. 31. 1890; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 129. 1972.

Herbs, 2-5 m high. Leaves lanceolate, villous beneath. Spike long, dense, cone like; bracts reddish-brown. Flowers whitish, yellow or orange-yellow fragrant; lip bilobed.

Fls. & Frts.: July Dec.

Distrib.: Tirap; between 1000-1500 m, in shady places of forests and forest margins.

Hedychium radiatum A.S.Rao & Hajra in Bull. Bot. Surv. India 16(1-4): 168. 1974; Haridasan & S.N.Hegde in Arunachal For. News 9(1); 3. 1991.

Rhizomatous herbs, 80-120 cm tall. Leaves ovate-lanceolate, hairy along midrib beneath. Spike dense-flowered; corolla tube pinkish, lobe yellowish-white to creamy-yellow; filaments red.

Fls. & Frts.: July Dec.

Distrib.: Kameng, between 800-1600 m, in moist, shady places.

Hedychium robustum A.S.Rao & Hajra in Bull. Bot. Surv. India 16(1-4): 166. 1974.

Rhizomatous, robust herbs, 2-3 m high. Leaves oblong-lanceolate, sparsely puberulous. Spikes lax-flowered, hairy. Flowers white, fragrant; filaments white. Capsules ovoid, pinkish-green.

Fls. & Frts.: July Dec.

Distrib.: Kameng; between 900-1600 m, in moist, shady places.

Hedychium stenopetalum Lodd., Bot. Cab. t. 1902. 1833; Baker in Hook. f., Fl. Brit. India 6; 229. 1892; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 133. 1972.

Rhizomatous herbs, 2-3 m tall. Leaves oblong-lanceolate, appressed hairy beneath. Spikes 40-60 cm long, lax. Flowered white, mild fragrant; filaments whitish. Capsules oblong-cylindric.

Fls. & Frts.: June Oct.

Distrib.: Kameng, Lohit, Siang, Tirap; between 150-1600 m, on moist slopes and along forest margins.

Hedychium thyriforme Buch.-Ham. ex Sm. in Rees, Cyclop. 17. n. 4. 1811; Baker in Hook. f., Fl. Brit. India 6: 230. 1892; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 11(1-4): 132. 1969.

Rhizomatous, erect herbs, 70-150 cm tall. Leaves oblong-lanceolate, villous beneath. Spikes oblong, compact; bracts usually 1-flowered. Flowers white; filaments white.

Fls. & Frts.: July Oct.

Distrib.: Subansiri; between 200-1000m, in soil covered rock crevices.

Hedychium venustum Wight, Ic. t. 2012. 1853; Baker in Hook. f., Fl. Brit. India 6: 226. 1892.

Rhizomatous herbs. Leaves oblong-lanceolate, sparsely pubescent beneath. Spikes lax-flowered, flesh coloured; bracts convolute, 1-flowered. Flowers white; lip deeply bifid. Capsules subglobose, pubescent, greenish.

Fls. & Frts.: April Aug.

Distrib.: Tirap.

Hedychium villosum Wall. in Roxb., Fl. Ind. 1:12. 1820; Baker in Hook. f., Fl. Brit. India 6: 228. 1892; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 131. 1972.

Terrestrial or epiphytic, perennial herbs upto 2m tall. Leaves lanceolate or oblong-lanceolate. Spikes moderately lax-flowered; bracts brownish, villous. Flowers white, fragrant; filaments red.

Fls. & Frts.: Feb. Aug.

Distrib.: Changlang, Kameng, Lohit, Siang, Tirap; Common between 200-1800 m, on moist slopes and in rock crevices.

Hedychium wardii Fischer in Kew Bull. 1936: 283. 1936; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 130. 1972.

Herbs, 0.5-1.5 m tall. Leaves oblong or oblong-lanceolate, appressed hairy beneath. Spikes cone like; peduncles villous. Flowers white, fragrant; anther sessile.

Fls. & Frts.: July Nov.

Distrib.: Arunachal Pradesh; between 800-1500 m, in open or partially shady places of secondary forests or along forest margins amidst grasses.

Hitchenia careyna Benth. in Benth. & Hook.f., Gen. Pl. 3: 643. 1883; Baker in Hook. f., Fl. Brit. India 6: 225. 1892; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 125. 1972.

Small herbs, 10-20 cm high. Leaves glabrous or puberulous along nerve beneath. Spikes terminal on leafy stems, cone like; bracts white. Flowers white or pinkish; lip yellowish at base. Capsules oblong.

Fls. & Frts.: July Nov.

Distrib.: Kameng, Lohit, Siang, Tirap; between 200-1200 m at forest openings or along forest margins.

Kaempferia involucrata King ex Baker in Hook. f., Fl. Brit. India 6: 221. 1890; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 124. 1972.

Rhizomatous, creeping, tuberous herbs. Leaves oblanceolate, usually produced after flowering. Flowers white, several on a flat receptacle, enclosed by a cup like involucre formed by a pair of oblong bracts. Capsules oblong, white.

Fls. & Frts.: May Sept.

Distrib.: Kameng; 100-1000 m; in moist, shady places of forests.

Roscoea purpurea Sm., Exot. Bot. 2: 97, t. 108. 1804; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 119. 1972. *R. procera* Wall., Pl. As Rar. 3: 22. 1832. *R. purpurea* var. *procera* (Wall.) Baker in Hook. f., Fl. Brit India 6: 208. 1892.

Robust shrubs upto 5m high. Leaves lanceolate or oblong-lanceolate. Spikes terminal on leafy stems. Flowers purple, rarely lilac or white; lip bilobed. Capsules cylindric.

Fls. & Frts.: May Sept.

Distrib.: Kameng; between 1000-2000m, in forest clearings, shrubberies.

Zingiber capitatum Roxb. in As. Res. 11: 348. 1810 & Fl. Ind. 1: 55. 1820; Baker in Hook.f., Fl. Brit. India 6: 248. 1892; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 138. 1972.

Rhizomatous, aromatic herbs upto 2m high. Leaves linear, pubescent beneath. Spikes terminal, leafless, short peduncles. Flowers yellow. Capsules oblong. Seeds bright brown.

Fls. & Frts.: July Sept.

Distrib.: Kameng; between 100-1500 m, in open places amidst grasses and along forest margins.

Zingiber chrysanthum Roscoe, Monandr. Pl. t. 86. 1828; Baker in Hook.f., Fl. Brit. India 6: 243. 1892; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 136. 1972.

Perennial, rhizomatous herbs upto 3 m high. Leaves oblong-lanceolate, downy beneath. Spikes dense globose, arise directly from rootstocks. Flowers red with bright yellow lip. Capsules ellipsoid, bright red.

Fls. & Frts.: July Oct.

Distrib.: Kameng; between 500-1500 m, in moist shady places of forests.

Zingiber purpureum Roscoe in Trans. Lin. Soc. London 8: 348. 1807. *Z. cassumunar* Roxb. in As. Res. 11: 347, t. 5. 1810; Baker in Hook.f., Fl. Brit. India 6: 248. 1892 A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 137. 1972.

Rhizomatous, aromatic herbs 2 m high. Rhizomes bright yellow inside. Leaves lanceolate, pubescent along midrib beneath. Spikes long peduncled, arise directly from rootstocks. Flowers greenish-white. Capsules globose, yellow or orange-red.

Fls. & Frts.: June Dec.

Distrib.: Siang; between 300-1500 m, in deep shady places of secondary forests.

Zingiber roseum (Roxb.) Roscoe in Trans. Linn. Soc. London 8: 348. 1807 and Monandr. Pl. t. 87. 1828; Baker in Hook.f., Fl. Brit. India 6: 244. 1892. *Amomum roseum* Roxb., Pl. Corom. t. 126. 1800.

Rhizomatous herbs upto 1.5 m high. Leaves oblong-lanceolate, pubescent beneath. Spikes globose, dense, from the tubers. Flowers pale red with whitish lip.

Fls. & Frts.: July Nov.

Distrib.: Siang; between 200-1200 m, in shady localities.

Zingiber rubens Roxb. in As. Res. 11: 348. 1810 & Fl. Ind. 1: 53. 1820; Baker in Hook.f., Fl. Brit. India 6: 243. 1892; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 137. 1972.

Rhizomatous herbs upto 2 m high. Leaves oblong-lanceolate, puberulous along midrib beneath. Spikes globose, radical, arising from the tubers; bracts red. Flowers yellowish or reddish-yellow with deep red-purple streaks. Capsules ellipsoid, red.

Fls. & Frts.: July Dec.

Distrib.: Lohit; between 1000-1500 m, along forest margins in moist places.

Zingiber zerumbet (L.) Roscoe ex Sm., Exot. Bot. 2: 103, t. 112. 1804; Baker in Hook.f., Fl. Brit. India 6: 247. 1892; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 14(1-4): 137. 1972. *Amomum zerumbet* L., Sp. Pl. 1. 1753.

Rhizomatous herbs upto 1.5 m high. Leaves oblong, nearly glabrous beneath. Spikes radical, globose or ovoid; bracts broadly ovate. Flowers white or creamy with a yellow blotch at base. Capsules oblong, white.

Fls. & Frts.: June Dec.

Distrib.: Kameng; between 200-1500 m, in swampy localities near water sources and along forest margins.

Costus speciosus (Koenig) Sm. in Trans. Linn. Soc. London 1: 249. 1800; Baker in Hook. f., Fl. Brit. India 6: 249. 1892. *Banksia speciosa* Koenig in Retz., Obs. Bot. 3: 75. 1783. *Costus nipalensis* Roscoe, Monandr. Pl. t. 80. 1826. *C. speciosus* var. *nipalensis* (Roscoe) Baker in Hook. f., Fl. Brit. India 6: 250. 1892.

Perennial, tuberous, succulent herbs, 1-2 m high. Stems spirally twisted. Leaves oblong or oblanceolate, silky pubescent beneath. Flowers in terminal, oblong spikes; bracts reddish; calyx red; corolla tube white; lip white with yellow center. Capsules oblong, red.

Fls. & Frts.: June Dec.

Distrib.: Kameng; Lohit, Siang., Subansiri, Tirap; between 500-1500 m, on moist forest floor.

Use: The tuberous roots are edible. Juice extracted from stems is said to be used to cure eye trouble.

Costus speciosus var. **argyrophyllus** Wall. ex Baker in Hook. f., Fl. Brit. India 6: 250. 1892.

Leaves more densely silky and paler beneath. Spikes globose, bracts pubescent.

Fls. & Frts.: June Nov.

Distrib.: Changlang, Tirap; in moist, shady places.

MARANTACEAE

Phrynium placentarium (Lour.) Merr. in Philipp. J. Sci. 15: 230. 1919. *Phyllodes placentaria* Lour., Fl. Cochinch. 13. 1790. *Phrynium parviflorum* Roxb., Fl. Ind. 1: 7. 1832; Baker in Hook. f., Fl. Brit. India 6: 259. 1892.

Rhizomatous herbs upto 1.5 m high. Leaves oblong-lanceolate, cuspidate-acuminate at apex. Spikes globose, on upper half of petioles, about 3cm below the blade; inner bracts with acute spinulose tip. Flowers white. Capsules ellipsoid, wall membranous.

Fls. & Frts.: May Dec.

Distrib.: Lohit, Tirap; between 200-500 m, on sandy rocky slopes along streams.

Phrynium pubinerve Blume, Enum. Pl. Jav. 1: 38. 1827. *P. capitatum* auct. non Willd.: Baker in Hook. f., Fl. Brit. India 6: 258. 1892.

Rhizomatous herbs, 50-150 cm high. Leaves oblong or ovate-oblong, cuspidate at apex. Spikes globose on upper half of petioles; peduncles hairy; bracts red, inner ones with obtuse, scarious tip. Flowers purplish red. Capsules ellipsoid, woody.

Fls. & Frts.: Sept. Jan.

Distrib.: Kameng, Lohit, Tirap; between 100-1000 m, in shaded place within secondary and bamboo forests.

MUSACEAE

Ensete glaucum (Roxb.) Cheesman in Kew Bull. 1947: 101. 1948. *Musa glauca* Roxb., Pl. Corom. t. 300. 1820. *M. nepalensis* Wall. in Roxb., Fl. Ind. 2: 492. 1824; Baker in Hook. f., Fl. Brit. India 6: 261. 1892.

Stems short, stout. Leaves sessile. Spadix pendulous; bracts many flowered, violet. Fruits oblong, green.

Fls. & Frts.: Oct. Feb.

Distrib.: Tirap; between 300-1300 m, in forest edges.

Musa acuminata Colla, Mem. Gen. Musa. 66. 1820. *M. corniculata* auct. non Lour.: (Rumph.) Kurz in J. Agri. Hort. Soc. India 14: 166, t. 2-3, 1867; Baker in Hook. f., Fl. Brit. India 6: 263. 1892.

Local name : Ko-dum (Abor).

Stoloniferous, giant herbs with brilliant orange bracts. Leaves oblong. Flowers yellow, larger, 2-3 (-4) in whorls. Fruits large.

Fls. & Frts.: Jan. Aug.

Distrib.: Siang; between 400-800 m, on open forest slopes

Musa aurantiaca Mann. ex Baker in Ann. Bot. 7: 222. 1893 & in Hook. f., Fl. Brit. India 6: 263. 1892.

Stoloniferous herbs upto 5 m high with chocolate-brown spathes. Spadix pendulous; bracts ovate-lanceolate, red. Flowers yellow. Fruits oblong-trigonous with hard seeds.

Fls. & Frts.: Oct. March.

Distrib.: Siang; between 600-800 m, along forest fringes.

Musa balbisiana Colla, Mem. Gen. Musa. 56. 1820. *M. sapientum* auct. non L.: Baker in Hook. f., Fl. Brit. India 6: 262. 1892. *M. paradisiaca* subsp. *sapientum* (L.) K. Schum. in Engler, Pflanzenr. 45: 20. 1900.

Local name : Kulu (Adi); Kol (Asm.).

Stoloniferous, robust herbs upto 5m high with greenish sheath. Leaves oblong, green, brownish on midrib. Spadix large; bracts ovate, rosy-red. Fruits oblong-elliptic, many seeded.

Fls. & Frts.: Sept. Jan.

Distrib.: Lohit, Subansiri, Tirap; between 200-1200m, along secondary forest edges. Widely cultivated.

Use: The ripe fruits 'banana' are delicious to eat and nutritious. Green fruits, stems and inflorescence are cooked as vegetable. The entire plant is used in religious ceremonies and various other functions.

Musa pruinosa Burkill in Rec. Bot. Surv. India 10(2): 384. 1925.

Local name : Lumkong (Apor).

Stoloniferous, large herbs. Sheaths scarlet, extend upto midrib of leaf at the back. Leaves oblong. Flowers in two rows, large. Fruits recurved, stalked, packed with seeds, each in a thin film of flavery flesh.

Fls. & Frts.: April - Sept.

Distrib.: Siang; between 500-1100 m, along forest margins.

Musa rosacea Jacq., Hort. Schoenb. 4: 22, t. 445. 1804; Baker in Hook. f., Fl. Brit. India 6: 263. 1892. *M. ornata* Roxb., Fl. Ind. 2: 488. 1824.

Stoloniferous herbs upto 2m high with yellowish-green sheath. Leaves linear-oblong. Spadix pendulous or erect; spathes ovate, rosy-red with yellowish margin, inside orange-yellow. Flowers yellowish. Fruits oblong, yellow when ripe.

Fls. & Frts.: Oct. - Feb.

Distrib.: Lohit, Subansiri, Tirap; between 500-1500m, in open forest slopes.

Musa sanguinea Hook.f. in Bot. Mag. 98, t. 5975. 1872; Baker in Hook. F., Fl. Brit. India 6: 263. 1892.

Stoloniferous herbs upto 5 m high. Stem sheathed, greenish or brownish. Leaves oblong, bright green. Spadix deep blood red, pendulous; bracts ovate, red. Flowers yellow. Fruits oblong-trigonous, pulpy.

Fls. & Frts.: March - July.

Distrib.: Changlang, Lohit, Tirap; between 500-1000m, on rocky soil slopes.

Musa velutina Wendl. & Drude in Regel, Gartenfl. 24: 65, t. 823. 1875; Baker in Hook. F., Fl. Brit. India 6: 263. 1892.

Stoloniferous tall herbs, 3-4 m high. Bracts densely hairy outside. Spadix erect, red. Fruits dehiscing into about six parts, rosy-pink when ripe. Seeds black.

Fls. & Frts.: July - Nov.

Distrib.: Kameng, Lohit, Siang, Tirap; between 300-1200m, in patches along roadsides and forests edges.

Insufficiently known materials

Musa nagensis Prain

Musa rubra Wall. ex Baker

CANNACEAE

Canna indica L., Sp. Pl. 1. 1753. *C. orientalis* Roscoe, Scit. Pl. t. 12. 1828. *C. indica* var. *orientalis* (Roscoe) Baker in Hook. F., Fl. Brit. India 6: 260. 1892.

Erect herbs upto 1m high. Leaves elliptic-oblong; sheath pruinose. Flowers in terminal lax raceme, red with yellow tinge. Capsules globose, echinate.

Fls. & Frts.: Dec.- Feb.

Distrib.: Changlang; between 200-1000 m.

Use: Decoction of rhizome is taken in case of stomach trouble.

IRIDACEAE

Belamcanda chinensis (L.) DC. in Redoute, Lilia. 3: t. 121. 1805; Hook. f., Fl. Brit. India 6: 277. 1892. *Ixia chinensis* L., Sp. Pl. 36. 1753.

Local name : Bor-sha (Abor).

Perennial herbs with leafy stems and creeping root-stocks. Leaves ensiform, equitant. Flowers in branched inflorescence; spathes many flowered. Capsules obovoid.

Fls. & Frts.: Aug. - Oct.

Distrib.: Siang, Tirap; between 500-1500m, in open places.

Iris decora Wall., Pl. As. Rar. 1: 77. t. 86. 1830. *I. nepalensis* auct. non Lindl. : D. Don, Prodr. Fl. Nepal. 54. 1825; Hook.f., Fl. Brit. India 6: 273. 1892.

Perennial herbs. Root stocks densely sheathed with finger like roots. Leaves linear with purple dashes and dots. Flowers shortly pedicelled, yellowish; sepals crested. Capsules oblong.

Fls. & Frts. : Aug. - Nov.

Distrib. : Kameng, Tawang; between 2000-3500 m, on moist soil along slopes.

TACCACEAE

Tacca integrifolia Ker-Gawl. in Curtis, Bot. Mag. 35, t. 1488.

1812; Hook.f., Fl. Brit. India 6: 287. 1892; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 15(3&4): 289. 1973. *T. laevis* Roxb., Fl. Ind. 2: 171. 1832. *T. chowdhuriana* Deb in Indian For. 90: 241, f. 1-2. 1964.

Perennial, rhizomatous herbs upto 180 cm high. Leaves radical, long petioled, elliptic-ovate to oblong. Inflorescence umbel subtended by two pairs of spatheaceous involucral bracts, glabrous or puberulous. Flowers greenish-white to greenish-yellow or chocolate-brown to violet with purple veins. Fruits oblong, fimbriate, strongly 6-ribbed.

Fls. & Frts. : Feb. Nov.

Distrib. : Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; between 150-1500 m, in moist shady places of forests.

DIOSCOREACEAE

Dioscorea alata L., Sp. Pl. 1033. 1753; Hook.f., Fl. Brit. India 6: 296. 1892. *D. atropurpurea* Roxb., Fl. Ind. 3: 800. 1832. *D. glabra* Roxb., Fl. Ind. 3: 797. 1832. *D. alata* var. *glabra* (Roxb.) Prain, Bengal Pl. 2: 1067. 1903. *D. rubella* Roxb., Fl. Ind. 3: 798. 1832. *D. alata* var. *rubella* (Roxb.) Prain, Bengal Pl. 2: 1067. 1903. *D. purpurea* Roxb., Fl. Ind. 3: 799. 1832. *D. alata* var. *purpurea* (Roxb.) Prain, Bengal Pl. 2: 1067. 1903.

Climberbs, usually with solitary tuber. Stems twining to right, terete, smooth or rigid, glabrous. Leaves ovate, sub-cordate at base, blackish on drying. Capsules reddish-brown on drying, apex retuse, base obtuse.

Fls. & Frts. : May Feb.

Distrib. : Siang, Tirap; often cultivated.

Dioscorea belophylla (Prain) Haines, For. Fl. Chota Nagpur 530. 1910. *D. nummularia* var. *belophylla* Prain, Bengal Pl. 2: 1065. 1067. 1903. *D. glabra* auct. non Roxb. 1832. Hook.f., Fl. Brit. India 6: 294. 1832, p.p.

Climbers. Stems twining to right, purplish-brown, glabrous; bulbils globose. Leaves opposite, long petioled, ovate-oblong or hastate, sagitate or cordate at base, reticulate margin, subglaucous beneath. Capsules slightly tawny and sub-glaucous. Seeds 3-winged, irregular orbicular.

Fls. & Frts. : Aug. Feb.

Distrib. : Kameng ; between 1300-1500 m.

Dioscorea bulbifera L., Sp. Pl. 1033. 1753; Hook.f., Fl. Brit. India 6: 296. 1892. *D. sativa* Thunb., Fl. Jap. 151. 1784, non L., 1753; Hook.f., Fl. Brit. India 6: 295. 1892, *p.p.*

Climbers, upto 30 m long; tubers globose or pyriform, purplish-black. Leaves broadly cordate, caudate-acuminate. Flowers white. Capsules long stiped; wings semi-elliptic, rounded at both ends.

Fls. & Frts. : Jan. Dec.

Distrib.: Kameng, Lohit, Siang, Subansiri, Tirap; between 200-1800 m, in shady places of forests.

Dioscorea cumingii var. **inaequifolia** (Elmer ex Prain & Burkill) Burkill in van Steenis, Fl. Males. 1,4: 317. 1951. *D. inaequifolia* Elmer ex Prain & Burkill in Elmer, Leaflet Philipp. Bot. 5: 1595. 1913.

Climbers.

Fls. & Frts. : April Sept.

Distrib. : Arunachal Pradesh.

Dioscorea deltoidea Wall. ex Griseb. in Mart., Fl. Brasil 3: 43. 1842 ; Hook.f., Fl. Brit. India 6: 291. 1892.

Creeping rhizomatous climbers upto 5 m tall; branches very slender, terete, unarmed, nearly glabrous, twining to left; bulbils globose. Leaves ovate-cordate, hispid beneath. Capsules reflexed, green with purple flecks when young, reddish on maturity.

Fls. & Frts. : May Oct.

Distrib. : Kameng; upto 1500 m.

Dioscorea esculenta (Lour.) Burkill in Gard. Bull. Singapore 1: 396. 1917 and in Rec. Bot. Surv. India 10(1): 387. 1924. *Oncus esculentus* Lour., Fl. Cochinch. 194. 1790. *Dioscorea spinosa* Roxb. ex Hook.f., Fl. Brit. India 6: 291. 1892. *D. aculeata auct. non L.*, 1753; Hook.f., Fl. Brit. India 6: 296. 1892.

Climbing herbs; branches glabrous or tomentose. Stems spinuous at base with very long tubers. Leaves orbicular or reniform-cordate,

acuminate or cuspidate, membranous, basal lobes rounded. Capsules broadly obovate.

Fls. & Frts. : April - Sept.

Distrib. : Siang.

Dioscorea glabra Roxb., Fl. Ind. 3: 804. 1832; Hook.f., Fl. Brit. India 6: 294. 1892, *p.p.*; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 15 (3&4): 199. 1976.

Climbing herbs; branches terete, prickly at base, twining to right, glabrous; tubers solitary or few with stalk. Leaves elliptic-ovate, caudate-acuminate. Capsules retuse at apex.

Fls. & Frts. : Sept. - Feb.

Distrib. : Changlang, Kameng, Lohit, Siang, Tirap; between 600-1800 m.

Dioscorea hamiltonii Hook.f., Fl. Brit. India 6: 295. 1892.

Climbing herbs; branches slender, angled, slightly winged, terete or smooth, twining to right. Leaves ovate-lanceolate, cordate at base. Capsules coppery-brown, base obtuse, apex retuse.

Fls. & Frts. : Aug. - Jan.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 150-1200 m.

Dioscorea hispida var. **daemonia** (Roxb.) Prain & Burkill in Ann. Roy. Bot. Gard. Calcutta 14: 192. 1936. *D. daemonia* Roxb., Fl. Ind. 3: 8050. 1832; Hook.f., Fl. Brit. India 6: 289. 1892.

Climbing herbs. Stems somewhat prickly, golden pubescent, twining to left. Leaves 3-foliolate, middle leaflet elliptic-oblong, glabrous or finely pubescent beneath, cuspidate, acuminate. Capsules truncately rounded at base and apex.

Fls. & Frts. : June - Dec.

Distrib. : Siang; between 100-1000 m, in primary and secondary forests.

Dioscorea laurifolia Wall. ex Hook.f., Fl. Brit. India 6: 293. 1892.

Climbing herbs. Stems and branches very slender. Leaves linear or narrowly oblong-lanceolate, obtusely acuminate or dilated at both ends, 3-nerved, strongly reticulate beneath. Male spikes in leaf axils. Flowers sessile, minute.

Fls. & Frts. : Aug. - Dec.

Distrib. : Arunachal Pradesh.

Dioscorea lepcharum Prain & Burkill in J. As. Soc. Bengal (N.S.) 10: 36. 1914 ; Burkill in Rec. Bot. Surv. India 10(1): 388. 1924.

Herbaceous climbers up to 1 m high; bulbils usually variously lobed, stems twining to right, smooth or rigid, glabrous with several tubers, laterally spreading. Leaves ovate-lanceolate, cordate at base. Capsules greyish, apex retuse.

Fls. & Frts. : May Sept.

Distrib. : Siang; upto 600 m, very common.

Dioscorea listeri Prain & Burkill in J. As. Soc. Bengal (N.S.) 6: 452. 1901. A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 15 (3&4) : 199. 1976.

Stems rusty, twining to right; bulbils numerous, stalked. Leaves ovate-cordate, stellate hairy beneath at base. Capsules stellately hairy, retuse at apex.

Fls. & Frts. : April Sept.

Distrib. : Subansiri.

Dioscorea melanophyma Prain & Burkill in J. As. Soc. Bengal (N.S.) 4: 452. 1908; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 15 (3 & 4): 196.1976.

Climbing herbs. Stems unarmed, glabrous; bulbils globose, blakish. Leaves 3-5 (-7) foliolate; middle leaflet 1-costate. Capsules rounded at base, truncate at apex.

Fls. & Frts. : Sept. Nov.

Distrib. : Kameng; between 1000-1500 m.

Dioscorea oppositifolia L., Sp. Pl. 1033. 1753; Hook.f., Fl. Brit. India 6: 292. 1892. *D. lanceolata* ex Hook.f., Fl. Brit. India 6: 292.1892.

Large, woody climbers. Stems terete, unarmed, glabrous or sparsely pubescent, twining to right. Leaves variable, lanceolate, elliptic-oblong, ovate or orbicular, coriaceous. Capsules retuse or almost 2-lobed at apex, glabrous.

Fls. & Frts : April Aug.

Distrib.: Siang, Tirap; upto 400 m.

Dioscorea orbiculata Hook.f., Fl. Brit. India 6: 292. 1892; Sastry in J. Bombay Nat. Hist. Soc. 65: 517. 1968. *D. pyrifolia*

var. *ferruginea* non Prain & Burkill, Panigrahi & Naik in Bull. Bot. Surv. India 8: 89, t.1. 1966.

Climbers. Stems and branches clothed with deciduous, stellate or dendroid brown hairs, winged, twining to right. Leaves orbicular-ovate, pubescent at base beneath. Flowers very minute. Capsules chestnut-coloured, apex truncate.

Fls. & Frts. : May June.

Distrib. : Subansiri; between 150-1300 m.

Dioscorea pentaphylla L., Sp. Pl. 1032. 1753; Hook.f., Fl. Brit. India 6: 289. 1893. *D. triphylla* L., Sp. Pl. 1032. 1753. *D. jacquemontii* Hook.f., Fl. Brit. India 6: 289.1892.

Herbaceous climbers, 6-7 m long, twining to left; bulbils profuse, globose, brownish. Leaves palmately compound, 3-5-foliolate; middle leaflet 1-costate. Capsules rounded at both ends or base cordate and tipapiculate, glabrous or pubescent.

Fls. & Frts. : Aug. Nov.

Distrib. : Lohit, Siang, Subansiri, Tirap; between 500-1200 m.

Dioscorea prazeri Prain & Burkill in J. Asiat. Soc. Bengal 73: 2. 1904; Burkill in Bull. Bot. Surv. India 10(1): 387.1824.

Herbaceous climbers.

Fls. & Frts. : July Dec.

Distrib. : Siang.

Dioscorea pubera Blume, Enum. Pl. Jav. 1: 21. 1827; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 15 (3 & 4): 199. 1976. *D. anguina* Roxb., Fl. Ind. 3: 803. 1832; Hook.f., Fl. Brit. India 6: 293. 1892.

Herbaceous climbers, deciduously creamy-white hairy-stems twining to right; bulbil greenish, tuber clavate. Leaves ovate-cordate. Capsules puberulous, base truncate, apex retuse.

Fls. & Frts. : June Feb.

Distrib. : Siang, Tirap; between 300-1500 m.

Dioscorea pyrifolia Kunth, Enum. Pl. 5: 384. 1850; Hook.f., Fl. Brit. India 6: 292. 1892.

Climbing herbs; branches terate, glabrous or puberulous. Leaves orbicular or broadly oblong, coriaceous, finely pubescent beneath, base rounded or retuse, apex acuminate or cuspidate. Capsules cordate at both ends.

Fls. & Frts. : Aug. Sept.

Distrib. : Changlang.

Dioscorea scortechinii Prain & Burkill in J. Asiat. Soc. Bengal (N.S.) 4: 455. 1908; Rao & Ahuja in Bull. Bot. Surv. India 10(3&4): 364. 1968.

Climbers. Stems prickly at base; young branches pubescent. Leaves 3-5 foliolate; leaflets unequal, glabrous above, tomentose on veins beneath. Female flowers in spikes from axil of leaves. Capsules oblong, apex cordate, mucronate.

Fls. & Frts. : Oct. March.

Distrib. : Siang; upto 1200 m.

Dioscorea tomentosa Koen. ex Spreng., Pl. Pugill. 92. 1815; Hook.f., Fl. Brit. India 6: 289. 1892.

Climbing herbs. Stems slender, prickly towards base. Leaves 3-5 foliolate, softly tomentose beneath; leaflets variable, broad or narrow, acuminate or cuspidate. Capsules cuneately oblong, downy.

Fls. & Frts. : Aug. Sept.

Distrib. : Tirap.

Dioscorea trinervia Roxb. ex prain & Burkill in J. Asiat. Soc. Bengal (N.S.) 10: 320. 1914; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 15 (3&4): 197. 1976. *D. oppositifolia auct. non* L., 1753; Hook.f., Fl. Brit. India 6: 292. 1892, *p.p.*

Climbing herbs, deciduously grey-pubescent, twining to right; bulbils elongated. Capsules greyish-brown flecked, apex truncate.

Fls. & Frts. : Aug. Oct.

Distrib. : Tirap; between 700-1600 m.

Dioscorea wattii Prain & Burkill in J. Asiat. Soc. Bengal (N.S.) 4: 457. 1908; Burkill in Rec. Bot. Surv. India 10: 388. 1924; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 15(3&4): 201. 1976.

Climbing herbs. Stems smooth or rigid, glabrous, twining to right. Tubers rather fibrous. Leaves sub-coriaceous, ovate-lanceolate, base rounded. Capsules slightly cordate at apex.

Fls. & Frts. : March Jan.

Distrib. : Lohit, Siang; between 600-800 m.

Insufficiently known materials

Dioscorea filiformis Blume

Dioscorea oppositifolia var. *assamica*

STEMONACEAE

Stemona tuberosa Lour., Fl. Cochinch. 404. 1790; Hook.f., Fl. Brit. India 6: 298. 1892.

Climbers with fleshy roots and cylindric tubers. Stems woody below; branches terete, twining. Leaves broadly ovate, cordate, acuminate, membranous, shining beneath, 3-9 costate above. Flowers solitary axillary, greenish with purplish nerves. Capsules ovoid or oblong, compressed, few-seeded.

Fls. & Frts. : July Oct.

Distrib. : Kameng, Siang, Tirap; upto 600 m.

AGAVACEAE

Agave vera-cruz Miller, Gard. Dict. ed. 8: 7. 1754; Cooke, Fl. Pres. Bombay 2: 754. 1980; Burkill in Rec. Bot. Surv. India 10(1): 386. 1924.

Perennial, erect shrubs. Leaves large, in lax rosette, distinctly broader at or above middle. Inflorescence candelabriform. Stamens in bud inflexed under lips of perianth segments.

Fls. & Frts. : Sept. Jan.

Distrib. : Siang.

Dracaena angustifolia Roxb., Fl. Ind. 2: 155. 1832; Hook.f., Fl. Brit. India 6: 327. 1892.

Undershrubs or shrubs, 2.5-3 m high. Stems thick, stout, erect, simple or forked. Leaves sessile with sheathing base, costate-waved, spreading or recurved. Flowers white or white with pink tip. Berries globose, 3-lobed, orange.

Fls. & Frts. : Sept. - Feb.

Distrib. : Kameng, Siang, Subansiri; upto 1100 m, in dense shady places on edges of forests.

Dracaena petiolata Hook.f., Fl. Brit. India 6: 331. 1892.

Shrubs. Leaves elliptic, caudate-acuminate, ecostate, abruptly narrowed into slender petiole-inflorescence long, peduncled panicle. Flowers with equalling lobes and tubes. Berries pisiform.

Fls. & Frts. : Sept. Dec.

Distrib. : Kameng, Siang, Tirap; upto 300 m.

LILIACEAE

Allium asclaonicum L., Sp. Pl. ed. 2, 429. 1762; Hook.f., Fl. Brit. India 6: 337. 1892.

Scapigerous, foetidus herbs; bulbs coated. Leaves basal. Scapes stout, fistular. Inflorescence many flowered globose head. Flowers white stellate hairy. Capsules small, loculicidal.

Fls. & Frts. : Nov. March.

Distrib. : Usually cultivated.

Allium cepa L. Sp. Pl. 300. 1753; Hook.f., Fl. Brit. India 6: 377. 1892.

Foetidus herbs; bulbs round. Leaves subdistichous, fistular, shorter than stellate flowers. Flowers white.

Fls. & Frts. : Oct. Jan.

Distrib. : Commonly cultivated.

Allium sativum L., Sp. Pl. 301. 1753; Hook.f. Fl. Brit. India 6: 337. 1892.

Scapigerous, foetidus herbs; bulbs coated. Leaves strap-shaped. Scapes slender; spathes long-beaked. Inflorescence globose head bearing bulbils and flowers. Flowers white.

Fls. & Frts. : Oct. Feb.

Distrib. : Commonly cultivated.

Asparagus filicinus Buch.-Ham. ex D. Don, Prodr. Fl. Nepal. 49. 1825; Hook.f., Fl. Brit. India 6: 314. 1892.

Perennial, shrubby climbers. Stems erect, smooth, unarmed. Roots fasciculated. Cladodes 2-5-nate, falcate, flat, acuminate, costate. Pedicels solitary or 2-nate. Flowers minute, axillary, yellow. Berries globose.

Fls. & Frts. : April Oct.

Distrib. : Kameng; between 1800-2700 m.

Asparagus filicinus var. **brevifipes** Baker in J. Linn. Soc. Bot. 14: 605. 1875; Hook.f., Fl. Brit. India 6: 314. 1892.

Shrubby climbers upto 3 m high with creeping roots. Stems erect; branches flexuous. Cladodes very short, tapering at both ends. Pedicels very short. Flowers greenish, white in bud. Berries globose.

Fls. & Frts. : May Oct.

Distrib. : Kameng; above 2000 m.

Asparagus racemosus Willd., Sp. Pl. 2: 152. 1799 ; Hook.f., Fl. Brit. India 6: 316. 1892.

Tall, climbing undershrubs with stout, tuberous rootstocks. Stems terete, scandent. Cladodes 2-6-nate, acute, falcate, slender,

divaricate. Inflorescence simple or branched, solitary or fasciculate raceme. Flowers white. Berries red or pink.

Fls. & Frts. : July - Nov.

Distrib. : Kameng ; between 200-1200 m.

Campylandra aurantiaca Baker in J. Linn. Soc. Bot. 14: 582, t. 20. 1875; Hara *et al.*, Enum. Fl. Pl. Nepal 1: 71. 1978. *Tupistra aurantiaca* (Baker) Wall. ex Hook.f., Fl. Brit. India 6: 325. 1892.

Herbs, upto 1 m high. Root stocks thick. Roots very long, stout. Leaves sessile, narrowly oblanceolate, flaccidly coriaceous. Inflorescence dense-flowered, oblong spike. Flowers yellow or orange. Berries globose.

Fls. & Frts. : Nov. - March.

Distrib. : Siang ; between 1200-2400 m, on moist soil.

Cardiocrinum giganteum (Wall.) Makino in Bot. Mag. Tokyo 27: 125. 1913. *Lilium giganteum* Wall., Tent. Fl. Nepal. 21, t. 12-13. 1824, *excl. syn.*; Hook.f., Fl. Brit. India 6: 349. 1892.

Tall, unbranched herbs, 2-3.5 m high; bulbs large, many. Leaves oblanceolate. Inflorescence raceme. Flowers large, drooping, purplish tube within, fragrant. Capsules obtusely angled. Seeds very thin.

Fls. & Frts. : April - Oct.

Distrib. : Kameng; between 1500-3000 m.

Chlorophytum arundinaceum Baker in J. Linn. Soc. Bot. 15: 323. 1876; Hook.f., Fl. Brit. India 6: 333. 1892.

Herbs with fibrous, cylindric roots. Leaves oblanceolate, obtuse, acute- or acuminate; scapes usually tall, naked. Inflorescence elongate, simple or branched raceme. Flowers white. Capsule broad, bilobed at both ends.

Fls. & Frts. : Aug. - Dec.

Distrib. : Subansiri; between 300-1500 m.

Chlorophytum nepalense (Lindl.) Baker in J. Linn. Soc. Bot. 15: 330. 1876; Majumder in Rec. Bot. Surv. India 20: 224. 1973. *Phalangium nepalense* Lindl. in Trans. Hort. Soc. London 6: 277. 1826. *Chlorophytum undulatum* Wall. ex Hook.f., Fl. Brit. India 6: 335. 1892.

Herbs with fibrous, cylindric roots. Leaves linear, narrowed at base. Scapes naked, particularly branched; branches long, spreading. Inflorescence solitary or in clusters. Flowers white. Capsules 3-lobed at top. Seeds broad, angular, black.

Fls. & Frts. : July - March.

Distrib. : Kameng; between 900-2100 m.

Clintonia udensis var. **alpina** (Kunth ex Baker) Hara in J. Jap. Bot. 38: 72. 1963. *C. alpina* Kunth ex Baker in J. Linn. Soc. Bot. 14: 585. 1875; Hook.f., Fl. Brit. India 6: 361. 1892.

Perennial scapigerous herbs. Rootstocks creeping. Leaves obovate to oblanceolate, cuspidate or acuminate. Scapes leafless. Inflorescence racemose or umbellate. Flowers white. Berries uncurved, many-seeded.

Fls. & Frts. : April - Oct.

Distrib. : Kameng; between 2100-3300 m, on moist hill slopes.

Crinum amoenum Roxb. ex Ker-Gawl. in J. Sci. Arts London 3: 106. 1817; Hook.f., Fl. Brit. India 6: 282. 1892.

Rhizomatous herbs. Rhizomes globose. Leaves suberect, ensiform, acuminate, margin subscabrous, tapering from base, bright green. Inflorescence umbel on slender, subcylindric scape. Flowers white, tube green. Fruits sub-globose, dehiscent.

Fls. & Frts. : April - Dec.

Distrib. : Kameng, Tirap; upto 1800 m, in open rocky places, in grassland and along forest edges.

Crinum pratense Herbet, Amaryllidaceae 255, t. 32. f. 3. 1837; Hook.f., Fl. Brit. India 6: 282. 1892.

Herbs with ovoid or spherical bulbs. Leaves linear or boat-shaped, margin entire. Inflorescence umbel on nearly decumbent, compressed scape. Flowers white, fragrant. Fruits sub-globose.

Fls. & Frts. : May - Dec.

Distrib. : Kameng, Tirap; upto 500 m.

Crinum wattii Baker, Handb. Amaryllid. 76. 1888; Hook.f., Fl. Brit. India 6: 281. 1892.

Herbs with ovoid, short, necked bulbs. Leaves ensiform, tapering to acuminate tip, base boat-shaped. Inflorescence umbel; scapes stout; spathes deltoidly, lanceolate. Flowers white. Fruits dehiscent irregularly.

Fls. & Frts. : May - Dec.

Distrib. : Kameng; upto 1200 m. amongst grasses.

Curculigo capitulata (Lour.) O. Ktze., Rev. Gen. Pl. 2: 703. 1891; Hara, Fl. E. Himal. 418. 1966. *Leucojum capitulatum* Lour.,

Fl. Cochinch. 199. 179. *Molineria capitulata* (Lour.) Herbert, Amaryllidaceae 84. 1837. *Curculigo recurvata* Dryand. in Aiton, Hort. Kew., ed. 2. 2: 253. 1911; Hook.f., Fl. Brit. India 6: 278. 1892.

Tall herbs, upto 2 m high. Rootstocks tuberous. Leaves long petioled, lanceolate, plicate, hairy on veins beneath. Scapes many, stout or slender, flattened, villous. Inflorescence raceme. Flowers yellow. Berries creamy-white to white. Seeds black.

Fls. & Frts. : May Dec.

Distrib. : Kameng, Siang, Subansiri, Tirap; upto 1100 m, in moist shady places on the edges of forest openings and on rock boulders covered with humus.

Curculigo crassifolia (Baker) Hook.f., Fl. Brit. India 6: 279. 1892. *Molineria crassifolia* Baker in J. Lim. Soc. Bot. 17: 121. 1878.

Palm-like perennial herbs, upto 50 cm tall. Leaves long petioled, elliptic-lanceolate, thickly and rigidly coriaceous, glabrous above, white tomentose beneath. Inflorescence very large, dense-flowered raceme; scapes flattened, stout densely tomentose. Flowers yellow. Berries oblong.

Fls. & Frts. : May Sept.

Distrib. : Kemeng; between 1500-2000 m, in shady places on hill slopes.

Curculigo prainiana (Deb) Bennet & Raizada in Ind. J. For. 4: 67. 1981. *Molineria prainiana* Deb in Bull. Bot. Surv. India 6: 77. 1965. *Curculigo grandis sensu* Burkill in Rec. Bot. Surv. India 11: 386. 1924.

Acaulescent, perennial, tuberous herbs. Leaves more than 1 m long, glabrous above, pilose beneath, chartaceous. Flowers racemose. Ovary clavate-oblong.

Fls. & Frts. : Jan. April.

Distrib. : Kameng, Siang, Subansiri, Tirap.

Curculigo orchoides Gaertn., Fruct. 1: 63, t. 13. 1788; Hook.f., Fl. Brit. India 6: 279. 1892. *C. malabarica* Wight, Ic. t. 2043 A. f. 1. 1853.

