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Peddi Harikrishna

Flora of Sri Lankamalleswara Wildlife Sanctuary, Andhra Pradesh

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# Flora of Sri Lankamalleswara Wildlife Sanctuary, Andhra Pradesh


***Authors***

Sankararao Mudadla
Peddi Harikrishna



**Botanical Survey Of India**
**Ministry Of Environment, Forest and Climate Change**
**Government of India**
**2026**

# FLORA OF SRI LANKAMALLESWARA WILDLIFE SANCTUARY, ANDHRA PRADESH

*Authors*
**Sankararao Mudadla**
**Peddi Harikrishna**

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डॉ. कनाद दास
Dr. Kanad