Herbs with tuberous or elongated rootstocks. Leaves long or short petioled or sub-sessile, lanceolate, membranous, glabrous. Scapes very short, flattened, covered with leaf-sheaths. Flowers

yellow, subsessile, distichous, lower bisexual, upper male. Capsules oblong, 1-4 seeded.

Fls. & Frts. : April July

Distrib. : Kameng, Tirap; upto 1800 m, in moist grassy hill slope.

Dianella ensifolia (L.) DC. in Redoute, Liliac. 1: t. 1. 1802; Hook.f., Fl. Brit. India. 6: 337. 1892. *Dracaena ensifolia* L., Mant. Pl. 1: 63. 1767.

Herbs with branched, stoloniferous rootstocks and rigid stems. Leaves linear-lanceolate, keel and margin smooth or scabrid. Inflorescence panicle. Flowers white, greenish or bluish. Berries dark purple or blue.

Fls. & Frts. : Aug. Sept.

Distrib. : Kameng, Lohit, Subansiri, Tirap; between 600-1500 m, on slopes.

Disporum calcaratum D. Don in Trans. Linn. Soc. London 18: 516. 1841; Hook.f., Fl. Brit. India 6: 359. 1892.

Herbs, upto 60 cm high. Rootstocks creeping. Stems erect, angular, leafy. Leaves oblong-lanceolate, acuminate. Inflorescence few-flowered umbel. Flowers white, greenish or purplish. Berries fleshy, black.

Fls. & Frts. : May Sept.

Distrib. : Kameng; between 1500-2400 m.

Disporum cantoniense (Lour.) Merr. Philipp. J. Sci. 15: 229. 1920. *Fritillaria cantoniensis* Lour., Fl. Cochinch. 1: 206. 1790. *Disporum pullum* Salisb. in Trans. Hort. Soc. London 1: 331. 1812; Hook.f. Fl. Brit. Inda. 6: 360. 1892.

Herbs or shrubs, upto 1 m high; branches stiff, slender. Leaves ovate-oblong, lanceolate or linear, acute or acuminate. Inflorescence many or few flowered umbel. Flowers sessile or peduncled, white to dull purple, yellowish to brown Berries small.

Fls. & Frts. : April Nov.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 1200-1800 m.

Fritillaria cirrhosa D. Don, Prodr. Fl. Nepal. 51. 1825; Hook.f., Fl. Brit. India 6: 353. 1892.

Bulbous, leafy, unbranched herbs. Lower leaves opposite, upper whorled with cirrhose tips. Inflorescence axillary or terminal raceme.

Flowers 1-2-tasseilate; nectary broad, naked. Capsule loculicidal, erect, many-seeded.

Fls. & Frts. : April - Sept.

Distrib. : Kameng; between 3000-4500 m.

Gonioscypha eucomoides Baker in J. Linn. Soc. Bot. 14: 581, t. 19. 1875; Hook.f., Fl. Brit. India 6: 326. 1892.

Herbs with long, fleshy rootstocks. Leaves radical, petioled, oblong-lanceolate, acuminate, costate, strongly veined. Inflorescence densely flowered spike; scapes stout, terete with basal sheaths. Flowers white. Berries long, fleshy, 1-seeded.

Fls. & Frts. : Sept. - Dec.

Distrib. : Kameng; between 1400-3000 m, amidst grassed and shrubs in shady forest floor.

Hypoxis aurea Lour., Fl. Cochinch. 200. 1790; Hook.f., Fl. Brit. India 6: 277, 1892. *Curculigo graminifolia* Nimmo in Grah., Cat. Pl. Bombay 215. 1839.

Deciduous herbs. Roots stocks erect, elongated or globose. Leaves linear, acute, glabrous or villous beneath, sub-coriaceous. Inflorescence raceme; scapes filiform, villous when young. Perianthlobes yellow, outer green on the back. Capsules clavate, hairy.

Fls. & Frts. : May - Nov.

Distrib. : Kameng, Tirap; between 1200-2000 m, in grasslands, and in open waste places.

Lilium wallichianum Schult. f. in J.A. & J.H. Schult., Syst. Veg. 7: 1689. 1830; Hook.f., Fl. Brit. India 6: 349. 1892.

Tall, unbranched, leafy herbs, 1-2 m high; bulbs small, on creeping rootstocks. Leaves narrowly linear. Flowers sub-solitary, sweet scented, tubes greenish outside. Capsules many-seeded, erect, coriaceous.

Fls. & Frts. : May - Sept.

Distrib. : Kameng; between 1000-2000 m.

Lloydia flavonutans Hara in J. Jap. Bot. 49: 202. 1974. *L. serotina* auct. non Reichb., Hook.f., Fl. Brit. India 6: 354, 1892, p.p.

Small, slender herbs, 10-30 cm high; bulbs elongate. Leaves few, small. Flowers few or solitary, small, white or yellow. Capsules loculicidal. Seeds compressed, angled.

Fls. & Frts. : May - Sept.

Distrib. : Arunachal Pradesh.

Maianthemum fuscum (Wall.) La Frankie in Taxon 35(3): 588. 1986. *Smilacina fusca* Wall., Pl. Asiat. Rar. 3: 37, t. 257. 1832; Hook.f., Fl. Brit. India 6: 323, 1892. *Tovaria fusca* (Wall.) Baker in J. Linn. Soc. Bot. 14: 568. 1875.

Perennial, rhizomatous, nearly glabrous herbs. Leaves ovate-cordate, acuminate, membranous, glabrous or sparsely pilose beneath. Inflorescence deltoid panicle. Perianth brown-purple or creamy-white. Berries 3-seeded.

Fls. & Frts. : July - Sept.

Distrib. : Kameng, Lohit, Tirap; between 1800-2000 m, creeping on forest floor.

Maianthemum oleraceum (Baker) La Frankie in Taxon 35(3): 589. 1986. *Tovaria oleracea* Baker in J. Linn. Soc. Bot. 14: 569. 1875. *Smilacina oleracea* (Baker) Hook.f. & Thoms. in Hook.f., Fl. Brit. India 6: 323. 1892.

Herbs, upto 1 m tall with short rootstocks. Stems stout, flexuous, reddish. Leaves sessile, oblong-lanceolate, acuminate, pubescent beneath. Inflorescence oblong or deltoid, pubescent panicle. Perianth whits. Fruits berries.

Fls. & Frts. : April-Aug.

Distrib. : Kameng, Lohit; between 2700-3300 m, amidst other shrubs down the hill.

Maianthemum pallidum (Royle) Karth. in Karth. *et.al.*, Fl. Ind. Enum. Monocot. 97. 1989. *Smilacina pallida* Royle, Ill. Bot. Himal. 1: 380. 1839; Hook.f., Fl. Brit. India 6: 323. 1892. *Tovaria pallida* (Royle) Baker in J. Linn. Soc. Bot. 14: 566. 1875.

Herbs. Stems very stout, naked below, flexuous above, upto 1 m high. Leaves oblong, acute, pale and densely pubescent beneath. Inflorescence raceme. Perianth purple or white. Berries globose.

Fls. & Frts. : April - July.

Distrib. : Kameng; between 2400-3300 m.

Maianthemum purpureum (Wall.) La Frankie in Taxon 35(3): 589. 1986. *Smilacina purpurea* Wall., Pl. Asiat. Rar. 2: 38, t. 144. 1831. *S. pallida auct. non* Royle Hook.f., Fl. Brit. India 6: 323. 1892, *p.p.*

Herbs. Stems dark violet. Leaves oblong, acute, pubescent beneath. Inflorescence dark violet. Perianth dark violet without, pale-green within. Fruits globose.

Fls. & Frts. : April - Aug.

Distrib. : Tawang; between 2700-3300 m.

Nomocharis nana (Klotzsch) Wilson, Lilies E. Asia 13. 1925; Dasgupta & Deb in J. Econ. Tax. Bot. 4(2): 550. 1983. *Lilium nanum* Klotzsch in Bot. Ergeb. Woldem. Reise 53. 1862. *Fritillaria stracheyi* Hook.f., Fl. Brit. India 6: 353. 1892.

Delicate herbs, 10-45 cm tall. Leaves spiral, crowded at top. Flowers terminal, crowded by apical leaves, dull purple to mauve with dark spot within; nectaries bilobed, crested. Capsules oblong or broadly elliptic. Seeds numerous.

Fls. & Frts. : July - Oct.

Distrib. : Kameng; between 3600-3900 m.

Nomocharis souliei (Franch.) W.W. Smith & W.E. Evans in Notes Roy. Bot. Gard. Edinburgh 14: 102. 1924; Dasgupta & Deb in J. Econ. Tax. Bot. 4(2): 556. 1983.

Herbs, 16-40 cm tall; bulbs sub globose, with few scales. Leaves alternate, sparse below, oblong or elliptic. Flowers solitary, terminal, deep brownish-crimson or red; nectaries oblong. Capsules oblong to globose-oblong.

Fls. & Frts. : July - Oct.

Distrib. : Thachu valley (Arunachal Pradesh).

Nomocharis synaptica Sealy in Kew Bull. 1950: 296. 1950; Dasgupta & Deb in J. Econ. Tax. Bot. 4(2): 553. 1983.

Herbs, 60-100 cm tall; bulbs ovoid with numerous scales. Leaves alternate, more dense above, lanceolate. Flowers pink; nectaries bilobed, flagellate. Capsules ovoid-oblong.

Fls. & Frts. : July - Dec.

Distrib. : Thachu valley (Arunachal Pradesh).

Ophiopogon dracaenoides (Baker) Hook.f., Fl. Brit. India 6: 268. 1892. *Fluggea dracaenoides* Baker in Trimen, J. Bot. 174. 1874.

Herbs with prostrate, stout, thick, closely jointed stems, clothed with green sheaths at base. Leaves tufted, oblanceolate, acuminate.

Inflorescence raceme. Flowers solitary or fascicled, white or pale-lilac. Capsules indehiscent.

Fls. & Frts. : Sept. March.

Distrib. : Kameng; between 1200-1800 m.

Ophiopogon intermedius D. Don, Prodr. Fl. Nepal, 48. 1825; Hook.f., Fl. Brit. India 6: 269. 1892. *O. indicus* Wight., Ic. Pl. Ind. Or. t. 2050. 1853. *Ophiopogon wallichianus* (Kunth) Hook.f., Fl. Brit. India 6: 268. 1892.

Scapigerous herbs. Leaves tufted, linear, margins minutely erose. Scapes slender. Flower solitary, white. Fruits indehiscent.

Fls. & Frts. : Sept. Feb.

Distrib. : Kameng, Siang, Tirap; between 1500-2700 m, on humus rich forest floor.

Ophiopogon wallichianus var. **pauciflora** Hook.f., Fl. Brit. India 6: 269. 1892.

Herbs. Rootstocks slender with long, cylindric tube like roots. Leaves narrower, recurved, smooth. Inflorescence lax flowered raceme. Flowers white or pale-lilac.

Fls. & Frts. : Sept. Feb.

Distrib. : Kameng, Lohit; between 1800-2700 m.

Paris polyphylla J.E. Smith in Rees, Cyclop 26: Paris 2. 1813; Hook.f., Fl. Brit. India 6: 362. 1892.

Herbs, 1 m tall. Rootstocks annulate. Leaves oblong or oblanceolate, acuminate, petioled, base rounded or acute. Flowers axillary, solitary, sessile or pedicelled, whitish to yellow. Berries green, fleshy, smooth, loculicidal. Seeds ovoid, scarlet.

Fls. & Frts. : Jan. Oct.

Distrib. : Kameng, Lohit; Siang, Subansiri, Tirap, between 1800-3000 m, in moist places inside forests.

Peliosanthes teta ssp. **humilis** (Andr.) Jessop in Blumea 23: 155. 1976. *P. humilis* Andr. in Bot. Rep. 10: t. 534. 1808. *P. bakeri* Hook.f., Fl. Brit. India 6: 267. 1892. *P. macrophylla* Wall. ex Baker in J. Linn. Soc. Bot. 17: 505. 1879; Hook.f., Fl. Brit. India 6: 266. 1892.

Perennial scapigerous herbs, upto 1 m high. Rootstocks horizontal. Leaves in rosette, elliptic-lanceolate. Scape long or short. Raceme short, many flowered. Flowers greenish or purple. Fruits indehiscent. Seeds small, oblong.

Fls. & Frts. : Nov. Jan.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 300-1800 m.

Peliosanthes violacea var. ***minor*** Biswas in Ind. For. Rec. 3(1): 53. 1940.

Terrestrial herbs, Flowers greenish white.

Fls. & Frts. : Oct. Dec.

Distrib. : Kameng, Siang, Subansiri; between 1000-2000 m, on moist ground and in rock crevices.

Polygonatum brevistylum Baker in J. Linn. Soc. Bot. 14: 556. 1875; Hook.f., Fl. Brit. India 6: 319. 1892.

Perennial epiphytic herbs, upto 35 cm high. Rootstocks creeping. Stems green, spotted with purple. Leaves shortly petioled, oblong, acute, subcoriaceous. Flowers axillary, solitary or many, yellow, lobes green. Berries broadly ellipsoid, white. Seeds ellipsoid or ovoid.

Fls. & Frts. : May Oct.

Distrib. : Siang, Tirap; between 1500-2100 m.

Polygonatum cathcartii Baker in J. Linn. Soc. Bot. 14: 556. 1875; Hook.f., Fl. Brit. India 6: 320. 1892.

Herbs, upto 1 m high. Stems slender, terete, glabrous. Leaves opposite, subsessile, ovate-oblong or lanceolate, acuminate. Flowers 2-4, axillary, green or yellowish, lobes green. Fruits berries. Seeds many, globose.

Fls. & Frts. : May Oct.

Distrib. : Kameng, Siang; between 1900-3000 m, on moist hill slopes.

Polygonatum cirrhifolium (Wall.) Royle, Ill. Bot. Himal. 380. 1839; Hook.f., Fl. Brit. India 6: 322. 1892. *Convallaria cirrhifolia* Wall. in As. Res. 13: 182. 1820.

Herbs, upto 1 m tall. Stems flexuous, delicate. Leaves terete, pubescent or glabrous, sessile, whorled, membranous, tip circinate, glaucous above, costate beneath. Flowers 2-4, axillary, whitish-green or purplish or whitish with slight purplish tinge. Berries with variable size and number of seeds.

Fls. & Frts. : April. Oct.

Distrib. : Kameng; between 1500-3000 m, along rocky slopes.

Polygonatum graminifolium Hook., Ic. Pl. 9, t. 833. 1852; Hook.f., Fl. Brit. India 6: 319. 1892.

Small herbs, upto 50 cm high. Rootstocks fleshy, constricted at internodes. Leaves crowded, membranous, linear, obtuse. Flowers axillary, solitary, violet. Fruit berries.

Fls. & Frts. : May Oct.

Distrib. : Kameng; between 2400-3000 m.

Polygonatum griffithii Baker in J. Linn. Soc. Bot. 14: 558. 1875; Hook.f., Fl. Brit. India 6: 320. 1892.

Herbs, upto 1 m tall. Stems slender, terete, glabrous. Leaves opposite, sessile, membranous, linear-lanceolate, acute or acuminate, sub-glaucous beneath. Flowers 2, axillary, white; lobes green to green-yellow turning light yellow at maturity. Fruit berries.

Fls. & Frts. : Oct. Jan.

Distrib. : Lohit; between 1200-1500 m.

Polygonatum hookeri Baker in J. Linn. Soc. Bot. 14: 588. Hook.f., Fl. Brit. India 6: 320. 1892.

Very small herbs, upto 5 cm high. Stems slender. Leaves opposite, crowded; lower leaves alternate, sessile, linear, obtuse, glaucous beneath. Flowers axillary, solitary, mauve. Fruit berries.

Fls. & Frts. : April Aug.

Distrib. : Kameng; between 3000-4200 m, on moist soil.

Polygonatum nervulosum Baker in J. Linn. Soc. Bot. 14: 557. 1857; Hook.f., Fl. Brit. India 6: 319. 1892.

Epiphytic herbs, 1-1.5 m high. Stems slender, flexuous. Leaves elliptic, caudate-acuminate. Flowers 1-3. Berries bright rosy-red. Seeds 2-3, globose.

Fls. & Frts. : May Aug.

Distrib. : Kameng; between 1500-2700 m, on moss covered trees.

Polygonatum oppositifolium (Wall.) Royle, Ill. Bot. Himal. 1: 380. 1839; Hook.f., Fl. Brit. India 6: 320. 1892. *Convallaria oppositifolia* Wall. in As. Res. 13: 380, f. 1. 1820. var. **oppositifolium**.

Herbs, upto 1 m tall. Stems tall, furrowed, glabrous. Rhizomes green. Leaves opposite, few, shortly petioled, coriaceous, oblong, acuminate, shining above. Flowers many, axillary, white with greenish

or yellow lobes. Berries broadly ovoid or ellipsoid, scarlet, many-seeded. Seeds globose.

Fls. & Frts. : June Nov.

Distrib. : Siang, Tirap; between 1200-1800 m, in shady, rocky places.

Polygonatum oppositifolium var. **decepiens** Baker in J. Linn. Soc. Bot. 14: 559. 1857; Hook.f., Fl. Brit. India 6: 321. 1892.

Leaves shortly petioled, lower ones alternate, lanceolate, acuminate, broadest above the middle.

Fls. & Frts. : June Sept.

Distrib. : Kameng; between 2100-3300 m.

Polygonatum punctatum Royle ex Kunth, Enum. Pl. 5: 142. 1850; Hook.f., Fl. Brit. India 6: 321. 1892.

Epiphytic herbs, upto 60 cm tall. Stems angled, grooved, glabrous. Leaves petioled or sessile, opposite, rarely alternate, coriaceous, oblong-lanceolate, obtuse or obtusely acuminate, shining above. Flowers small, axillary, white spotted with lilac, lobes green or green with violet margin. Berries broadly ovoid or ellipsoid, scarlet.

Fls. & Frts. : May Nov.

Distrib. : Kameng, Subansiri; between 1500-2400 m, on moss and humus covered rocks.

Polygonatum verticillatum (L.) All., Fl. Pedemont. 1: 131. 1785; Hook.f., Fl. Brit. India 6: 321. 1892. *Convallaria verticillata* L., Sp. Pl. 315. 1753.

Herbs, upto 1 m tall. Stems slender or stout, angled glabrous. Leaves whorled, sessile, linear or linear-lanceolate, acuminate, membranous, glaucous beneath, margin ciliolate. Flowers axillary, whorled, greenish or lilac. Berries many-seeded. Seeds globose.

Fls. & Frts. : May Oct.

Distrib. : Kameng; between 2400-3000 m.

Polygonatum wardii Wang & Tang in Bull. Fasc. Mem. Inst. Biol. Peiping 7: 284. 1937; Jeffrey in Kew Bull. 34: 455. 1980.

Herbs.

Fls. & Frts. : May Oct.

Distrib. : Arunachal Pradesh.

Streptopus simplex D. Don, Prodr. Fl. Nepal. 48. 1825; Hook.f., Fl. Brit. India 6: 322. 1892.

Herbs, upto 1 m high. Stems leafy, flexuous. Leaves alternate, ovate-cordate, amplexicaul, membranous, glaucous beneath. Flowers axillary, solitary, white with violet spot inside. Berries 5-6-seeded, sub-globose.

Fls. & Frts. : May Sept.

Distrib. : Kameng; between 1800-3300 m.

Theropogon pallidus (Kunth) Maxim. in Bull. Acad. Imp. Sci. St. Petersb. 15: 9. 1871; Hook.f., Fl. Brit. India 6: 324. 1892. *Ophiopogon pallidus* Kunth, Enum. Pl. 5: 300. 1850.

Scapigerous herbs. Rootstocks branched; roots thick. Leaves radical, linear, costate, acuminate, glaucous beneath. Inflorescence raceme. Flowers dropping, white with pink tinge. Berries subglobose.

Fls. & Frts. : May Aug.

Distrib. : Kameng; between 2500-3300 m, in rocky soil.

Tupistra clarkei Hook.f., Fl. Brit. India 6: 325. 1892.

Perennial herbs. Leaves broadly oblanceolate, acuminate, coriaceous, shining. Inflorescence decurved or pendulous, dense-flowered spike. Flowers large, pale-greenish, yellow or purplish. Berries globose, one-seeded.

Fls. & Frts. : Nov. Feb.

Distrib. : Lohit, Siang; between 800-1500 m, near streams in Oak forests.

Tupistra mutans Wall. ex Lindl. in Edw., Bot. Reg. 15: t. 1223. 1829; Hook.f., Fl. Brit. India 6: 324. 1882. *T. squalida* auct. non Ker-Gawl., Baker in J. Linn. Soc. Bot. 14: 580. 1875, *p.p.*

Herbs, with thick, fasciculated roots. Leaves narrowly oblanceolate, acuminate, cuneate coriaceous, shining. Inflorescence dense-flowered, decurved, dark purple spike. Flowers pale-creamy at base, dark purple above. Berries subglobose, one-seeded.

Fls. & Frts. : Nov. April.

Distrib. : Kameng, Lohit; between 1000-1500 m, forming clusters in shady places on humus rich soil in forests.

Tupistra veratrifolia Kurz ex Dunn in Kew Bull. 1920: 344. 1920; Burkill in Rec. Bot. Surv. India 10 (1): 292. 1924.

Perennial herbs.

Fls. & Frts. : July Dec.

Distrib. : Siang.

Tupistra wattii (C.B. Clarke) Hook.f., Fl. Brit. India 6: 325. 1892. *Campylandra wattii* C.B. Clarke in J. Linn. Soc. Bot. 25: 78, t. 32. 1892.

Berries 1-seeded, globose.

Fls. & Frts. : April - Sept.

Distrib. : Kameng; between 1800-2100 m.

Zephyranthes carinata Herbest in Curtis, Bot. Mag. 52: t. 2594. 1825; Mitra, Fl. Pl. E. India 1: 47. 1958.

Perennial herbs. Inflorescence long peduncled umbel. Flowers small, whitish.

Fls. & Frts. : Aug. - Sept.

Distrib. : Tirap, Tawang; upto 2000 m.

Insufficiently known materials

Lilium duchartrei Franch.

L. primulum Baker.

L. wardii Staff. ex W.W. Smith.

Loydia forestii Diels.

Paris polyphylla var. *appendiculata* Hara.

P. polyphylla var. *wallichii* Hara.

SMILACACEAE

Heterosmilax japonica Kunth, Enum. Pl. 5: 250. 1850; T. Koyama in Brittonia 36: 195. 1984. *H. indica* DC., Monagr. Phan. 1: 43. 1878; Hook.f., Fl. Brit. India 6: 314. 1892.

Slender, woody climbers. Leaves ovate or oblong-lanceolate, acuminate, base rounded, base sheathing. Inflorescence compound umbel. Berries globose. Seeds hemispheric.

Fls. & Frts. : Aug. - Nov.

Distrib. : Siang; between 300-1200 m.

Smilax arisanensis Hayata, Mat. Fl. Formosa 356. 1911. *S. oxyphylla* Wall. ex. Kunth, Enum. Pl. 5: 238. 1850; Hook.f., Fl. Brit. India 6: 308. 1892.

Branches terete, slender with few short prickles. Leaves narrowly oblong-lanceolate, acuminate, 3-costate, petiole sheath obscure. Inflorescence ebracteate, slender, umbel. Fruits berries.

Fls. & Frts. : Oct. Jan.

Distrib. : Siang; between 1200-1800 m.

Smilax aspera L., Sp. Pl. 1028. 1753; Hook.f., Fl. Brit. India 6: 306. 1892.

Large, shrubby climbers. Leaves ovate, deltoid or lanceolate, acute or acuminate, base hastate or cordate, blotched with white. Inflorescence drooping, paniced spike. Flowers white, sweet scented. Berries bluish, 3-seeded.

Fls. & Frts. : Sept. Jan.

Distrib. : Kameng; between 1200-1800 m, on bushes along slope of hills in primary forests.

Smilax bracteata var. ***verruculosa*** (Merrill) T. Koyama in Quart. J. Taiwan Mus. 10: 18. 1957. *S. verruculosa* Merrill in Phillipp. J. Sci. 5: 173. 1910. *S. aspericualis* Wall. ex DC., Monagr. Phan. 1878; Hook.f., Fl. Brit. India 6: 306. 1892.

Woody climbers; branches terete, scabrid, unarmed. Leaves oblong or linear-oblong, thin, 3-costate, cuneate. Inflorescence many-flowered umbel. Fruits berries.

Fls. & Frts. : Nov. March.

Distrib. : Siang; between 200-1000 m.

Smilax elegans subsp. ***glaucophylla*** (Klotzsch) Noltie, Edinburg J. Bot. 51: 154. 1993. *Smilax glaucophylla* Klotzsch in Klotzsch & Garcke, Bot. Reise. Prinz. Waldemar. 45, t. 91. 1862; T. Koyama in Quart. J. Taiwan Mus. 13: 34. 1960. *S. parvifolia* Kunth ex Hook.f., Fl. Brit. India 6: 304. 1892.

Woody climbers; branches very slender, smooth, unarmed. Leaves ovate, ovate-cordate or lanceolate, acute or acuminate, 3-5 costate, base rounded or cordate, glaucous beneath. Inflorescence umbel. Flowers minute. Fruits berries.

Fls. & Frts. : May Sept.

Distrib. : Dibang Valley, Siang; between 1300-2000 m, in Oak forests.

Smilax ferox Wall. ex Kunth, Enum. Pl. 5: 251. 1850; Hook.f., Fl. Brit. India 6: 307. 1892.

Perennial shrubs, upto 2 m high; branches strongly prickly. Leaves elliptic to ovate or obovate-oblong, acute or mucronate, 3-5-costate, base cuneate or rounded, coriaceous. Inflorescence umbel. Flowers pink-red. Berries 1-2-seeded.

Fls. & Frts. : April - Sept.

Distrib. : Kameng; between 1500-2400 m, on dry, sunny slopes.

Smilax griffithii A. DC., Monagr. Phan. 1: 198. 1878; Hook.f., Fl. Brit. India 6: 313. 1892.

Woody climbers; young branches with few, minute prickles, obtusely angled, smooth. Leaves ovate, acuminate, 5-7-costate, cuneate at base, coriaceous. Inflorescence umbel. Sepals brown.

Fls. & Frts. : Nov. - March.

Distrib. : Lohit, Siang; between 800-1500 m.

Smilax lanceifolia Roxb., Fl. Ind. 3: 792. 1832; Hook.f., Fl. Brit. India 6: 308. 1892.

Woody climbers; branches slender, prickly. Leaves orbicular-oblong or oblong-lanceolate, acuminate, 3-costate, base acute, membranous. Inflorescence sub-sessile, many flowered umbel. Fruits berries.

Fls. & Frts. : Oct. - Feb.

Distrib. : Lohit, Siang, Tirap; between 600-1800 m.

Smilax longibracteolata Hook.f., Fl. Brit. India 6: 305. 1892.

Climbers, upto 3 m long. Stems slender; branches terete, smooth. Leaves ovate-cordate, acuminate, 5-costate, thin, finely reticulate. Inflorescence small, few flowered umbel. Flowers chocolate-brown.

Fls. & Frts. : April - Aug.

Distrib. : Kameng; between 1500-1800 m, on bushes in shady forest floor.

Smilax megacarpa A. DC., Monagr. Phan. 1: 186. 1878; Hook.f., Fl. Brit. India 6: 311. 1892.

Large, woody climbers; branches terete, smooth, unarmed. Leaves elliptic, ovate or oblong, 3-costate, obtusely acuminate. Inflorescence umbel. Fruits berries.

Fls. & Frts. : Oct. - March.

Distrib. : Kameng, Siang; between 1200-1800 m.

Smilax ovalifolia Roxb., Fl. Ind. 3: 794. 1832; T. Koyama in Adv. Front. Pl. Sci. 4: 48, t.1. 1963. *S. macrophylla* Roxb., Fl. Ind. 3: 793. 1832, non Willd., Hook.f., Fl. Brit. India 6: 310. 1892. *S. zeylanica auct. non L.*, Fischer in Gamble, Fl. Pres. Madras 1518. 1928, p.p.

Shrubs; branches stout, terete, scandent, prickly. Leaves orbicular or broadly oblong, cuspidate, 5-7-costate, rounded, subcordate or

cuneate at base, glossy above. Inflorescence many-flowered umbel. Berries 1-2-seeded.

Fls. & Frts. : April - Sept.

Distrib. : Subansiri; upto 1000 m.

Smilax perfoliata Lour., Fl. Cochinch. 622. 1790; T. Koyama in Quart. J. Taiwan Mus. 13: 38. 1960; N.P. Balakr., Fl. Jowai 2: 544. 1983. *S. prolifera* Roxb., Fl. Ind. 3: 795. 1832; Hook.f., Fl. Brit. India 6: 312. 1892. *S. ocreata* A. DC., Monogr. Phan. 1: 193. 1878. *S. roxburghiana* Wall. ex Hook.f., Fl. Brit. India 6: 311. 1892.

Climbing or straggling shrubs; branches stout, terete prickly. Leaves ovate, orbicular-ovate or oblong, acuminate or cuspidate, 3-7-costate, rounded or subrounded at base. Inflorescence elongated umbellate raceme or whorled. Flowers pale-greenish or yellowish. Berries red.

Fls. & Frts. : May-Dec.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; upto 1200 m.

Smilax quadrata A. DC., Monogr. Phan. 1: 183. 1878; Hook.f., Fl. Brit. India 6: 308. 1892.

Woody climbers; branches zig-zag, 4-angled, sparsely prickly. Leaves oblong or elliptic-oblong, broadly cuspidate, membranous, 3-costate, rounded at base. Inflorescence solitary umbel. Flowers small, white. Fruits berries.

Fls. & Frts. : Sept. - Feb.

Distrib. : Kameng, Siang; between 700-1800 m.

Smilax rigida Wall. ex Kunth, Enum. Pl. 5: 164. 1850; Hook.f., Fl. Brit. India 6: 304. 1892.

Perennial herbs or much branched erect shrubs; branches acutely angled with few small prickles, slender, distichous. Leaves sessile, orbicular-ovate or ovate-cordate, faintly 3-costate, shining green. Inflorescence 1-4-flowered umbel. Flowers pale-brown. Berries black.

Fls. & Frts. : April - Sept.

Distrib. : Kameng; between 2100-3000 m.

Smilax vaginata Decne. in Jacquem., Voy. Bot. 4: 169, t. 169. 1844; Hook.f., Fl. Brit. India 6: 305. 1892.

Slender, diffuse, unarmed, shrubby climbers; branches white, smooth, terete. Leaves elliptic-ovate or cordate, obtuse, acute or mucronate, membranous, cuncate or subcordate at base. Inflorescence many-flowered umbel. Flowers purplish. Fruits berries.

Fls. & Frts. : July Dec.

Distrib. : Kameng; between 1800-2700 m.

Smilax zeylanica L., Sp. Pl. 1029. 1753; Hook.f., Fl. Brit. India 6: 309. 1892.

Climbing shrubs; branches slender, more or less 4-angled. Leaves elliptic or broadly oblong or ovate-oblong, cuspidate, 3-5-costate, rounded or sub-cordate at base. Inflorescences umbel. Berries 2-seeded.

Fls. & Frts. : April Sept.

Distrib. : Tirap.

Insufficiently known materials

Heterosmilax polyandra Gangnep

Smilax buimbelata Koyama

Smilax griffithii var. *borei* Panigr. & Naik

PONTEDERIACEAE

Monochoria hastata (L.) Solms. in A. DC., Monogr. Phan. 4: 523. 1883. *Pontederia hastata* L., Sp. Pl. 288. 1753. *M. hastaefolia* Presl., Rel. Haenk. 1: 128. 1827; Hook.f., Fl. Brit. India 6: 362. 1892.

Aquatic, creeping herbs with spongy rootstocks. Leaf solitary, terminal, long petioled, sagittate or ovate, base hastate or cordate. Inflorescence raceme or subumbel. Flowers pale-blue with greenish tinge or violet-blue dotted with red. Capsules sub-globose or oblong.

Fls. & Frts. : Feb. Nov.

Distrib. : Kameng, Tirap; between 100-1200 m, in marshy places, specially around paddy fields.

Monochoria vaginalis (Burm.f.) Persl., Rel. Haenk. 1: 128. 1827; Hook.f., Fl. Brit. India 6: 363. 1892. *Pontederia vaginalis* Burm.f., Fl. Ind. 80. 1768. *Monochoria vaginalis* var. *plantaginea* (Roxb.) Solms. in A. DC., Monogr. Phan. 4: 524. 1883; Hook.f.,

Fl. Brit. India 6: 363. 1892. *Pontederia plantaginea* Roxb.,
Fl. Ind. 2: 123. 1832.

Perennial herbs with spongy, suberect rootstocks. Leaves long petioled, oblong-lanceolate, base rounded to truncate. Inflorescence spike or raceme from uppermost leaf sheath. Flowers blue or violet-blue with green median vein. Capsules membranous, loculicidally 3-valved.

Fls. & Frts. : May Sept.

Distrib. : Kameng, Subansiri; between 200-1600 m, in shallow water and mud, along streams, drains and paddy fields.

COMMELINACEAE

✓ ***Aclisia subumbellata*** (C.B. Clarke) C.B. Clarke, *Commel.* & *Cyrt. Bengal.* t. 30. 1874. *Polia subumbellata* C.B. Clarke in *J. Linn. Soc. Bot.* 11: 451. 1870; Hook.f., *Fl. Brit. India* 6: 368. 1892.

Herbs, 60-90 cm long. Leaves elliptic or oblong-lanceolate, glabrous or scaberulous. Flowers white, in umbels. Berries black.

Fls. & Frts. : May Feb.

Distrib. : Changlang, Kameng, Siang, Subansiri, Tirap; upto 2000 m, in moist shady places.

✓ ***Amischophacelus axillaris*** (L.) Rolla Rao & Kammathy in *J. Linn. Soc. Bot.* 59: 306. 1966. *Commelina axillaris* L., *Sp. Pl.* 42. 1753. *Cyanotis axillaris* (L.) J.A. & J.H. Schultes in *Roam. & Schult., Syst. Veg.* 7(2) : 1154. 1830; Hook.f., *Fl. Brit. India* 6: 388. 1892.

Erect or creeping herbs, 10-80 cm high, much branched. Leaves oblong-lanceolate to linear-lanceolate, acute, sheaths swollen at base. Flowers blue or pale-pink, mostly enclosed in sheaths. Capsules ellipsoid, beaked. Seeds scrobiculate, dark brown.

Fls. & Frts. : July Feb.

Distrib. : Kameng; between 100-800 m, in open paddy fields, streamsides, marshy places and ditches.

Amischotolype hookeri (Hassk.) Hara, *Fl. E. Himal.* 399. 1966. *Forrestia hookeri* Hassk. in *Flora* 47: 639. 1864; Hook.f., *Fl. Brit. India* 6: 384. 1892.

Perennial, stout herbs, 1-1.5 m high. Leaves oblanceolate, glabrous above, pubescent along veins beneath. Flowers in small, crowded,

sessile, axillary panicle. Capsules oblong-lanceolate, 3-valved, beaked. Seeds oblong, rugose, blood-red or orange-red.

Fls. & Frts. : June Sept.

Distrib. : Changlang, Kameng, Siang, Subansiri; between 600-800 m, in dense forests.

Amischotolype mollissima (Blume) Hassk. in Flora 46: 392. 1863; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 16 (1-4): 17. (1974) 1977. *Campelia mollissima* Blume, Enum. Pl. Java 1: 7. 1827. *A. mollissima* var. *marginata* (Blume) Rolla Rao in M.V.M. Patrika 6: 53. 1971. *A. mollissima* var. *glabrata* (Hassk.) Rolla Rao in M.V.M. Patrika 6: 53. 1971. *F. glabrata* Hassk. in Flora 47: 630. 1864; Hook.f., Fl. Brit. India 6: 383. 1892. *Forrestia marginata* var. *rostrata* (Hassk.) C.B. Clarke in DC., Monogr. Phan. 3: 237. 1881; Hook.f., Fl. Brit. India 6: 383. 1892. *F. mollissima* (Blume) Koorders, Excursion Fl. Java 1: 282. 1911; N.P. Balakr., Fl. Jowai 2: 550. 1983.

Perennial, robust herbs. Leaves elliptic, obovate-oblong, sparsely hairy beneath. Flowers red-violet, rarely whitish, in sessile, globose clusters. Capsules ellipsoid, 3-valved.

Fls. & Frts. : March Jan.

Distrib. : Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1400 m, forest undergrowth.

Commelina appendiculata C.B. Clarke, Commel & Cyrt. Bengal. 13. 1874; Hook.f., Fl. Brit. India 6: 374. 1892.

Herbs, 30-90 cm high. Leaves linear-lanceolate, glabrescent; spathes long peduncled, lanceolate, caudate-acuminate, glabrous without. Flowers blue or white in bifid raceme. Capsules 2- or 3-celled. Seeds flattened, black with whitish appendages.

Fls. & Frts. : April June.

Distrib. : Kameng; between 100-500 m.

Commelina diffusa Burm.f., Fl. Ind. 18, t. 6. f. 2. 1768; Panigr. & Kammathy in J. Indian Bot. Soc. 43: 299. 1969. *Commelina communis* Dalz. & Gibs., Bombay Fl. 252. 1861. *C. nudiflora* auct. non L., Hook.f., Fl. Brit. India 6: 369. 1892.

Herbs, 30-90 cm high. Stems with reddish-brown streaks. Leaves sessile, lanceolate, glabrous or puberulous beneath; spathes leaf-opposed, venicular. Flowers blue or white. Seeds rugose.

Fls. & Frts. : Jan. Oct.

Distrib. : Subansiri; between 100-500 m, in moist soil, near water sources, in grasslands or as forest undergrowth.

Commelina maculata Edgew. in Trans. Linn. Soc. London 20: 89. 1846; Rolla Rao in Blumea 14: 353. 1966. *C. obliqua* Buch.-Ham. ex D. Don, Prodr. Fl. Nepal. 45. 1825, non Vahl. Hook.f., Fl. Brit. India 6: 372. 1892, p.p. *C. paludosa* Blume, Enum. Pl. Java. 1: 2. 1827; Rolla Rao & Kammathy in J. Bombay Nat. Hist. Soc. 59: 60. 1962. *C. obliqua* var. *viscida* C.B. Clarke in A. DC., Monogr. Phan. 3: 178. 1881. *C. paludosa* var. *viscida* (C.B. Clarke) Rolla Rao & Kammathy in Bull. Bot. Surv. India 3: 168. 1961.

Stout herbs, 1-3 m high. Leaves sessile, usually glabrous, subcaudate-acuminate; spathes funnel shaped, folded. Flowers violet, blue or white. Capsules trigonous, obovoid. Seeds ellipsoid, compressed, smooth.

Fls. & Frts. : April Nov.

Distrib. : Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1700 m, or sandy river beds along streams and other moist places amongst grasses.

Commelina sikkimensis C.B. Clarke, Commel. & Cyrt. Bengal t. 6. 1874; Hook.f., Fl. Brit. India 6: 369. 1892.

Robust herbs, 1-3 m high. Stems with reddish-brown streaks. Leaves sessile, lanceolate, base oblique, glabrous or scaberulous. Flowers deep blue to bluish-white. Seeds irregularly rugose.

Fls. & Frts. : April Nov.

Distrib. : Kameng, Lohit, Subansiri, Tirap; between 900-1500 m, in moist sandy alluvium, near streams and roadside ditches.

Cyanotis cristata (L.) D. Don, Prodr. Fl. Nepal. 46. 1825; Hook.f., Fl. Brit. India 6: 385. 1892. *Tradescantia cristata* L., Sp. Pl. 42. 1753.

Perennial, creeping herbs, 15-45 cm long. Stems occasionally with longitudinal rows of hair. Leaves cauline, lanceolate. Bracts ovate-lanceolate, glabrous. Flowers blue-violet. Capsules obtuse.

Fls. & Frts. : June Sept.

Distrib. : Kameng, Tirap; between 100-1600 m, in moist and muddy places, along streams and ditches.

Cyanotis fasciculata (Heyne ex Roth) J.A. & J.H. Schultes in Roem & Schult., Syst. Veg. 7: 1152. 1830; Hook.f., Fl. Brit.

India 6: 387. 1892. *Tradescantia fasciculata* Heyne ex Roth, Nov. Sp. 189. 1821.

Annual, dwarf, decumbent herbs, floccosely silky throughout. Leaves linear or lanceolate. Flowers blue-purple or pink in sessile, terminal and axillary cymes. Capsules oblong. Seeds subrugose.

Fls. & Frts. : Sept. Nov.

Distrib. : Kameng; between 900-1300 m.

Cyanotis papilionaca (L.) Roem. & Schult., Syst. Veg. 7: 1151. 1830; Hook.f., Fl. Brit. India 6: 384. 1892. *Tradescantia papilionacea* L., Mant. Pl. 573. 1771.

Small, suberect herbs, 10-15 cm high. Leaves linear-oblong or lanceolate, acute or acuminate. Flowers blue in cymes. Capsules oblong. Seeds smooth or obscurely pitted, yellowish-brown.

Fls. & Frts. : Sept. Nov.

Distrib. : Subansiri; along slopes in rocky places.

Cyanotis vaga (Lour.) J.A. & J.H. Schult. in Roem. & Schult., Syst. Veg. 7: 1153. 1830; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 16(1-4): 19. 1977. *Tradescantia vaga* Lour., Fl. Cochinch. 193. 1790; *Cyanotis barbata* D. Don, Prodr. Fl. Nepal. 46. 1825; Hook.f., Fl. Brit. India 6: 385. 1892.

Perennial, bulbiferous, creeping herbs. Stems floccosely silky. Leaves linear or oblong-lanceolate. Flowers blue in sessile, axillary and terminal cymes. Capsules subquadrate, oblong.

Fls. & Frts. : July Nov.

Distrib. : Subansiri; on moist hill slopes.

Floscopa scandens Lour., Fl. Cochinch. 193. 1790; Hook.f., Fl. Brit. India 6: 390. 1892.

Slender or robust, suberect, sometimes creeping herbs, upto 2 m long. Leaves sessile, lanceolate, acuminate. Flowers pink-violet or whitish in villous or hirsute-hairy paniced cymes. Capsules orbicular or ellipsoid, acute, compressed, crustaceous. Seeds glaucous.

Fls. & Frts. : Sept. Nov.

Distrib. : Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; between 100-2000 m, in marshy places, near water courses.

Murdannia divergens (C.B. Clarke) Brueckner in Engler & Prantl, Pflanzenfam. ed. 2, 15a: 173. 1930; Hara et al., Enum. Fl. Pl. Nepal. 3: 83. 1982. *Aneilema herbaceum* var. *divergens*

C.B. Clarke in J. Linn. Soc. Bot. 6: 448. 1871. *A. divergens* (C.B. Clarke) C.B. Clarke, Commel. & Cyrt. Bengal. 28: 1874; Hook.f., Fl. Brit. India 6: 390. 1892.

Perennial, erect, stout herbs, upto 1 m high. Leaves linear or narrowly lanceolate, acute; sheaths viscid hairy. Flowers pinkish-blue in terminal panicle. Capsules ellipsoid, angular, mucronate. Seeds greyish-brown.

Fls. & Frts. : June - Nov.

Distrib. : Kameng; between 500-1200 m, on dry grasslands and waste places.

Murdannia gigantea (Vahl) Brueckner in Engler & Prantl, Pflanzenfam. ed. 2, 15a: 173. 1930; *Commelina gigantea* Vahl, Enum. Pl. 2: 177. 1806. *Aneilema giganteum* (Vahl) R. Br., Prodr. 271. 1810; Hook.f., Fl. Brit. India 6: 379. 1892.

Erect herbs, upto 1 m high. Radicle leaves linear, acuminate; cauline leaves gradually reduced above; sheaths glabrous. Flowers blue-violet in terminal panicle. Capsules ellipsoid-mucronate. Seeds dark brown.

Fls. & Frts. : May - Nov.

Distrib. : Kameng; between 800-1400 m, in marshy places and open grasslands.

Murdannia japonica (Thunb.) Faden in Taxon 26: 142, f. 1. 1977. *Commelina japonica* Thunb. in Trans. Linn. Soc. London 2: 332. 1794. *C. elata* Vahl, Enum. Pl. 2: 178. 1806. *Murdannia elata* (Vahl) Brueck. in Engl. & Prantl, Pflanzenfam. ed. 2, 15a: 173. 1930; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 16 (1-4): 15. 1977. *Aneilema lineolatum* (Blume) Kunth, Enum. Pl. 4: 69. 1843; Hook.f., Fl. Brit. India 6: 376. 1892.

Erect, stout herbs, 1-3 m high. Leaves large, narrowly oblong or ensiform, acuminate, pinkish-green beneath. Flowers blue or white in terminal panicle. Capsules ellipsoid or subglobose trigonous, mucronate. Seeds reticulate, smooth, glandular, puberulous.

Fls. & Frts. : April - Sept.

Distrib. : Kameng; between 100-1600 m.

Murdannia loriformis (Hassk.) Rolla Rao & Kammathy in Bull. Bot. Surv. India 3: 393. 1961. *Aneilema loriforme* Hassk. in Miquel, Pl. Jungh. 153. 1852. *A. nudiflorum* var. *terminalis* (Wight) C.B. Clarke, Commel. & Cyrt. Bengal. 211. 1874; Hook.f.,

Fl. Brit. India 6: 379, 1892. *M. malabarica* var. *terminalis* (Wight) Sant. & Jain in Indian For. 92: 643. 1966.

Herbs, 20-60 cm long, glabrous or pubescent. Leaves linear-lanceolate, glabrous or hairy beneath. Flowers violet or pink or purplish-blue. Capsules ellipsoid.

Fls. & Frts. : June Oct.

Distrib. : Subansiri, Tirap; between 150-1600 m.

Murdannia nudiflora (L.) Brenan in Kew Bull. 1952; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 16(1-4): 15. (1974) 1977. *Commelina nudiflora* L., Sp. Pl. 41. 1753. *Tradescantia malabarica* L., Sp. Pl. ed. 2, 412. 1762. *Aneilema nudiflorum* (L.) R. Brown, Prodr. 271. 1810; Hook.f., Fl. Brit. India 6: 378. 1892. *A. compressa* Dalzell in Hook., Kew J. Bot. 3: 138. 1851. *A. nudiflorum* var. *compressa* (Dalz.) C.B. Clarke in DC., Monogr. Phan. 3: 211. 1881. *M. malabarica* (L.) Brueck. in Engler & Prantl, Pflanzenfam. ed. 2, 15a: 173. 1930. *Phaeneilema malabaricum* (L.) Narayanasw. & Biswas in Ind. For. Rec. (n.s.) Bot. 3: 55. 1941. *M. malabarica* var. *compressa* (Dalzell) Santapau & Jain in Ind. For. 92: 643. 1966.

Creeping herbs, 10-15 cm long, diffusely branched. Leaves cauline, linear-lanceolate. Flowers white, pinkish-blue or purple, in terminal and axillary panicle. Capsules subglobose, mucronate. Seeds brown, rugose, 2 in each cell.

Fls. & Frts. : June Jan.

Distrib. : Changlang, Kameng, Siang, Subansiri, Tirap; between 100-1700 m, in moist places, along streams and ditches, among rocks and pebbles in shallowly flowing water.

Murdannia simplex (Vahl) Brenan in Kew Bull. 1952: 186. 1952; Rolla Rao & Kammathy in J. Bombay Nat. Hist. Soc. 59: 66. 1962. *Commelina simplex* Vahl, Enum. Pl. 2: 177. 1806. *C. sinica* Roem. & Schult., Syst. Veg. 1: 376. 1817. *Aneilema sinicum* (Roem. & Schult.) Lindl. in Edgew., Bot. Reg. 8: 1. 659. 1822; Hook.f., Fl. Brit. India 6: 379. 1892. *A. giganteum auct. non* (Vahl.) R. Br, Hook.f., Fl. Brit. India 6: 379. 1892, *p.p.* *A. rigidum* Blatter in J. Bombay Nat. Hist. Soc. 33: 73. 1928.

Perennial, decubent herbs. Radical leaves linear; cauline leaves smaller; sheaths white, pubescent above. Flowers pink-purple in terminal panicle. Capsules ellipsoid-subglobose, reddish-purple. Seeds subcylindric, pale-brown.

Fls. & Frts. : May-Nov.

Distrib. : Kameng; between 1000-1600 m, along marshy and drier places, near forest and roadsides.

Murdannia spirata (L.) Brueck. in Engler & Prantl, *Pflanzenfam.* ed. 2, 15a: 173. 1930; A.S. Rao & D.M. Verma in *Bull. Bot. Surv. India* 16(1-4): 15. (1974) 1977. *Commelina spirata* L., *Mant. Pl.* 2: 176. 1771. *Aneilema spiratum* (L.) R. Br., *Prodr.* 271. 1810; Hook.f., *Fl. Brit. India* 6: 377. 1892.

Profusely branched herbs. Stems usually with longitudinal rows of hairs. Leaves cauline, ovate or ovate-lanceolate. Flowers pink, blue or purple in terminal panicle. Capsules ellipsoid.

Fls. & Frts. : July Oct.

Distrib. : Kameng, Subansiri; between 100-1000 m, in sandy and muddy places.

Murdannia triquetra (Wall. ex C.B. Clarke) Brueck. in Engler & Prantl, *Pflanzenfam.* ed. 2, 15a: 173. 1930; A.S. Rao & D.M. Verma in *Bull. Bot. Surv. India* 16(1-4): 15. (1974) 1977. *Aneilema triquetrum* Wall. ex C.B. Clarke in DC., *Monogr. Phan.* 3: 208. 1881; Hook.f., *Fl. Brit. India* 6: 378. 1892.

Slender herbs, 30-45 cm. Stems pinkish. Leaves lanceolate. Flowers pink or white on 1-2- flowered axillary peduncles. Capsules ellipsoid. Seeds yellowish.

Fls. & Frts. : Oct. Jan.

Distrib. : Subansiri; between 300-1700 m, in marshy places.

Pollia hasskarlii Rolla Rao in *Notes Roy. Bot. Gard. Edinburgh* 25: 188. 1964; A.S. Rao & D.M. Verma in *Bull. Bot. Surv. India* 16(1-4): 7. (1974) 1977. *P. aclisia* Hassk. in Miquel, *Pl. Jungh.* 1: 145. 1852, *nom. illegit.*; Hook.f., *Fl. Brit. India* 6: 367. 1892.

Erect herbs, upto 3 m high. Leaves sessile, oblanceolate, glabrous or subscaberulous; rachis sparsely hairy to villous, longer than branches. Flowers white or purplish. Fruits dark blue, not beaked.

Fls. & Frts. : April Dec.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 1250-1500 m, in forests.

Pollia secundiflora (Blume) Backer in *Ann. Jard. Bot. Buitenz.* 32: 166. 1922; A.S. Rao & D.M. Verma in *Bull. Bot. Surv. India* 16(1-4): 8. (1974) 1977. *Commelina secundiflora* Blume, *Enum.*

Pl. Java 1: 5. 1827. *Polliia sorzogonensis* (E. Mey.) Endl., Gen. 1029. 1840; Hook.f., Fl. Brit. India 6: 367. 1892. *Aclisia sorzogonensis* E. Mey. in Pressl, Rel. Haenk. 1: 138, t. 25. 1827. *A. secundiflora* (Blume) Bakh.f., in Backer & Bakh.f., Fl. Java 3: 658. 1968; Gandhi in Saldanha & Nicolson, Fl. Hassan Dist. 641. 1970.

Perennial, stoloniferous herbs. Stems upto 1.3 m long. Leaves oblong-lanceolate, hairy beneath. Flowers white or pale-pink in densely hooked hairy panicle. Fruits globose, not beaked.

Fls. & Frts. : May Sept.

Distrib. : Subansiri, Tirap; between 150-1600 m.

Rhopalephora scaberrima (Blume) Faden in Phytologia 37: 480. 1977. *Commelina scaberrima* Blume, Enum. Pl. Java. 1:4. 1827. *Aneilema scaberrimum* (Blume) Kunth, Enum. Pl. 4: 69. 1843; Hook.f., Fl. Brit. India 6: 382. 1892. *Dictyospermum protensum* Wight, Ic. t. 2071. 1853. *A. protensum* (Wight) Wall. ex C.B. Clarke in DC., Monogr. Phan. 3: 219. 1881. *Dictyospermum scaberrimum* (Blume) Morton ex Panigrahi in Phytologia 29: 338. 1976.

Erect or trailing herbs. Stems upto 3 m long, glabrous or hairy. Leaves sessile, lanceolate to oblong-lanceolate, acuminate, hispid above, glabrous or pubescent beneath. Flowers pinkish angular or globose, villous, pale-yellow, 1-seeded. Seeds rugose.

Fls. & Frts. : Sept. Jan.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 500-2100 m, in forest pockets, sometimes trailing among bushes.

Streptolirion volubile Edgew. in Proc. Linn. Soc. London 1: 254. 1845; Hook.f., Fl. Brit. India 6: 389. 1892. *Tradescantia cordiflora* Griffith, Priv. J. 208. 1847, non Swartz, *Streptolirion cordifolium* (Griffith) Kuntze., Rev. Gen. Pl. 2: 722. 1891.

Climbers or straggler, sometimes creeping herbs. Stems glabrous or sparsely hairy. Leaves broadly ovate or suborbicular, glabrous or sparsely hairy. Flowers white, pink or lilac, arising from base of leaf sheaths. Capsules oblong, trigonous, beaked, glabrous.

Fls. & Frts. : April March.

Distrib. : Kameng, Siang, Subansiri, Tirap; between 500-1500 m, on dry ridges.

Streptolirion volubile ssp. **khasianum** (C.B. Clarke) D.Y. Hong in Acta Phytotax. Sin. 12: 463. 1974. *S. volubile* var. *khasianum*

C.B. Clarke in DC., Monogr. Phan. 3: 261. 1881; Hook.f., Fl. Brit. India 6: 389. 1892 (in *nota sub S. volubile*).

More hairy throughout than *ssp. volubile*. Capsules villous.

Fls. & Frts. : April March.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap.

Tricarpelema glanduliferum (J. Joseph & Rolla Rao) Rolla Rao in J. Indian Bot. Soc. 59. (suppl.): ii. 1980. *Aneilema glanduliferum* J. Joseph & Rolla Rao in J. Indian Bot. Soc. 47(3&4): 367. 1969.

Herbs.

Fls. & Frts. : June Sept.

Distrib. : Arunchal Pradesh.

Tricarpelema thomsonii (C.B. Clarke) J.K. Morton in J. Linn. Soc. Bot. 59: 436. 1966. *Aneilema thomsonii* C.B. Clarke in J. Linn. Soc. Bot. 15: 121. 1877; Hook.f., Fl. Brit. India 6: 376. 1892.

Herbs, 20-45 cm long. Stems glabrous or villous. Leaves usually petioled, scaberulous. Flowers pink or purplish-blue; staminodes present. Capsules glabrous.

Fls. & Frts. : June Nov.

Distrib. : Kameng, Lohit; between 500-2300 m.

JUNCACEAE

Juncus bufonius L., Sp. Pl. 328. 1753; Hook.f., Fl. Brit. India 6: 392. 1892.

Annual, small, tufted herbs. Leaves setaceous, channelled. Flowers pale-green with one bract and 2 bracteoles in terminal panicle. Capsules oblong, trigonous.

Fls. & Frts. : March June.

Distrib. : Siang; in muddy river beds.

Juncus effusus L., Sp. Pl. 326. 1753; Hook.f., Fl. Brit. India 6: 392. 1892.

Perennial, tufted herbs with rounded stems, 40-120 cm high. Leaves scaly at base. Flowers solitary, sessile, pseudoterminal, pale green to yellowish. Capsules oblong, obscurely reticulate.

Fls. & Frts. : March Sept.

Distrib. : Subansiri; between 300-1700 m, in moist swampy places, along ponds, lakes and river banks.

Juncus grisebachii Buchenau in Abh. Nat. Ver. Brem. 3: 295. 1873; Hook.f., Fl. Brit. India 6: 394. 1892.

Herbs, 15-45 cm high. Stems stout terete, fleshy. Leaves terete, septate. Flowers pale-yellow, subsessile, in globose heads. Capsules ovoid, beaked, shining. Seeds fusiform, pale-brown.

Fls. & Frts. : March Aug.

Distrib. : Kameng; between 2500-5000 m.

Juncus inflexus L., Sp. Pl. 326. 1753. *J. glaucus* Ehrh. ex Sibth., Fl. Oxon. 113. 1794; Hook.f., Fl. Brit. India 6: 393. 1892.

Tufted herbs. Stems rigid, distinctly striated. Leaves reduced to flat sheaths. Flowers green or whitish in axillary cymes. Capsules ovoid, mucronate.

Fls. & Frts. : April Aug.

Distrib. : Kameng; between 2000-3200 m.

Juncus ochraceus Buchenau in Abh. Nat. Ver. Brem. 3: 292. Hook.f., Fl. Brit. India 6: 394. 1892.

Perennial, tufted herbs. Leaves filiform. Flowers in loosely terminal panicle; bracteoles golden-yellow. Capsules narrowly ovoid, triquetrous, cuspidate.

Fls. & Frts. : Nov. March.

Distrib. : Lohit, Siang; between 1200-3000 m, wayside weed.

Juncus prismatocarpus var. **sinensis** (J. Gay) Hook.f., Fl. Brit. India 6: 393. 1892. *J. sinensis* J. Gay in Leharpe, Monogr. Jonc. 137. 1827.

Perennial herbs, 20-30 cm high. Leaves linear, terete or flat. Flowers sessile, greenish-brown, in 5-10 flowered, terminal panicle. Capsules pale-brown, acute angled. Seeds oblong, yellow, often shows vivipary.

Fls. & Frts. : April Dec.

Distrib. : Subansiri; upto 1500 m.

Luzula campestris (L.) DC. in Lamk. & DC., Fl. France 3: 161. 1805; Hook.f., Fl. Brit. India 6: 401. 1892. *Juncus campestris* L., Sp. Pl. 329. 1753.

Herbs. Leaves shorter than stems. Flowers sessile, congested in head-like clusters. Capsules shorter than tepals.

Fls. & Frts. : April Nov.

Distrib. : Kameng; between 1500-3100 m.

Luzula effusa Buchenau in Krit. Verz. Aller. Junca. 53, 88. 1880; Hook.f., Fl. Brit. India 6: 401. 1892.

Erect or ascending herbs, 20-70 cm high. Leaves linear, sparsely ciliate. Flowers pale or dark brown in lax panicle. Capsules oblong, mucronate, subequalling tepals.

Fls. & Frts. : May June.

Distrib. : Kameng; upto 1300 m.

Luzula plumosa E. Mey. in Linnæa 22: 387. 1849; Hook.f., Fl. Brit. India 6: 401. 1892.

Perennial, erect or ascending herbs, 15-45 cm high. Leaves linear, acuminate, long ciliate. Flowers brown, sessile, solitary. Capsules oblong, apiculate, subequalling tepals.

Fls. & Frts. : April June.

Distrib. : Kameng; upto 1900 m, on humus covered hill tops.

ARECACEAE

Arenga pinnata (Kuntze.) Merrille, Interpr. Rumph. Herb. Amboin. 119. 1917. *Saguerus pinnatus* Kuntze., Rev. Gen. Pl. 736. 1891. *Arenga saccharifera* Labill. in Mem. Intr. Paris 4: 209, tt. 6-7, 1803; Becc. & Hook.f., in Hook.f., Fl. Brit. India 6: 421, 1892.

Stout trees, 6-12 m high. Leaves long, pinnatisect; leaflets subsessile, linear, coriaceous, auricled at base. Flowers purple, solitary in interfoliar spadices. Fruits oblong, turbinate or globose, 2-3-seeded. Seeds compressed.

Fls. & Frts. : March Feb.

Distrib. : Siang; between 600-1100 m.

Calamus acanthospathus Griffith in Calcutta J. Nat. Hist. 5: 39. 1845; Becc. & Hook.f. in Hook.f., Fl. Brit. India 6: 448, 1892.

Trees, about 25 m high. Leaflets elliptic-lanceolate, smooth or scarcely spinescent above, margins spinulose, sheaths woody, obliquely truncate, short spiny or tubercled; petioles and rachis prickly on margin. Flowers in spadices. Fruits obovoid, brown, shortly beaked.

Fls. & Frts. : March Feb.

Distrib. : Siang; between 800-1700 m, in shaded places of primary forests.

Calamus erectus Roxb., Fl. Ind. 3: 774. 1832; Becc. & Hook.f. in Hook.f., Fl. Brit. India 6: 438, 1892 (excl. *schizospathus*).

C. collinus Griffith in Calcutta J. Nat. Hist. 5: 31, 1845. *C. macrocarpus* Griffith in Mart., Hist. Nat. Palm 3: 333, t. 176. f. 10. 1850. *C. erectus* var. *collina* (Griffith) Becc. & Hook.f. in Hook.f., Fl. Brit. India 6: 439, 1892. *C. erectus* var. *macrocarpa* (Griffith) Becc. & Hook.f. in Hook.f., Fl. Brit. India 6: 439, 1892.

Erect shrubs or small trees, 3-5 m high. Leaves flagellate; sheaths with long, flat spines; leaflets ensiform or narrowly lanceolate, margins spinulose, rachis spiny. Flowers in dark green spadices. Fruits ellipsoid, yellowish-red.

Fls. & Frts. : Sept. Jan.

Distrib. : Siang; between 900-1500 m, in primary forests.

Calamus flagellum Griffith. in Mart. Hist. Nat. Palm. 3: 333, t. 176. f. 9. 1849; Becc. & Hook.f. in Hook.f., Fl. Brit. India 6: 439, 1892.

Stout, scandent shrubs. Leaflets linear-lanceolate, obscurely setulose; spathes tubular, upper ones and petioles with short, recurved spines. Flowers in pendulous, unarmed, spicate spadices. Fruits ovoid-oblong, beaked.

Fls. & Frts. : Aug. Dec.

Distrib. : Siang, Tirap; upto 500 m.

Calamus floribundus Griffith. in Calcutta J. Nat. Hist. 5: 56. 1845; Becc. & Hook.f., Fl. Brit. India 6: 444. 1893.

Scandent shrubs, 3-6 m long. Sheaths spiny; flagellae occasionally present, elongate, irregularly clawed; ochrea bristly. Leaflets narrowly lanceolate. Flowers in spadices with spinescent flagellum. Fruits subglobose, brownish-yellow.

Fls. & Frts. : Nov. March.

Distrib. : Siang, Tirap; between 100-1500 m.

Calamus gracilis Roxb., Fl. Ind. 3: 781. 1832; Becc. & Hook. f. in Hook.f., Fl. Brit. India 6: 453. 1892.

Slender, scandent shrubs. Leaflets elliptic-lanceolate, acuminate, margins bristly costae setose above. Flowers in elongate, slender, drooping spadices; spathes tubular, acuminate, spinous beneath. Fruits oblong; scales pale-brown bordered. Seeds wrinkled.

Fls. & Frts. : Sept. Feb.

Distrib. : Siang, Tirap; upto 1600 m, on rocky hill slopes.

Calamus latifolius Roxb., Fl. Ind. 3: 775. 1832; Becc. & Hook.f. in Hook.f., Fl. Brit. India 6: 455. 1892.

Scandent shrubs. Leaves pinniferous above with flat spines in whorls; petiole margin spinulose; leaflets lanceolate to elliptic-lanceolate. Flowers in spadices, terminating in tail-like appendix. Fruits subglobose, pale-yellow.

Fls. & Frts. : March Oct.

Distrib. : Tirap; between 100-1000 m, in swampy places.

Caryota urens L., Sp. Pl. 1189. 1753; Becc. & Hook.f. in Hook.f., Fl. Brit. India 6: 422. 1892.

Tall, stout, annulate trees, 9-12 m high. Leaves large, bipinnatisect; leaflets obtriangular, obliquely truncate, serrate, drooping. Flowers solitary, subglobose, in shortly peduncled, interfoliar spadices. Fruits globose, reddish, 1-2-seeded.

Fls. & Frts. : Aug. Dec.

Distrib. : Kameng, Tirap; in dense evergreen forests.

Cocos nucifera L., Sp. Pl. 1188. 1753; Becc. & Hook.f. in Hook.f., Fl. Brit. India 6: 482. 1892.

Large, slender, unbranched trees, 12-24 m high. Stems annulate with apical crown of leaves. Leaves large, pinnatisect; leaflets narrow, coriaceous; spathes oblong, stiff, splitting longitudinally. Flowers small, in paniculate spadices; perianth coriaceous. Fruits large, ovoid, 1-seeded, green to yellowish with fibrous pericarp.

Fls. & Frts. : Feb. Sept.

Distrib. : Usually cultivated in warmer regions at lower elevations.

Didymosperma nana H. Wend. & Drude in Kerchov., Palm. 243. 1878; Becc. & Hook.f. in Hook.f., Fl. Brit. India 6: 420. 1892.

Erect shrubs, 1-1.5 m high, covered with rusty leaf sheaths. Leaves pinnatisect; leaflets obliquely lanceolate, irregularly lobed, pale beneath. Flowers in erect, stout, simple or paniculate, rusty spadices. Fruits oblong, white.

Fls. & Frts. : Nov. March.

Distrib. : Kameng, Siang, Tirap; between 900-1700 m.

Licuala peltata Roxb., Fl. Ind. 2: 179. 1832; Becc. & Hook.f. in Hook.f., Fl. Brit. India 6: 430. 1892.

Herbs, 1.5-4.5 m long. Stems annulate. Leaves peltate-orbicular, palmatisect or partite. Flowers in erect spadices, spathes tubular. Fruits reddish-yellow, obovoid, apiculate.

Fls. & Frts. : Jan. June.

Distrib. : Arunachal Pradesh; upto 500 m.

Licuala spinosa Thunb., Kongl. Vetensk. Acad. Nya Handl. 3: 287. 1782; Becc. & Hook.f. in Hook.f., Fl. Brit. India 6: 431. 1892.

Stout, erect shrubs, 2.5-5 m high with prominent leaf scars on trunk. Leaves orbicular to reniform; petioles with stout, curved spines. Flowers many in secund spadices. Fruits obovoid, bluish-green, red on maturity.

Fls. & Frts. : June Sept.

Distrib. : Tirap.

Livistona jenkinsiana Griffith in Calcutta J. Nat. Hist. 5: 334. 1845; Becc. & Hook.f. in Hook.f., Fl. Brit. India 6: 435. 1892.

Trees, 6-9 m high. Leaves in apical crown, fan shaped or reniform, flabellate, glaucous beneath, many-fid, divisions narrow, straight, slightly 2-toothed. Flowers greenish, clustered on small tubercles. Drupes reniformly globose, blackish blue.

Fls. & Frts. : July Sept.

Distrib. : Tirap.

Phoenix sylvestris (L.) Roxb., Fl. Ind. 3: 787. 1832; Becc. & Hook.f. in Hook.f., Fl. Brit. India 6: 425. 1892. *Elate sylvestris* L., Sp. Pl. 1189. 1753.

Trees, 6-12 m high. Stems unbranched, armed with persistent petiole bases. Leaves pinnate in apical crown, leaflets lanceolate, acute, glabrous. Flowers small, yellow, in erect, interfoliar spadices. Fruits oblong, terete, orange-yellow, 1-seeded.

Fls. & Frts. : July Sept.

Distrib. : Subansiri; common on hill slopes in warmer regions.

Pinanga gracilis (Roxb.) Blume, Rumph. 2: 77. 1839; Becc. & Hook.f. in Hook.f., Fl. Brit. India 6: 407. 1892. *Areca gracilis* Roxb., Fl. Ind. 3: 619. 1832.

Small, slender shrubs, 5-7 m high. Leaves pinnate; sheaths scurfy; leaflets sessile. Flowers in 2-6, reflexed, branched spadices. Fruits ellipsoid, smooth, green to orange-red.

Fls. & Frts. : Jan. Dec.

Distrib. : Kameng, Lohit, Siang, Tirap; upto 800 m.

Wallichia caryotoides Roxb., Pl. Corom. 3: t. 295. 1820; Becc. & Hook.f. in Hook.f., Fl. Brit. India 6: 419. 1892.

Shrubs or small trees, 2.5-4.5 m high. Leave pinnatisect; leaflets narrowly oblong, toothed, bright green above, white beneath. Flowers numerous, distant, 3-bracteate in stout, paniced spadices. Fruits ovoid-oblong, dull purple, often 2-seeded.

Fls. & Frts. : March Nov.

Distrib. : Changlang, Tirap; upto 1000 m, on forested hill slopes.

Wallichia densiflora Mart., Hist. Nat. Palm. 3: 190. 1838; Becc. & Hook.f. in Hook.f., Fl. Brit. India 6: 419. 1892.

Evergreen, erect shrubs or trees, upto 5 m high. Leaves pinnatisect, white beneath; sheaths villous; leaflets oblong or linear-oblong, acutely toothed. Flowers yellow in penduncled, interfoliar spadices. Fruits ovoid, dull purple.

Fls. & Frts. : Jan. Dec.

Distrib. : Changlang, Siang, Tirap; upto 1700 m.

Wallichia disticha T. Anders. in J. Linn. Soc. Bot. 11: 6. 1869; Becc. & Hook.f. in Hook.f., Fl. Brit. India 6: 419. 1892.

Stout, erect shrubs or trees, 3-4.5 m high. Stems annulate. Leave distichous, erect; leaflets fascicled, obtriangular, glaucous beneath. Flowers greenish in slender, pendulous spadices. Fruits oblong, finely 2-3 lobed apex, reddish.

Fls. & Frts. : Aug. Oct.

Distrib. : Tirap.

Wallichia triandra (J. Joseph) Basu in Principes 20: 120. 1976. *Asraoa triandra* J. Joseph in Bull. Bot. Surv. India 14 (1-4) : 144. (1972) 1975.

Shrubs, about 3 m high, unbranched, cane-like, densely covered with dark brown sheath fibres. Leaves unequally pinnatisect, laterally split above, silvery white beneath; spadices arcuate with many, spreading spikes. Fruits oblong, deep red or dark purple.

Fls. & Frts. : Sept. Jan.

Distrib. : Lohit; between 900-2000 m, on humus rich soil amidst thick undergrowth.

PANDANACEAE

Pandanus furcatus Roxb., Fl. Ind. 3: 744, 1832; Hook.f., Fl. Brit. India 6: 484, 1893. var. **furcatus**.

Trees, 3-6 m high with robust, stilt roots near base. Leaves large, trifarious, narrow, acuminate, coriaceous, subglaucous, curved, margins spinously toothed. Spathes gloden-yellow, coriaceous. Flowers in axillary or terminal spadices. Drupes fleshy, ellipsoid, 5-6 angled.

Fls. & Frts. : May Nov.

Distrib. : Siang, Subansiri, Tirap; upto 1000 m, on slopes in warmer regions.

Pandanus furcatus var. **macrocarpus** Mart. ex Burkill in Rec. Bot. Surv. India 10 (1): 396, 1924.

Small trees, 2-3 m high.

Fls. & Frts. : June Nov.

Distrib. : Siang; upto 1600 m.

ARACEAE

Acorus calamus L., Sp. Pl. 324, 1753; Hook.f. in Hook.f., Fl. Brit. India 6: 555, 1893; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 34, 1979.

Perennial, rhizomatous herbs. Rhizomes creeping, compressed, aromatic. Leaves large, ensiform. Peduncles trigonous, somewhat leafy. Spathes foliaceous. Spadix cylindric, densely flowered, greenish.

Fls. & Frts. : April Aug.

Distrib. : Siang, Tirap; between 500-1000 m, in marshy places.

Aglaonema hookerianum Schott in Bonplandia 7: 30, 1859; Hook.f., Fl. Brit. India 6: 529, 1893.

Monoecious, rhizomatous herbs. Rhizomes erect in the form of a short caudex. Leaves peltate, elliptic-ovate, apiculate. Spathes elliptic, convolute, yellow. Spadix cylindric. Berries orange-red.

Fls. & Frts. : Nov. Feb.

Distrib. : Siang; between 400-1200 m, in marshy places.

Alocasia fallax Schott in *Bonplandia* 7: 28. 1859; Hook.f., *Fl. Brit. India* 6: 527. 1893; A.S. Rao & D.M. Verma in *Bull. Bot. Surv. India* 18: 29. 1979.

Perennial, rhizomatous herbs. Leaves peltate, ovate or ovate-orbicular. Peduncles 30-45 cm long. Spathes yellow; tube oblong-ellipsoid; limbs lanceolate, cuspidate.

Fls. & Frts. : Oct. Feb.

Distrib. : Kameng, Siang; between 600-1200 m, in shaded places of forests, forest margins and foot hills.

Alocasia fornicata (Roxb.) Schott in *Oestr. Bot. Wochenbl.* 4: 410. 1854; Hook.f., *Fl. Brit. India* 6: 526. 1893; A.S. Rao & D.M. Verma in *Bull. Bot. Surv. India* 18: 28. 1979. *Arum fornicatum* Roxb., *Fl. Ind.* 3: 501. 1832, non Wight (excl. t. 792), 1844.

Perennial herbs. Caudex stout, erect or inclined, upto 60 cm long. Leaves ovate-lanceolate, sagittate. Peduncles upto 20 cm long. Spathes whitish or yellowish-green; tube ovoid; limb oblong. Spadix as long as spathe.

Fls. & Frts. : May Dec.

Distrib. : Kameng, Subansiri, Tirap; between 300-1000 m, in moist shady places of forests.

Alocasia indica (Lour.) Koch in *Ind. Sem. Hort. Berol. App.* 5: 1854; A.S. Rao & D.M. Verma in *Bull. Bot. Surv. India* 18: 28. 1979. *Arum indicum* Lour., *Fl. Cochinch.* 536. 1793.

Robust, rhizomatous perennial herbs. Caudex upto 2.5 m high. Leaves ovate, deeply sagittate-cordate. Peduncles upto 20 cm long. Spathes yellow to golden-yellow; tube ovoid; limb oblong. Spadix yellow. Berries red.

Fls. & Frts. : April Dec.

Distrib. : Kameng, Lohit, Siang, Tirap; between 400-1500 m, in moist, shady places; sometimes cultivated.

Alocasia macrorrhiza (L.) G. Don in *R. Sweet, Hort. Brit.* ed. 3: 631. 1839; Hook.f., *Fl. Brit. India* 6: 526. 1893. *Arum macrorrhizon* L., *Sp. Pl.* 965. 1753. *Alocasia indica* Spach, *Hist. Nat. Veg. Pham.* 12: 47. 1846, non (Lour.) Koch, 1854; Hook.f., *Fl. Brit. India* 6: 525. 1893.

Robust, rhizomatous herbs, caudex upto 5 m hgh. Leaves peltate, broadly-ovate, basal lobes 1/3 connate. Peduncles in pairs. Spathes

pale-yellow; tube as long as cymbiform hooded limb. Spadix as long as spathes.

Fls. & Frts. : May Dec.

Distrib. : Siang, Tirap; between 300-1200 m, in moist shady places and often under cultivation.

Amorphophallus bulbifer (Roxb.) Blume in Rumphia 1: 148. 1837; Hook.f., Fl. Brit. India 6: 515. 1893; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 22. 1979. *Arum bulbiferum* Roxb., Fl. Brit. India 3: 510. 1832.

Perennial, monoecious herbs. Corms depressed globose, brownish. Leaf solitary, lobed, usually with large bulbil at initial fork of lamina. Peduncles upto 30 cm long with greenish-brown streaks. Spathes pink-mauve with golden blotches. Berries red.

Fls. & Frts. : May Nov.

Distrib. : Kameng, Siang, Tirap; between 400-1400 m, in moist places near water sources.

Amorphophallus commutatus (Schott) Engler in DC., Monogr. Phan. 2: 319. 1879 and Pflanzenr. 48: 95. 1911; Hook.f., Fl. Brit. India 6: 515. 1893. *Conophallus commutatus* Schott in Bonplandia 7: 28. 1859.

Perennial herbs with tubers. Peduncles upto 1 m long. Spathes ovate-lanceolate, obtuse at apex. Spadix as long as spathes; appendages 3 or 4 times longer than spadix.

Fls. & Frts. : July Nov.

Distrib. : Kameng, Tirap.

Amorphophallus paeoniifolius (Dennst.) Nicolson in Taxon 26: 338. 1977. *Draconitum paeoniifolium* Dennst., Schlüssel Hort. Malab. 13, 38, 1818. *A. campanulatus non* Blume ex Decne. : Hook.f., Fl. Brit. India 6: 513. 1893. *A. rex* Prain ex Hook.f., Fl. Brit. India 6: 513. 1893.

Stout herbs with brownish corms. Leaf solitary, tripartite with subdivided lateral lobes. Peduncles upto 10 cm long. Spathes with campanulate tube; limbs purple within. Spadix stout. Berries red.

Fls. & Frts. : March Oct.

Distrib. : Subansiri; between 100-1000 m, common in waste places; sometimes cultivated.

Ariopsis peltata Nimmo in Grah., Cat. Pl. Bombay 252. 1839; Hook.f., Fl. Brit. India 6: 519. 1893; A.S. Rao & Hajra in Bull. Bot. Surv. India 15 (172): 172. 1976. *Remusatia vivipara non* Schott, *sensu* Wight, Ic. t. 900. 1847.

Monoecious herbs. Tubers clustered, subglobose. Leaves broadly ovate or suborbicular. Peduncles upto 10 cm long. Spathes small, violet. Spadix upto 2 cm long. Berries 3-5 ridged, purplish-green.

Fls. & Frts. : April Oct.

Distrib. : Kameng; in moist places.

Arisaema concinnum Schott in Bonplandia 7: 27. 1859; Hook.f., Fl. Brit. India 6: 505. 1893; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 17. 1979.

Perennial, dioecious or monoecious herbs with depressed globose tubers. Leaf solitary, palmately compound; leaflets 7-11, oblanceolate. Peduncles upto 40 cm long. Spathes greenish-purple with white stripes, tips long. Berries deep red when ripe.

Fls. & Frts. : March Sept.

Distrib. : Kameng, Siang, Subansiri, Tirap; between 500-2000 m, forest undergrowth over rich humus soil.

Arisaema consanguineum Schott in Bonplandia 7: 27. 1859; Hook.f., Fl. Brit. India 6: 505. 1893. A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 17. 1979.

Dioecious herbs. Tubers subglobose, white. Leaf solitary, palmately compound; leaflets 10-20, mottled with purple or brown. Peduncles upto 60 cm long. Spathes greenish, turn yellow or purple on drying, auricled at mouth. Spadix green.

Fls. & Frts. : May Oct.

Distrib. : Kameng, Lohit, Subansiri, Tirap; between 1000-2000 m, near water sources amidst low shrubs in open, as well as in shaded places of forests and forest borders.

Arisaema cuspidatus (Roxb.) Engler in DC., Monogr. Phan. 2: 536. 1879; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 13. 1979. *Arum cuspidatum* Roxb., Fl. Ind. 3: 506. 1832. *A. roxburghii* Kunth, Enum. Pl. 3: 18. 1841.

Dioecious, rhizomatous herbs, upto 1 m high. Leaves 2; petioles pink-mottled; leaflets three, lanceolate. Peduncles upto 30 cm long. Spathe-tubes yellowish-green; limbs ovate, purplish with age. Spadix small.

Fls. & Frts. : April - Sept.

Distrib. : Kameng; between 500-1000 m, in shaded moist places of forests.

Arisaema decipiens Schott in Oestr. Bot. Wochenbl. 7: 373. 1857; Hook.f., Fl. Brit. India 6: 503. 1893; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 15. 1979.

Dioecious, rhizomatous herbs, upto 1 m high. Rhizomes jointed, creamy. Leaves 2, pedately compound; leaflets 5-7, elliptic-lanceolate. Spathes dull purple; limbs with tailed apex.

Fls. & Frts. : July-March.

Distrib. : Kameng, Lohit, Siang, Tirap; between 500-2200 m, in moist shady places of forest and forest edges.

Arisaema flavum (Forssk.) Schott, Prodr. 40. 1860; Hook.f., Fl. Brit. India 6: 503. 1893. *Arum flavum* Forssk., Fl. Aeg.-Arab. 157. 1775.

Monoecious herbs, upto 50 cm high. Tubers sub-globose. Leaves 2, pedately compound; leaflets 5-11. Spathe-tubes yellow with purplish upper part; limb ovate, yellow, purple within. Spadix with clavate appendage.

Fls. & Frts. : April - Sept.

Distrib. : Kameng; in moist shaded localities.

Arisaema galeatum N. E. Brown in Gard. Chron. 12: 102. 1879; Hook.f., Fl. Brit. India 6: 502. 1893.

Small, tuberous herbs. Leaf solitary; leaflets 3; median broadest. Peduncles shorter than petioles. Spathes greenish with ovate-lanceolate, pendulous limb. Spadix white.

Fls. & Frts. : May - Sept.

Distrib. : Kameng.

Arisaema intermedium Blume, Rumphia 1: 102. 1836; Hook.f., Fl. Brit. India 6: 500. 1893.

Small herbs. Rootstock shortly creeping. Leaf solitary; leaflets usually 3 with elliptic median lobe. Peduncles much shorter than petioles. Spathe-tubes purple striped; limb white and purple banded. Spadix pink or yellow.

Fls. & Frts. : April - Sept.

Distrib. : Kameng; between 1000-1500 m, in moist shaded localities.

Arisaema jacquemontii Blume, Rumphia 1: 95. 1836; Hook.f., Fl. Brit. India 6: 505. 1893.

Dioecious herbs. Tubers subglobose, chocolate. Leaf solitary; leaflets 5-7, whorled, elliptic or ovate-lanceolate. Spathe-tubes narrow, green, striped with white; limb oblong with thread like apex. Spadix appendage stipitate.

Fls. & Frts. : April - Sept.

Distrib. : Kameng; in moist localities at higher elevations.

Arisaema nepenthoides (Wall.) Mart. in Flora 14: 458. 1831; Hook.f., Fl. Brit. India 6: 504. 1893. *Arum nepenthoides* Wall., Tent. Fl. Nepal. 26, t. 18. 1824.

Dioecious herbs, upto 1 m high. Tubers depressed globose. Leaves 2; leaflets usually 5, whorled, yellowish-green. Spathe-tubes infundibuliform, auriculate, yellowish; limb ovate-oblong, yellowish. Spadix appendage stipitate.

Fls. & Frts. : May - Sept.

Distrib. : Subansiri; between 1000-1500 m, in moist shady places of forests.

Arisaema petiolulatum Hook.f., Fl. Brit. India 6: 498. 1893; Rao & Verma in Bull. Bot. Surv. India 18: 13. 1979. *A. listeri* Prain & Burkill in Rec. Bot. Surv. India 10 : 397. 1925.

Dioecious, rhizomatous herbs. Leaf solitary; leaflets 3, petiolulate. Spathes purple with lanceolate limbs. Spadix appendage subcylindric, smooth. Berries red.

Fls. & Frts. : March - Nov.

Distrib. : Kameng, Lohit, Siang, Subansiri; between 500-1500 m, along forest edges in shades.

Arisaema propinquum Schott in Oesterr. Bot. Wochenbl. 7: 333. 1857; Hook.f., Fl. Brit. India 6: 501. 1893. *A. sikkimensis* Stapf ex Chatterjee in Bull. Bot. Soc. Bengal 3: 18. 1949. *A. wallichianum* Hook.f., Fl. Brit. India 6: 500. 1893. *A. costatum sensu* Mitra, Fl. Pl. E. India 1: 81. 1958, *non* (Wall.) Mart. ex Schott, 1832.

Dioecious herbs. Tubers globose. Leaf solitary or 2; leaflets 3, petiolulate. Spathes purplish with white or yellowish stripes; tubes longitudinally ribbed; limb incurved. Spadix appendage rugose, tapering into a thread.

Fls. & Frts. : May - Sept.

Distrib. : Kameng; between 1200-2000 m, in moist shaded localities.

Arisaema rhizomatum Fischer in Kew Bull. 1936: 283. 1936; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 18. 1979.

Dioecious, rhizomatous herbs. Rhizomes conical. Leaves solitary or 2; leaflets 5-7. Spathes with revolute tubes and ovate-lanceolate limb, green with black dots. Spadix appendage cylindrical, stipitate.

Fls. & Frts. : Aug. Feb.

Distrib. : Lohit; between 3000-3500 m, in moist shady places.

Arisaema setosum A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 11 (1&2) : 196. 1969.

Dioecious, rhizomatous herbs. Rhizomes creeping. Leaf solitary, pedately compound; leaflets 5, lanceolate. Peduncles arise directly from rhizome. Spathe-tubes auricled at mouth; limb ovate-lanceolate.

Fls. & Frts. : Oct. Feb.

Distrib. : Siang; in moist places.

Arisaema speciosum (Wall.) Mart. in Flora 14: 458. 1831; Hook.f., Fl. Brit. India 6: 500. 1893. *Arum speciosum* Wall., Tent. Fl. Nepal. 29, t. 20. 1824.

Dioecious, rhizomatous herbs. Rhizomes horizontal. Leaves solitary; leaflets 3, oblong-lanceolate, purple-brown mottled. Spathe-tubes white with purple-brown stripes; limb white with purple-brown stripes without and violet within. Appendage flagelliform. Berries red when ripe.

Fls. & Frts. : April Oct.

Distrib. : Kameng, Subansiri, Tawang, Tirap; between 1500-3000 m, on moist soil slopes.

Arisaema tortuosum (Wall.) Schott in Schott & Endl., Meletem. Bot. 1: 17. 1832; Hook.f., Fl. Brit. India 6: 502. 1893. *Arum tortuosum* Wall., Pl. Asiat. Rar. 2: 10, t. 114. 1830. *A. neglectum*. Schott in Bonplandia 7: 26. 1859; Hook.f., Fl. Brit. India 6: 504. 1893.

Monoecious or dioecious tuberous herbs. Tubers globose. Leaves usually 2, pedately compound; leaflets many in whorl. Spathes glaucous-green; limb incurved. Spadix appendage spotted, long tailed.

Fls. & Frts. : May Sept.

Distrib. : Kameng, Siang, Subansiri, Tirap; between 700-1700 m, on moist soil slopes.

Arisaema wattii Hook.f., Fl. Brit. India 6: 498. 1893; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 14. 1979.

Dioecious herbs. Tubers depressed globose. Leaves 2, palmately compound; leaflets 3-5; petioles variegated with chocolate-brown spots. Spathe limbs auriculate at base, purple. Spadix appendage with clavate tip.

Fls. & Frts. : March - Oct.

Distrib. : Kameng, Lohit, Subansiri; between 1200-2200 m, on humus rich forest soil.

Colocasia affinis Schott in Bonplandia 7: 28. 1859; Hook.f., Fl. Brit. India 6: 523. 1893; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 26. 1979.

Monoecious, tuberous herbs. Tubers sub-globose. Leaves ovate or ovate-orbicular, glaucous beneath. Spathe-tubes cylindric, greenish; limb linear-lanceolate, yellow; appendage golden-yellow.

Fls. & Frts. : April - Aug.

Distrib. : Kameng, Subansiri, Tirap; between 100-1200 m, in moist waste places; also cultivated.

Colocasia esculenta (L.) Schott in Schott & Endl., Meletem. Bot. 1: 18. 1832; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 26. 1979. *Arum esculentum* L., Sp. Pl. 965. 1753. *Colocasia antiquorum* Schott in Schott & Endl., Meletem. Bot. 1: 18. 1832; Hook.f., Fl. Brit. India 6: 523. 1893.

Monoecious, tuberous or stoloniferous herbs. Leaves large, peltate, ovate or subtriangular, yellowish-green or purplish beneath. Spathe-tubes greenish; limb yellow or orange-yellow. Spadix shorter than spathe, appendage small.

Fls. & Frts. : May - Dec.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1400 m, fairly common in damp places and also cultivated.

Colocasia manni Hook.f., Fl. Brit. India 6: 524. 1893.

Tuberous herbs. Leaves oblong-ovate, sagittate with broad sinus. Spathe-tubes small, cylindric; limb narrowly-oblong, cymbiform, yellow. Spadix sessile, devoid of appendage.

Fls. & Frts. : April - Sept.

Distrib. : Siang; in moist places along forest edges.

Gonatanthus ornatus Schott in Oestr. Bot. Zeitschr. 8: 121. 1858; Hook.f., Fl. Brit. India 6: 522. 1893.

Terrestrial or epiphytic, monoecious, tuberous herbs. Tubers purple tinged. Bulbiferous shoots simple or branched, pale-brown. Leaves narrowly lanceolate, purplish. Spathe-tubes purplish; limb convolute, yellow. Spadix stout.

Fls. & Frts. : April Oct.

Distrib. : Subansiri; between 800-1800 m, in shaded moist places near water sources and rocky slopes.

Gonatanthus pumilus (D. Don) Engler & Krause in Engler, Pflanzenr. 71: 19. 1920; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 25. 1979. *Caladium pumilum* D. Don, Prodr. Fl. Nepal. 21. 1825.

Terrestrial or epiphytic, tuberous herbs. Tubers rosy-mauve or rosy-brown. Bulbiferous shoots much branched, reddish-brown, bulbils in clusters. Leaves ovate-oblong, glaucous, purplish when young. Spathe-tubes ovoid, green; limb ovate-lanceolate, bright yellow.

Fls. & Frts. : May Sept.

Distrib. : Kameng, Subansiri; between 1000-3200 m, on moist, shady slopes.

Homalomena aromatica (Roxb.) Schott in Schott & Endl., Meletem. Bot. 20. 1832; Hook.f., Fl. Brit. India 6: 532. 1893. *Calla aromatica* Roxb., Fl. Ind. 3: 513. 1832.

Monoecious, rhizomatous herbs. Rhizomes aromatic, stout. Leaves peltate, broadly-ovate, cordate, yellowish-green. Spathes convolute, green or yellowish-green. Spadix cylindric, stipitate.

Fls. & Frts. : June Dec.

Distrib. : Kameng, Tirap; between 100-1000 m, on moist, shady forest floor.

Homalomena pendula (Blume) Bakh.f., in Blumea 12: 67. 1963. *Calladium pendulum* Blume, Cat. 103. 1823. *Calla rubescens* Roxb., Fl. Ind. 3: 515. 1832. *Homalomena rubescens* (Roxb.) Kunth, Enum. Pl. 3: 57. 1841; Hook.f., Fl. Brit. India 6: 532. 1893.

Monoecious, rhizomatous herbs. Rhizomes stout. Leaves peltate, broadly-ovate, red tinged along margins. Spathes convolute, red. Spadix with long stipe; male zone white; female zone reddish.

Fls. & Frts. : April Oct.

Distrib. : Kameng, Tirap; in moist shady places at lower elevations.

Lagenandra undulata Sastry in Bull. Bot. Surv. India 9: 294. 1968; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 11. 1979.

Monoecious, submerged herbs. Rhizomes creeping. Leaves elliptic-lanceolate, white punctulate. Spathe-tubes constricted at middle; limb dark-purple blotched. Spadix equalling spathe-tube.

Fls. & Frts. : May Aug.

Distrib. : Subansiri; forming dense patches on sub-merged rocks at altitudes around 1200 m.

Lasia spinosa (L.) Thw., Enum. Pl. Zeyl. 336. 1864; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 32. 1979. *Dracontium spinosum* L., Sp. Pl. 967. 1753. *Pothos heterophyllum* Roxb., Fl. Ind. 1: 457. 1820. *Lasia heterophylla* (Roxb.) Schott & Endl., Meletem. Bot. 21. 1832; Hook.f., Fl. Brit. India 6: 550. 1893.

Perennial, rhizomatous, suberect herbs. Stems, petioles and peduncles covered with prickles or spines. Leaves sagittate or hastate, veins yellowish, prickly beneath. Spathes greenish; limbs linear-lanceolate. Spadix scarlet. Berries obovoid.

Fls. & Frts. : Jan. Nov.

Distrib. : Kameng, Lohit, Siang, Tirap; between 100-1500 m, in marshy places near ditches, ponds and rivers.

Pistia stratiotes L., Sp. Pl. 963. 1753; Hook.f., Fl. Brit. India 6: 497. 1893. *P. stratiotes* var. *cuneata* Engler in Fl. Bras. 3, 2: 214. 1879. *P. stratiotes* var. *spathulata* Engler in Fl. Bras. 3, 2: 214. 1879.

Monoecious, floating, stoloniferous herbs. Leaves in rosette, spiral, spathulate, densely farinose-papillose. Spathes greenish-white, hidden within leaves. Spadix small, adnate to base of spathe. Fruits baccate, green.

Fls. & Frts. : June Oct.

Distrib. : Kameng, Tirap; between 100-1200 m, in ponds and slow running streams.

Pothos cathcartii Schott, Aroid. 1: 22, tt. 44-45. 1853; Hook.f., Fl. Brit. India 6: 552. 1893; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 33. 1979.

Shrubby climbers, upto 4 m long with aerial roots. Leaves usually oblong with winged oblanceolate petioles. Spathes broadly ovate, 1-2 cm broad. Spadix ellipsoid or obovoid, creamy-yellow. Berries oblong, scarlet.

Fls. & Frts. : Nov.-Sept.

Distrib. : Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1000 m, common in primary forests.

Pothos macrocephalus Hook.f., Fl. Brit. India 6: 553. 1893; M.K.V. Rao in J. Econ. Tax. Bot. 8: 155. 1986.

Herbaceous climbers, rooting at nodes. Leaves small, lanceolate, apiculate; petioles winged. Peduncles stout. Spathe ovate, cordate, white. Spadix globose, yellow.

Fls. & Frts. : Aug. Dec.

Distrib. : Siang; in primary forest.

Pothos scandens L., Sp. Pl. 968. 1753; Hook.f., Fl. Brit. India 6: 551. 1893 *p.p.*; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 33. 1979.

Semiwoody climbing shrubs. Leaves coriaceous, elliptic, oblong or ovate; petiole wings oblanceolate. Spathes cymbiform, green, 3-4 mm broad. Spadix ellipsoid or obovoid, upto 5 mm long, yellow. Berries oblong, scarlet.

Fls. & Frts. : Jan. Oct.

Distrib. : Lohit, Siang, Tirap; between 100-1000 m, in primary forests.

Pothos vriesianus Schott, Aroid. 1: 22, t. 36. 1853; Hook.f., Fl. Brit. India 6: 552. 1893.

Semiwoody climbers, rooting at nodes. Leaves ovate or lanceolate. Spathes cymbiform, yellow. Bracts large, broad. Spadix yellow.

Fls. & Frts. : Nov. April.

Distrib. : Kameng, Lohit, Siang, Tirap; between 500-1500 m, in primary forest.

Remusatia vivipara (Roxb.) Schott in Schott & Endl., Meletem. Bot. 18. 1832; Hook.f., Fl. Brit. India 6: 521. 1893. *Arum viviparum* Roxb., Fl. Ind. 3: 496. 1832. *Caladium viviparum* Lodd., Bot. t. 281. 1818.

Terrestrial or epiphytic, monoecious, tuberous herbs. Tubers pinkish. Bulbiferous shoots stolon-like; bulbils scaly. Leaves

broadly ovate. Spathes trapezoid, greenish without, yellow within. Berries obovoid.

Fls. & Frts. : March - Oct.

Distrib. : Kameng, Subansiri, Tirap; between 800-2000 m, in moist, shady places of primary forests or epiphytic on mossy tree trunks.

Rhaphidophora beccarii Engler, Bot. Jahrb. 1: 181. 1881; Hook.f., Fl. Brit. India 6: 546. 1893.

Epiphytic, shrubby climbers or creepers. Leaves narrowly obovate, entire or pinnatifid, unequal sides. Spathes cylindrical, dull cream-coloured.

Fls. & Frts. : July - Dec.

Distrib. : Tirap; in primary forests.

Rhaphidophora calophyllum Schott in Bonplandia 5: 45. 1857; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 31. 1979. *R. lancifolia* Schott in Bonplandia 5: 45. 1857; Hook.f., Fl. Brit. India 6: 545. 1893.

Robust climbers. Leaves lanceolate, long petioled, subcoriaceous. Spathes ovate-oblong, orange without and deep red within, beaked.

Fls. & Frts. : April - Nov.

Distrib. : Kameng, Subansiri; between 1000-1500 m, in dense primary forests.

Rhaphidophora decursiva (Roxb.) Schott in Bonplandia 5: 45. 1857; Hook.f., Fl. Brit. India 6: 547. 1893; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 32. 1979. *Pothos decursiva* Roxb., Fl. Ind. 1: 456. 1832. *R. eximia* Hook.f., Fl. Brit. India 6: 547. 1893, *p.p.*

Robust, semiwoody, lofty climbers, sometimes epiphytic. Leaves ovate-oblong in outline, pinnately divided almost to the midrib. Spathes oblong, beaked, orange-yellow. Spadix white.

Fls. & Frts. : Throughout the year.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 200-1800 m, in dense primary forests.

Rhaphidophora glauca (Wall.) Schott in Bonplandia 5: 45. 1857; Hook.f., Fl. Brit. India 6: 547. 1893. *Pothos glauca* Wall., Pl. Asiat. Rar. 2: 45, t. 156. 1831.

Terrestrial or epiphytic, robust climbers. Leaves elliptic-ovate, falcate, pinnatisect, glaucous beneath. Spathes oblong-lanceolate with long beak, creamy-yellow. Spadix pale-yellow.

Fls. & Frts. : April - Nov.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1500 m, common in primary forests.

Rhaphidophora grandis Schott in Oesterr. Bot. Wochenbl. 349. 1858; Balakr., Fl. Jowai 2: 561. 1983. *R. eximia* Hook.f., Fl. Brit. India 6: 547. 1893, *p.p.*

Stout climbers. Leaves oblong-ovate, subcordate, pinnatifid. Spathes oblong, yellowish-white. Berries orange-yellow.

Fls. & Frts. : July - March.

Distrib. : Kameng, Lohit, Siang; between 1000-2200 m, common in dense primary forests and climb up to the top of large trees. Sometimes epiphytic on tree trunk and also found to occur on bare rock surfaces.

Rhaphidophora honkongensis Schott in Bonplandia 5: 44. 1857; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 31. 1979. *R. schottii* Hook.f., Fl. Brit. India 6: 544. 1893.

Robust climbers; branches purple. Leaves subcoriaceous, falcately oblong-lanceolate, brownish-yellow on drying. Spathes ovate-acuminate, yellow. Spadix reddish.

Fls. & Frts. : April - Sept.

Distrib. : Kameng; in primary forests at lower elevations.

Rhaphidophora hookeri Schott in Bonplandia 5: 45. 1857; Hook.f., Fl. Brit. India 6: 546. 1893. *p.p.*; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 31. 1979.

Robust, semiwoody climbers. Leaves usually crowded at apices of branches, oblong, falcate, greyish-brown on drying. Spathes ovate-oblong, greenish without, orange-yellow within. Spadix yellow. Seeds orange-red.

Fls. & Frts. : Dec. - July.

Distrib. : Kameng, Lohit, Siang, Tirap; between 300-2200 m, common in primary forests.

Rhaphidophora korthalsii Schott in Miquel, Ann. Mus. Lugd.-Bat. 1: 129. 1863; Hook.f., Fl. Brit. India 6: 548. 1893.

Large, robust climbers, 10-15 m long. Leaves pinnatifid, deeply cordate; lowest segment broadest. Spadix dense, green.

Fls. & Frts. : Sept. Feb.

Distrib. : Siang; between 1500-2200 m, in primary forests.

Rhaphidophora peepla (Roxb.) Schott in Bonplandia 5: 45. 1857; Hook.f., Fl. Brit. India 6: 545. 1893, *p.p.*; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 31. 1979. *Pothos peepla* Roxb., Fl. Brit. India 1: 454. 1832.

Robust, climbers. Leaves oblong, subcoriaceous, brownish-yellow on drying. Spathes ovate-oblong, greenish-yellow, beaked. Spadix pale-yellow.

Fls. & Frts. : June Oct.

Distrib. : Kameng, Tirap; in dense primary forests.

Scindapsus officinalis (Roxb.) Schott in Schott & Endl., Meletem. Bot. 21. 1832; Hook.f., Fl. Brit. India 6: 541. 1893. *Pothos officinalis* Roxb., Fl. Ind. 1: 431. 1831.

Robust shrubby climbers, 10-20 m long. Leaves spiral, elliptic-ovate to orbicular; petioles winged. Spathes large, convolute, greenish without, yellowish-brown within. Spadix sessile; perianth absent.

Fls. & Frts. : May Oct.

Distrib. : Kameng; in forests at lower elevations.

Stuednera assamica Hook.f., Fl. Brit. India 6: 520. 1893; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 23. 1979.

Monoecious, rhizomatous herbs. Leaves peltate, ovate-oblong. Spathes lanceolate, red-purple, reflexed. Spadix short, cylindrical, densely flowered.

Fls. & Frts. : Feb. Aug.

Distrib. : Kameng, Subansiri; between 1000-2000 m, along forest margins.

Stuednera capitellata Hook.f., Fl. Brit. India 6: 521. 1893.

Perennial herbs. Caudex stout, densely fibrous. Leaves peltate, ovate-orbicular. Spathes pendulous, lanceolate, yellowish-brown or greenish-yellow with bluish tinge. Spadix globose.

Fls. & Frts. : Feb. June.

Distrib. : Kameng, Siang, Tirap; between 400-1400 m, in deep shades of evergreen forests.

Stuednera discolor Bull in Gard. Chron. 708. 1875; Hook.f., Fl. Brit. India 6: 520. 1893.

Perennial herbs with stout, short caudex. Leaves peltate, ovate, variegated with dark purple blotches. Spathes ovate, golden-yellow, base purple within. Spadix clavate.

Fls. & Frts. : Feb. June.

Distrib. : Siang; in deep shades of primary forests at lower elevations.

Stuednera griffithii Schott in Bonplandia 10: 222. 1862; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 23. 1979.

Perennial, monoecious herbs with short, stout, fibrous caudex. Leaves peltate, ovate-oblong, greenish or reddish-purple. Spathes ovate-lanceolate, yellowish-green with purple blotches within. Spadix cylindrical.

Fls. & Frts. : Feb. June.

Distrib. : Lohit; between 500-1000 m, in evergreen forests.

Typhonium trilobatum (L.) Schott in Weiner, Z. Kunst. 3: 72. 1829; Hook.f., Fl. Brit. India 6: 509. 1893. *Arum trilobatum* L., Sp. Pl. 965. 1753.

Perennial, monoecious, tuberous herbs. Leaves pedate, solitary or two, deeply 3-lobed. Spathe-limb acuminate, pale-green without, red-brown within. Spadix elongate-conoid, red-purple.

Fls. & Frts. : April Aug.

Distrib. : Kameng, Siang, Tirap; between 100-1000 m, in moist shady places near ponds or streams and along forest edges.

Insufficiently known material

Pothos roxburghii De Vriese

LEMNACEAE

Wolffia arrhiza (L.) Horkel ex Wimmer, Fl. Schles. ed. 3, 140. 1857; Hook.f., Fl. Brit. India 6. 557. 1893. *Lemna arrhiza* L., Mant. Pl. 294. 1771.

Minute, granular, floating plants. Fronds rootless, orbicular or suborbicular; budding pouch single. Inflorescence in dorsal cavity consisting one male and one female flower. Fruits spherical utricles.

Fls. & Frts. : Throughout the year.

Distrib. : Siang; in ponds and lakes at lower elevations.

Alisma plantago-aquatica L., Sp. Pl. 342. 1753. *A. plantago* L., Sp. Pl. 342. 1753; Hook.f., Fl. Brit. India 6: 559. 1893; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 36. 1979.

Annual or perennial, fleshy, rhizomatous herbs. Leaves linear-lanceolate or lanceolate; petioles long, sheathing. Flowers white or pinkish-yellow, in whorls on fleshy peduncles.

Fls. & Frts. : May - Sept.

Distrib. : Subansiri; between 1200-1600 m, in muddy soil along roadsides marshes and ditches.

Sagittaria guayanensis ssp. **lappula** (D. Don) Bogin in Mem. N.Y. Bot. Gard. 9: 192, f. 5. 1955; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 39. 1979. *S. lappula* D. Don, Prodr. Fl. Nepal. 22. 1825. *S. guayanensis* auct. non H.B.K. : Hook.f., Fl. Brit. India 6: 561. 1893.

Annual herbs. Leaves ovate, deeply cordate. Flowers in raceme, white or white with purple tinge; upper whorls male, lower bisexual. Achenes elliptic, broadly winged.

Fls. & Frts. : June - Oct.

Distrib. : Kameng, Lohit, Siang, Tirap; between 100-1000 m, in ponds and streams.

Sagittaria trifolia L., Sp. Pl. 993. 1753. *S. sagittifolia* L., Sp. Pl. 993. 1753; Hook.f., Fl. Brit. India 6: 561. 1893. *S. sagittifolia* var. *leucopetala* Miquel, Ill. Fl. Arch. Ind. 2: 49. 1870. *S. sagittifolia* ssp. *leucopetala* (Miquel) Hartog in van Steenis, Fl. Males. 1, 5: 332. 1957; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 39. 1979. *S. sagittata* Thunb., Fl. Jap. 242. 1784.

Stoloniferous herb; stolons ending in tubers. Leaves hastate or sagittate; lobes linear; petioles trigonous. Flowers in raceme, white. Achenes compressed, obliquely obovate.

Fls. & Frts. : Throughout the year.

Distrib. : Kameng, Subansiri, Tirap; between 300-1600 m, in roadside ponds, ditches and also in streams.

BUTOMACEAE

Butomopsis latifolia (D. Don) Kunth, Enum. Pl. 3: 165. 1841; Hara *et al.*, Enum. Fl. Pl. Nepal. 1: 94. 1978. *Butomus latifolius* D. Don, Prodr. Fl. Nepal. 22. 1825. *B. lanceolatus* Roxb., Fl. Ind.

2: 315. 1832. *Butomopsis lanceolata* (Roxb.) Kunth, Enum. Pl. 3: 165. 1841; Hook.f., Fl. Brit. India 6: 562. 1893.

Perennial, rhizomatous herbs. Leaves oblanceolate, long petioled. Flowers white, in terminal whorls on long peduncles; pedicels unequal. Petals disintegrate into mucilaginous mass.

Fls. & Frts. : March Dec.

Distrib. : Tirap; between 400-800 m, in marshes and ditches.

Aponogeton natans (L.) Engler & Krause, pflanzenr. 24: 11. 1906; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 40. 1979. *Saururus natans* L., Mant. Pl. 2: 227. 1771. *Aponogeton monostachyon* L.f., Suppl. Pl. 214. 1781; Hook.f., Fl. Brit. India 6: 564. 1893.

Perennial, aquatic, rhizomatous or stoloniferous herbs. Leaves oblong or linear-oblong in radical clusters, floating; petioles long, trigonous. Flowers in solitary spikes, white, pink or pale-blue. Follicles subglobose.

Fls. & Frts. : March Aug.

Distrib. : Lohit; in lakes, ponds or slow streams at lower altitudes.

POTAMOGETONACEAE

Potamogeton nodosus Poir. in Lam., Encycl. Meth. Bot. suppl. 4: 535. 1816; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 41. 1979. *P. indica* Roxb., Fl. Ind. 1: 452. 1820; Hook.f., Fl. Brit. India 6: 565. 1893, *non* Roth ex R.&S. *P. oblongus sensu* Hook.f., Fl. Brit. India 6: 566. 1893, *p.p.*, *non* Viv.

Perennial, aquatic herbs. Leaves lanceolate or elliptic-oblong; petioles long with sheathing base. Flowering spike long peduncled, greenish. Drupelets oblique.

Fls. & Frts. : Throughout the year.

Distrib. : Kameng, Subansiri; between 500-1700 m, in ponds and lakes.

Potamogeton octandrus Poir. in Lam., Encycl. Meth. Bot. suppl. 4: 517. 1816; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 41. 1979. *P. javanicus* Hassk. in Act. Soc. Sci. Ind. Neerl. Ind. 1:26. 1856; Hook.f., Fl. Brit. India 6: 566. 1893.

Perennial, aquatic, branched herbs. Lower leaves filiform, upper leaves elliptic or oblong-lanceolate. Flowers on short peduncled spikes, greenish. Drupelets ovoid, tubercled.

Fls. & Frts. : April-Nov.

Distrib. : Kameng, Subansiri; between 800-2000 m, in ponds, lakes or slow streams.

ERIOCAULACEAE

Eriocaulon brownianum Mart. in Wall., Pl. Asiat. Rar. 2: 25, t. 248. 1832; Hook.f., Fl. Brit. India 6: 575. 1893; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 44. 1979. *E. nilagirensense* Steud., Syn. Pl. Glum. 2: 271. 1851.

Annual or perennial, acaulis herbs. Leaves in clusters, linear. Flowers in depressed, globose heads; peduncles few. Receptacles villous. Petals glandular hairy, white. Seeds dark brown.

Fls. & Frts. : May Dec.

Distrib. : Subansiri; between 500-2000 m, in marshlands, swamps and along streamsides.

Eriocaulon cinereum R. Brown, Prodr. 254. 1810; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 18: 45. 1979. *E. sieboldianum* Sieb. & Zucc. ex Stued., Syn. Pl. Cyp. 2: 272. 1855; Hook.f., Fl. Brit. India 6: 577. 1893.

Annual or perennial, acaulis herbs. Leaves rosulate, narrowly linear. Flowers in subglobose, capitate heads; involucre bracts oblong-lanceolate, purplish black; petals white; anthers white. Seeds red-brown.

Fls. & Frts. : Aug. Oct.

Distrib. : Lohit; between 200-1000 m, in marshy places.

Eriocaulon cristatum Mart. in Wall., Pl. Asiat. Rar. 3: 28. 1832; Hook.f., Fl. Brit. India 6: 574. 1893.

Annual or perennial herbs. Stems upto 2 cm long. Leaves clustered, setaceous. Flowers in globose heads; peduncle solitary; involucre bracts blackish upward; petals villous and black- gland-dotted; anthers black.

Fls. & Frts. : June Oct.

Distrib. : Kameng; between 800-2000 m, in marshy places amidst grasses.

Eriocaulon luzulifolium Mart. in Wall., Pl. Asiat. Rar. 3: 28. 1832; Hook.f., Fl. Brit. India 6: 582. 1893.

Annual, acaulis herbs, upto 40 cm high. Leaves in clusters, linear-lanceolate. Flowers in subglobose heads; peduncles many.

Receptacle villous; petals glandular hairy; anthers black. Seeds brown.

Fls. & Frts. : Aug. Nov.

Distrib. : Subansiri; between 200-1000 m, in marshy places, along stream-sides and in cultivated fields.

Eriocaulon nepalense Presc. ex Bong. in Acta Acad. Petrop. Sc. Math. ser. 4, 1: 610. 1831; Hook.f., Fl. Brit. India 6: 581. 1893, *p.p.*

Annual or perennial, short-stemmed or acaulis herbs. Leaves rosulate, linear-lanceolate. Flowers in subglobose heads; peduncles many petals glabrescent; anthers black. Seeds brownish.

Fls. & Frts. : Sept.-Dec.

Distrib. : Subansiri; between 900-1300 m, in marshy places on sandy soil.

CYPERACEAE

Anosporum cephalotes (Vahl) Kurz in J. As. Soc. Bengal 65: 159. 1875; Lye in Nord. J. Bot. 1: 186. 1981. *Cyperus cephalotes* Vahl, Enum. Pl. 2: 311. 1805; C.B. Clarke in Hook.f., Fl. Brit. India 6: 597. 1893.

Perennial, aquatic, floating, stoloniferous herbs. Leaves clustered at base, tip triquetrous, scabrid. Inflorescence capitate; spikes 1-4; spikelets compressed; bracts purple striate; glumes sharp, brown. Nuts stipitate, triquetrous, brown.

Fls. & Frts. : Dec. April.

Distrib. : Kameng; floating on lake edges, at lower altitudes.

Bulbostylis densa (Wall.) Hand.-Mazz. in Karsten & Schenk, Vegetationsb. 20 (7) : 16. 1930. *Scirpus densus* Wall. in Roxb., Fl. Ind. 1: 231. 1820. *Isolepis trifida* Nees in Wight, Contrib. Bot. Ind. 108. 1834. *Bulbostylis capillaris* var. *trifida* (Nees) C.B. Clarke in Hook.f., Fl. Brit. India 6: 652. 1893.

Annual, tufted herbs, 5-25 cm high. Leaves clustered at base, almost capillary. Inflorescence simple or compound, lax anthelate; spikelet usually solitary; glumes dark brown. Nuts verruculate, transversely lineolate.

Fls. & Frts. : June Oct.

Distrib. : Kameng; between 500-1500 m, common weed of paddy fields on sandy-loamy soil, in rock crevices on gravelly substratum and also common in pine forests.

Carex alopecuroides D. Don ex Tilloch & Taylor in Phil. Mag. 62: 455. 1823; Mabberley in Taxon 29: 603. 1980. *C. japonica* var. *alopecuroides* (D. Don ex Tilloch & Taylor) C.B. Clarke in Hook.f., Fl. Brit. India 6: 737. 1894.

Perennial herbs, 30-80 cm high. Rhizomes slender, creeping. Inflorescence racemose; spikelets terminal, 5-6, fastigiate; glumes stramineous, hispidulous. Nuts ellipsoid, yellowish-brown.

Fls. & Frts. : Aug. Oct.

Distrib. : Kameng, Tirap; between 1000-1500 m, in rock crevices.

Carex alta Boott in Proc. Linn. Soc. 1: 254. 1845; C.B. Clarke in Hook.f., Fl. Brit. India 6: 707. 1894.

Perennial herbs, 15-55 cm high. Leaves clustered at base. Inflorescence ovoid, subglobose spicate; spikelets 6-20; female glumes reddish-brown. Nuts shortly stipitate, ovoid-oblong, yellowish-brown.

Fls. & Frts. : March July.

Distrib. : Kameng, Tirap; between 1500-2000 m, in muddy places.

Carex baccans Nees in Wight, Contrib. Bot. Ind. 122. 1834; C.B. Clarke in Hook.f., Fl. Brit. India 6: 722. 1894.

Perennial herbs, 70-200 cm high. Rhizomes short. Leaves scattered all over stem. Inflorescence paniculate-fasciculate; spikelets numerous; glumes reddish. Utricles subglobose, bright red. Nuts ellipsoid, dark brown.

Fls. & Frts. : Sept. March.

Distrib. : Kameng, Lohit, Siang, Subansiri; between 300-2000 m, common along road sides, forest margins and sometimes scattered over surface of swamps.

Carex capillacea Boott, Illustr. 1: 44, t. 110. 1858; C.B. Clarke in Hook.f., Fl. Brit. India 6: 713. 1894.

Perennial herbs, 6-40 cm high. Rhizomes short, slender. Leaves clustered at base; sheaths reddish. Spikelets solitary, terminal; glumes rufous. Utricles divericcate, green with red dots. Nuts ellipsoid, brownish.

Fls. & Frts. : March Sept.

Distrib. : Kameng, Siang; between 1200-1600 m, in moist places.

Carex caricina (D. Don) Ghildyal & Bhattacharya in J. Econ. Tax. Bot. 7: 602. 1985. *Cyperus caricinus* D. Don, Prodr. Fl. Nepal. 39. 1825. *Carex filicina* Nees in Wight, Contrib. Bot. Ind. 23. 1834 [incl. var. *meiogyna* (Nees) Strachey]; C.B. Clarke in Hook.f., Fl. Brit. India 6: 717. 1894. *C. continua* C.B. Clarke in Hook.f., Fl. Brit. India 6: 717. 1894, p.p.

Perennial herbs, 50-175 cm high. Rhizomes branched. Leaves clustered at base. Inflorescence paniculate; spikelets numerous; female glumes reddish. Utricles glabrous. Nuts ellipsoid, brownish-black.

Fls. & Frts. : May Aug.

Distrib. : Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; between 900-2000 m; fairly common in wayside, wastelands, on dry and exposed slopes, ridges and in moist places along streams.

Carex composita Boott, Illustr. 1: 3, t. 8. 1858; C.B. Clarke in Hook.f., Fl. Brit. India 6: 724. 1894.

Perennial, tufted herbs, 50-100 cm high. Rhizomes creeping. Leaves scattered all over stems. Inflorescence paniculate-fasciculate; spikelets solitary or few; glumes red streaked. Utricles villous. Nuts ellipsoid, brown.

Fls. & Frts. : Aug. Feb.

Distrib. : Siang, Tirap; between 1000-2000 m, along roadsides, over the surface of swamps and in soil covered rock-crevices.

Carex cruciata Wahlenb. in Kongl. Vetensk. Acad. Handl. Stockh. 24: 149. 1803; C.B. Clarke in Hook.f., Fl. Brit. India 6: 715. 1894. *C. bengalensis* Roxb., Fl. Ind. 3: 572. 1832. *C. condensata* C.B. Clarke in Hook.f., Fl. Brit. India 6: 716. 1894.

Perennial herbs, 30-150 cm high. Rhizomes slender. Leaves clustered at base. Inflorescence paniculate-fasciculate; spikelets numerous, purplish-brown; female glumes reddish-brown dotted. Utricles sparsely hairy. Nuts ellipsoid.

Fls. & Frts. : May March.

Distrib. : Changlang, Kameng, Lohit, Siang, Subansiri, Tirap; between 200-1700 m, common in dry or moist wastelands, along forest margins, river bank and also frequently found hanging from hill slopes.

Carex daltoni Boott, Illustr. 1: 5, t. 16. 1858; C.B. Clarke in Hook.f., Fl. Brit. India 6: 727. 1894.

Perennial herbs, 40-80 cm high. Leaves clustered at base. Inflorescence paniculate-fasciculate; spikelets numerous, linear; glumes yellowish. Utricles pubescent all over. Nuts obovate-oblong.

Fls. & Frts. : Aug. Dec.

Distrib. : Kameng; in open moist places.

Carex eleusinoides Turcz. ex Kunth, Enum. Pl. 2: 407. 1837; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 22: 81. 1982.

Perennial herbs, 15-50 cm high. Rhizomes short, creeping. Leaves well developed, clustered at base. Inflorescence racemose spicate; spikelets terminal, 4-6 or solitary, glumes purple. Utricles glabrous, purplish. Nuts ovate-oblong, punctate.

Fls. & Frts. : April Aug.

Distrib. : Lohit; in open moist places.

Carex haematostoma Nees in Wight, Contrib. Bot. Ind. 125. 1834; C.B. Clarke in Hook.f., Fl. Brit India 6: 744. 1894.

Perennial herbs, 25-100 cm high. Leaves clustered at base. Spikelets linear-cylindric, chestnut-purple; glumes brown, glabrous or hairy. Utricles compressed, hairy. Nuts oblong-obovoid.

Fls. & Frts. : May July.

Distrib. : Kameng; in moist open places at higher elevations.

Carex hebecarpa C. A. Mey. in Petersb. Mem. Sav. Etrang. 1: 223, t. 12. 1831; C.B. Clarke in Hook.f., Fl. Brit. India 6: 747. 1894.

Perennial herbs, 30-80 cm high. Rhizomes stoloniferous. Leaves distributed all over stem. Inflorescence racemose spicate; spikelets numerous; glumes brown streaked. Utricles tomentose. Nuts obovoid-ellipsoid, yellowish-brown.

Fls. & Frts. : March June.

Distrib. : Tirap; between 300-2000 m, along forest margins.

Carex inanis Kunth, Enum. Pl. 2: 522. 1837; C.B. Clarke in Hook.f., Fl. Brit. India 6: 743. 1894. *C. schlagintweitiana* Boeck., Cyp. Nov. 1: 48. 1888; C.B. Clarke in Hook.f., Fl. Brit. India 6: 743. 1894.

Perennial herbs, 10-30 cm high. Rhizomes branched. Leaves clustered at base, sheaths purplish. Inflorescence racemose spicate; spikelets cylindric, 4-6; glumes hispidulous. Utricles villous, purple dotted. Nuts obovoid-ellipsoid, stipitate.

Fls. & Frts. : March June.

Distrib. : Kameng, Lohit; between 2000-2500 m, along forest margins.

Carex indica L., Mant. Alt. 2: 574. 1771; C.B. Clarke in Hook.f., Fl. Brit. India 6: 714. 1894.

Perennial herbs, 50-100 cm high. Leaves clustered at base. Inflorescence paniculate; spikelets numerous, divaricate; female glumes brown dotted. Utricles glabrous, olive-brown. Nuts obovoid-subglobose, stipitate.

Fls. & Frts. : June Sept.

Distrib. : Changlang, Tirap; between 1200-1800 m, on black soil under shade.

Carex insignis Boott, Illustr. 1: 5, t. 14. 1858; C.B. Clarke in Hook.f., Fl. Brit. India 6: 725. 1894.

Perennial, stoloniferous herbs, 30-130 cm high. Leaves distributed all over stem. Inflorescence paniculate-fasciculate; spikelets numerous; glumes stramineous, fuscous. Utricles glabrous, purple tinged. Nuts narrowly obovoid, stipitate, brownish.

Fls. & Frts. : July Aug.

Distrib. : Siang, Tirap; between 1200-1800 m, along pathways and river banks.

Carex monopleuria Krecz. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 7: 35. 1937; Nelmes in Kew Bull. 1950: 208. 1950. *C. rochebrunii* Franch. & Sav., Enum. Pl. Japon. 2: 555. 1878. *C. remota* var. *rochebrunii* (Franch. & Sav.) C.B. Clarke in Hook.f., Fl. Brit. India 6: 706. 1894.

Perennial herbs, 30-80 high. Rhizomes slender. Inflorescence paniculate-fasciculate; spikelets ellipsoid, greenish; glumes ovate. Utricles ellipsoid, flattened, glabrous. Nuts subobovoid.

Fls. & Frts. : May Sept.

Distrib. : Kameng, Tirap; between 1500-2600 m, in moist open places.

Carex munipoorensis C.B. Clarke in Hook.f., Fl. Brit. India 6: 729. 1894.

Perennial herbs, 15-20 cm high. Leaves clustered at base. Inflorescence terminal fasciculate; peduncles bearing solitary spikelet; female glumes reddish-brown. Utricles glabrous. Nuts ovoid, stipitate.

Fls. & Frts. : May July.

Distrib. : Kameng; in moist places at higher elevations.

Carex myosurus Nees in Wight, Contrib. Bot. Ind. 122. 1834; C.B. Clarke in Hook.f., Fl. Brit. India 6: 723. 1894.

Stout, perennial herbs, 60-100 cm high. Rhizomes short, stout. Panicle lax, hairy; spikes long cylindrical; spikelets numerous. Utricles oblong, stipitate, faintly hairy. Nuts ellipsoid.

Fls. & Frts. : Aug. Oct.

Distrib. : Kameng, Tirap; between 1500-2500 m, in moist places.

Carex nubigena D. Don ex Tilloch & Taylor in Phil. Mag. 62: 455. 1823; C.B. Clarke in Hook.f., Fl. Brit. India 6: 702. 1894.

Perennial, rhizomatous tufted herbs, 15-70 cm high. Leaves clustered at base; sheaths ferruginous. Inflorescence spicate; spikelets ellipsoid to cylindrical; glumes greenish-white. Utricles ellipsoid. Nuts suborbicular, stipitate.

Fls. & Frts. : May Sept.

Distrib. : Kameng; between 1000-2700 m, in dry or moist muddy places.

Carex parvigluma C.B. Clarke in Hook.f., Fl. Brit. India 6: 716. 1894.

Perennial herbs, 10-20 cm high with creeping rhizomes. Panicle, terminal; spikelets divaricate, ovate-oblong; female glumes ferruginous. Utricles subinflated, subglobose, olive-green.

Fls. & Frts. : July Sept.

Distrib. : Tirap; between 400-600 m, in open moist places.

Carex polycephala Boott, Illustr. 1: 4, t. 12. 1858; C.B. Clarke in Hook.f., Fl. Brit. India 6: 725. 1894.

Perennial herbs, 20-50 cm high. Rhizomes creeping. Leaves clustered at base. Inflorescence paniculate-fasciculate; spikelets numerous; female glumes ferruginous. Utricles subinflated, olive-green. Nuts obovoid, stipitate.

Fls. & Frts. : March June.

Distrib. : Kameng; between 400-600 m, in evergreen forests.

Carex rara Boott in Proc. Linn. Soc. 1: 284. 1845 Illustr. 1: 44, t. 109. 1858; C.B. Clarke in Hook.f., Fl. Brit. India 6: 713. 1894.

Perennial herbs, 20-40 cm high with slender rhizomes. Leaves filiform. Spikelets solitary, terminal, linear-oblong. Utricles subinflated, oblique, olivaceous. Nuts ovoid, stipitate.

Fls. & Frts. : Feb. April.

Distrib. : Siang; between 1500-1800 m, in swamps.

Carex royleana Nees in Wight, Contrib. Bot. Ind. 127. 1834; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 22: 84. 1982. *C. breviculmis sensu* C.B. Clarke in Hook.f., Fl. Brit. India 6: 746. 1894, *non* R. Brown, 1810.

Perennial herbs, 8-30 cm high. Rhizomes stoloniferous. Leaves clustered at base; sheaths fibrous. Inflorescence racemose-spicate; spikelets 3-5; female glumes awned, scaberulous. Utricle hispid, brownish. Nuts ovoid-oblong.

Fls. & Frts. : March May.

Distrib. : Kameng; between 1600-1900 m, in dry and moist wastelands.

Carex rubro-brunnea C.B. Clarke in Hook.f., Fl. Brit. India 6: 710. 1894.

Perennial herbs, 20-60 cm high. Rhizomes woody. Leaves scattered all over stems. Inflorescence racemose; spikelets 4-6, cylindric; glumes stramineous, fuscous. Utricles membranous, bright brown. Nuts ovoid, brownish.

Fls. & Frts. : March April.

Distrib. : Kameng; between 1200-2000 m, in open moist places along streams.

Carex scitula Boott, Illustr. 4: 177. t. 600. 1867; C.B. Clarke in Hook.f., Fl. Brit. India 6: 724. 1894.

Perennial, stoloniferous herbs, 10-30 cm high. Leaves clustered at base; sheaths ferruginous. Inflorescence racemose; spikelets 3-6; glumes reddish-brown. Utricles stipitate, pubescent. Nuts ellipsoid, brown.

Fls. & Frts. : Nov. Jan.

Distrib. : Lohit; between 800-1200 m, in open moist places.

Carex speciosa Kunth, Enum. Pl. 2: 504. 1837; C.B. Clarke in Hook.f., Fl. Brit. India 6: 729. 1894.

Perennial herbs, 5-50 cm high. Rhizomes short. Leaves clustered at base, longer than stem. Inflorescence racemose; spikelets usually

2, almost hidden among leaves. Utricles greenish-stramineous, hispidulous. Nuts narrowly obovoid-ellipsoid, brownish.

Fls. & Frts. : May June.

Distrib. : Kameng; between 1000-1700 m, in dry, open places or on humid forest floor.

Carex speciosa var. **courtallensis** (Nees ex Boott) Kuekenh. in Engl., Pflanzenr. 38: 481. 1909; A.S. Rao & D.M. Verma, Cyp. N.E. India 79. 1982. *Carex courtallensis* Nees ex Boott, Illustr. 1: 52, t. 138. 1858.

Perennial herbs, 30-80 cm high. Leaves shorter than stem. Spikelets usually 5. Utricles 5-6 mm long.

Fls. & Frts. : Oct. Nov.

Distrib. : Kameng; between 2000-2500 m, on hill slopes in shade.

Carex spiculata var. **nobilis** (Boott) C.B. Clarke in Hook.f., Fl. Brit. India 6: 724. 1894. *C. nobilis* Boott, Illustr. 1: 4, tt. 9-11. 1858.

Perennial herbs, 45-90 cm high. Leaves scattered all along stem; sheaths fibrillose splitting. Panicle large, much branched, consisting several partial panicle; spikelets numerous. Utricles scabrid-margined, greenish. Nuts deep brown.

Fls. & Frts. : Aug. Sept.

Distrib. : Tirap; between 800-1200 m, in open places along roadsides and streams.

Carex stramentitia Boott ex Boeck. in Linnaea 40: 351. 1876; C.B. Clarke in Hook.f., Fl. Brit. India 6: 717. 1894.

Perennial herbs, 40-130 cm high. Rhizomes creeping. Leaves scattered all along stem. Inflorescence branched panicle, mild fragrant; peduncle bearing many spikelets; glumes white stramineous. Nuts ovoid-ellipsoid, yellowish-brown.

Fls. & Frts. : Dec. May.

Distrib. : Kameng; between 200-1300 m, in open moist places and along streams.

Carex teres Boott, Illustr. 1: 62, t. 167. 1858; C.B. Clarke in Hook.f., Fl. Brit. India 6: 707. 1894.

Perennial, tufted herbs upto 100 cm high. Sheaths shining brown. Panicle lax; spikes linear or long cylindrical; glumes oblong-lanceolate,

dark purple. Utricles ellipsoid, compressed, yellow glandular punctate. Nuts ovoid.

Fls. & Frts. : Aug. Oct.

Distrib. : Kameng; between 1500-3000 m, in open forest margin.

Carex thomsonii Boott, *Illustr.* 1: 1, t. 1. 1858; C.B. Clarke in *Hook.f., Fl. Brit. India* 6: 703. 1894.

Perennial herbs, 20-30 cm high. Rhizomes woody, caespitose. Leaves scattered all along the stem. Utricles herbaceous, broadly ovoid, purplish-red. Nuts stipitate, deep brown.

Fls. & Frts. : March May.

Distrib. : Kameng, Siang; on river bed, sometimes remain submerged.

Note : It is remarked by Burkill (1924) that the plant can remain about six months under moderately rapid current. Inflorescence is very tough and the seeds germinate under water while remain attached to the inflorescence. Afterwards the entire plant bends down, the germinated seeds get contact with the river bed and the seedlings come before the onset of rain.

Cyperus babakan Steud., *Syn.* 2: 6. 1854; C.B. Clarke in *Hook.f., Fl. Brit. India* 6: 610. 1893.

Perennial, stoloniferous herbs, 30-100 cm high. Leaves shorter than stem. Inflorescence anthelate, dense; rachis hispidulous; spikelets clustered, many; glumes purplish-yellow. Nuts shortly stipitate, blackish.

Fls. & Frts. : June July.

Distrib. : Kameng; between 800-1800 m, in moist open places.

Cyperus compactus Retz., *Obs. Bot.* 5: 10. 1789; Kern in van Steenis, *Fl. Males.* 7(3) : 638. 1974. *Mariscus microcephalus* Presl, *Rel. Haenk* 1: 182. 1828; C.B. Clarke in *Hook.f., Fl. Brit. India* 6: 624. 1893.

Perennial herbs, 20-100 cm high. Stems spongy. Leaves canaliculate, margins spiny, sheaths reddish-brown. Inflorescence compound anthelate, reddish-brown. Spikelets numerous. Nuts linear-oblong, deep brown.

Fls. & Frts. : May Jan.

Distrib. : Kameng, Tirap; between 100-1000 m, in roadside ditches, often colonising on moist sandy soil along rivers and streams.

Cyperus compressus L., Sp. Pl. 46. 1753; C.B. Clarke in Hook.f., Fl. Brit. India 6: 605. 1893. *C. pectiniformis* R. & S., Mant. 2: 128. 1824. *C. compressus* var. *pectiniformis* (R. & S.) C.B. Clarke in J. Linn. Soc. Bot. 21: 97. 1884.

Annual or perennial tufted herbs upto 75 cm high. Leaves shorter or equalling stems. Inflorescence anthelate; spikelets in clusters; glumes pale yellow or brownish. Nuts obovoid, stipitate, deep brown.

Fls. & Frts. : May Dec.

Distrib. : Lohit, Subansiri, Tirap; between 100-700 m; along roadsides, river bed and in cultivated fields on moist sandy-alluvium or clayey soil.

Cyperus cuspidatus Kunth in H.B.K., Nov. Gen. Sp. 1: 204. 1815; C.B. Clarke in Hook.f., Fl. Brit. India 6: 598. 1893. *C. uncinatus* C.B. Clarke in Durand & Schinz., Consp. Fl. Afr. 5: 580. 1895 in J. Linn. Soc. Bot. 36: 219. 1903, *non* Poir. 1806.

Tufted, slender, annual herbs upto 20 cm high. Leaves shorter or longer than stem. Inflorescence anthelate; spikelets linear, numerous; rachilla zig-zag, reddish; glumes fuscous ferrugineous. Nuts obovoid, puncticulate.

Fls. & Frts. : Aug. Nov.

Distrib. : Lohit; between 200-1700 m, common and often colonising on moist sandy soil.

Cyperus cyperoides (L.) Kuntze., Rev. Gen. Pl. 3, 2: 333. 1898; A.S. Rao & D.M. Verma in Bull. Bot. Surv. India 22: 85. 1982. *Scirpus cyperoides* L., Mant. Pl. 2: 181. 1771. *Mariscus sieberianus* Nees ex C.B. Clarke in Hook.f., Fl. Brit. India 6: 622. 1893. var. *cyperoides*.

Perennial herbs, 10-100 cm high. Leaves shorter than or equalling the stem. Inflorescence anthelate simple; spikes cylindrical; spikelets linear-lanceolate, divaricate, bearing 1-2 nuts; glumes membranous, red striolate. Nuts linear-oblong, yellowish-brown to deep brown.

Fls. & Frts. : June Dec.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 100-2000 m; common in wet wastelands, cultivated fields and along stream beds and forest margins.

Cyperus cyperoides var. **evolutior** (C.B. Clarke) Kuekenth in Sinensia 3: 80. 1932 & in Engler, Pflanzenr. 101: 516. 1936. *Mariscus sieberianus* var. *evolutior* C.B. Clarke in Hook.f., Fl. Brit. India 6: 622. 1893.

Spikelets linear, bearing 2-4 nuts.

Fls. & Frts. : June - Dec.

Distrib. : Kameng.

Cyperus digitatus Roxb., Fl. Ind. 1: 209. 1820; C.B. Clarke in Hook.f., Fl. Brit. India 6: 618. 1893. *C. spongiosa-vaginatus* Boeck., Cyp. Nov. 1: 5. 1888; C.B. Clarke in Hook.f., Fl. Brit. India 6: 619. 1893.

Perennial herbs, 50-150 cm high. Rhizomes woody, creeping. Leaves sub-equalling the stem. Anthelate compound; spikes cylindrical; spikelets linear, divaricate, numerous; rachilla yellowish; glumes elliptic-oblong, muticous. Nuts oblong-ellipsoid, yellowish-brown.

Fls. & Frts. : May - Dec.

Distrib. : Tirap; between 300-700 m, common in swamps and paddy fields.

Cyperus halpan L., Sp. Pl. 45. 1753 ('haspan'); C.B. Clarke in Hook.f., Fl. Brit. India 6: 600. 1893.

Perennial or annual, tufted herbs, 8-70 cm high. Rhizomes slender, creeping. Leaves all reduced to sheaths. Anthelate compound; spikelets digitate, 3-6, linear-lanceolate, glumes appressed, yellowish-red. Nuts broadly obovoid, yellowish.

Fls. & Frts. : Throughout the year.

Distrib. : Kameng, Tirap; between 100-1700 m, common in cultivated fields, along streams and ditches.

Cyperus imbricatus Retz., Obs. Bot. 5: 12. 1789; Fischer in Gamble, Fl. Pres. Madras 1641. 1931. *C. radiatus* Vahl, Enum. Pl. 2: 369. 1806; C.B. Clarke in Hook.f., Fl. Brit. India 6: 617. 1893.

Perennial herbs upto 100 cm high. Leaves usually longer than stem. Spikes digitate, cylindrical; spikelets oblong-lanceolate, compressed; glumes densely imbricate, brown. Nuts ovoid to ellipsoid, black.

Fls. & Frts. : April - Oct.

Distrib. : Kameng; in moist places at higher elevations.

Cyperus iria L., Sp. Pl. 45. 1753; Miquel, Fl. Ind. Bat. 3: 269. 1856; C.B. Clarke in Hook.f., Fl. Brit. India 6: 606. 1893. *C. iria* var. *parviflorus* (Nees) Miquel, Fl. Ind. Bat. 3: 270. 1856. *C. iria* var. *diaphaniria* (Steud.) Miquel, Fl. Ind. Bat. 3: 270. 1856. *C. iria* var. *paniciformis* (Franch. & Sav.) C.B. Clarke in Hook.f., Fl. Brit. India 6: 606. 1893.

Annual, tufted herbs, 5-80 cm high. Leaves shorter than the stem. Anthelate simple or compound, lax; spikes narrow, yellow; spikelets many, linear-oblong; glumes broadly obovate, yellow. Nuts broadly stipitate, deep brown.

Fls. & Frts. : May Dec.

Distrib. : Changlang, Kameng, Lohit, Tirap; between 100-700 m; in moist places along road or streamsides, common in paddy fields.

Cyperus laxus Lamk., Ill. 1: 146. 1791 *emend* Poir. in Lam., Encycl. 7: 260. 1806. *C. diffusus* Vahl, Enum. Pl. 2: 321. 1805; C.B. Clarke in Hook.f., Fl. Brit. India 6: 603. 1893. var. *laxus*.

Perennial, tufted herbs, 20-80 cm high. Leaves subequalling the stem. Anthelate decomposed; spikelets lanceolate, 2-4 (-9) together, sessile; glumes broadly ovate, remote, mucronate, green with reddish margin. Nuts ellipsoid, blackish-brown.

Fls. & Frts. : May Feb.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 200-1700 m, common in moist open or shady places.

Cyperus laxus var. **macrostachyus** (Boeck.) Karth. in Karth. *et al.*, Fl. Ind. Enum. Monocot. 46. 1989. *C. diffusus* var. *macrostachyus* Boeck. in Linnaea 35: 534. 1868. *C. pubisquama* Steud., Syn. Cyp. 20. 1855; C.B. Clarke in Hook.f., Fl. Brit. India 6: 604. 1893.

Spikelets linear, 12-40 flowered; glumes appressed; tightly imbricating the rachilla. Nuts smaller.

Fls. & Frts. : Sept. Feb.

Distrib. : Lohit; between 400-700 m, in moist open or shady places.

Cyperus niveus Retz., Obs. Bot. 5: 12. 1788; C.B. Clarke in Hook.f., Fl. Brit. India 6: 601. 1893.

Perennial, tufted herbs, 15-75 m high. Rhizomes creeping. Leaves usually shorter than stem. Inflorescence capitate; spikelets oblong-lanceolate, many flowered; glumes whitish, pale-brown striolate. Nuts deep brown, densely punctate.

Fls. & Frts. : March Oct.

Distrib. : Kameng, Siang; between 600-1300 m, in moist wastelands.

Cyperus nutans Vahl, Enum. Pl. 2: 363. 1806; C.B. Clarke in Hook.f., Fl. Brit. India 6: 607. 1893.

Perennial, rhizomatous, tufted herbs, 5-150 cm high. Leaves shorter than stem. Anthelate compound; spikes penicilliform, dense; spikelets linear-oblong; glumes scarious in upper half. Nuts narrowly obovoid-oblong, brown.

Fls. & Frts. : May June.

Distrib. : Kameng; in swamps and ditches at lower elevations.

Cyperus pilosus Vahl, Enum. Pl. 2: 354. 1806; C.B. Clarke in Hook.f., Fl. Brit. India 6: 609. 1893. *C. obliquus* Nees in Wight, Contrib. Bot. Ind. 86. 1834. *C. pilosus* var. *obliqua* (Nees) C.B. Clarke in J. Linn. Soc. Bot. 21: 151. 1884 & in Hook.f., Fl. Brit. India 6: 610. 1893. *C. pilosus* var. *polyantha* C.B. Clarke in J. Linn. Soc. Bot. 21: 148. 1884 & in Hook.f., Fl. Brit. India 6: 610. 1893.

Perennial, tufted, stoloniferous herbs, 20-90 cm high. Leaves shorter than stem. Inflorescence compound anthelates; spikes diverging; rachis yellow hispidulous; spikelets subdistichous, linear. Nuts obovoid, blackish.

Fls. & Frts. : May Nov.

Distrib. : Kameng, Lohit, Subansiri, Tirap; between 100-1500 m, common and forming large patches on marshy, sandy or clayey soil and in paddy fields.

Cyperus rotundus L. Sp. Pl. 45. 1753; C.B. Clarke in Hook.f., Fl. Brit. India 6: 614. 1893.

Perennial, 10-15 cm high. Stolons slender with aromatic tubers. Leaves shorter than or subequalling stem. Inflorescence simple anthelate; spikelets 3-10, linear-lanceolate, compressed; glumes red or deep brown. Nuts obovoid-ellipsoid, glossy black.

Fls. & Frts. : May Sept.

Distrib. : Kameng; colonising along roadside swamps in partly shaded places.

Cyperus sanguinolentus Vahl, Enum. Pl. 2: 354. 1806; A.S. Rao & D.M. Verma, Cyp. N. E. India 9. 1982. *Pycreus sanguinolentus* (Vahl) Nees in Linnaea 9: 283. 1834; C.B. Clarke in Hook.f., Fl. Brit. India 6: 590. 1893.

Annual or perennial herbs, 6-90 cm high; erect or decumbent. Leaves mostly clustered at base. Inflorescence anthelate; spikelets oblong-lanceolate; glumes greenish with a distinct depression. Nuts broadly ovoid, blackish-brown.

Fls. & Frts. : April - Jan.

Distrib. : Kameng, Subansiri; between 100-1600 m, common moist sandy or clayey soil in wasteland, along roadsides and river banks.

Cyperus sanguinolentus ssp. **melanocephalus** (Miquel) Kern in Reinwardtia 3: 55. 1954; A.S. Rao & D.M. Verma, Cyp. N. E. India 9: 1982. *C. melanocephalus* Miquel, Fl. Ind. Bat. 3: 259. 1859.

Leaves narrower. Anthelate capitately contracted; glumes not sulcate, dark castaneous to blackish or brownish.

Fls. & Frts. : May-Sept.

Distrib. : Kameng; between 1000-1700 m, in swamps.

Cyperus tenuispica Stued., Syn. Cyp. 11. 1855; Fischer in Gamble, Fl. Pres. Madras 1640. 1931. *C. flavidus sensu* C.B. Clarke in Hook.f., Fl. Brit. India 6: 600. 1893, *non* Retz. 1789.

Annual, tufted herbs upto 40 cm high. Leaves usually much shorter than stem. Inflorescence compound anthelate; spikelets digitate, linear-lanceolate; glumes laxly arranged, ferruginous, purple striolate. Nuts obovoid, marble-white.

Fls. & Frts. : July - Nov.

Distrib. : Subansiri; between 100-1300 m, in open marshy places and in paddy fields.

Cyperus thomsonii Boeck. in Linnaea 36: 295. 1870; C.B. Clarke in Hook.f., Fl. Brit. India 6: 608. 1893.

Perennial, tufted herbs, 20-60 cm high. Leaves equalling or exceeding stem. Inflorescence simple or compound anthelate; spike dense; spikelets clustered, linear-lanceolate, compressed-quadrangular; glumes remote, red dotted. Nuts ellipsoid-oblong, black.

Fls. & Frts. : May - Nov.

Distrib. : Kameng; in moist open places.

Eleocharis congesta D. Don, Prodr. Fl. Nepal. 41. 1825; C.B. Clarke in Hook.f., Fl. Brit. India 6: 630. 1893. *E. afflata* Steud., Syn. Cyp. 2: 76. 1855; C.B. Clarke in Hook.f., Fl. Brit. India 6: 629. 1893. *E. subvivipara* Boeck. in Linnaea 36: 424. 1870; C.B. Clarke in Hook.f., Fl. Brit. India 6: 629. 1893.

Annual or perennial herbs, 10-40 cm high. Leaf-sheaths clasping, reddish-brown. Spikelets narrowly ovoid, many flowered; glumes

elliptic-oblong with purplish bands. Perianth bristles 6-7, whitish ferruginous. Nuts ovoid, compressed.

Fls. & Frts. : Jan. Nov.

Distrib. : Kameng; in swamps or shallow water.

Eleocharis dulcis (Burm. f.) Trin. ex Henschel, Vita Rumph. 186. 1833. *Andropogon dulce* Burm. f., Fl. Ind. 219. 1768. *Scirpus plantagineus* Retz., Obs. Bot. 5: 14. 1789. *Eleocharis plantaginea* (Retz.) Roem. & Schult., Syst. Veg. 2: 150. 1817; C.B. Clarke in Hook.f., Fl. Brit. India 6: 625. 1893.

Perennial herbs, 40-150 cm high, stems transversely septate; stolons bearing tubers. Leaf-sheaths reddish. Spikelets subcylindric; glumes densely imbricating, red dotted. Perianth bristles 6-9, thread like, yellow. Nuts obovoid, yellowish-brown.

Fls. & Frts. : April Oct.

Distrib. : Kameng; in swamps and cultivated fields.

Eleocharis tetraquetra Nees in Wight, Contrib. Bot. Ind. 112. 1834; C.B. Clarke in Hook.f., Fl. Brit. India 6: 630. 1893.

Perennial herbs, 20-70 cm high. Stems tetraquetrous. Leaf-sheaths reddish-brown. Spikelets ovoid-lanceolate, many flowered; glumes laxly imbricating; brown-striolate. Perianth bristle 6, scabrid. Nuts narrowly obovoid, pale-brown.

Fls. & Frts. : Oct. Nov.

Distrib. : Kameng, Subansiri; between 1200-1400 m, in swamps.

Eriophorum comosum (Wall.) Wall. ex Nees in Wight, Contrib. Bot. Ind. 110. 1834; C.B. Clarke in Hook.f., Fl. Brit. India 6: 664. 1893. *Scirpus comosus* Wall. in Roxb., Fl. Ind. 1: 234. 1820.

Perennial herbs, 15-45 cm high. Stems terete below, trigonous above. Inflorescence simple or compound anthelate; spikelets solitary, reddish-brown, many flowered; glumes spirally imbricating. Perianth divided into white hairs. Nuts sessile, ellipsoid, dusky-black.

Fls. & Frts. : April Nov.

Distrib. : Kameng, Lohit; between 300-1900 m, in rock crevices near streams.

Fimbristylis aestivalis (Retz.) Vahl, Enum. Pl. 2: 288. 1806; C.B. Clarke in Hook.f., Fl. Brit. India 6: 637. 1893, *p.p.* *Scirpus aestivalis* Retz., Obs. Bot. 4: 12. 1786.

Annual herbs, 3-20 cm high. Stems ribbed. Sheaths hairy or glabrous. Inflorescence compound anthelate; spikelets oblong-

lanceolate, solitary, many-flowered; glumes spiral; awns long, hairy. Nuts ovoid, biconvex, stipitate.

Fls. & Frts. : Sept. Feb.

Distrib. : Kameng, Subansiri; between 100-1700 m, often colonising in open wet places along streams and ditches.

Fimbristylis albo-viridis C.B. Clarke in Hook.f., Fl. Brit. India 6: 638. 1893; A.S. Rao & D.M. Verma, Cyp. N.E. India 35. 1982.

Annual herbs, 15-40 cm high. Leaves ligulate. Inflorescence lax, compound anthelate; spikelets solitary, ovoid; glumes spiral, greyish-green. Nuts ovoid, biconvex, verrucose or tuberculate.

Fls. & Frts. : Aug. Sept.

Distrib. : Changlang, Tirap; in wastelands at lower elevations.

Fimbristylis bis-umbellata (Forssk.) Bubani in Dodec. 30. 1850; A.S. Rao & D.M. Verma, Cyp. N. E. India 6: 31. 1982. *Scirpus bis-umbellata* Forssk., Fl. Aeg.-Arab. 1: 15. 1775. *Fimbristylis dichotoma sensu* C.B. Clarke in Hook.f., Fl. Brit. India 6: 635. 1893, *non* (L.) Vahl 1806.

Annual herbs, 10-20 cm high. Stems compressed, trigonous. Inflorescence compound anthelate; spikelets narrowly ovoid-oblong or lanceolate; glumes spiral, mucronate, yellowish-brown. Nuts broadly obovoid, whitish stramineous, shortly stipitate.

Fls. & Frts. : Feb. July.

Distrib. : Kameng; in moist places along roadsides and river banks at lower elevations.

Fimbristylis complanata (Retz.) Link, Hort. Bot. Berol. 1: 292. 1827; C.B. Clarke in Hook.f., Fl. Brit. India 6: 646. 1893. *Scirpus complanatus* Retz., Obs. Bot. 5: 14. 1789.

Annual or perennial herbs, 20-100 cm high. Stems strongly compressed. Leaves usually shorter than stem; ligules hairy. Inflorescence lax, compound anthelate; spikelets many, oblong-lanceolate; glumes ovate-oblong, spiral. Nuts broadly obovoid, verruculose.

Fls. & Frts. : June Sept.

Distrib. : Kameng; in dry or moist wastelands.

Fimbristylis dichotoma (L.) Vahl, Enum. Pl. 2: 287. 1806; C.B. Clarke in Hook.f., Fl. Brit. India 6: 635. 1893. *Scirpus dichotoma* L., Sp. Pl. 50. 1753. *Fimbristylis diphylla* (Retz.) Vahl, Enum. Pl. 2: 289. 1806; C.B. Clarke in Hook.f., Fl. Brit. India 6: 636. 1893 *excl. var. pluristriata*.

Annual or perennial, tufted, rhizomatous herbs, 10-80 cm high. Leaves usually shorter than stem. Spikelets ovoid, many in compound or decomposed anthelate; glumes closely imbricate, pale-brown. Nuts biconvex, verruculate, pale-brown.

Fls. & Frts. : March Dec.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 100-2000 m, common in open or shady, dry or moist places and in rock crevices.

Fimbristylis falcata (Vahl) Kunth, Enum. Pl. 2: 239. 1837; A.S. Rao & D.M. Verma, Cyp. N. E. Ind. 38. 1982. *Scirpus falcatus* Vahl, Enum. Pl. 2: 275. 1806. *Fimbristylis junciformis* Kunth, Enum. Pl. 2: 239. 1837; C.B. Clarke in Hook.f., Fl. Brit. India 6: 647. 1893.

Perennial herbs, 10-40 cm high. Rhizomes creeping. Leaves usually shorter than stem. Inflorescence compound anthelate; spikelets in clusters of 3-5, oblong; glumes spiral, margin scarious. Nuts obovoid, whitish stramineous, shortly stipitate.

Fls. & Frts. : March June.

Distrib. : Kameng, Siang; between 1400-1800 m, in open moist places.

Fimbristylis miliacea (L.) Vahl, Enum. Pl. 2: 287. 1806; C.B. Clarke in Hook.f., Fl. Brit. India 6: 644. 1893. *Scirpus miliaceus* L., Syst. Veg. ed. 10, 2: 868. 1759. *S. quinquangularis* Vahl, Enum. Pl. 2: 279. 1806. *Fimbristylis quinquangularis* (Vahl) Kunth, Enum. Pl. 2: 229. 1807; C.B. Clarke in Hook.f., Fl. Brit. India 6: 644. 1893.

Annual or perennial, tufted herbs with leafless flowering shoots, 20-90 cm high. Anthela compound, bearing many spikelets; spikelets ovoid-oblong, 6-16 flowered; glumes spiral. Nuts obovoid or suborbicular, densely verruculose.

Fls. & Frts. : May Nov.

Distrib. : Kameng, Tirap; between 100-1000 m, common in moist places, along streams and ditches.

Fimbristylis ovata (Burm. f.) Kern in Blumea 15: 126. 1967. *Carex ovata* Burm. f., Fl. Ind. 194. 1768. *Cyperus monostachyos* L., Mant. Pl. 2: 180. 1771. *Fimbristylis monostachyos* (L.) Hassk., Pl. Jav. Rar. 61. 1848 (monostachya); C.B. Clarke in Hook.f., Fl. Brit. India 6: 649. 1893.

Perennial herbs, 10-50 cm high. Anthela reduced to a solitary spikelet; spikelets ovate-lanceolate, compressed, yellowish stramineous. Nuts obovoid, yellowish-white or brownish tinged, tuberculate.

Fls. & Frts. : May Aug.

Distrib. : Kameng; in moist open places.

Fimbristylis schoenoides (Retz.) Vahl, Enum. Pl. 2: 286. 1806; C.B. Clarke in Hook.f., Fl. Brit. India 6: 634. 1893. *Scirpus schoenoides* Retz., Obs. Bot. 5: 14. 1789.

Perennial, tufted, glabrous herbs, 8-40 cm high. Leaves filiform, canaliculate. Anthela reduced to a solitary, terminal spikelet or rarely 2-3 together; spikelets ovoid, many flowered; glumes spiral, straw coloured. Nuts obovoid, biconvex, stipitate.

Fls. & Frts. : July Oct.

Distrib. : Kameng, Tirap; between 200-1000 m, common in wastelands and paddy fields.

Fimbristylis tenera Schult in Roem. & Schult., Syst. Veg. 2: Mant. 57. 1824; C.B. Clarke in Hook.f., Fl. Brit. India 6: 642. 1893.

Annual, tufted herbs, 15-25 cm high. Anthela compound bearing 7-9 spikelets; spikelets ellipsoid or linear-lanceolate; glumes glandular pubescent, chestnut-red. Nuts obovoid, smooth or subtuberculate.

Fls. & Frts. : Sept. Nov.

Distrib. : Subansiri; in open moist places on sandy-loam or clayey soil.

Fimbristylis tomentosa Vahl, Enum. Pl. 2: 290. 1806; Kern in van Steenis, Fl. Males. 1, 7: 576. 1974. *F. podocarpa* Nees & Mey. in Wight, Contrib. Bot. Ind. 98. 1834, *p.p.*; C.B. Clarke in Hook.f., Fl. Brit. India 6: 638. 1893. *F. diphylla* var. *pluristriata* C.B. Clarke in Hook.f., Fl. Brit. India 6: 637. 1893. *F. dichotoma* var. *pluristriata* (C.B. Clarke) Napper in Kew Bull. 25: 437. 1971.

Annual herbs, 15-55 cm high. Leaves ligulate; ligule a fringe of hairs; sheaths hairy. Anthela lax, compound, 6-15 spikelets; spikelets all solitary, ovoid-oblong, 10-20 flowered; glumes spiral, pale-brown. Nuts suborbicular, long stipitate.

Fls. & Frts. : Aug. Sept.

Distrib. : Kameng; between 100-1500 m, in shade on forest margins.

Fuirena umbellata Rottb., Progr. 27. 1772; C.B. Clarke in Hook.f., Fl. Brit. India 6: 666. 1893.

Perennial herbs, 30-110 (-150) cm high. Leaves scattered all along stem, rufous hairy; ligule membranous. Spikelets in cluster of 7-13, scattered all along stem, brown with age. Nuts obovoid, stipitate, stramineous-fuscous.

Fls. & Frts. : June Oct.

Distrib. : Kameng; between 200-1500 m, in swamps along streams and ponds.

Hypolytrum nemorum (Vahl) Spreng., Syst. Veg. 1: 233. 1825. *Schoenus nemorum* Vahl, Symb. Bot. 3: 8. 1794. *Hypolytrum latifolium* L. C. Rich. in Pers., Syn. Pl. 1: 70. 1805; C.B. Clarke in Hook.f., Fl. Brit. India 6: 678. 1894. *H. trinervium* Kunth, Enum. Pl. 2: 272. 1837; C.B. Clarke in Hook.f., Fl. Brit. India 6: 679. 1894. *H. wightianum* Boeck. in Linnaea 37: 130. 1871; C.B. Clarke in Hook.f., Fl. Brit. India 6: 678. 1894.

Perennial herbs, 50-100 cm high. Rhizomes short, purplish. Leaves mostly clustered at base, linear-lanceolate. Panicle terminal, pyramidal corymb; spikelets solitary, brown. Nuts broadly ovoid to suborbicular, brown.

Fls. & Frts. : Throughout the year.

Distrib. : Lohit; in moist swampy places and in shades in forests, sometimes remain submerged.

Indocourtoisia cyperoides (Roxb.) Bennet & Raizada in Ind. For. 107. 432. 1981. *Courtoisia cyperoides* (Roxb.) J. Sojak in Cas. Nar. Muz. (Prague), 148 (3-4): 143. 1980. *Kyllinga cyperoides* Roxb., Fl. Ind. 1: 187. 1820. *Courtoisia cyperoides* (Roxb.) Nees in Linnaea 9: 286. 1834; C.B. Clarke in Hook.f., Fl. Brit. India 6: 625. 1893. *Cyperus pseudokyllingoides* Kuekenth. in Engler, Pflanzenr. heft. 101: 501. 1936.

Annual tufted herbs, 8-50 cm high; roots purplish. Spikes subglobose, brown, compound anthelate; spikelets many, elliptic-oblong, compressed; keel of glumes yellow, sides brown. Nuts fusiform, deep brown, punctulate.

Fls. & Frts. : Oct. Nov.

Distrib. : Kameng; between 200-1500 m, in wastelands.

Isolepis setacea (L.) R. Brown, Prodr. 222. 1810; T. Koyama in Hara *et al.*, Enum. Fl. Pl. Nepal 1: 112. 1978. *Scirpus setaceus*

L., Sp. Pl. 73. 1753; C.B. Clarke in Hook.f., Fl. Brit. India 6: 654. 1893.

Annual or perennial herbs upto 25 cm high. Rhizomes filiform. Leaves setaceous, clustered at base. Spikelets in quasilateral heads, clustered, 6-12 flowered. Nuts obovoid, planoconcave, longitudinally striate, tuberculate.

Fls. & Frts. : Oct. Nov.

Distrib. : Siang; in swampy localities, along streams and ditches.

Kobresia curticeps (C.B. Clarke) Kuekenth. in Engler, Pflanzenr. 38: 47. 1909. *Carex curticeps* C.B. Clarke in Hook.f., Fl. Brit. India 6: 729. 1894.

Perennial herbs, 30-70 cm high. Spikes 2-14, linear-cylindric, purple-red; glumes ovate-cuspidate. Utricles narrowly lanceolate, glabrous.

Fls. & Frts. : May Aug.

Distrib. : Kameng; scattered on humid forest floor.

Kobresia uncinoides (Boott) C.B. Clarke in Hook.f., Fl. Brit. India 6: 698. 1893. *Carex uncinoides* Boott, Illustr. 1: 8, t. 23. 1858.

Perennial herbs, 30-60 cm high. Leaves subbasal, shorter than stem. Inflorescence dense, oblong, terminal panicle; spikelets unisexual, 1-flowered, brown; glumes brown, splitted down. Nuts narrowly obovoid.

Fls. & Frts. : May Aug.

Distrib. : Kameng; scattered on humid forest floor.

Kyllinga brevifolia Rottb., Descr. & Ic. 13, t. 4. f. 3. 1773; C.B. Clarke in Hook.f., Fl. Brit. India 6: 588. 1893; Getliffe in J.S. Afr. Bot. 49: 287. 1983. *Cyperus brevifolius* (Rottb.) Hassk., Cat. Hort. Bogor. 24. 1844.

Perennial herbs upto 90 cm high. Rhizomes creeping, upto 40 cm long, pinkish or purplish. Inflorescence capitate; spikes usually solitary; spikelets elliptic-lanceolate, 1-flowered; glumes sparsely brownish striolate. Nuts obovoid, yellowish or brownish.

Fls. & Frts. : Sept. Oct.

Distrib. : Kameng, Siang, Subansiri, Tirap; between 200-2000 m, common in marshy places.

Kyllinga nemoralis (J.R. & G. Forst.) Dandy ex Hutch. & Dalziel, Fl. W. Trop. Afr. 2, 2: 487. 1936; Getliff in J.S. Afr. Bot. 49: 272.

1983. *Thryocephalon nemorale* J. R. & G. Forst., Charact. Gen. Pl. 129, t. 65. 1776. *Kyllinga monocephala* Rottb., Descr. & Ic. 13, f. 4. 1773; C.B. Clarke in Hook.f., Fl. Brit. India 6: 588. 1893. *Cyperus kyllinga* Endl., Cat. Hort. Vindob. 1: 94. 1842.

Perennial herbs 10-30 (-45) cm high. Rhizomes aromatic, covered with brown scales. Inflorescence capitate; spikes solitary, brownish; spikelets many, ovate-elliptic to lanceolate, 1-2 flowered; glumes red dotted all over. Nuts obovoid-oblong, blackish-brown.

Fls. & Frts. : June Sept.

Distrib. : Kameng, Tirap; between 100-1000 m, in moist wastelands, along forest margins and streams.

Lipocarpa chinensis (Osbeck) Kern in Blumea, Suppl. 4: 167. 1958. *Scirpus chinensis* Osbeck, Dagb. Ostind. Resa 220. 1757. *Hypaelyptum argenteum* Vahl, Enum. Pl. 2: 287. 1835; C.B. Clarke in Hook.f., Fl. Brit. India 6: 667. 1893.

Annual or perennial herbs, 10-65 cm high. Leaves rigidulous, shorter than stem. Inflorescence terminal capitate; spikelets 3-7 (-10), oblong-ovoid, glistering greenish-white. Perianth scales elliptic-oblong, clasping nuts. Nuts obovoid-oblong, compressed.

Fls. & Frts. : April-Oct.

Distrib. : Kameng; in muddy swamps and shallow waters along roadsides and streams upto 1600 m.

Mapania palustris (Hassk. ex Steud.) F.-Vill, Nov. App. 309. 1882; C.B. Clarke in Hook.f., Fl. Brit. India 6: 681. 1894. *Pandanophyllum palustre* Hassk. ex Steud., Syn. Pl. 2: 134. 1855. *Mapania silhetensis* C.B. Clarke in Hook.f., Fl. Brit. India 6: 681. 1894.

Perennial or annual herbs, 30-50 cm long. Rhizomes creeping. Leaves in basal tufts, upto 6 cm broad. Inflorescence capitate; spikes 10-50, ellipsoid; glumes spiral, brown speckled; first pair ciliolate, third empty. Nuts narrowly ovoid, shortly stipitate.

Fls. & Frts. : June July.

Distrib. : Subansiri; in moist shady places at lower elevations.

Mapania arunachalensis G. D. Pal & Giri in G.D. Pal & G.S. Giri in J. Bombay Nat. Hist. Soc. 91(3): 438. 1994.

Perennial, erect herbs, 100-175 cm high. Rhizomes partly covered with scales. Leaves in basal tuft, upto 2 cm broad. Inflorescence capitate; spikes 4-6, ellipsoid; glumes spiral, first pair stellate hairy on keel, third monandrous. Nuts narrowly ovoid, shortly stipitate.

Fls. & Frts. : March May.

Distrib. : Subansiri; in moist shady places on thick humus at around 400 m.

Mariscus cyperinus var. **bengalensis** C.B. Clarke in Hook.f., Fl. Brit. India 6: 621. 1893. *Cyperus cyperinus* var. *bengalensis* (C.B. Clarke) Kuekenth. in Engler, Pflanzenr. 101: 520. 1936.

Perennial herbs, 25-70 cm high. Rhizomes aromatic. Inflorescence simple anthelate; spikes cylindrical; spikelets oblique, bearing 1-4 nuts; glumes tightly clasping. Nuts ellipsoid, brown.

Fls. & Frts. : May Nov.

Distrib. : Kameng, Subansiri, Tirap; between 100-1300 m, along streams and forest margins on sandy loam or clayey soil.

Mariscus hookerianus C.B. Clarke in Hook.f., Fl. Brit. India 6: 623. 1893.

Glabrous, rhizomatous herbs upto 50 cm high. Rhizomes slender. Inflorescence umbellate, of 7 cylindrical, dense spikes; spikelets oblong, yellowish, bearing 4 dirty white, oblong-ellipsoid nuts; lowest glume aristate.

Fls. & Frts. : April Nov.

Distrib. : Kameng; on hilly slopes.

Mariscus sumatrensis (Retz.) Raynal in Adansonia 15: 110. 1975. *Kyllinga sumatrensis* Retz., Obs. Bot. 4: 13. 1786.

Perennial herbs, 10-100 cm high. Rhizomes creeping. Inflorescence simple anthelate; spikes sessile, cylindrical; spikelets linear-lanceolate bearing 1-2 nuts; glumes membranous, ovate-oblong. Nuts linear-oblong, yellowish-brown to deep brown.

Fls. & Frts. : March Dec.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 100-2000 m, common in wastelands, cultivated fields and along forest margins.

Pycrus diaphanus (Schrad. ex Roem. & Schult.) Hooper & Koyama in J. Jap. Bot. 51: 316. 1976. *Cyperus diaphanus* Schrad. ex Roem. & Schult., Mant. 2: 477. 1824. *Cyperus latespicatus* Boeck. in Flora 42: 433. 1859. *Pycrus latespicatus* (Boeck.) C.B. Clarke in Hook.f., Fl. Brit. India 6: 590. 1893.

Annual, tufted, rigid herbs, 6-40 cm high. Leaves shorter than stem. Anthela simple; spikelets 3-6 together, oblong-lanceolate; glumes mucous, purplish. Nuts broadly obovoid, blackish.

Fls. & Frts. : July Oct.

Distrib. : Kameng; between 1000-3000 m, common in wet places along streams and ditches.

Pycreus flavidus (Retz.) T. Koyama in J. Jap. Bot. 51: 316. 1976. *Cyperus flavidus* Retz., Obs. Bot. 5: 13. 1789. *Cyperus globosus* All., Fl. Pedem. 49. 1789, non Forsk. *P. capillaris* (Koen. ex Roxb.) Nees ex C.B. Clarke in Hook.f., Fl. Brit. India 6: 591. 1893.

Annual or perennial, tufted herbs, 10-80 cm high. Leaf-sheaths reddish-brown. Inflorescence simple anthelate; spikelets many, linear-lanceolate, 14-54 flowered; glumes closely imbricating, pale-brown. Nuts obovoid, blackish-brown.

Fls. & Frts. : June Sept.

Distrib. : Kameng, Siang; between 200-2000 m, in open or shady moist wastelands and paddy fields.

Pycreus sulcinux (C.B. Clarke) C.B. Clarke in Hook.f., Fl. Brit. India 6: 593. 1893. *Cyperus sulcinux* C.B. Clarke in J. Linn. Soc. Bot. 21: 56. 1884.

Tufted annual herbs, 5-40 cm high. Leaves shorter than stem. Inflorescence simple anthelate; spikelets linear-lanceolate, 3-8 together, ultimately divaricate; glumes laxly imbricate, ferruginous. Nuts with a median longitudinal depression on each face.

Fls. & Frts. : July Dec.

Distrib. : Kameng; between 300-1500 m, in moist places.

Queenslandiella hyalina (Vahl) Ballard in Hook., Ic. Pl. 33: t. 3208. 1933. *Cyperus hyalinus* Vahl, Enum. Pl. 2: 329. 1806. *Pycreus pumilus* non Nees : *sensu* C.B. Clarke in Hook.f., Fl. Brit. India 6: 591. 1893.

Tufted annual herbs upto 25 cm high. Leaves canaliculate; leaf-sheaths reddish. Inflorescence simple anthelate; spikelets linear-oblong, 10-40 together in a subglobose head; rachilla hyaline margined; glumes tightly imbricating. Nuts obovoid.

Fls. & Frts. : June Sept.

Distrib. : Tirap; in moist places at lower elevations.

Rhynchospora corymbosa (L.) Britton in Trans. N.Y. Acad. Sci. 11: 84. 1892; D.M. Verma & Veena Chandra in Bull. Bot. Surv. India 22: 131. 1982. *Scirpus corymbosus* L. in Torner, Cent. Pl. 2: 7. 1756. *Rhynchospora aurea* Vahl, Enum. Pl. 2: 229. 1806; C.B. Clarke in Hook.f., Fl. Brit. India 6: 670. 1893.

Perennial herbs, 60-120 high. Leaves scattered all along stem. Inflorescence solitary corymbiform anthelate; spikelets 2-7 together, rufous; perianth bristles 4-6. Nuts obovoid, greyish-brown, punctate.

Fls. & Frts. : June Jan.

Distrib. : Kameng; in swamps.

Rhynchospora rubra (Lour.) Makino in Bot. Mag. Tokyo 17: 180, t. 7. f. 1 a-b. 1903. *Shoenus rubra* Lour., Fl. Cochinch. 141. 1790. *Rhynchospora wallichiana* Kunth, Enum. Pl. 2: 289. 1837; C.B. Clarke in Hook.f., Fl. Brit. India 6: 668. 1893.

Tufted perennial herbs, 13-60 (-120) cm high. Leaves clustered at base, shorter than stems. Inflorescence solitary, terminal, globose head; spikelets numerous, reddish-brown; perianth bristles 3(-6). Nuts sessile, obovoid, brownish, hispidulous.

Fls. & Frts. : June Oct.

Distrib. : Kameng; in moist places; sometimes colonising on hillocks.

Rhynchospora rugosa var. **griffithii** (Boeck.) D.M. Verma & Veena Chandra in Bull. Bot. Surv. India 22: 128. 1982. *R. griffithii* Boeck. in Linnaea 38: 404. 1874; C.B. Clarke in Hook.f., Fl. Brit. India 6: 672. 1893. *R. griffithii* var. *levisetis* C.B. Clarke in Hook.f., Fl. Brit. India 6: 672. 1893.

Perennial herbs, 25-80 (-100) cm high. Leaves scattered all along stem. Inflorescence corymbiform anthelate; anthelas 3-6; spikelets ovate-lanceolate, ferruginous. Nuts narrowly oblong, pale-brown, smooth or faintly wrinkled.

Fls. & Frts. : July Nov.

Distrib. : Kameng; scattered in swampy areas.

Schoenoplectus juncoides (Roxb.) Palla in Bot. Jahrb. Syst. 10 : 299. 1888. *Scirpus juncoides* Roxb., Fl. Ind. 1: 218. 1820. *Scirpus erectus non* Poir. : sensu C.B. Clarke in Hook.f., Fl. Brit. India 6: 656. 1893.

Terrestrial or submerged perennial herbs upto 40 cm long. Stems filiform, terete, sometimes floating. Inflorescence pseudolateral, capitate; spikelets 2-4 together, ovoid-oblong; glumes tightly imbricating. Nuts ellipsoid-obovoid, brown.

Fls. & Frts. : March Jan.

Distrib. : Kameng; between 100-2000 m, common in marshy places, along streams, ponds and ditches.

Schoenoplectus mucronatus (L.) Palla in Verh. K.K. Zool.-Bot. Ges. Wien. 38, Sitzb. 49. 1888. *Scirpus mucronatus* L., SP. Pl. 73. 1753; C.B. Clarke in Hook.f., Fl. Brit. India 6: 657. 1893. *S. triangulatus* Roxb., Fl. Ind. 1: 219. 1820.

Perennial herbs, 40-150 cm high. Stems strongly triquetrous. Rhizomes creeping. Leaf-sheaths purplish black. Inflorescence pseudolateral, capitate; spikelets ovoid-oblong, 2-18; glumes loosely imbricating. Nuts broadly obovoid, smooth, brown.

Fls. & Frts. : March - Jan.

Distrib. : Kameng, Subansiri; between 400-1500 m, in swampy localities, along streams, ponds and ditches.

Scirpus ternatanus Reinw. ex Miquel, Fl. Ind.-Bat. 3: 307. 1856 '*ternatensis*' *S. chinensis* Munro in Seem., Bot. Voy. Herald 423. 1857; C.B. Clarke in Hook.f., Fl. Brit. India 6: 662. 1893.

Perennial, stoloniferous herbs, 30-200 m, high. Leaves scattered all along stem. Inflorescence decomposed anthelate; spikelets numerous, 4-15 together, ovoid-oblong; glumes tightly imbricating. Nuts sessile, broadly obovoid, smooth.

Fls. & Frts. : April - June.

Distrib. : Kameng, Siang, Tirap; between 600-1200 m, on moist sandy soil and along streams.

Scirpus wichurai Boeck. in Linnaea 36: 729. 1870; Kern in van Steenis, Fl. Males. 1, 7: 502. 1974. *S. eriophorum non* Michx. : *sensu* C.B. Clarke in Hook.f., Fl. Brit. India 6: 661. 1893, *S. asiaticus* Bettle in Amer. J. Bot. 33: 662. 1946.

Perennial herbs, 50-200 cm high. Leaves scattered all along stem. Inflorescence terminal, decomposed anthelate; spikelets many, solitary or 2-4 together, oblong-ellipsoid, many flowered; glumes tightly imbricating. Nuts sessile, oblong-obovoid, smooth, brown.

Fls. & Frts. : July - Sept.

Distrib. : Kameng, Subansiri; in swamps, along streams and ditches, often remain submerged.

Scleria levis Retz., Obs. Bot. 4: 13. 1786; Kern in Blumea 11: 164. 1961. *S. hebecarpa* Nees in Wight, Contrib. Bot. Ind. 117. 1834; C.B. Clarke in Hook.f., Fl. Brit. India 6: 689. 1894. *S. hebecarpa*

var. *pubescens* (Steud.) C.B. Clarke in Hook.f., Fl. Brit. India 6: 689. 1894 *S. pubescens* Steud., Syn. Pl. Glum. 2: 168. 1855.

Annual or perennial herbs, usually scrambling over bushes, 30-100 cm long. Leaves evenly distributed. Inflorescence paniculate; rachis hispidulous; spikelets lanceolate, unisexual; glumes pale-brown. Nuts subglobose, glossy white or bluish-black, sparsely hairy.

Fls. & Frts. : March Oct.

Distrib. : Kameng; between 200-700 m, in open moist places amidst tall grasses and bushes.

Scleria terrestris (L.) Fass. in Rhodora 26: 159. 1924; Kern in Blumea 11: 170, f. 5 A-C. 1961. *Zizania terrestris* L., Sp. Pl. 991. 1753. *Scleria radula* Hance in Ann. Sci. Nat. Bot. 18: 232. 1862; C.B. Clarke in Hook.f., Fl. Brit. India 6: 691. 1894. *S. elata* Thw., Enum. Pl. Zeyl. 353. 1864; C.B. Clarke in Hook.f., Fl. Brit. India 6: 690. 1894. *S. elata* var. *decolorans* C.B. Clarke in Hook.f., Fl. Brit. India 6: 690. 1894. *S. elata* var. *latior* C.B. Clarke in Hook.f., Fl. Brit. India 6: 690. 1894.

Perennial herbs, erect or scrambling over bushes, 10-40 cm long. Leaves evenly distributed. Inflorescence terminal and lateral panicle; rachis glabrous with hairy nodes; spikelets unisexual, 1-3 together, linear-lanceolate. Nuts ovoid-subglobose, smooth, white or purplish.

Fls. & Frts. : Feb. Dec.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 200-1700 m, common in open or shady, marshy places, sometimes in rock crevices.

Scleria tessellata Willd., Sp. Pl. 4: 315. 1805; C.B. Clarke in Hook.f., Fl. Brit. India 6: 686. 1894.

Perennial herbs upto 60 cm high. Roots dark red. Inflorescence lax panicle, lower branches remote and often straggling; spikelets ferruginous-green or glabrous. Nuts tessellate, white with raised reticulations covered with hairs, smooth with age.

Fls. & Frts. : Aug. Nov.

Distrib. : Tirap; in marshy places at higher elevations.

POACEAE

Acroceras zizanioides (H.B.K.) Dandy in J. Bot. 69: 54. 1931; Bor, Grass. Burma, Ceylon, India & Pakistan 275. 1960. *Panicum zizanioides* H.B.K., Nov. Gen. & Sp. Pl. 1: 100. 1816. *P. latifolium* non L. : *sensu* Hook.f., Fl. Brit. India 7: 39. 1896.

Perennial, prostrate or ascending grass; culms 60-120 cm high. Leaves lanceolate to linear-lanceolate; sheaths densely ciliate at margin. Panicle lax, branches racemiform, scaberulous; spikelets lanceolate-oblong, 2-nate or solitary, pale-green. Grains oblong, tightly enclosed by lemma and palea.

Fls. & Frts. : June Dec.

Distrib. : Kameng; between 500-1200 m, in marshy places of forests, along forest edges and on hill slopes.

Agrostis griffithiana (Hook.f.) Bor, Grass., India 387. 1960. *Calamagrostis griffithiana* Hook.f., Fl. Brit. India 7: 263. 1896.

Perennial grass; culms erect, stout, 60-100 cm high. Leaves linear lanceolate; sheaths loose, subscaberulous. Panicle long, narrow, suberect, subscaberulous; spikelets purplish. Grains free within lemma and palea.

Fls. & Frts. : Aug. Dec.

Distrib. : Kameng, Lohit; between 1500-2000 m, on hill slopes.

Agrostis myriantha Hook.f., Fl. Brit. India 7: 257. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 388. 1896. *A. myriantha* var. *khasiana* Hook.f., Fl. Brit. India 7: 257. 1896. *A. platyphylla* Mez in Fedde, Repert. 17: 302. 1921.

Perennial grass; culms suberect, 25-150 cm tall. Leaves lanceolate; scaberulous; ligule in the form of ring. Panicle densely flowered; branches whorled; spikelets pale-green or brownish. Grains oblong, compressed.

Fls. & Frts. : Aug. Dec.

Distrib. : Tirap; between 800-2000 m.

Andropogon ascinodis C.B. Clarke in J. Linn. Soc. Bot. 25: 87, t. 36. 1889; Bor, Grass. Burma, Ceylon, India & Pakistan 90. 1960. *A. apricus* non Trin. : *sensu* Hook.f., Fl. Brit. India 7: 169. 1896.

Perennial grass; culms erect, sparingly branched, 50-200 cm tall. Leaves linear, scaberulous, reddish when dry; sheaths narrow,

setaceous. Inflorescence a false panicle of paired raceme; rachis fragile; sessile spikelets oblong, hermaphrodite; pedicelled spikelets neuter; glumes awned.

Fls. & Frts. : July Oct.

Distrib. : Tirap; between 800-1800 m, in open waste places and on hill slopes.

Aniselytron treutleri (O. Ktze.) Bennet & Raizada in Ind. For. 107: 434. 1981. *Milium treutleri* Kuntze Rev. Gen. Pl. 2: 780. 1891, *p.p.* *Deyeuxia treutleri* (Kuntze) Stapf in Hook.f., Fl. Brit. India 7: 269. 1896. *Aulacolepis treutleri* (Kuntze) Hack. in Fedde, Repert. 3: 242. 1907; Bor, Grass. Burma, Ceylon, India & Pakistan 394. 1960.

Perennial grass; culms geniculate, 20-50 cm long, leafy to the panicle. Leaves linear-lanceolate; scaberulous; sheaths lax. Panicle ovate-oblong, lax; branches capillary in distant whorls; spikelets 1-flowered, ovate-lanceolate; rachilla minute, glabrous.

Fls. & Frts. : Aug. Oct.

Distrib. : Kameng; between 2000-3000 m,

Apluda mutica L., Sp. Pl. 82. 1753; Bor, Grass. Burma, Ceylon, India & Pakistan 93. 1960. *A. varia* Hack. in DC., Monogr. Phan. 6: 196. 1889; Hook.f., Fl. Brit. India 7: 150. 1896. *A. varia* ssp. *mutica*(L.) Hack., *l.c.* 196. *A. varia* ssp. *mutica* var. *humilis* Hook.f., *l.c.* 150. *A. varia* ssp. *aristata* Hack., *l.c.* 196. *A. varia* ssp. *aristata* var. *ciliata* Hook.f., *l.c.* 151. *A. varia* ssp. *aristata* var. *rostrata*, Hook.f., *l.c.* 151. *A. varia* ssp. *aristata* var. *villosula* Hook.f., *l.c.* 151.

Perennial grass; culms geniculately ascending from a decumbent base; branches flexuous. Leaves linear-lanceolate, upper surface scaberulous, lower surface glaucous; sheaths glabrous. Panicle terminal, composed of simple raceme or spikes; spikelets in threes, supported by boat shaped spathe. Grains oblong.

Fls. & Frts. : Aug. Oct.

Distrib. : Kameng; between 1500-2500 m,

Arthraxon castratus (Griffith) Narayanaswami ex Bor, Fl. Assam 5: 376. 1940. *Andropogon castratus* Griffith, Notul. 3: 89. 1851. *A. rudis* Steud., Syn. Pl. Glum. 1: 383. 1854. *Arthraxon rudis* (Steud.) Hochst. in Flora 39: 188. 1856; Hook.f., Fl. Brit. India 7: 144. 1896.

Perennial grass; culms erect from a decumbent base, 70-100 cm tall; flowering branches from basal nodes. Leaves lanceolate or oblong-lanceolate, ciliate towards amplexicaul base; sheaths lax, hairy; ligules fringed. Inflorescence terminal, 2-many racemed panicle; peduncles densely whitish pubescent; spikelets ovoid, solitary.

Fls. & Frts. : June - Sept.

Distrib. : Siang; between 400-1000 m,

Arthraxon hispidus (Thunb.) Makino in Bot. Mag. Tokyo 26: 214. 1912; Bor, Grass. Burma, Ceylon, India & Pakistan 99. 1960. *Phalaris hispida* Thunb., Fl. Jap. 44. 1784. *Arthraxon ciliaris* P. Beauv., Ess. Agrost. 111, 152, t. 11, f. 6. 1812; Hook.f., Fl. Brit. India 7: 145. 1896. *Andropogon submuticus* Nees ex Steud., Syn. Pl. Glum. 1: 382. 1854. *Arthraxon submuticus* (Nees ex Steud.) Hochst. in Flora 39: 188. 1856; Hook.f., Fl. Brit. India 7: 144. 1896. *A. inermis* Hook.f., Fl. Brit. India 7: 145. 1896. *A. satarensis* Almeida in J. Bombay Nat. Hist. Soc. 66: 515. 1970. *A. inermis* var. *tzvelevii* Jain in Sci. & Cult. 37: 55. 1971.

Annual or perennial grass; culms densely tufted, ascending from a decumbent, rooting base, 30-100 cm tall. Leaves ovate to ovate-lanceolate, cordate-amplexicaul, hairy; sheaths hirsute or glabrate. Raceme fully or shortly exerted from sheaths; spikelets ovate-lanceolate to linear-lanceolate.

Fls. & Frts. : July - Oct.

Distrib. : Tirap; between 800-1500 m.

Arthraxon lancifolius (Trin.) Hochst. in Flora 39: 188. 1856; Bor, Grass. Burma, Ceylon, India & Pakistan 100. 1960. *Andropogon lancifolius* Trin. in Mem. Acad. Sci. Petersb. 6, 2: 271. 1832. *Arthraxon microphyllus non* (Trin.) Hochst. : *sensu* Hook.f., Fl. Brit. India 7: 147. 1896. *p.p. A. lancifolius* var. *hindustanicus* (Jain & Deshpande) S.M. & M.R. Almeida in J. Bombay Nat. Hist. Soc. 82: 445. 1985.

Annual, densely tufted grass, lower part creeping or rambling. Leaves ovate-lanceolate, amplexicaul, hairy, hairs white, tubercle-based; sheaths glabrous, margin ciliate. Inflorescence a spiciform raceme emerging from sheath of uppermost leaf; spikelets at upper nodes. Stamens 2, purple.

Fls. & Frts. : Aug. - Oct.

Distrib. : Subansiri; between 1500-2500 m, in waste places, on hill slopes, often establishing as a pioneer on soil that has been exposed by slips.

Arthraxon microphyllum (Trin.) Hochst. in Flora 39: 188. 1856; Hook.f., Fl. Brit. India 7: 147. 1896. *Andropogon microphyllum* Trin. in Mem. Acad. Sci. petersb. 6, 2: 275. 1833. *Arthraxon sikkimensis* Bor in Kew Bull. 1951: 447. 1952 and Grass. India 102. 1960.

Tufted annual grass; ascending from a creeping base. Leaves ovate-lanceolate, glabrous or sparsely hairy; sheaths ciliate at margin. Inflorescence with hairy peduncles; spikelets lanceolate.

Fls. & Frts. : Aug. Oct.

Distrib. : Subansiri; on moist hill slopes at higher elevations.

Arundinella bengalensis (Spreng.) Druce in Rep. Bot. Exchng. Club, Brit. Isles 605. 1916; Bor, Grass. Burma, Ceylon, India & Pakistan 421. 1960. *Panicum bengalense* Spreng., Syst. Veg. 1: 311. 1825. *Arundinella wallichii* Nees ex Steud., Syn. Pl. Glum. 1: 114. 1854; Hook.f., Fl. Brit. India 7: 75. 1897.

Perennial grass with woody rootstock; culms erect, upto 1 m tall, glabrous, hairy on nodes. Leaves lanceolate, glabrous or stiff hairy; sheaths loose, hairy. Panicle elongate; branches stout, greenish-brown; spikelets ovoid, 3-4-seriate, densely imbricate; basal buds silky.

Fls. & Frts. : Aug. Oct.

Distrib. : Kameng, Subansiri, Tirap; upto 2000 m, in waste places and hills.

Arundinella intricata Hughes in Kew Bull. 1920. 112. 1920; Bor, Grass. Burma, Ceylon, India & Pakistan 422. 1960.

Perennial grass; culms 30-60 cm high from a geniculate, densely caespitose base. Leaves linear, glabrous or sparsely hairy; sheaths densely ciliate at margin; ligules fringed. Panicle oblong, contracted; rachis grooved, densely long ciliate on angles; spikelets lax.

Fls. & Frts. : Nov. Jan.

Distrib. : Siang; between 200-600 m, in wet places, over rocks which are submerged by the fierce current of rain and adhering by tightly interwoven mat of roots.

Arundinella nepalensis Trin., Gram. Panic. 62. 1826; Bor, Grass. Burma, Ceylon, India & Pakistan 423. 1960. *A. brasiliensis non Raddi.* : *sesnu* Hook.f., Fl. Brit. India 7: 73. 1896, *p.p.*

Perennial grass with hard, woody, creeping rootstocks; culms reed-like, 30-200 cm tall. Leaves lanceolate, often villous; sheaths

loose, hairy or glabrous; ligule a ring of hairs. Panicle loosely spreading or contracted; rachis angular, scaberulous; spikelets distant or crowded, scabrid, purplish.

Fls. & Frts. : July - Jan.

Distrib. : Kameng; in moist or dry places from almost plains to elevation upto 2000 m.

Arundo donax L., Sp. Pl. 81. 1753; Hook.f., Fl. Brit. India 7: 302. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 413. 1960.

Perennial, tall grass; culms stout, erect, 2-4 m tall. Rhizomes creeping. Leaves linear-lanceolate, evenly distributed; sheaths exceeding internodes. Panicle terminal, decomposed, plumose; branches scaberulous; spikelets laterally compressed, 2-7 flowered, yellowish; rachilla glabrous. Grain oblong.

Fls. & Frts. : July - Oct.

Distrib. : Tirap; upto 1200 m, along road sides and on hills.

Axonopus compressus (Swartz) P. Beauv., Ess. Agrost. 12(154): 167. 1812; Bor, Grass. Burma, Ceylon, India & Pakistan 278. 1960. *Milium compressum* Swartz, Prodr. Veg. Ind. Occ. 24. 1788.

Perennial grass; culms ascending from a geniculate base, stoloniferous. Leaves linear-lanceolate, glabrous; sheaths crowded and flabellate, hairy; ligule a membranous ring. Inflorescence erect or spreading raceme; rachis triquetrous, winged, scaberulous; spikelets elliptic-oblong, 2-flowered, in whorled or digitate spike.

Fls. & Frts. : June - Feb.

Distrib. : Arunachal Pradesh.

Bambusa longispiculata Gamble in Brandis, Indian Trees 668. 1906; Beniwal & Haridasan in Ind. For. 114 (10) 651. 1988.

Tufted bamboo; culms upto 15 m tall. Spikelets compressed, polished.

Distrib. : Arunachal Pradesh; upto 1200 m.

Bambusa pallida Munro in Trans. Linn. Soc. London 26: 97. 1868; Gamble in Hook.f., Fl. Brit. India 7: 389. 1896.

Caespitose bamboo; culms 12-20 m tall, 6-8 cm diam., fistular. Culm-sheaths straight, truncate at top, appressed whitish hairy when young; imperfect blade longer than sheath; auricles rounded. Inflorescence large panicle; spicate branches bearing heads with few fertile spikelets.

Distrib. : Siang, Tirap; upto 2000 m, in forests and forest edges; sometimes cultivated.

Bambusa tulda Roxb., Fl. Ind. 2: 193. 1832; Gamble in Hook.f., Fl. Brit. India 7: 287. 1896. *B. nutans* Wall. ex Munro in Trans. Linn. Soc. London 26: 92. 1868; Gamble in Hook.f., Fl. Brit. India 7: 387. 1896. *B. teres* Buch. Ham. ex Munro in Trans. Linn. Soc. London 26: 98. 1868; Gamble in Hook.f., Fl. Brit. India 7: 388. 1896.

Tufted bamboo; culms upto 20 m tall, 5-10 cm diam., sometimes yellow striped. Culm sheaths triangularly truncate at top, appressed brownish hairy; imperfect blade triangular reniform; auricles long-fringed. Inflorescence large, bearing interrupted clusters of few cylindrical spikelets.

Distrib. : Subansiri.

Bambusa vulgaris Schrad. in Wendl., Collect. Pl. 2: 26, t. 47. 1810; Gamble in Hook.f., Fl. Brit. India 7: 391. 1896.

Culms 6-15 m tall, 5-10 cm diam., green with yellow lines. Culm sheaths concave, hairy; limb sub-triangular, acute; auricles fringed with stiff bristles. Leaf-sheaths laxly hairy. Inflorescence compound; spicate branches with heads of oblong lanceolate spikelets.

Distrib. : Subansiri; between 800-1500 m, in forests, forest borders; also widely cultivated.

Brachiaria distachya (L.) Stapf in Prain, Fl. Trop. Afr. 9: 565. 1919; Bor, Grass. Burma, Ceylon, India & Pakistan 281. 1960. *Panicum distachyum* L., Mant. Pl. 1: 183. 1771; Hook.f., Fl. Brit. India 7: 37. 1896.

Culms 15-30 cm long, hairy at nodes. Leaves linear-lanceolate, amplexicaul at base, glaucescent; sheaths lax, open; ligule a hairy ring. Inflorescence racemose-panicle; spikelets elliptic-obovate.

Fls. & Frts. : May - Nov.

Distrib. : Kameng; between 200-1200 m, in shaded places of forests and along roadsides.

Brachiaria villosa (Lamk.) A. Camus in Lecomte, Fl. Gen. de l'Indo-Chine 7: 433. 1922; Bor, Grass. Burma, Ceylon, India & Pakistan 286. 1960. *Panicum villosum* Lamk., Ill. 1: 173. 1791, *p.p.*; Hook.f., Fl. Brit. India 7: 34. 1896, *p.p.*

Annual grass; culms 20-40 cm high, slender, softly hairy. Leaves ovate or ovate-lanceolate, softly pubescent; sheaths hairy; ligule

a ring of hairs. Panicle spreading; axis triquetrous, pubescent; spikelets crowded, biseriate, ovate-apiculate, pubescent.

Fls. & Frts. : May Oct.

Distrib. : Kameng; between 200-1200 m, in shaded places of forests.

Capillipedium assimile (Steud.) A. Camus in Lecomte, F. Gen. de l'Indo-Chine 7: 314. 1922; Bor, Grass. Burma, Ceylon, India & Pakistan 110. 1960. *Andropogon assimilis* Steud. in Zoll., Syst. Verz. 58. 1854; Hook.f., Fl. Brit. India 7: 1896.

Perennial, suffrutescent grass; culms 2-3.5 m tall; nodes pubescent. Leaves linear-lanceolate, acuminate, setaceous, scaberulous; sheaths scaberulous. Panicle decomposed; branches slender; rachis smooth, fragile; spikelets linear-oblong, reddish.

Fls. & Frts. : Aug. Jan.

Distrib. : Kameng, Siang, Tirap; between 1000-1800 m, in forests; often appear in gregarious patches on abandoned land particularly after 'Jhum' cultivation or land-slips.

Capillipedium pteropechys (C.B. Clarke) Stapf in Hook, Ic. Pl. sub t. 3085. 1922; Bor, Grass. Burma, Ceylon, India & Pakistan 113. 1960. *Andropogon pteropechys* C.B. Clarke in J. Linn. Soc. Bot. 25: 88, t. 38. 1889. *Dichanthium pteropechys* (C.B. Clarke) Jain & Deshpande in Bull. Bot. Surv. India 20 : 135. 1979.

Culms slender from a creeping rootstock, 40-60 cm high; nodes bearded. Leaf-sheaths glabrous. Inflorescence sparingly branched panicle; branches filiform, pectinately ciliate; spikelets oblong.

Fls. & Frts. : Aug. Dec.

Distrib. : Kameng; between 1000-1500 m, in moist and shaded places of forests.

Centotheca lappacea (L.) Desv. in Nouv. Bull. Soc. Philom. 2: 189. 1810; Hook.f., Fl. Brit. India 7: 332. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 457. 1960. *Cenchrus lappaceus* L., Sp. Pl. ed. 2, 1488. 1763.

Tufted, perennial grass; culms ascending or erect, 15-120 cm high. Leaves usually glabrous; sheaths striate; ligules truncate. Inflorescence much branched panicle; branches scaberulous; spikelets oblong or ovate-oblong, loosely 2-4 flowered.

Fls. & Frts. : July Dec.

Distrib. : Siang, Tirap; between 200-1000 m, in moist and on shaded places of forests.

Chimonocalamus callosus (Munro) Hsueh & Yi in Acta Bot. Yunn. 1 (2) : 84. 1979. *Arundinaria callosa* Munro in Trans. Linn. Soc. London 26: 30. 1868; Hook.f., Fl. Brit. India 7: 380. 1896. *Chimonobambusa callosa* (Munro) Nakai in J. Arn. Arb. 6: 151. 1925.

Shrubby, thorny bamboo; culms 4-7 m tall, 1.25-2.5 cm diam; nodes subtended by bases of fallen sheaths fringed with brown hairs. Culm-sheaths loose, ciliate on edges; imperfect blade subulate, hairy. Inflorescence branched panicle ending in leafy branchlet; spikelets 6-12 flowered, subtended by narrow, bracts.

Distrib. : Kameng; between 1000-2000 m, in forests and on forest borders.

Chimonocalamus griffithianus (Munro) Hsueh & Yi in Acta Bot. Yunn. 1(2):83. 1979. *Arundinaria griffithiana* Munro in Trans. Linn. Soc. London 26: 20. 1868; Gamble in Hook.f., Fl. Brit. India 7: 379. 1896. *Chimonobambusa griffithiana* (Munro) Nakai in J. Arn. Arb. 6: 151. 1925.

Culms erect, single, 3-10 m tall, 2.5-3.75 cm diam; nodes armed with spinules. Culm-sheaths longer than internodes, softly hairy with rounded auricles at apex; imperfect blade triangular. Panicle terminal, surrounded by sheathing bracts; spikelets narrow, in verticillate clusters.

Distrib. : Siang; between 1800-2200 m, in forests and on forest borders.

Chrysopogon aciculatus (Retz.) Trin., Fund. Agrost. 188. 1822; Bor, Grass. Burma, Ceylon, India & Pakistan 115. 1960. *Andropogon aciculatus* Retz., Obs. Bot. 5: 22. 1789; Hook.f., Fl. Brit. India 7: 188. 1896.

Perennial, rhizomatous, woody grass; culms decumbent, 20-60 cm high, glabrous. Leaves glaucescent, margin spinous; sheaths bearded at throat. Panicle erect, spreading; branches filiform, scabrid; sessile, hermaphrodite spikelets linear, aristate.

Fls. & Frts. : Aug. Jan.

Distrib. : Siang; between 1200-1600 m, along roadsides and forest edges.

Chrysopogon fulvus (Spreng.) Chiov., Fl. Somalia 1: 327. 1929; Bor, Grass. Burma, Ceylon, India & Pakistan 116. 1960. *Pollinia*

fulva Spreng., Pugill. 2: 10. 1815. *Andropogon monticola* Roem. & Schult., Syst. Veg. 2, Mant. 3: 665. 1827; Hook.f., Fl. Brit. India 7: 192. 1896. *A. monticola* var. *robustus* Hook.f., Fl. Brit. India 7: 193. 1896. *Chrysopogon monticola* (Roem. & Schult.) Haines in Ind. For. 40 : 495. 1914.

Tufted, erect or ascending grass; culms 30-100 cm tall. Leaves glabrous; lower sheaths compressed. Panicle short, compressed; branches slender, in whorls; spikes solitary, greenish-blue, purplish or brown; spikelets rufous bristled.

Fls. & Frts. : Aug. Dec.

Distrib. : Kameng.

Chrysopogon serrulatus Trin. in Mem. Acad. Sci. Petersb. ser. 6, 2: 318. 1832; Bor, Grass. Burma, Ceylon, India & Pakistan 118. 1960.

Tufted, erect or ascending grass; culms 30-100 cm high. Leaves minutely scaberulous. Panicle branches in whorls; sessile spikelets glabrous or shortly ciliate; hairs of callus and pedicels often reddish or white.

Fls. & Frts. : Aug. Dec.

Distrib. : Kameng.

Coix lacryma-jobi L., Sp. Pl. 972. 1753; Hook.f., Fl. Brit. India 7: 100. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 264. 1960.

Annual grass; culms stout, leafy, 100-300 cm high, rooting at lower nodes, spongy, glabrous. Leaves cordate at base. Female spikelets ovoid, entirely enclosed in hardened involucre bracts forming a bony yellowish-white or bluish-grey involucre. Fruits ovoid or spherical.

Fls. & Frts. : May Jan.

Distrib. : Changlang, Kameng, Lohit, Siang, Tirap; between 800-1500 m, in swampy localities of forests, forest edges and on hill slopes.

Coix lacryma-jobi var. ***ma-yuen*** (Romanet) Stapf ex Hook.f., Fl. Brit. India 7: 100. 1896. *C. ma-yuen* Romanet in Bull. Soc. Acclim. Paris ser. 3, 8: 442. 1881.

Var. *ma-yuen* is characterised by crustaceous or chartaceous fruits.

Fls. & Frts. : May Jan.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1200 m, common in wastelands and on forest borders; sometimes also cultivated.

Coix lacryma-jobi var. **stenocarpa** Stapf ex Hook., Ic. pl. sub t. 1764. 1888; Hook.f., Fl. Brit. India 7: 100. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 265. 1960.

Var. *stenocarpa* is characterised by subcylindric fruits and white involucre.

Fls. & Frts. : Aug. Jan.

Distrib. : Kameng, Siang, Subansiri; between 400-1000 m, in waste places, near streams, paddy fields and along forest borders; also cultivated.

Cymbopogon jawarancusa ssp. **olivieri** (Boiss.) Soenarko in Reinwardtia 9: 307. 1977; T.A. Cope in Nasir & Ali, Fl. Pakistan 143. 329. 1982. *Andropogon olivieri* Boiss., Diagn. 1, 1(5): 76. 1844. *A. schoenanthus non* L. Hook.f., Fl. Brit. India 7: 204. 1896 L. 1753.

Perennial, densely tufted grass with aromatic roots; culms short, sometimes stout, erect upto 2 m high. Panicle narrow; spathes narrow-lanceolate; raceme moderately dense, dull purple; sessile spikelets linear-lanceolate, reddish.

Fls. & Frts. : July Nov.

Distrib. : Kameng.

Cymbopogon nardus (L.) Rendle in Cat. Welw., Afr. Pl. 2: 155. 1899; Bor, Grass. Burma, Ceylon, India & Pakistan 130. 1960. *Andropogon nardus* L., Sp. Pl. 1046. 1753; Hook.f., Fl. Brit. India 7: 206. 1896.

Perennial, caespitose, aromatic grass; culms 100-150 cm tall. Leaves narrow-lanceolate, glaucous above; sheaths narrow, grouped at base of culms; ligule reddish. Panicle lax, pyramidal; raceme spiciform; spikelets violet or reddish.

Fls. & Frts. : Aug. Dec.

Distrib. : Kameng; in open places of forest and along forest edges.

Cynodon dactylon (L.) Pers., Syn. Pl. 1: 85. 1805; Hook.f., Fl. Brit. India 7: 288. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 469. 1960. *Panicum dactylon* L., Sp. pl. 58. 1753.

Perennial, stoloniferous, creeping grass; culms upto 30 cm high. Leaves distichous, linear, convolute, scaberulous; ligule a ring of hairs. Inflorescence fascicled; rachis pubescent; spikelets laterally compressed, 1-flowered, purplish.

Fls. & Frts. : April Dec.

Distrib. : Siang; in waste places and on hill slopes.

Cyrtococcum accrescens (Trin.) Stapf in Hook., Ic. Pl. sub t. 3096. 1922; Bor, Grass. Burma, Ceylon, India & Pakistan 291. 1960. *Panicum accrescens* Trin., Sp. Gram. Ic. 1.t. 88. 1828.

Erect, perennial decumbent herbs; culms 30-50 cm high. Roots fibrous. Leaves linear-lanceolate to lanceolate; ligule narrow, membranous ring. Inflorescence large, lax panicle; pedicels longer than spikelets.

Fls. & Frts. : July Dec.

Distrib. : Kameng, Lohit, Sibansiri; in shaded places of forest and often gregarious at forest openings.

Cyrtococcum oxyphyllum (Steud.) Stapf in Hook., Ic. Pl. sub t. 3096. 1922; Bor, Grass. Burma, Ceylon, India & Pakistan 291. 1960. *Panicum oxyphyllum* Steud., Syn. Pl. Glum. 1: 65. 1854. *P. pilipes* Nees & Arn. ex Buese in Miquel, Pl. Jungh. 3: 376. 1854; Hook.f., Fl. Brit. India 7: 57. 1896.

Rambling perennial herbs; culms 20-50 cm long. Leaves oblong-lanceolate or lanceolate; sheaths longer than internodes, glabrous. Panicle narrowly ovate; branches filiform, pilose. Spikelets crowded, obliquely-obovate, brown; pedicels short.

Fls. & Frts. : June Dec.

Distrib. : Subansiri, Tirap; in forest, forest edges and on river banks at lower elevations.

Cyrtococcum patens (L.) A. Camus in Bull. Mus. Hist. Nat. Paris 27: 118. 1921; Bor, Grass. Burma, Ceylon, India & Pakistan 292. 1960. *Panicum patens* L., Sp. Pl. 58. 1753; Hook.f., Fl. Brit. India 7: 57. 1896.

Perennial herbs; culms 30-60 cm long. Leaves linear-lanceolate; sheaths ciliate at throat. Panicle lax, often nodding; branchlets filiform, glabrous; spikelets almost round, reddish or brownish.

Fls. & Frts. : July Dec.

Distrib. : Subansiri; in moist places at lower elevations.

Dactyloctenium aegyptium (L.) Willd., Enum. Hort. Berol. 1029. 1809; Bor, Grass. Burma, Ceylon, India & Pakistan 489. 1960. *Cynosurus aegyptius* L., Sp. Pl. 72. 1753. *Eleusine aegyptia* (L.) Desf., Fl. Atlant. 1: 85. 1798; Hook.f., Fl. Brit. India 7: 295. 1896.

Annual herbs; culms prostrate at base, 20-80 cm high, glabrous. Leaves linear, densely ciliate at margin; sheaths shorter than internodes. Spike solitary or 2-6 together, terminal; rachis keeled, pubescent; spikelets densely crowded. Grain obovoid-globose, rugose.

Fls. & Frts. : Aug. Dec.

Distrib. : Kameng; common at lower elevations.

Dendrocalamus giganteus Munro in Trans. Linn. Soc. London 26: 150. 1868; Gamble in Hook.f., Fl. Brit. India 7: 406. 1896.

Large bamboos; culms over 30 m tall, 15-25 cm diam; internodes 37-40 cm long, drooping above. Culm sheaths covered with golden-brown hairs without; imperfect limb lanceolate, decurrent into two narrow wavy auricles. Inflorescence large panicle; spikelets in lax, small heads, ovate-acute, many flowered.

Distrib. : Siang; between 800-1200 m, in primary forests and forest borders.

Dendrocalamus hamiltonii Munro in Trans. Linn. Soc. London 26: 151. 1868; Gamble in Hook.f., Fl. Brit. India 7: 405. 1896.

Large, tufted bamboos; culms 15-22 m tall, 10-18 cm diam; internodes 30-50 cm long. Culm-sheaths with patches of brown hairs without, glabrous within; imperfect blade ovate-lanceolate. Leaves broadly lanceolate. Panicle much branched; rachis fistular; spikelets ovoid, purple.

Distrib. : Lohit, Siang, Subansiri, Tirap; between 300-1000 m, in forests and along forest borders.

Dendrocalamus hookeri Munro in Trans. Linn. Soc. London 26: 151. 1868; Gamble in Hook.f., Fl. Brit. India 7: 405. 1896.

Large bamboo with long drooping branches; culms 15-20 m high, 10-15 cm diam; internodes 40-50 cm long. Culm-sheaths covered with dense brownish hairs without, glabrous within; imperfect blade triangular, long-cuspidate. Leaves oblong-lanceolate. Inflorescence compound panicle; spikelets ovate-acute, in dense heads.

Fls. & Frts. : Aug. Dec.

Distrib. : Siang, Tirap; in primary forests, forest borders and on hill slopes.

Dendrocalamus sahnii Naithani & Bahadur in Ind. For. 108: 212, f. 1. 1982; Biswas in Ind. For. 114 (9) : 522. 1988.

Thin bamboo; culms upto 3 m high, 2-3 cm diam. Culm-sheaths scattered brownish hairy without, glabrous within; ligule toothed. Spikelets glabrous, supported by bracts; palea bifid, ciliate at margin.

Fls. & Frts. : March - April.

Distrib. : Subansiri; at around 1800 m.

Dendrocalamus sikkimensis Gamble in Hook., Ic. Pl. t. 1770. 1888 & in Hook.f., Fl. Brit. India 7: 405. 1896; Beniwal & Haridasan in Ind. For. 114 (10) : 651. 1988.

Stems caespitose with few culms; culms 17-22 m high, 12-18 cm diam; internodes upto 45 cm long. Culm-sheaths densely covered with golden-brown hairs, fringed at margin; imperfect blade hairy on both sides. Leaves linear-lanceolate; sheaths conspicuously fringed.

Fls. & Frts. : Not seen.

Distrib. : Kameng, Lohit, Subansiri; in forest and along forest borders.

Dendrocalamus strictus (Roxb.) Nees in Linnaea 9: 476. 1834; Gamble in Hook.f., Fl. Brit. India 7: 404. 1896. *Bamboo stricta* Roxb., Pl. Corom. 1: 58, t. 80. 1795.

Densely tufted bamboo; culms 6-20 m tall, 2.5-7.5 cm diam; internodes 30-45 cm long. Culm-sheaths covered with black or golden-brown hairs without, slightly auricled; imperfect blade hairy on both surfaces. Leaves linear-lanceolate. Panicle branched, dense; rachis semisolid; spikelets spinescent.

Distrib. : Lohit, Subansiri; in forest and forest border at lower elevations.

Fls. & Frts. : Not seen.

Deyeuxia elatior (Griseb.) Hook.f., Fl. Brit. India 7: 266. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 398. 1960. *Calamagrostis scabrescens* var. *elatior* Griseb. in Goett. Nachr. 79. 1868. *C. elatior* (Griseb.) A. Camus in Bull. Soc. Bot. France 75: 555. 1928.

Perennial, reed-like stout grass upto 30 cm high; branches scaberulous. Leaves linear, closely nerved; sheaths hirsute or glabrescent;

ligules scarious. Panicle large; branches in whorls, scaberulous; spikelets lanceolate; awn of lemma basal or sub-basal.

Fls. & Frts. : Not seen.

Distrib. : Kameng; in moist places near to water source.

Digitaria abludens (Roem. & Schult.) Veldk. in Blumea 21: 53 1973. *Panicum abludens* Roem. & Schult., Syst. Veg. 2: 457. 1817. *Paspalum granulare* Trin. ex Spreng., Neue Entdeck 2: 47. 1821. *P. pedicellare* (Trin. ex Hook.f.) Prain, Bengal Pl. 2: 1181. 1903. *D. granularis* (Trin. ex Spreng.) Henr., Monogr. Gen. Digitaria 302. 1950; Bor, Grass. Burma, Ceylon, India & Pakistan 301. 1960.

Annual or perennial, erect herbs; culms tufted, 15-70 cm high. Leaves linear-lanceolate; spathes narrow; ligules scarious. Inflorescence subterminal lax panicle; rachis triquetrous, scaberulous; spikelets ovate or elliptic, glabrous with prominent pedicels.

Fls. & Frts. : Not seen.

Distrib. : Kameng; in wastelands along roadsides and on hill slopes.

Digitaria ciliaris (Retz.) Koel., Descr. Gram. 27. 1802; T.A. Cope in Nasir & Ali, Fl. Pakistan 143. 1982. *Panicum ciliare* Retz., Obs. Bot. 4: 16. 1786. *Digitaria biformis* Willd., Enum. Pl. Hort. Berol. 92. 1809; Bor, Grass. Burma, Ceylon, India & Pakistan 299. 1960. *Panicum adscendens* H.B.K., Nov. Gen. & Sp. 1: 97. 1816. *Paspalum sanguinale* var. *ciliare* (Retz.) Hook.f., Fl. Brit. India 7: 15. 1896. *P. sanguinale* var. *rottleri* Hook.f., Fl. Brit. India 7: 16. 1896. *Digitaria adscendens* (H.B.K.) Henr. in Blumea 1: 92. 1934; Bor, Grass. Burma, Ceylon, India & Pakistan 289. 1960.

Annual or perennial, tufted herbs; culms ascending, rooting at nodes, 30-60 cm long. Leaves linear. Inflorescence paniculate raceme, pubescent; rachis triquetrous; spikelets lanceolate, greenish brown with purple tinge.

Fls. & Frts. : Aug. Dec.

Distrib. : Lohit, Tirap; in wastelands and along forest edges and on hill slopes at lower elevations.

Digitaria longiflora (Retz.) Pers., Syn. Pl. 1: 85. 1805; Bor, Grass. Burma, Ceylon, India & Pakistan 302. 1960. *Paspalum longiflorum* Retz. Obs. Bot. 4: 15. 1786. *P. preslii* Kunth, Enum. Pl. 1: 47. 1833. *Digitaria preslii* (Kunth) Henr., Monogr. Digitaria 589. 1950; Bor, Grass. Burma, Ceylon, India & Pakistan 304. 1960.

Annual herbs; culms creeping with erect shoots from nodes. Leaves lanceolate or linear-lanceolate, glabrous. Raceme digitate; rachis flat; spikelets elliptic-oblong, sub-imbricate, whitish pubescent or verrucose.

Fls. & Frts. : June Dec.

Distrib. : Lohit; in open places, wastelands, along roadsides and forest edges.

Digitaria setigera Roth ex Roem. & Schult., Syst. Veg. 2: 474. 1817; Bor, Grass. Burma, Ceylon, India & Pakistan 305. 1960. *Paspalum sanguinale* var. *extensum* Hook.f., Fl. Brit. India 7: 15: 1896. *Panicum pruriens* Trin., Gram. Panic. 77. 1826. *Paspalum sanguinale* var. *pruriens* (Trin.) Hook.f., Fl. Brit. India 7: 15. 1896. *Digitaria microbachne* (J.S. ex C.B. Presl) Henr. in Meded. Rijks Herb. no. 16. 13. 1930; Bor, Grass. Burma, Ceylon, India & Pakistan 302. 1960.

Culms slender, creeping below, rooting at nodes. Recemes subdigitate; pedicels triquetrous, scabrid; spikelets elliptic.

Fls. & Frts. : July Dec.

Distrib. : Kameng; in wastelands, along forest edges and hill slopes.

Digitaria ternata (A. Rich.) Stapf ex Dyer, Fl. Cap. 7: 376. 1898; Bor, Grass. Burma, Ceylon, India & Pakistan 306. 1960. *Cynodon ternatus* A. Rich., Tent. Fl. Abyss. 2: 405. 1851. *Paspalum ternatum* (A. Rich.) Hook.f., Fl. Brit. India 7: 17. 1896.

Annual herbs; culms fascicled, decumbent, 15-50 cm high. Leaf-sheaths glabrous or with few white hairs; ligule truncate. Raceme sub-digitate, triquetrous with tuft of hairs at tips; spikelets ovate-elliptic, subimbricate; upper glumes with 4 lines of clavate silvery hairs.

Fls. & Frts. : June Dec.

Distrib. : Tirap; in shaded moist places.

Digitaria violascens Link, Hort. Berol. 1: 229. 1827; Bor, Grass. Burma, Ceylon, India & Pakistan 307. 1960.

Annual, tufted grass; culms prostrate and straggling at base, 30-40 cm high. Leaf-sheaths loose, glabrous. Raceme subdigitate; rachis flat, scabrid; pedicels triquetrous; spikelets biseriate, close together, verrucose or covered with curled matted hairs.

Fls. & Frts. : July Nov.

Distrib. : Subansiri, Tirap; between 300-1000 m, in wastelands and along roadsides.

Dinochloa maclellandii (Munro) Kurz in J. As. Soc. Bengal 42: 253. 1873; Gamble in Hook.f., Fl. Brit. India 7: 415. 1896. *Bambusa maclellandii* Munro in Trans. Linn. Soc. London 26: 114. 1868.

Large, often scandent or sprawling bamboo; culms upto 30 m high, 3-5 cm diam; internodes 15-20 cm long. Culm-sheaths cylindrical, densely golden-brown pubescent, leathery; imperfect blade glabrous without, brown hairy within. Leaves broadly oblong-lanceolate; sheaths transversely veined.

Fls. & Frts. : Not seen.

Distrib. : Siang; on steep hill slopes at around 1400 m.

Drepanostachyum intermedium (Munro) Keng. f. in J. Bamb. Res. 2: 28. 1983. *Arundinaria intermedia* Munro in Trans. Linn. Soc. London 26: 28. 1868; Gamble in Hook.f., Fl. Brit. India 7: 381. 1896. *Chimonobambusa intermedia* (Munro) Nakai in J. Arn. Arb. 6: 151. 1925.

Slender, caespitose bamboo; culms 3-4 m tall; nodes with a swollen ring and a white line below; internodes 12-25 cm long. Culm-sheaths glabrous; imperfect blade narrow subulate. Leaves with transverse veinlets; leaf-sheaths ciliate. Inflorescence on separate leafless culms, racemose panicle; spikelets yellow or purplish, 3-5 flowered.

Fls. & Frts. : Not seen.

Distrib. : Lohit; in forest and on forest borders.

Echinochloa colona (L.) Link, Hort. Berol. 2: 209. 1833; Bor. Grass. Burma, Ceylon, India & Pakistan 308. 1960. *Panicum colonum* L., Syst. Nat. ed. 10, 2: 870. 1759; Hook.f., Fl. Brit. India 7: 32. 1896.

Annual, tufted grass; culms 20-60 cm high, erect from a geniculate base. Leaves linear; delicately pruinose; sheaths thin, smooth. Panicle narrow; branches solitary or 2-nate, distant on rachis; spikelets crowded more or less 4-ranked, ovate-elliptic. Grains broadly elliptic.

Fls. & Frts. : Aug. Nov.

Distrib. : Kameng, Lohit, Subansiri, Tirap; in moist places along roadsides.

Echinochloa crusgalli (L.) P. Beauv., Ess. Agrost. 53, 671. 1812; Bor, Grass. Burma, Ceylon, India & Pakistan 310. 1960. *Panicum crusgalli* L., Sp. pl. 56. 1753; Hook.f., Fl. Brit. India 7: 30. 1896.

Annual, moderately stout grass; culms 30-175 cm tall. Leaf-sheaths smooth, glabrous. Panicle erect, stout; axis triquetrous, scabrid; branches distant; spikelets crowded in false spike, ovate-elliptic, cuspidate or awned.

Fls. & Frts. : July - Nov.

Distrib. : Lohit, Siang; in moist places along roadsides and forest borders.

Echinochloa frumentacea Link, Hort. Berol. 1: 204. 1827; Bor, Grass. Burma, Ceylon, India & Pakistan 311. 1960. *Panicum frumentaceum* Roxb., Fl. Ind. 1: 307. 1820, *non* Salisb., 1796. *P. crusgalli* var. *frumentaceum* (Link.) Hook.f., Fl. Brit. India 7: 31. 1896.

Annual, tufted, robust grass; culms upto 150 cm tall, much branched from swollen lower nodes. Leaves linear; midrib white; sheaths longer than internodes, glabrous. Panicle alternate, closely spiculate, false spikes; rachis angled; spikelets obovate-acute, turgid.

Fls. & Frts. : Not seen.

Distrib. : Kameng; in wastelands, forests and on forest borders.

Echinochloa stagnina (Retz.) P. Beauv., Ess. Agrost. 53, 161, 171. 1812; Bor, Grass. Burma, Ceylon, India & Pakistan 311. 1960. *Panicum stagninum* Retz., Obs. Bot. 5: 17. 1789.

Perennial, tufted grass; culms upto 200 cm high from creeping rhizomes, rooting at lower nodes. Leaf-sheaths terete or keeled upward; ligule a fringe of stiff hairs. Panicle much branched; nodding; rachis and branches scabrid; spikelets ovate-lanceolate to oblong.

Distrib. : Kameng.

Eleusine coracana (L.) Gaertn., Fruct. 1: 8, t. 1. f. 11. 1789; Hook.f., Fl. Brit. India 7: 294. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 492. 1960. *Cynosurus coracanus* L., Syst. Nat. ed. 10 (2) : 875. 1759.

Annual herbs; culms upto 100 cm tall. Leaves linear, often longer than stem. Spikes digitate, suberect, often incurved; rachis

trigonus, pubescent; spikelets congested, 3-5 flowered. Grain globose, dark brown.

Fls. & Frts. : Aug. Nov.

Distrib. : Changlang, Lohit, Subansiri, Tirap; in the vallies and often cultivated on hill slopes.

Eleusine indica (L.) Gaertn., *Fruct.* 1: 8. 1789; Hook.f., *Fl. Brit. India* 7: 293. 1896; Bor, *Grass. Burma, Ceylon, India & Pakistan* 493. 1960. *Cynosurus indicus* L., *Sp. Pl.* 72. 1753.

Annual herbs; culms usually densely tufted, 10-75 cm tall. Leaves crowded at base. Spikes 2-4, digitate, subumbellate, rarely solitary; rachis pubescent or villous at base; spikelets ovate or oblong, 3-8 flowered. Grains oblong.

Fls. & Frts. : July Nov.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 200-1000 m, in wasteland, and roadsides; often cultivated by 'Abors' on hill slopes as an important crop after rice.

Eragrostis nutans (Retz.) Nees ex Steud., *Nom. Bot. ed.* 2. 563. 1840; Bor, *Grass. Burma, Ceylon, India & Pakistan* 511. 1960. *Poa nutans* Retz., *Obs. Bot.* 4: 19. 1786. *Eragrostis elegantula* Nees ex Steud., *Syn. Pl. Glum.* 1: 266. 1854; Stapf in Hook.f., *Fl. Brit. India* 7: 318. 1896.

Culms densely tufted, erect or ascending, 30-45 cm tall. Leaves narrow, convolute; sheaths smooth. Panicle ovate or narrowly oblong; branches distant, spreading; spikelets linear-oblong, many flowered. Grains globose or ellipsoid, brownish.

Fls. & Frts. : September December.

Distrib. : Kameng.

Eragrostis pilosa (L.) P. Beauv., *Ess. Agrost.* 71, 162, 175. 1812; Stapf in Hook.f., *Fl. Brit. India* 7: 323. 1896; Bor, *Grass. Burma, Ceylon, India & Pakistan* 512. 1960. *Poa pilosa* L., *Sp. Pl.* 68. 1753.

Annual herbs; culms densely tufted, slender, soft, upto 30 cm tall, geniculate at base. Leaves narrowly linear, convolute. Panicle erect or nodding, purplish; rachis filiform; nodes pilose; spikelets ovate or elliptic, 4-10 flowered. Grains narrowly obovoid or ellipsoid.

Fls. & Frts. : Aug. Dec.

Distrib. : Subansiri; in marshy, waste places and along roadsides.

Eragrostis tenella (L.) P. Beauv ex Roem. & Schult., Syst. Veg. 2: 576. 1817; Stapf in Hook.f., Fl. Brit. India 7: 315. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 513. 1960. *Poa tenella* L., Sp. pl. 69. 1753. *P. amabilis* L., Sp. pl. 68. 1753. *P. plumosa* Retz., Obs. Bot. 4: 20. 1786. *Eragrostis amabilis* (L.) Wt. & Arn. ex Nees in Hook. & Arn., Bot. Beechey Voy. 251. 1838; *p.p.* *E. tenella* var. *breviculmis* Stapf in Hook.f., Fl. Brit. India 7: 316. 1896. *E. tenella* var. *plumosa* (Retz.) Stapf in Hook.f., Fl. Brit. India 7: 315. 1896.

Loosely tufted, annual herbs; culms erect or ascending, slender, 10-50 cm tall. Leaf-sheaths shorter than internodes, softly hairy at mouth; ligule a fringe of hairs. Panicle loose or dense; rachis hairy at nodes; spikelets oblong, 3-8 flowered; rachilla articulated.

Fls. & Frts. : Not seen.

Distrib. : Kameng, Siang, Subansiri; common on moist, sandy soil at lower elevations.

Eragrostis unioloides (Retz.) Nees ex Steud., Syn. Pl. Glum. 1: 264. 1854; Bor, Grass. Burma, Ceylon, India & Pakistan 515. 1960. *Poa unioloides* Retz., Obs. Bot. 5: 19. 1789. *Eragrostis amabilis sensu* Stapf in Hook.f., Fl. Brit. India 7: 317. 1896, *non* (L.) Wight & Arn. ex Nees 1838.

Annual herbs; culms loosely tufted or solitary, slender, unbranched, 15-45 cm tall. Leaf-sheaths nearly equalling internodes, sparsely hairy at mouth. Panicle ovate or oblong, reddish-purple; spikelets broadly-ovate, strongly compressed, many flowered. Grains elliptic-oblong, compressed.

Fls. & Frts. : July - Dec.

Distrib. : Lohit, Subansiri, Tirap; on moist sandy alluvium soil along roadsides and streams or ditches.

Eulalia quadrinervis (Hack.) O. Ktze., Rev. Gen. Pl. 2: 775. 1891; Bor, Grass. Burma, Ceylon, India & Pakistan 156. 1960. *Pollinia quadrinervis* Hack. in DC., Monogr. Phan. 6: 158. 1889; Hook.f., Fl. Brit. India 7: 110. 1896.

Perennial herbs; culms slender, tufted, 60-100 cm tall. Leaves glaucous beneath; sheaths glabrous. Raceme spreading, white hairy; rachis articulated; spikelets oblong-lanceolate, pale-brown; lower glumes 4-nerved.

Fls. & Frts. : Aug. - Dec.

Distrib. : Kameng; in secondary forests.

Garnotia acutigluma (Steud.) Ohwi in Bot. Mag. Tokyo 55: 393. 1941; Gould in Kew Bull. 27: 540. 1972. *Urachne acutigluma* Steud., Syn. pl. Glum. 1: 121. 1854.

Tufted annual or perennial herbs; culms upto 100 cm tall. Leaves linear-lanceolate, sheaths smooth, hirsute at margin; ligules ring-topped, ciliate. Panicle flexuous; pedicels slender, scabrid; rachilla with tuft of hairs at apex; spikelets solitary, narrowly lanceolate.

Fls. & Frts. : July - Dec.

Distrib. : Arunachal Pradesh, in moist shady places of forests.

Garnotia acutigluma var. **longiseta** (Hack.) Ved Prakash & Jain in Fasc. Fl. India 3: 6. 1979. *G. stricta* var. *longiseta* Hack. in Allgem. Bot. Zeitschr. 15: 141. 1909.

Annual or perennial herbs. Leaves linear-lanceolate with short ligules. Panicle contracted; raceme ascending; setae long.

Fls. & Frts. : July - December.

Distrib. : Arunachal Pradesh.

Garnotia tenella (Arn. ex Miquel) Janowsky in Fedde Repert. 17: 86. 1921; Gould in Kew Bull. 27: 528. 1972. *Berghausia tenella* Arn. ex Miquel in Verh. K. Nederl. 3, 4: 34. 1851. *Garnotia stricta sensu* Hook.f., Fl. Brit. India 7: 243. 1896, *non* Brongn. 1831. *G. stricta* var. *Khasiana* Stapf ex Hook.f., Fl. Brit. India 7: 243. 1896.

Annual herbs; culms often tufted, upto 100 cm tall; nodes bearded. Leaves convolute at margin, scabrid; sheaths often hairy at throat; ligule ring topped with crowded cilia. Panicle flaccid; rachis triangular, scabrid; spikelets solitary; rachilla with a tuft of hairs just above joints.

Fls. & Frts. : July - Dec.

Distrib. : Siang, Subansiri; between 200-600 m, in moist and shady places, often in rock crevices.

Gigantochloa macrostachya Kurz, For. Fl. Brit. Burma 2: 557. 1877; Gamble in Hook.f., Fl. Brit. India 7: 399. 1896.

Large bamboo; culms 10-16 m tall, 6-10 cm diam; internodes 45-75 cm long, glaucous below nodes when young. Culm sheaths broader than long; imperfect blade as long as sheath bearing two large densely long hairy auricles. Inflorescence large leafy panicle; spikelets ovate to oblong, compressed covered partly by long cilia of glumes.

Fls. & Frts. : July - December.

Distrib. : Arunachal Pradesh.

Hemarthria protensa Steud., Syn. Pl. Glum. 1: 359. 1854; Bor, Grass India 161. 1960. *Rottboellia protensa* (Steud.) Hack. in DC., Monogr. Phan. 6: 289. 1889; Hook.f., Fl. Brit. India 7: 153. 1896.

Perennial herbs; culms erect from a decumbent base, 90-180 cm tall. Leaves glabrous; sheaths shorter than internodes, spathiform, glabrous. Inflorescence false spike, hardly exerted from sheaths; pedicels straight, adnate to the joints; spikelets linear-lanceolate; upper glume awned.

Fls. & Frts. : August - November.

Distrib. : Kameng; in marshy places upto 1200 m.

Heteropogon contortus (L.) P. Beauv. ex Roem. & Schult., Syst. Veg. 2: 836. 1817; Deshpande in Bull. Bot. Surv. India 30 (1-4) : 120. 1990. *Andropogon contortus* L., Sp. Pl. 1045. 1753; Hook.f., Fl. Brit. India 7: 199. 1896.

Annual or perennial, densely tufted grass; culms upto 100 cm tall, erect, glabrous. Leaves glaucous-pruinose; sheaths compressed with a few tubercle-based hairs at mouth. Raceme terminal, spatheate, dorsiventral; joints rufous ciliate on one side; spikelets 2-nate, homogamous and heterogamous.

Fls. & Frts. : July - December.

Distrib. : Kameng.

Hordeum vulgare L., Sp. Pl. 84. 1753; Hook.f., Fl. Brit. India 7: 371. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 677. 1960.

Annual herbs; culms 60-120 cm tall, erect; roots fibrous. Leaves scaberulous with two auricles at base; sheaths glabrous, striate. Spikes erect, decurved at maturity, compressed, irregularly quadrangular; spikelets in threes, seated in the cavities of the inarticulate rachis, 1-flowered.

Fls. & Frts. : August - December.

Distrib. : Tirap; in moist places, probably an escape.

Hygroryza aristata (Retz.) Nees ex Wt. & Arn. in Edingurgh New Phil. J. 15: 380. 1833; Hook.f., Fl. Brit. India 7: 95. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 597. 1960. *Pharus aristatus* Retz., Obs. Bot. 5: 23. 1789.

Floating grass; culms well branched, glabrous, spongy, 30-60 cm long. Leaves ovate-oblong, rounded or cordate at base; sheaths compressed, smooth. Panicle triangular; branches slender, spreading; spikelets few, solitary, lanceolate, 1-flowered.

Fls. & Frts. : June Dec.

Distrib. : Lohit; forming mat on the surface of pond and ditches.

Ichnanthus vicinus (F. M. Bail.) Merrill in Enum. Philipp. Pl. 1: 70. 1923; Bor, Grass. Burma, Ceylon, India & Pakistan 314. 1960. *Panicum vicinum* F.M. Bail., Syn. Queens. Fl. Supp., 3: 82. 1890.

Perennial herbs; culms slender, decumbent at base, 30-60 cm tall, pubescent. Leaves oblong-lanceolate, amplexicaul, sheaths split, margin ciliate. Panicle subpyramidal, emerging from uppermost sheath; branches drooping, hispid or white woolly; spikelets lanceolate.

Fls. & Frts. : Aug. Nov.

Distrib. : Lohit, Siang; between 500-1500 m; form gregarious mass on forest clearings.

Imperata cylindrica (L.) Raeuschel., Nom. Bot. ed. 3, 10. 1797; Bor, Grass. Burma, Ceylon, India & Pakistan 169. 1960. *Lagurus cylindricus* L., Syst. Nat. ed. 10, 2: 878. 1759. *Imperata arundinacea* Cyr., Pl. Rar. Neap. 2: 26, t. 11. 1792; Hook.f., Fl. Brit. India 7: 106. 1896. *Saccharum koenigii* Retz., Obs. Bot. 5, 16. 1789. *Imperata cylindrica* var. *koenigii* (Retz.) Dur & Schinz, Consp. Fl. Afr. 5: 694. 1894. *I. cylindrica* var. *major* (Nees) C.E. Hubb. ex C.E. Hubb. & Vaughan, Grass. Maur. 96. 1940.

Perennial grass with creeping rootstock; culms 20-200 cm tall, fistular at base, otherwise solid; nodes densely bearded. Leaf-sheaths slightly pubescent; ligule dorsally silky. Panicle cylindrical; pedicels swollen at tips, whitish hairy; spikelets lanceolate.

Fls. & Frts. : March Dec.

Distrib. : Kameng, Lohit, Siang, Tirap; between 600-1500 m, in open places along roadsides and on dry slopes.

Isachne albens Trin., Sp. Gram. 1, t. 85. 1826; Hook.f., Fl. Brit. India 7: 22. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 579. 1960.

Perennial herbs; culms erect, 30-130 cm tall, branched. Leaves linear-lanceolate; sheaths smooth; ligule a ridge of stiff hairs. Spikelets minute, globose.

Fls. & Frts. : July - Dec.

Distrib. : Kameng, Lohit, Subansiri; between 1000-1800 m, along forest edges, roadsides and in wastelands.

Ischaemum rugosum Salisb., Ic. Strip. Rar. 1, t. 1. 1791; Hook.f., Fl. Brit. India 7: 127. 1896; Bor. Grass. India 184. 1960.

Annual herbs; culms tufted, robust, erect, 15-100 cm tall; branches compressed, swollen at tips. Leaf-sheaths lax; auricles at throat passing into ligules. Raceme spikeform; rachis trigonous, fragile; sessile spikelets greenish; lower glumes rugose with transverse folds.

Fls. & Frts. : Not seen.

Distrib. : Siang.

Leersia hexandra Swartz, Prodr. Veg. Ind. Occ. 21. 1788; Hook.f., Fl. Brit. India 7: 94. 1896; Bor. Grass. Burma, Ceylon, India & Pakistan 599. 1960.

Aquatic, perennial herbs; culms 60-120 cm tall, striate, compressed, simple or branched, with hairy nodes. Leaves linear; sheaths scaberrulous or smooth. Inflorescence erect, terminal panicle; spikelets closely imbricate, oblong, compressed.

Fls. & Frt. : March - Feb.

Distrib. : Kameng; between 100-1200 m, along the margin of swamps.

Microstegium ciliatum (Trin.) A. Camus in Ann. Soc. Linn. Lyon, n.s. 68: 201. 1921; Bor. Grass. Burma, Ceylon, India & Pakistan 193. 1960. *Pollinia ciliata* Trin. in Mem. Acad. Sci. Petersb. 6, 2: 306. 1832; Hook.f., Fl. Brit. India 7: 116. 1896. *Pollinia monantha* Nees ex Steud., Syn. Pl. Glum. 1: 410. 1855; Hook.f., Fl. Brit. India 7: 116. 1896.

Annual or perennial herbs, 50-120 cm long, decumbent at base, with glabrous nodes. Leaves linear-lanceolate, with scabrid margin; sheaths not auricled. Inflorescence fasciculate-panicle of 2-10 spikes, pale-green; spikelets linear-lanceolate.

Fls. & Frt. : March - Feb.

Distrib. : Kameng; between 100-1200 m, in open places.

Microstegium vagans (Nees ex Steud.) A. Camus in Ann. Soc. Linn. Lyon, n. s. 68: 200. 1921; Bor. Grass. Burma, Ceylon, India & Pakistan 7: 195. 1960. *Pollinia vagans* Nees ex Steud., Syn. Pl.

Glum. 1: 410. 1855; Hook.f., Fl. Brit. India 7: 115. 1896. *P. grata* Hack. in DC., Monogr. Phan. 6: 175. 1889; Hook.f., Fl. Brit. India 7: 115. 1896.

Perennial herbs; culms 70-150 cm tall, decumbent at base, hairy below the nodes. Leaves linear-lanceolate, scabrid on both surfaces; sheaths glabrous or tubercle based hairy towards base. Inflorescence panicle of 5-12 raceme, greenish or purplish; spikelets oblong, ciliate, awn twice as long as spikelet.

Fls. & Frt. : Aug. Feb.

Distrib. : Lohit, Tirap; between 100-1400 m, in wet and shady places.

Miscanthus nepalensis (Trin.) Hack. in DC., Monogr. Pha. 6: 104. 1889; Hook.f., Fl. Brit. India 7: 107. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 196. 1960. *Eulalia nepalensis* Trin. in Mem. Acad. Sci. Petersb. 6, 2: 333. 1832.

Perennial, slender herbs; culms 60-150 cm tall, puberulous below the inflorescence. Leaf blades linear; sheaths terete, striate, hairy. Inflorescence a flabelliform panicle; raceme many, densely crowded, capillary, hairy; spikelets ovate-lanceolate, pale-brown.

Fls. & Frt. : July Jan.

Distrib. : Kameng, Siang; between 1400-2500 m, along roadsides and on slopes.

Miscanthus wardii Bor in Kew Bull. 1953: 274. 1953 & Grass. India 196. 1960.

Large, tufted perennials. Callus hairs about as long as spikelets. Spikelets equal or longer than the rachis joints; both glumes glabrous.

Fls. & Frt. : Aug. May.

Distrib. : Lohit; between 500-1500 m, in open places along stream bank.

Mnesithea granularis (L.) Koning & Sosef in Blumea 31: 295. 1986. *Cenchrus granularis* L., Mant. Pl. 2. App. 575. 1771. *Manisuris granularis* (L.) L.f., Nov. Gram. Gen. 40. 1779; Hook.f., Fl. Brit. India 7: 159. 1896. *Hackelochloa granularis* (L.) O. Ktze., Rev. Gen. Pl. 2: 776. 1891; Bor, Grass. Burma, Ceylon, India & Pakistan 159. 1960. *Manisuris porifera* Hack. in Oesterr. Bot. Zeitschr. 41: 48. 1891; Hook.f., Fl. Brit. India 7: 160. 1896. *Rottboellia perforata* Roxb., Pl. Corom. 2: 43, t. 182. 1798; Hook.f., Fl. Brit. India 7: 158. 1896.

Culms upto 1 m high, terete below, compressed above, usually hirsute with tubercle based hairs. Leaves lanceolate with cordate or amplexicaul base. Spikelets globose; glumes subequal, lower pitted and tubercled.

Fls. & Frt. : June-Feb.

Distrib. : Subansiri; between 100-2000 m, on sandy soil along roadsides and slopes.

Muhlenbergia huegelii Trin. in Mem. Acad. Sc. Petersb. 6, 6: 293. 1841; Bor. Grass. Burma, Ceylon, India & Pakistan 401. 1960. *M. viridissima* Nees ex Steud., Syn. Pl. Glum. 1: 178. 1854; Hook.f., Fl. Brit. India 7: 259. 1896.

Perennial herbs scrambling over other herbs; culms weak, upto 1.6 m tall. Leaves flat, scabrid; ligule as membranous ring. Inflorescence much fastigiately branched panicle, spikelets seated upon scabrid pedicels. Caryopsis cylindric.

Fls. & Frt. : Aug. Feb.

Distrib. : Kameng; between 1000-2000 m, in forests.

Neomicrocalamus manni (Gamble) R. Majumdar in Karthik. *et al.*, Fl. Ind. Enum. Monocot. 279. 1989. *Arundinaria manni* Gamble in Ann. Roy. Bot. Gard. Calcutta 7: 26, t. 26. 1896 and in Hook.f., Fl. Brit India 7: 385. 1896.

Wiry, wide climbing bamboo; culms solid, upto 10 m tall, 1.25 cm diam. with many geniculate branching at nodes; culm-sheaths convolute, with sparse stiff, brown, appressed bristles. Leaves lanceolate, hairy beneath; sheaths ending on one side with shining callus, without auricle, on the other side auricle with few stiff bristles.

Distrib. : Siang; between 300-1600 m, along forest edges, rare at lower elevation.

Neyraudia arundinacea (L.) Henr. in Meded. Herb. Leiden no. 58: 8. 1929; Bor. Grass. Burma, Ceylon, India & Pakistan 518. 1960. *Aristida arundinacea* L., Mant. Pl. 186. 1771. *Arundo madagascariensis* Kunth, Rev. Gram. 1: 273, t. 48. 1830. *Neyraudia madagascariensis* (Kunth) Hook.f., Fl. Brit. India 7: 305. 1896.

Reed-like perennial herbs upto 4 m tall; culms thick, terete, smooth. Leaf-sheaths woolly at throat; ligules fimbriate. Inflorescence large panicle, silvery-olive-grey; spikelets 4-8 flowered.

Fls. & Frt. : March Oct.

Distrib. : Kameng, Siang; between 200-1000 m, along roadsides and secondary forests edges.

Neyraudia reynaudiana (Kunth) Keng ex Hitch. in Amer. J. Bot. 21: 131. 1934; Bor, Grass. Burma, Ceylon, India & Pakistan 518. 1960. *Arundo reynaudiana* Kunth, Rev. Gram. 1: 275, t. 49. 1830. *Neyraudia madagascariensis* var. *zollingeri* Hook.f., Fl. Brit. India 7: 305. 1896.

Reed-like perennial herbs; 3-5 m tall. Leaf-sheaths woolly at throat. Inflorescence large panicle; spikelets 4-8 flowered; lowest 1 or 2 lemmas empty and resembling glumes.

Fls. & Frt. : May Oct.

Distrib. : Kameng, Lohit, Siang, Tirap; between 1800-2000 m, along forests edges.

Oplismenus compositus (L.) P. Beauv., Ess. Agrost. 54, 168, 169. 1812; Hook.f., Fl. Brit. India 7: 66. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 317. 1960. *Panicum compositum* L., Sp. Pl. 57. 1753.

Perennial herbs; culms many noded, upto 1 m tall, ascending from a decumbent rooting base, hairy. Leaves lanceolate, velvety beneath; sheaths striate, densely ciliate along margin. Inflorescence panicle of spiciform raceme; spikelets lanceolate-oblong, greenish, often with purple tip or tinged with red.

Fls. & Frt. : Aug. Dec.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1000 m, along river bank, forest edges and road sides.

Oryza sativa L., Sp. Pl. 333. 1753; Hook.f., Fl. Brit. India 7: 92. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 605. 1960.

Annual herbs; culms upto 1.5 m tall, rooting at nodes. Leaves linear, scabrid beneath; ligule of the lower leaves very long. Spikelets persistent; mature floret with one grain.

Fls. & Frt. : April Feb.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1600 m, commonly cultivated along the hill slopes and valleys at higher elevation.

Panicum atrosanguineum Hochst. ex A. Rich., Tent. Fl. Abyss. 2: 375. 1851; Bor, Grass. Burma, Ceylon, India & Pakistan 322. 1960. *Panicum hydaspicum* Edgew. in J. Linn. Soc. Bot. 6: 207. 1862; Hook.f., Fl. Brit. India 7: 48. 1896.

Annual herbs; culms 20-60 cm long, branching at base. Leaf-sheaths clothed with white hairs, inflated; ligules hairy. Panicle ovoid; Spikelets pale-green.

Fls. & Frt. : Sept. Jan.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1500 m, in open places.

Panicum auritum Presl ex Nees, Agrost. Bras. 176. 1829; Hook.f., Fl. Brit. India 7 : 40. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 324. 1960.

Perennial herbs; culms erect, stout, upto 2 m high. Leaf-sheaths striate, densely ciliate on margin; ligule narrow. Spikelets lanceolate, seated on scaberulous pedicels.

Fls. & Frt. : Aug. Dec.

Distrib. : Lohit, Tirap; between 500-1200 m, in open forest forming large patches.

Panicum brevifolium L., Sp. Pl. 59. 1753; Bor, Grass. Burma, Ceylon, India & Pakistan 324. 1960. *P. ovalifolium* Poir. in Lamk., Encycl. Meth. Bot. 4: 279. 1816; Hook.f., Fl. Brit. India 7: 44. 1896.

Perennial herbs; culms upto 1.25 m tall, decumbent and rooting at base, sparingly branched, purplish. Leaves ovate-lanceolate, cordate-amplexicaul at base. Spikelets solitary, ovate or oblong, purplish, hairy.

Fls. & Frt. : April Feb.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1200 m, along forest edges and roadsides.

Panicum humidorum Buch. Ham. ex Hook.f., Fl. Brit. India 7: 53. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 326. 1960.

Perennial herbs; culms upto 2 m tall, procumbent or creeping below; rooting at nodes. Leaves linear, cordate at base; sheaths striate; ligule erose or lacerate at top. Spikelets symmetrical, purple.

Fls. & Frt. : Aug. Dec.

Distrib. : Tirap; between 500-1000 m, gregarious, in open marshy places.

Panicum incisum Munro ex C.B. Clarke in J. Linn. Soc. Bot. 25: 84, t. 33. 1890; Hook.f., Fl. Brit. India 7: 51. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 326. 1960.

Perennial herbs; culms 30-60 cm tall, creeping at base, short noded, leafy at top. Leaf-sheaths striate, overlapping; ligule elongate-oblong, lacerate. Inflorescence arising from uppermost leaf sheath. Spikelets solitary, elliptic-acuminate.

Fls. & Frt. : Sept. Aug.

Distrib. : Siang; between 800-1500 m, in open forests, roadsides.

Panicum incomtum Trin., Gram. Panic. 200. 1826; Bor, Grass. Burma, Ceylon, India & Pakistan 326. 1960. *P. sarmentosum sensu* Hook.f., Fl. Brit. India 7: 54. 1896, *non* Roxb. 1820.

Rambling perennials; culms decumbent, branched. Leaf-blades linear-lanceolate, pubescent above; sheaths loose, striate; ligule hairy. Inflorescence ovoid or pyramidal, laxly branched panicle. Spikelets ovoid-obtuse, ciliolate.

Fls. & Frt. : Aug. May.

Distrib. : Lohit; between 500-1500 m, in open slopes, forest edges and along paddy fields.

Panicum khasianum Munro ex Hook.f., Fl. Brit. India. 7: 54. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 327. 1960.

Perennial herbs; culms upto 1.5 m tall, decumbent and creeping below. Leaf-blades lanceolate, cordate at base; sheaths loose, striate, with bearded mouth; ligule narrow, ciliate. Inflorescence decomposed panicle. Spikelets ellipsoid, subacute.

Fls. & Frt. : Sept. Jan.

Distrib. : Kameng, Subansiri, Tirap; between 1000-1600 m, in marshes on sandy alluvium soil.

Panicum miliaceum L., Sp. Pl. 58. 1753; Hook.f., Fl. Brit. India 7: 45. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 327. 1960.

Annual herbs with fibrous roots; culms upto 1.2 m tall, procumbent at base, stout, pubescent at base and nodal region; sheaths striate, hairy; ligule hairy. Inflorescence thyriform. Spikelets ovate-acute, green, persistent.

Fls. & Frt. : Aug. Jan.

Distrib. : Lohit, Subansiri, Tirap; between 500-1500 m, usually cultivated.

Panicum notatum Retz., Obs. Bot. 4: 18. 1786; Bor, Grass. Burma, Ceylon, India & Pakistan 701. 1960. *P. montanum* Roxb.,

Fl. Ind. 1: 315. 1820; Hook.f., Fl. Brit. India 7: 53. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 329. 1960.

Perennial herbs; culms woody, solid, with ridged branches. Leaf-blades deflexed, lanceolate, cordate at base; sheaths hairy at throat; spikelets in lax panicle, ellipsoid, pubescent.

Fls. & Frt. : Aug. March.

Distrib. : Kameng, Lohit; between 100-1000 m, in forest fringes, road sides, and along river banks.

Panicum paludosum Roxb., Fl. Ind. 1: 310. 1820; Bor, Grass. India 329. 1960. *P. proliferum non* Lamk. : *sensu* Hook.f., Fl. Brit. India 7: 50. 1896, *non* Lamk. 1797.

Climbing perennials; culms simple or branched, leafy. Leaves linear or ensiform, rounded or subcordate at base; sheaths striate; ligule reduced to a ring of hairs. Spikelets solitary or in pairs, ovate-lanceolate.

Fls. & Frt. : June September.

Distrib. : Kameng; between 1200-1800 m, in marshy places.

Panicum sarmentosum Roxb., Fl. Ind. 1: 311. 1820; Hook.f., Fl. Brit. India 7: 54. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 330. 1960.

Rambling perennials; culms decumbent, branched, rooting at nodes. Leaves linear-lanceolate, hairy beneath; sheaths striate, hairy. Spikelets in pyramidal, laxly branched panicle, ovoid, ciliolate. Grains oblong.

Fls. & Frt. : March Dec.

Distrib. : Siang; between 100-1000 m, underneath tropical forests.

Paspalidium flavidum (Retz.) A. Camus in Lecomte, Fl. Gen. de l' Indo-Chine 7: 419. 1922; Bor, Grass. Burma, Ceylon, India & Pakistan 333. 1960. *Panicum flavidum* Retz., Obs. Bot. 4: 15. 1786; Hook.f., Fl. Brit. India 7: 28. 1896.

Culms upto 1.25 m tall, decumbent at base. Leaf-sheaths longer than internodes, compressed, striate, hairy on the throat. Raceme longer than internodes. Spikelets ovate-oblong, pale-green.

Fls. & Frt. : July October.

Distrib. : Kameng; between 500-1500 m, in swampy areas.

Paspalum conjugatum Berg. in Act. Helvet. Phys. Math. 7: 129, t. 8. 1772; Hook.f., Fl. Brit. India 7: 11. 1896; Bor. Grass. Burma, Ceylon, India & Pakistan 336. 1960.

Annual or perennial, stoloniferous herbs; culms erect, upto 60 cm tall. Leaves smaller, compressed, pubescent above; densely ciliate at margin; sheaths ciliate at margin and at base; ligule with pubescent ridges. Spikelets 2-seriate, orbicular-ovate, lenticular, yellowish, hairy.

Fls. & Frt. : Aug. March.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap.

Paspalum conjugatum var. **pubescens** Doell in Mart., Fl. Bras. 2: 35. 1877; Bor. Fl. Assam 5: 256. 1940.

Culms brown-red, soft. Leaf-blades larger, papillose-pubescent on both surfaces. Spikelets more ciliate.

Fls. & Frt. : Sept. Feb.

Distrib. : Subansiri; between 600-1000 m, along forest edges and roadsides.

Paspalum scrobiculatum L., Mant. Pl. 1: 29. 1767; Hook.f., Fl. Brit. India 7: 10. 1896; Bor. Grass. Burma, Ceylon, India & Pakistan 340. 1960. *P. orbiculare* Forst., Fl. Insul. Austr. Prodr. 7. 1786; Bor. Grass. Burma, Ceylon, India & Pakistan 340. 1960.

Annual herbs; culms upto 2 m tall, decumbent at base. Leaf-sheaths very long, lax, hair at top; ligule scarious, with few hairs. Spikelets in paniced raceme, obovoid or oblong, compressed. Grains rounded, blackish.

Fls. & Frt. : Aug. Jan.

Distrib. : Lohit, Tirap; between 1500-2000 m, on rocky dry places.

Pennisetum glaucum (L.) R. Brown, Prodr. 1: 195. 1810; T.A. Cope in Nasir & Ali, Fl. Pakistan 143: 234. 1982. *Panicum glaucum* L., Sp. Pl. 56. 1753. *Setaria glauca* (L.) P. Beauv., Ess. Agrost. 51, 169, 178. 1812; Hook.f., Fl. Brit. India 7: 78. 1896; Bor. Grass. Burma, Ceylon, India & Pakistan 360. 1960.

Tufted annuals; culms 30-70 cm tall, stout. Leaves linear, flat with few white hairs at base; sheaths keeled; ligule reduced to a ciliate rim. Spikelets in cylindric spikes, oblong or elliptic, greenish. Grains ellipsoid.

Fls. & Frt. : Aug. Jan.

Distrib. : Kameng, Tirap; between 100-1500 m, in open grassy field, roadsides.

Phaenosperma globosum Munro ex Oliver in Hook., Ic. Pl. sub t. 1991. 1891; Bor, Grass. Burma, Ceylon, India & Pakistan 614. 1960.

Tufted perennials; culms 2-3 m tall. Leaves tapering to the base; petiole twisted; ligules membranous. Spikelets deciduous, 1-flowered. Grains globose.

Fls. & Frt. : Sept. Jan.

Distrib. : Kameng; between 1800-3500 m, in pine-oak forests.

Phleum alpinum L., Sp. Pl. 59. 1753; Hook.f., Fl. Brit. India 7: 236. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 402. 1960.

Perennial herbs; culms 20-60 cm tall, ascending from creeping base. Leaves flat; sheaths inflated. Panicle ovoid or oblong, green or purplish. Spikelets oblong.

Fls. & Frt. : Sept.-March.

Distrib. : Kameng, Lohit, Siang, Tirap; between 500-1500 m, in open fields, on forest edges.

Phragmites karka (Retz.) Trin. ex Steud., Nom. Bot. ed. 2, 2: 324. 1841; Hook.f., Fl. Brit. India 7: 304. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 416. 1960. *Arundo karka* Retz., Obs. Bot. 4: 21. 1786.

Perennials; culms upto 7 m tall, hollow. Leaves distichous, lanceolate; ligule with short, stiff hairs. Spikelets in compound, hairy panicle.

Fls. & Frt. : Sept. March.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 1200-1600 m, on sandy alluvium, in moist places.

Phyllostachys assamica Gamble ex Brandis, Indian Trees 667. 1906; Biswas in Ind. For. 114 (3) : 522. 1988. *P. bambusoides non* Sieb & Zucc. *sensu* Gamble in Hook.f., Fl. Brit. India 7: 386. 1896.

Caespitose bamboo; culms 10-12 m tall, brilliant green, 20 cm in diam., waxy ring below nodes. Leaves thin; sheaths long, bristly at mouth. Spikelets lanceolate, brownish or greenish.

Fls. & Frt. : Aug.-March.

Distrib. : Subansiri; between 1500-1800 m, along outskirts of villages.

Phyllostachys mannii Gamble in Ann. Roy. Bot. Gard. Calcutta 7: 28, t. 28. 1896 and in Hook.f., Fl. Brit. India 7: 386. 1896.

Caespitose bamboo; culms 5-6 m high, 2-3 cm in diam., yellowish. Culm-sheath with two fimbriate, curved auricles, rounded at top; ligule long pectinate. Leaves with few white hairs near the midrib beneath; sheaths ending in a narrow ciliate callus.

Distrib. : Kameng, Sunbansiri; between 1500-2000 m, forest edges near outskirts of village.

Pleioblastus simonii (Carriere) Nakai in J. Arn. Arb. 6: 145. 1925; Naithani & Bennet in Ind. For 112 (1) : 85. 1986. *Bambusa simonii* Carriere in Rev. Hort. 37: 380. 1866.

Rhizomes long, creeping; culms monopodial, 0.9-6 m long, 2-2.5 cm in diam.; branches divaricate, spreading. Leaves serrulate at margin. Inflorescence lateral, from culms or from branches. Spikelets lax flowered; glumes green-purplish.

Fls. & Frt. : Nov. Jan.

Distrib. : Subansiri; between 2500-3000 m, along forest fringes.

Poa khasiana Stapf in Hook.f., Fl. Brit. India 7: 343. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 557. 1960.

Culms upto 60 cm tall, rooting at base. Leaf-sheaths finely striate, shorter than internodes; ligules erose or truncate. Inflorescence pyramidal panicle. Spikelets ovate-oblong, greenish.

Fls. & Frt. : April Nov.

Distrib. : Kameng; between 1000-3000 m, in open places.

Poa nemoralis var. **ligulata** Stapf in Hook.f., Fl. Brit. India 7: 341. 1896.

Annual herbs; culms 30-60 cm tall. Leaves linear; ligule elongate. Panicle lax. Spikelets green or variegated.

Fls. & Frt. : Sept. March.

Distrib. : Kameng; between 2000-4000 m, on open moist slopes, along roadsides.

Poa wardiana Bor in Kew Bull. 1948: 148. 1948 and Grass. India 561. 1960.

Annual herbs; culms upto 80 cm tall, scabrid below the panicle. Leaves linear; ligule more than 1 mm long; callus glabrous. Panicle spreading. Lemmas scabrid.

Fls. & Frt. : Dec. Jan.

Distrib. : Kameng; between 2000-4000 m, in Abies-Rhododendron forests.

Pogonatherum crinitum (Thunb.) Kunth, Enum. Pl. 1: 478. 1833; Hook.f., Fl. Brit. India 7: 141. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 200. 1960. *Andropogon crinitus* Thunb., Fl. Jap. 40, t. 7. 1784.

Slender, perennial herbs; culms upto 60 cm tall with numerous nodes; branchlets filiform. Leaf-sheaths lax, fimbriate at throat. Spikelets in terminal raceme; lower floret absent.

Fls. & Frt. : Aug. Nov.

Distrib. : Lohit, Subansiri, Tirap; between 1000-1500 m, often gregarious on newly exposed soil, stream bank, on the soil cover of rock boulders and also in moist situation along roadsides.

Pogonatherum paniceum (Lamk.) Hack. in Allg. Bot. Z. 12: 178. 1906; Bor, Grass. Burma, Ceylon, India & Pakistan 202. 1960. *Saccharum paniceum* Lamk., Encycl. Meth. Bot. 1: 595. 1785. *Pogonatherum saccharoideum* P. Beauv., Ess. Agrost. 176, 177. 1812; Hook.f., Fl. Brit. India 7: 141. 1896.

Caespitose, perennial herbs; culms 10-50 cm tall, in dense tufts; primary branches solitary. Leaves linear-lanceolate, scabrid; sheaths subcompressed. Spikelets in terminal raceme, linear-oblong; lower floret present.

Fls. & Frt. : July Nov.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 1000-1500 m, on rocky banks and in rock crevices.

Polypogon fugax Nees ex Steud., Syn. Pl. Glum. 1: 184. 1854; Bor, Grass. Burma, Ceylon, India & Pakistan 403. 1960. *P. higaweri* Steud., Syn. Pl. Glum. 1: 422. 1854. *P. littoralis* var. *higaweri* (Steud.) Hook.f., Fl. Brit. India 7: 246. 1896.

Annual herbs; culms erect from geniculate base. Leaf-sheaths striate; ligule membranous, lacerate. Spikelets in panicle, awned; awns as long as or shorter than glumes.

Fls. & Frt. : Sept. Jan.

Distrib. : Kameng; between 1500-2500 m, in grassland, roadsides and rock crevices.

Polypogon monspeliensis (L.) Desf., Fl. Atlant. 1: 67. 1798; Hook.f., Fl. Brit. India 7: 245. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 403. 1960. *Alopecurus monspeliensis* L., Sp. Pl. 61. 1753.

Annual herbs; culms upto 60 cm tall, stout or slender. Leaf-sheaths striate, scaberulous; ligule membranous, lacerate, ciliolate. Spikelets in cylindrical panicle, one-flowered, oblanceolate-oblong, awned; awns 2-3 times the length of the glumes.

Fls. & Frt. : Feb. Sept.

Distrib. : Kameng, Siang; between 1000-2000 m, along slopes and roadsides.

Pseudechinolaena polystachya (H.B.K.) Stapf in Prain, Fl. Trop. Afr. 9: 495. 1919; Bor, Grass. Burma, Ceylon, India & Pakistan 352. 1960. *Echinolaena polystachya* H.B.K., Nov. Gen. & Sp. 1: 119. 1816. *Panicum uncinatum* Raddi, Agrost. Bras. 41. 1823; Hook.f., Fl. Brit. India 7: 58. 1896.

Small, perennial herbs; culms rooting, branching and pubescent at base. Leaves ovate-lanceolate; sheaths pubescent, ciliate at margin; ligule truncate. Spikelets in raceme, dimidiate-ovate, compressed.

Fls. & Frt. : Aug. Nov.

Distrib. : Siang, Lohit, Tirap; between 800-1500 m, along forest fringes, roadsides and grasslands.

Saccharum arundinaceum Retz., Obs. Bot. 4: 14. 1786; Hook.f., Fl. Brit. India 7: 119. 1896 *p.p.*; Bor, Grass. Burma, Ceylon, India & Pakistan 211. 1960.

Perennial herbs; culms 2-6 m tall. Leaves linear-lanceolate, very scabrid at margin; upper-leaves much reduced; ligule truncate, membranous. Inflorescence long panicle, pinkish-white or silvery. Spikelets pedicelled; glumes dorsally villous.

Fls. & Frt. : Aug. Dec.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 500-1000 m, in secondary forest in open moist places.

Saccharum longisetosum (Anderss. ex Benth.) Narayanswami ex Bor, Fl. Assam 5: 461. 1940 and Grass. India 211. 1960. *Erianthus longisetosus* Anderss. ex Benth. in J. Linn. Soc. Bot. 19: 67. 1881; Bor, Grass. Burma, Ceylon, India & Pakistan 151. 1960.

Perennial herbs; culms 2-2.5 m tall, solid, reed-like. Leaves flat, lanceolate, glabrous or short, appressed hairy; sheaths covered with appressed tubercle-based hairs; ligule ciliate. Panicle densely packed, drooping. Spikelets lanceolate, golden-brown.

Fls. & Frt. : Aug. Nov.

Distrib. : Kameng, Lohit, Tirap; between 500-1200 m, along slopes and forest edges.

Saccharum officinarum L., Sp. Pl. 54. 1753; Hook.f., Fl. Brit. India 7: 118. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 212. 1960.

Perennial herbs; culms erect, 2-3 m tall with appressed hairs below the panicle. Leaves rigid, drooping at tip, glaucous beneath; median nerves thick, white above; sheaths pubescent; ligule ciliate. Panicle ovate-pyramidal. Spikelets linear-oblong, white silky hairy.

Fls. & Frt. : Aug. Feb.

Distrib. : Siang; between 100-1000 m, cultivated, sugar cane.

Saccharum spontaneum L., Mant. Alt. 183. 1771; Hook.f., Fl. Brit. India 7 : 118. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 214. 1960. *S. semidecumbens* Roxb., Fl. Ind. 1: 241. 1820. *S. canaliculatum* Roxb., Fl. Ind. 1: 251. 1820.

Rhizomes thick; culms 1-4 m tall, solid, with silky appressed hairs below the panicle. Leaf-blades rigid, capillary at tip; sheaths auricled with reddish blotches inside. Panicle lanceolate. Spikelets lanceolate, long silky hairy.

Fls. & Frt. : Sept. Feb.

Distrib. : Kameng, Lohit, Subansiri; between 300-1000 m, along river beds.

Saccharum wardii (Bor) Bor ex T.A. Cope in Kew Bull. 35 (3) : 702. 1980; Pal et al. in Bull. Bot. Surv. India 24 (1-4) : 198, f. 1. 1983. *Erianthus wardii* Bor in Kew Bull. 9: 498. 1954 and Grass. 152. 1960.

Tall grass; culms terete; nodes glabrous. Leaf-sheaths striate; ligule ciliate. Spikelets at each node.

Fls. & Frt. : Oct. March.

Distrib. : Dibang Valley, Lohit, Siang; between 500-1200 m, along open hill tracts.

Sacciolepis indica (L.) A. Chase in Proc. Biol. Soc. Wash. 21: 8. 1908; Bor, Grass. Burma, Ceylon, India & Pakistan 357.

1960. *Panicum indicum* L., Mant. pl. 2: 184. 1771. *non* Mill. 1768; Hook.f., Fl. Brit. India 7: 41. 1896. *P. angustum* Trin., Sp. Gram. Ic. t. 334. 1836. *P. indicum* var. *angustum* (Trin.) Hook.f., Fl. Brit. India 7: 42: 1896.

Tufted annual herbs upto 60 cm high; culms striate, compressed, leafy at base. Leaf-sheaths lax, compressed, sub-keeled at top; ligule obtuse, fimbriate at base. Panicle spiciform. Spikelets densely crowded, ovoid-acute, hairy, olive green or purplish.

Fls. & Frt. : Nov. March.

Distrib. : Siang, Tirap; between 500-1000 m, on the hill, often gregarious in swampy places.

Sacciolepis interrupta (Willd.) Stapf in Prain, Fl. Trop. Afr. 9: 757. 1920; Bor, Grass. Burma, Ceylon, India & Pakistan 358. 1960. *Panicum interruptum* Willd., Sp. Pl. 341. 1798; Hook.f., Fl. Brit. India 7: 40. 1896.

Perennial herbs; culms 1-2 m tall, ascending from creeping or floating rootstock spongy below; upper internodes long, slender. Leaf-sheaths 5-10 cm long, smooth at margin. Panicle cylindrical; spikelets densely crowded, ovoid-lanceolate, acute.

Fls. & Frt. : Sept. Feb.

Distrib. : Subansiri; between 1500-2000 m, on sandy soil, swampy areas and on soil which is periodically inundated.

Schizachyrium delavayi (Hack.) Bor in Ind. For. Rec. (Bot) 1: 95. 1938 and Grass. India 215. 1960. *Andropogon delavayi* Hack. in DC., Monogr. Phan. 6: 404. 1889. *A. bootanensis* Hook.f., Fl. Brit. India 7: 166. 1896.

Perennial herbs; culms erect, 40-120 cm tall. Leaves rigid, glaucous, strigose or pubescent beneath; sheaths loose, striate, pubescent at apex; ligule ciliate. Raceme compressed, purplish. Sessile spikelets hairy; callus shortly bearded; pedicelled spikelets oblong-lanceolate.

Fls. & Frt. : Sept. Jan.

Distrib. : Kameng; between 1000-2500 m, on open grassy slopes.

Schizostachyum arunachalensis Naithani in Ind. For. 118 (3) : 230. 1992.

Semiscandent bamboo, 10-15 m tall; culms erect; branches pendulous; nodes thick, with broad ring of brown hairs; internodes 10-100 cm long. Leaves oblong-lanceolate; sheaths pubescent ending

in a smooth callus; auricles prominently long setaceous, reticulate ligule narrow, entire.

Fls. & Frts. : Not seen.

Distrib. : Subansiri; between 300-700 m, on wet mountain slopes.

Schizostachyum capitatum (Munro) R. Majumdar in Karthik. et al., Fl. Ind. Enum. Monocot. 281. 1989. *Cephalostachyum capitatum* Munro in Trans. Linn. Soc. London 26: 139. 1868; Gamble in Hook.f., Fl. Brit. India 7: 412. 1896.

Semiscandent bamboo; culms 4-10 m tall, pendulous, yellow; internodes upto 1 m long. Culm-sheaths brown pubescent on back, truncate at top; ligule toothed. Leaves ovate-lanceolate, whitish beneath; sheaths fimbriate at throat with long, caducous hairs. Inflorescence dense, globular, axillary or terminal heads; sterile spikelets keeled on back; fertile spikelets with 1-3 sterile florets at base.

Fls. & Frts. : Not seen.

Distrib. : Kameng; between 1000-3000 m, on open mountain slopes.

Schizostachyum fuchsianum (Gamble) R. Majumdar. in Karthik. et al., Fl. Ind. Enum. Monocot. 281. 1989. *Cephalostachyum fuchsianum* Gamble in Ann. Roy. Bot. Gard. Calcutta 7: 107, t. 94. 1896 and in Hook.f., Fl. Brit. India 7: 413. 1896.

Bushy, upto 5 m tall or sprawling bamboo; culms vertically branched from the nodes. Culm-sheaths striate, rounded at top and long bristly fringed at sinus; imperfect blade reflexed, subulate. Leaves ovate-lanceolate; leaf-sheaths ciliate with elongate auricle; ligule ciliate. Inflorescence of dense, globular, terminal head; spikelets elongate.

Fls. & Frts. : Not seen.

Distrib. : Lohit, Siang, Subansiri; between 1600-2200 m, along slopes and forest fringes.

Schizostachyum latifolium (Munro) R. Majumdar in Karthik. et al., Fl. Ind. Enum. Monocot. 281. 1989. *Cephalostachyum latifolium* Munro in Trans. Linn. Soc. London 26: 140. 1868; Gamble in Hook.f., Fl. Brit. India 7: 412. 1896.

Scandent bamboo; culms 2-3 m tall, whitish below the nodes. Culm-sheaths rounded at top, sinus with two triangular auricles; imperfect blade acuminate-subulate. Leaves ovate-lanceolate. Sheaths

ciliate, ending in an emarginate callus; ligule long. Inflorescence globular head; spikelets 1-flowered.

Fls. & Frts. : Not seen.

Distrib. : Kameng; between 2000-2500 m, in open forests.

Schizostachyum pallidum (Munro) R. Majumdar in Karthik. *et al.*, Fl. Ind. Enum. Monocot. 282. 1989. *Cephalostachyum pallidum* Munro in Trans. Linn. Soc. London 26: 139. 1868; Gamble in Hook.f., Fl. Brit. India 7: 412. 1896.

Shrubby bamboo; culms 1.5-2.0 m tall. Leaves ovate-lanceolate, subulate at apex with hair like tip, pale-green; sheaths ciliate at margin and ending in short, rounded auricle. Inflorescence terminal, rounded head; spikelets ovate; palea bifid.

Fls. & Frts. : Aug. Feb.

Distrib. : Lohit, Subansiri; between 500-1500 m, in secondary forests.

Schizostachyum pergracile (Munro) R. Majumdar in Karthik. *et al.*, Fl. Ind. Enum. Monocot. 282. 1989. *Cephalostachyum pergracile* Munro in Trans. Linn. Soc. London 26: 141. 1868; Gamble in Hook.f., Fl. Brit. India 7: 413. 1896.

Tufted, deciduous bamboo; culms 10-12 m tall, glaucous-green, whitish puberulous below the nodes. Culm-sheaths much shorter than internodes, densely black hairy; imperfect blade cuspidate, densely hairy within, fringed, auricled. Leaf-sheaths faintly striate with ciliate callus. Inflorescence of interrupted heads; spikelets in clusters; palea bifid.

Fls. & Frts. : Aug. Jan.

Distrib. : Kameng; between 1500-2000 m, in forests.

Schizostachyum polymorphum (Munro) R. Majumdar in Karthik. *et al.*, Fl. Ind. Enum. Monocot. 282. 1989. *Pseudostachyum polymorphum* Munro in Trans. Linn. Soc. London 26: 142, t. 1. 1868; Gamble in Hook.f., Fl. Brit. India 7: 409. 1896.

Large bamboo; culms 3-4 m high with new shoots and at the same time with flowering old culms.

Distrib. : Lohit, Siang, Subansiri, Tirap; between 1000-1500 m.

Setaria forbesiana (Nees ex Steud.) Hook.f., Fl. Brit. india 7: 81. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 360. 1960. *Panicum forbesianum* Nees ex Steud., Syn. Pl. Glum. 1: 98. 1854.

Perennial herbs; culms erect, upto 2 m tall with stout rhizomes, leafy just below the inflorescence. Leaves hairy; leaf-sheaths scarious below, keeled, ciliate at margin; ligule silky hairy. Panicle pyramidal; spikelets ovoid, seated on very short peduncles.

Fls. & Frts. : Aug. April.

Distrib. : Kameng; between 500-800 m, in grasslands and along roadsides.

Setaria italica (L.) P. Beauv., Ess. Agrost. 51. 170, 178. 1812; Hook.f., Fl. Brit. India 7: 78. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 362. 1960. *Panicum italicum* L., Sp. Pl. 56. 1753.

Annual herbs; culms fascicled, erect, upto 1 m tall, scabrid below the panicle. Leaf-sheaths tight, finely ciliate at margin; ligule a densely ciliate rim. Inflorescence cylindric, yellow when mature; spikelets usually clustered and subtended by more than one bristle, persistent.

Fls. & Frts. : Aug. Feb.

Distrib. : Subansiri. Usually cultivated.

Setaria palmifolia (Koen.) Stapf, in J. Linn. Soc. Bot. 42: 186. 1914; Bor, Grass. Burma, Ceylon, India & Pakistan 363. 1960. *Panicum palmifolium* Koen. in Ges. Naturf. 23: 208. 1788.

Scrambling, perennial herbs; culms upto 2 m tall. Leaves sparsely hairy; sheaths smooth or hispid. Inflorescence loose, spiculate panicle; spikelets solitary, subtended by single bristle.

Fls. & Frts. : Aug. Nov.

Distrib. : Subansiri, Tirap; between 500-1000 m, next to water course, often in dense shade.

Setaria plicata (Lamk.) T. Cooke, Fl. Pres. Bombay 2: 919. 1908; Bor, Grass. Burma, Ceylon, India & Pakistan 364. 1960. *Panicum plicatum* Lamk., Encycl. Meth. Bot. 4: 736. 1797; Hook.f., Fl. Brit. India 7: 55. 1896.

Perennial herbs; culms upto 2 m tall with woody rootstock, leafy; nodes strigillose. Leaves plicate; sheaths hispid, ciliate near apex; ligule hairy. Inflorescence loosely paniced; spikelets solitary, each subtended by a single bristle, deciduous.

Fls. & Frts. : Sept. Feb.

Distrib. : Siang; between 1000-1500 m, along pathways and in clearings.

Setaria pumila (Poir.) Roem. & Schult., Syst. Veg. 2: 891. 1817; T.A. cope in Nasir & Ali, Fl. W. Pakistan 143. 181. 1982. *Panicum pumilum* Poir. in Lamk., Encycl. Meth. Bot. 4: 273. 1816. *Setaria pallide fusca* (Schumach.) Stapf & C.E. Hubb. in Kew Bull. 1930. 259. 1930; Bor, Grass. Burma, Ceylon, India & Pakistan 363. 1960. *Panicum pallide-fuscum* Schumach., Beskr. Guin. Pl. 58. 1827.

Tufted, annual herbs; culms slender, 30-60 cm tall, ascending from a geniculate base. Leaf-blades often infolded, pointed at tip; sheaths compressed, keeled; ligule truncate, lacerate-ciliate. Inflorescence cylindrical, purplish; spikelets 2.5 mm long.

Fls. & Frts. : Aug. Dec.

Distrib. : Lohit, Tirap; between 500-1500 m.

Sporobolus indicus var. **diander** (Retz.) Jovet & Guedes in Bull. Centre. Et. Rech. Sci. Biarritz. 7: 65. 1968. *Agrostis diander* Retz., Obs. Bot. 5: 19. 1789. *Sporobolus diander* (Retz.) P. Beauv., Ess. Agrost. 26, 147, 178. 1812; Hook.f., Fl. Brit. India 7: 247. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 629. 1960.

Tufted, perennial herbs; culms 20-80 cm tall. Leaf-sheaths ribbed; ligul with line of hairs. Panicle pyramidal, solitary or fascicled; spikelets spindle-shaped.

Fls. & Frts. : Aug. Jan.

Distrib. : Lohit, Siang; between 100-2500 m, along roadsides, grasslands.

Sporobolus indicus var. **fertilis** (Steud.) Jovet & Guedes in Bull. Centre Et. Rech. Sci. Biarritz. 7: 50. 1968. *Agrostis fertilis* Steud., Syn. Pl. Glum. 170. 1855. *Sporobolus indicus auct. non* (L.) R. Brown 1810; Hook.f., Fl. Brit. India 7: 247. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 630. 1960.

Perennial herbs; culms 1 m tall. Leaves convolute; ligules with few hairs. Panicle interrupted, erect or curved; spikelets green.

Fls. & Frts. : Sept. April.

Distrib. : Siang; between 500-1500 m, on the clearings and along roadsides.

Themeda arundinacea (Roxb.) Ridley in Trans. Linn. Soc. London 2, 3: 401. 1893; Bor, Grass. Burma, Ceylon, India & Pakistan 250. 1960. *Anthistiria arundinacea* Roxb., Fl. Ind. 1: 256. 1820. *A. gigantea* ssp. *arundinacea* (Roxb.) Hack. in DC., Monogr. Phan. 6: 674. 1889; Hook.f., Fl. Brit. India 7: 217. 1896.

Tufted perennials; culms 1-6 m tall, solid, polished. Leaf-sheaths keeled, auricled; ligule a membranous ring. Spikelets in compound

raceme, lanceolate, golden hairy; sessile spikelets dark brown; callus sharp, bearded with brown hairs.

Fls. & Frts. : Sept. March.

Distrib. : Tirap; between 200-1000 m, in secondary forests.

Themeda caudata (Nees) A. Camus in Lecomte, Fl. Gen. de l'Indo-Chine 7: 364. 1922; Bor, Grass. Burma, Ceylon, India & Pakistan 250. 1960. *Anthistiria caudata* Nees in Hook. & Arn., Bot. Beechey Voy. 245. 1838. *A. gigantea* ssp. *caudata* (Nees) Hack. in DC., Monogr. Phan. 6: 676. 1889, p.p.; Hook.f., Fl. Brit. India 7: 217. 1896.

Caespitose perennials with stout rootstocks; culms 3-6 m tall, greenish-yellow or pinkish. Leaf-sheaths smooth, striate; ligule with ciliate ring. Spikelets in compound panicle; involucre spikelets glabrous; sessile spikelets reddish hairy; pedicelled spikelets lanceolate.

Fls. & Frts. : Sept. Feb.

Distrib. : Siang, Subansiri; between 500-1000 m, in secondary forests, along river banks.

Themeda villosa (Poir.) A. Camus in Lecomte, Fl. Gen. de l'Indo-Chine 7: 364. 1922; Bor, Grass. India 254. 1960. *Anthistiria villosa* Poir. in Lamk., Encycl. Meth. Bot. Suppl. 1, 396. 1814. *A. gigantea* ssp. *villosa* (Poir.) Hack. in DC., Monogr. Phan. : 675. 1889; Hook.f., Fl. Brit. India 7: 217. 1896.

Perennial herbs; culms tufted, stout upto 2 m tall, polished, leafy. Leaf-sheaths auricled at mouth, strongly keeled; ligule erose, membranous. Spikelets in decomposed panicle; involucre spikelets inserted in pair at different levels; sessile spikelets densely hispid with short, brown hairs; pedicelled spikelets ciliate, hispid.

Fls. & Frts. : Aug. Feb.

Distrib. : Siang; between 700-2200 m, in secondary forests, along roadsides and growing gregariously along the river bank.

Thysanolaena maxima (Roxb.) O. Ktze., Rev. Gen. Pl. 2: 794. 1891; Bor, Grass. Burma, Ceylon, India & Pakistan 650. 1960. *Agrostis maxima* Roxb., Fl. Ind. 1: 319. 1820. *Thysanolaena agrostis* Nees in Edinburgh New Phil. J. 18: 180. 1835; Hook.f., Fl. Brit. India 7: 61. 1896.

Perennials; culms 1-4 m high. Leaves broadly lanceolate, subamplexicaul at base, glaucous beneath; sheaths tight, hard; ligule

cartilaginous, truncate. Spikelets in filiform, branched panicle, 2-flowered, ovoid-lanceolate.

Fls. & Frts. : April Oct.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 100-1000 m, along road sides and forest edges.

Triticum aestivum L., Sp. Pl. 85. 1753; Bor, Grass. Burma, Ceylon, India & Pakistan 679. 1960. *T. vulgare* Vill., Hist. Pl. Dauph. 2: 153. 1787; Hook.f., Fl. Brit. India 7: 367. 1896.

Tufted annual herbs; culms 0.8-1.5 m tall, smooth, hollow. Leaves linear-lanceolate; sheaths smooth; ligule truncate. Spikelets solitary. Grains oblong.

Fls. & Frts. : April.

Distrib. : Kameng; between 100-500 m. Cultivated.

Vetiveria zizanioides (L.) Nash in Small, Fl. South-east U.S. 67. 1903; Bor, Grass. Burma, Ceylon, India & Pakistan 258. 1960. *Phalaris zizanioides* L., Mant. Pl. 2: 183. 1771. *Andropogon squarrosus* L.f., Suppl. Pl. 433. 1781; Hook.f., Fl. Brit. India 7: 186. 1896.

Perennial herbs; culms upto 2 m tall, sheathed. Rhizomes aromatic. Leaf-sheaths compressed, fan shaded; ligule reduced to a scarious rim. Panicle oblong with filiform branches. Sessile spikelets linear-lanceolate, violet-brown or purplish; pedicelled spikelets aculeolate.

Fls. & Frts. : Sept. March.

Distrib. : Kameng, Lohit, Siang, Tirap; between 500-1000 m, in open forest areas.

Zea mays L., Sp. Pl. 971. 1753; Hook.f., Fl. Brit. India 7: 102. 1896; Bor, Grass. Burma, Ceylon, India & Pakistan 270. 1960.

Annual herbs; culms upto 2 m tall. Leaves broadly lanceolate, ciliate at margin; leaf-sheaths villous at margin; ligule ciliate. Inflorescence paniced raceme. Spikelets in pair, ovate-oblong.

Fls. & Frts. : Sept.-April.

Distrib. : Kameng, Lohit, Siang, Subansiri, Tirap; between 100-3000 m. Cultivated.

Insufficiently known materials

Bromus staintonii Melderis

Elymus ciliaris (Trin.) Tzlevey

Japanobotrychium lanuginosum (Wall. ex Hook. & Grev.) Nishida ex Taga.

Japanobotrychium virginianum (L.) Nishida ex Taga.

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<i>Amorphophallus rex</i> Prain ex Hook.f.	229	<i>Aneilema nudiflorum</i> var. <i>compressa</i> (Dalz.) Clarke	217
<i>Andropogon aciculatus</i> Retz.	278	<i>Aneilema nudiflorum</i> var. <i>terminalis</i> (Wight) Clarke	216
<i>Andropogon apricus</i> sensu Hook.f.	271	<i>Aneilema nudiflorum</i> (L.) R. Brown	217
<i>Andropogon ascinodis</i> C.B. Clarke	271	<i>Aneilema protensum</i> (Wight) Wall. ex C.B. Clarke	219
<i>Andropogon assimilis</i> Steud.	277	<i>Aneilema rigidum</i> Blatter	217
<i>Andropogon bootanensis</i> Hook.f.	306	<i>Aneilema scaberrimum</i> (Blume) Kunth	219
		<i>Aneilema sinicum</i> (Roem. & Schult.) Lindl.	217

<i>Aneilema spiratum</i> (L.) R. Brown	218	<i>Apluda varia</i> Hack.	272
<i>Aneilema thomsonii</i> C.B. Clarke	220	<i>Apluda varia</i> ssp. <i>aristata</i>	
<i>Aneilema triquetrum</i> Wall. ex Clarke	218	var. <i>ciliata</i> Hook.f.	272
<i>Ania hookeriana</i> (King & Pantl.)		<i>Apluda varia</i> ssp. <i>aristata</i>	
T. Tang & F.T. Wang	6	var. <i>rostrata</i> Hook.f.	272
<i>Ania latifolia</i> Lindl.	158	<i>Apluda varia</i> ssp. <i>aristata</i>	
Ania penangiana (Hook.f.) Summerh.	6	var. <i>villosula</i> Hook.f.	272
Aniselytron treutleri (Kuntze)		<i>Apluda varia</i> ssp. <i>aristata</i> Hack.	272
Bennet & Raiz.	272	<i>Apluda varia</i> ssp. <i>mutica</i>	
<i>Anisopetalon careyanum</i> Hook.	15	var. <i>humilis</i> Hook.f.	272
Anoectochilus brevilabris Lindl.	6	<i>Apluda varia</i> ssp. <i>Mutica</i> (L.) Hack.	272
<i>Anoectochilus elwesii</i> (C.B. Clarke		<i>Aponogeton monostachyon</i> L.f.	243
ex Hook.f.) King & Pantl.	133	Aponogeton natans (L.) Engler &	
<i>Anoectochilus grandiflorus</i>		Krause	243
Lindl. ex Hook.f.	133	Apostasia odorata Blume	8
<i>Anoectochilus lanceolatus</i> Lindl.	134	Apostasia wallichii R.Br.	8
<i>Anoectochilus luteus</i> Lindl.	134	<i>Appendicula teres</i> Griff.	38
Anoectochilus roxburghii (Wall.)		ARACEAE	227
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<i>Anoectochilus sikkimensis</i> King & Pantl.	6	<i>Arachis cathcartii</i> (Lindl.) J.J. Sm.	92
<i>Anoectochilus tortus</i> (King & Pantl.)		<i>Arachnanthe cathcartii</i> (Lindl.) Benth.	92
King & Pantl.	134	<i>Arachnanthe clarkei</i> (Rchb.f.) Rolfe	92
Anosporum cephalotes (Vahl) Kurz	245	<i>Arachnanthe moschifera</i> (Blume) Blume	9
<i>Anthistiria arundinaceu</i> Roxb.	310	Arachnis flosaeris (L.) Rchb.f.	9
<i>Anthistiria caudata</i> Nees	311	Arachnis labrosa (Lindl. ex Paxton)	
<i>Anthistiria gigantea</i>		Rchb.f.	9
ssp. <i>arundinacea</i> (Roxb.) Hack.	310	<i>Areca gracilis</i> Roxb.	225
<i>Anthistiria gigantea</i>		ARECACEAE	222
ssp. <i>villosa</i> (Poir.) Hack.	311	Areng pinnata (Kuntze) Merrile	222
<i>Anthistiria villosa</i> Poir.	311	<i>Arenga saccharifera</i> Labill.	222
<i>Anthistiria gigantea</i>		Ariopsis peltata Nimmo	230
ssp. <i>caudata</i> (Nees) Hack.	311	Arisaema concinnum Schott	230
Anthogonium gracile Wall. ex Lindl.	7	Arisaema consanguineum Schott	230
Aorchis roborovskii (Maxim.) Seidenf.	7	<i>Arisaema costatum sensu</i> Mitra	232
<i>Apaturia montana</i> Thw.	8	Arisaema cuspidatus (Roxb.) Engler	230
<i>Apaturia senile</i> Lindl.	136	Arisaema decipiens Schott	231
Aphyllorchis alpina King & Pantl.	8	Arisaema flavum (Forssk.) Schott	231
Aphyllorchis montana (Thw.) Rchb.f.	8	Arisaema galeatum N. E. Brown	231
<i>Aphyllorchis parviflora</i> King & Pantl.	125	Arisaema intermedium Blume	231
<i>Aphyllorchis prainii</i> Hook.f.	8	Arisaema jacquemontii Blume	232
Apluda mutica L.	272		

<i>Arisaema listeri</i> Prain & Burkill	232	<i>Arum flavum</i> Forssk.	231
<i>Arisaema nepanthoides</i> (Wall.) Mart.	232	<i>Arum fornicatum</i> Roxb.	228
<i>Arisaema petiolulatum</i> Hook.f.	232	<i>Arum indicum</i> Lour.	228
<i>Arisaema propinguum</i> Schott	232	<i>Arum macrorrhizon</i> L.	228
<i>Arisaema rhizonmatum</i> Fischer	233	<i>Arum neglectum</i> Schott	233
<i>Arisaema setosum</i> A. S. Rao & Verma	233	<i>Arum nepanthoides</i> Wall.	232
<i>Arisaema sikkimensis</i> Stapf ex Chatterjee	232	<i>Arum roxburghii</i> Kunth	230
<i>Arisaema speciosum</i> (Wall.) Mart.	233	<i>Arum speciosum</i> Wall.	233
<i>Arisaema tortuosum</i> (Wall.) Schott	233	<i>Arum tortuosum</i> Wall.	233
<i>Arisaema wallichianum</i> Hook.f.	232	<i>Arum trilobatum</i> L.	241
<i>Arisaema wattii</i> Hook.f.	234	<i>Arum viviparum</i> Roxb.	237
<i>Aristida arundinacea</i> L.	295	<i>Arundina bambusifolia</i> Lindl.	9
<i>Arnodorum labrosum</i> (Lindl. ex Paxton) Schltr.	9	<i>Arundina chinensis</i> Blume	9
<i>Arrhynchium labrosum</i> Lindl. ex Paxton	9	Arundina graminifolia (D. Don) Hochr.	9
Arthraxon castratus (Griffith) Narayanaswami ex Bor	272	<i>Arundinaria callosa</i> Munro	278
<i>Arthraxon ciliaris</i> P. Beauv.	273	<i>Arundinaria griffithiana</i> Munro	278
Arthraxon hispidus (Thunb.) Akino	273	<i>Arundinaria intermedia</i> Munro	286
<i>Arthraxon inermis</i> Hook.f.	273	<i>Arundinaria mannii</i> Gamble	295
<i>Arthraxon inermis</i> var. <i>tzvelevii</i> Jain	273	Arundinella bengalensis (Spreng.) Druce	274
Arthraxon lancifolius (Trin.) Hochst.	273	<i>Arundinella brasiliensis</i> Sesnu Hook.f.	274
<i>Arthraxon lancifolius</i> var. <i>hindustanicus</i> (Jain & Deshpande) S.M. & M.R. Almedia	273	Arundinella intricata Hughes	274
Arthraxon microphyllus (Trin.) Hochst.	274	Arundinella nepalensis Trin.	274
<i>Arthraxon microphyllus sensu</i> Hook.f.	273	<i>Arundinella wallichii</i> Nees ex Steud.	274
<i>Arthraxon rudis</i> (Steud.) Hochst.	272	Arundo donax L.	275
<i>Arthraxon satarensis</i> Almeida	273	<i>Arundo karka</i> Retz.	301
<i>Arthraxon sikkimensis</i> Bor	274	<i>Arundo madagascariensis</i> Kunth	295
<i>Arthraxon submuticus</i> (Nees ex Steud.) Hochst.	273	<i>Arundo reynaudiana</i> Kunth	296
<i>Arum bulbiferum</i> Roxb.	229	Ascocentrum ampullaceum (Roxb.) Schltr.	10
<i>Arum cuspidatum</i> Roxb.	230	Ascocentrum curvifolium (Lindl.) Schltr.	10
<i>Arum esculentum</i> L.	234	Ascocentrum himalaicum (Deb, Sengupta & Malick) Christenson	10
		Ascocentrum semiteretifolium Scidenf.	11
		Asparagus filicinus Buch.-Ham. ex D. Don	194

Asparagus filicinus		<i>Bulbophyllum alopecurum</i> Rchb.f.	30
var. brevifipes Baker	194	Bulbophyllum amplifolium	
Asparagus racemosus Willd.	194	(Rolfe) N.P. Balakr. &	
Asparagus var. filicinus ,	194	S. Chowdhury	13
<i>Asraoa triandra</i> Joseph	226	Bulbophyllum andersonii	
<i>Aulacolepis treulneri</i> (Kuntze) Hack.	272	(Hook.f.) J.J. Sm.	13
Axonopus compressus (Swartz)		Bulbophyllum apodum Hook.f.	13
P. Beauv.	275	<i>Bulbophyllum bicolor</i> (Lindl.)	
<i>Bamboo stricta</i> Roxb.	283	Hook.f.	111
Bambusa longispiculata Gamble	275	Bulbophyllum bisetum Lindl.	14
<i>Bambusa maclellandii</i> Munro	286	<i>Bulbophyllum bootanense</i> (Griff.)	
<i>Bambusa nutans</i> Wall. ex Munro	276	Parish & Rchb.f.	31
Bambusa pallida Munro	275	<i>Bulbophyllum brachypodium</i> var. <i>geei</i>	
<i>Bambusa simonii</i> Carriere	302	A.S. Rao & N.P. Balak.	17
<i>Bambusa teres</i> Buch.-Ham. ex Munro	276	Bulbophyllum brienianum	
Bambusa tulda Roxb.	276	(Rolfe) J.J. Sm.	14
Bambusa vulgaris Schrad.	276	<i>Bulbophyllum candidum</i> (Lindl.)	
<i>Banksia speciosa</i> Koenig	182	Hook.f.	111
Belamcanda chinensis (L.) DC.	186	Bulbophyllum capillipes Parish &	
<i>Berghausia tenella</i> Arn. ex Miquel	290	Rchb.f.	14
Biermannia arunachalensis		Bulbophyllum careyanum (Hook.)	
A.N. Rao	11	Spreng.	14
Biermannia bimaculata		<i>Bulbophyllum careyanum</i> auct. non	
(King & Pantl.) King & Pantl.	11	(Hook.) Spreng.; S.N. Hegede &	
Biermannia jainiana		A.N. Rao	16
S.N. Hegde & A.N. Rao	11	Bulbophyllum cariniflorum Rchb.f.	15
<i>Bletia bicullosa</i> D. Don	92	<i>Bulbophyllum caudatum</i> Lindl.	28
<i>Bletia dabia</i> D. Don	93	Bulbophyllum cauliflorum Hook.f.	15
<i>Bletia graminifolia</i> D. Don	9	<i>Bulbophyllum clarkeanum</i>	
<i>Bletia masuca</i> D. Don	36	King & Pantl.	28
<i>Bletia woodfordii</i> Hook.	141	<i>Bulbophyllum conchiferum</i> Rchb.f.	20
Brachiaria distachya (L.) Stapf	276	<i>Bulbophyllum confertum</i> Hook.f.	27
Brachiaria villosa (Lamk.)		<i>Bulbophyllum congestum</i> Rolfe	22
A. Camus	276	Bulbophyllum cornu-cervi King &	
Brachycorythis lantha (Wight)		Pantl.	15
Summerh.	12	Bulbophyllum crassipes Hook.f.	16
Brachycorythis obcordata (Buch.-		Bulbophyllum cupreum Lindl.	16
Ham. ex D. Don) Summerh.	12	Bulbophyllum cylindraceum Lindl.	16
<i>Bromus staintonii</i> Melderis	312	<i>Bulbophyllum cylindraceum</i> var.	
Bulbophyllum acutiflorum A. Rich.	12	<i>khasianum</i> (Griff.) Hook.f.	20
Bulbophyllum affine Lindl.	12	Bulbophyllum delitescens Hance	16
		<i>Bulbophyllum densiflorum</i> Rolfe	15

Bulbophyllum depressum King & Pantl.	17	Bulbophyllum muscicola Rehb.f.	22
<i>Bulbophyllum devangiriense</i> Balakr.	21	<i>Bulbophyllum nasutum</i> Rehb.f.	161
<i>Bulbophyllum disciflorum</i> Rolfe	161	Bulbophyllum nodosum (Rolfe) J.J. Sm.	22
<i>Bulbophyllum ebulbum</i> King & Pantl.	13	<i>Bulbophyllum obrienianum</i> Rolfe	14
Bulbophyllum elatum (Hook.f.) J.J. Sm.	17	Bulbophyllum odoratissimum (Sm.) Lindl.	22
Bulbophyllum emarginatum (Finet) J.J. Sm.	17	Bulbophyllum ornatissimum (Rehb.f.) J.J. Sm.	23
Bulbophyllum eublepharum Rehb.f.	18	Bulbophyllum parviflorum Parish & Rehb.f.	23
Bulbophyllum gamblei (Hook.f.) Hook.f.	18	Bulbophyllum penicillium Parish & Rehb.f.	23
Bulbophyllum griffithii (Lindl.) Rehb.f.	18	Bulbophyllum piluliferum King & Pantl.	23
<i>Bulbophyllum guttulatum</i> (Hook.f.) N.P. Balakr.	19	Bulbophyllum polyrhizum Lindl.	24
Bulbophyllum guttulatum Wall. Ex Hook.f.	19	Bulbophyllum protractum Hook.f.	24
Bulbophyllum gymnopus Hook.f.	19	Bulbophyllum pulchrum (N.E. Br.) J.J. Sm.	24
<i>Bulbophyllum hastatum</i> T.Tang & F.T.Wang	17	Bulbophyllum repens Griff.	25
Bulbophyllum helenae (Kuntze) J.J. Sm.	19	Bulbophyllum reptans (Lindl.) Lindl.	25
Bulbophyllum hirtum (Sm.) Lindl.	19	<i>Bulbophyllum reptans</i> var. <i>subracemosa</i> Hook.f.	25
<i>Bulbophyllum hookeri</i> (Duthie) J.J. Sm.	22	Bulbophyllum retusiusculum Rehb.f.	25
Bulbophyllum hymenanthum Hook.f.	20	Bulbophyllum rigidum King & Pantl.	25
Bulbophyllum khasianum Griff.	20	Bulbophyllum rolfei (Kuntze) Seidenf.	26
Bulbophyllum leopardinum (Wall.) Lindl.	20	Bulbophyllum sarcophylloides Garay	27
<i>Bulbophyllum leptanthum</i> var. <i>gamblei</i> Hook.f.	18	Bulbophyllum sarcophyllum (King & Pantl.) J.J. Sm.	26
<i>Bulbophyllum listeri</i> King & Pantl.	29	Bulbophyllum scabratum Rehb.f.	27
Bulbophyllum lobbii Lindl.	21	Bulbophyllum secundum Hook.f.	27
Bulbophyllum macraei (Lindl.) Rehb.f.	21	Bulbophyllum spathulatum (Rolfe ex Cooper) Seidenf.	28
<i>Bulbophyllum micranthum</i> Hook.f.	30	Bulbophyllum stenobulbon Parish & Rehb.f.	28
<i>Bulbophyllum mishmeense</i> Hook.f.	111	Bulbophyllum sterile (Lamorek) Suresh	28
Bulbophyllum monanthum (Kuntze) J.J.Sm.	21		

Bulbophyllum striatum (Griff.) Rehb.f.	29	<i>Calamus erectus</i> var. <i>collina</i> (Griffith) Becc. & Hook.f.	223
Bulbophyllum thomsoni Hook.f.	29	<i>Calamus erectus</i> var. <i>macrocarpa</i> (Griffith) Becc. & Hook.f.	223
<i>Bulbophyllum tiagii</i> Chauhan	21	Calamus flagellum Griffith.	223
Bulbophyllum tortuosum (Blume) Lindl.	29	Calamus floribundus Griffith.	223
Bulbophyllum trichocephalum (Schltr.) T.Tang & F.T.Wang	30	Calamus gracilis Roxb.	223
Bulbophyllum triste Rehb.f.	30	Calamus latifolius Roxb.	224
Bulbophyllum umbelattum Lindl.	31	<i>Calamus macrocarpus</i> Griffith	223
<i>Bulbophyllum uniflorum</i> auct. non Hassk.	21	Calanthe alismaefolia Lindl.	32
<i>Bulbophyllum virens</i> (Lindl.) Hook.f.	111	Calanthe alpina Hook.f. ex Lindl.	32
Bulbophyllum viridiflorum (Hook.f.) Schltr.	31	<i>Calanthe angusta</i> Lindl.	35
Bulbophyllum wallichii (Lindl.) Rehb.f.	31	Calanthe biloba Lindl.	33
Bulbophyllum xylophyllum Parish & Rehb.f.	31	Calanthe brevicornu Lindl.	33
<i>Bulbophyllum yoksunense</i> var. <i>geei</i> (A.S. Rao & N.P. Balakr) Bennet	17	<i>Calanthe brevicornu</i> var. <i>wattii</i> Hook.f.	33
<i>Bulbostylis capillaris</i> var. <i>trifida</i> (Nees) C.B. Clarke	245	Calanthe chloroleuca Lindl.	33
Bulbostylis densa (Walt.) Hand.-Mazz.	245	<i>Calanthe densiflora</i>	33
Bulleyia yunnanensis Schltr.	32	Calanthe gracilis Lindl.	34
BUTOMACEAE	242	Calanthe Griffithii Lindl.	34
<i>Butomopsis lanceolata</i> (Roxb.) Kunth	243	Calanthe herbacea Lindl.	34
Butomopsis latifolia (D. Don) Kunth	242	<i>Calanthe longipes</i> Hook.f.	38
<i>Butomus lanceolatus</i> Roxb.	242	Calanthe mannii Hook.f.	35
<i>Butomus latifolius</i> D. Don	242	<i>Calanthe masuca</i> (D. Don) Lindl.	36
<i>Caladium pumilum</i> D. Don	235	Calanthe odora Griff.	35
<i>Caladium viviparum</i> Lodd.	237	Calanthe plantaginea Lindl.	35
<i>Calamagrostis elatior</i> (Griseb.) A. Camus	283	Calanthe sylvatica (Thours) Lindl.	36
<i>Calamagrostis griffithiana</i> Hook.f.	271	Calanthe tricarinata Lindl.	36
<i>Calamagrostis scabrescens</i> var. <i>elatior</i> Griseb.	283	Calanthe triplicata (Willemet) Ames	37
Calamus acanthospathus Griffith	222	Calanthe trulliformis King & Pantl.	37
<i>Calamus collinus</i> Griffith	223	<i>Calanthe veratrifolia</i> (Willd.) Ker-Gawl.	37
Calamus erectus Roxb.	222	Calathe pachystalix Rehb.f.	36
		Calathe puberula Lindl.	35
		<i>Calla aromatica</i> Roxb.	235
		<i>Calla rubescens</i> Roxb.	235
		<i>Calladium pendulum</i> Blume	235
		Callostylis pulchella (Lindl.) A.N.Rao	168
		<i>Camarotis manii</i> King & Pantl.	122

<i>Camarotis obtusa</i> Lindl.	123	<i>Carex myosurus</i> Nees	250
<i>Campelia mollissima</i> Blume	213	<i>Carex nobilis</i> Boott	252
Campylandra aurantiaca Baker	195	Carex nubigena D. Don ex Tilloch & Taylor	250
<i>Campylandra wattii</i> C.B. Clarke	207	<i>Carex ovata</i> Burm.f.	261
<i>Canna indica</i>		Carex parvigluma C.B. Clarke	250
var. <i>orientalis</i> (Roscoe) Baker	186	Carex polycephala Boott	250
Canna indica L.	186	Carex rara Boott	250
<i>Canna orientalis</i> Roscoe	186	<i>Carex remota</i> var. <i>rochebrunii</i> (Franch. & Sav.) C.B. Clarke	249
CANNACEAE	186	<i>Carex rochebrunii</i> Franch. & Sav.	249
Capillipedium assimile (Steud.) A. Camus	277	Carex royleana Nees	251
Capillipedium pteropechys (C.B. Clarke) Stapf	277	Carex rubro-brunnea C.B. Clarke	251
Cardiocrinum giganteum (Wall.) Makino	195	<i>Carex schlagintweitiana</i> Boeck.	248
Carex alopecuroides D. Don ex Tilloch & Taylor	246	Carex scitula Boott	251
Carex alta Boott	246	Carex speciosa Kunth	251
Carex baccans Nees	246	Carex speciosa Kunth var. courtallensis (Nees ex Boott) Kuekenh.	252
<i>Carex bengalensis</i> Roxb.	247	Carex spiculata Boott var. nobilis (Boott) Clarke	252
<i>Carex breviculmis sensu</i> C.B. Clarke	251	Carex stramentitia Boott ex Boeck.	252
Carex capillacea Boott	246	Carex teres Boott	252
Carex caricina (D. Don) Ghildyal & Bhattacharya	247	Carex thomsonii Boott	253
Carex composita Boott	247	<i>Carex uncinoides</i> Boott	264
<i>Carex condensata</i> Clarke	247	<i>Carex</i> var. <i>meiogyna</i> (Nees) Strachey	247
<i>Carex continua</i> Clarke	247	<i>Carex japonica</i> var. <i>alopecuroides</i> (D. Don ex Tilloch & Taylor) C.B. Clarke	246
<i>Carex courtallensis</i> Nees ex Boott	252	Caryota urens L.	224
Carex cruciata Wahlenb.	247	Cautleya cathcartii Baker in Hook.f.	171
<i>Carex curticeps</i> C.B. Clarke	264	Cautleya gracilis (Sm.) Dandy	171
Carex daltoni Boott	247	<i>Cautleya lutea</i> (Royle) Hook.f.	171
Carex eleusinoides Turcz. ex Kunth	248	Cautleya spicata (Sm.) Baker	171
<i>Carex filicina</i> Nees	247	<i>Cenchrus granularis</i> L.	294
Carex haematostoma Nees	248	<i>Cenchrus lappaceus</i> L.	277
Carex hebecarpa C.A. Mey.	248	Centotheca lappacea (L.) Desv.	277
Carex inanis Kunth	248	<i>Centrosia sylvatica</i> Thours	36
Carex indica L.	249	Cephalanthera damasonium (Mill.) Druce	37
Carex insignis Boott	249		
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Carex munipoorensis C.B. Clarke	249		

<i>Cephalanthera ensifolia</i> (L.) Rich.	37	Chlorophytum nepalense (Lindl.) Baker	195
Cephalanthera longifolia (L.) Fritsch	37	<i>Chlorophytum undulatum</i> Wall. ex Hook.f.	195
Cephalanthera longipes (Hook.f.) Ormerod	38	<i>Chrysobaphus roxburghii</i> Wall.	7
<i>Cephalostachyum capitatum</i> Munro	307	<i>Chrysoglossum assamicum</i> Hook.f.	53
<i>Cephalostachyum fuchsianum</i> Gamble	307	<i>Chrysoglossum erraticum</i> Hook.f.	41
<i>Cephalostachyum latifolium</i> Munro	307	<i>Chrysoglossum macrophyllum</i> King & Pantl.	75
<i>Cephalostachyum pallidum</i> Munro	308	Chrysoglossum ornatum Blume	41
<i>Cephalostachyum pergracile</i> Munro	308	<i>Chrysoglossum robinsonii</i> Ridl.	53
Ceratostylis himalaica Hook.f.	38	Chrysopogon aciculatus (Retz.) Trin.	278
Ceratostylis subulata Blume	38	Chrysopogon fulvus (Spreng.) Chiov.	278
<i>Ceratostylis teres</i> (Griff.) Rchb.f.	38	<i>Chrysopogon monticola</i> (Roem. & Schult.) Haines	279
<i>Cerochilus rubens</i> Lindl.	109	Chrysopogon serrulatus Trin.	279
Chamaegastrodia shikokiana Makino & Mackawa	39	Chusua pauciflora (Lindl.) P.F. Hunt.	41
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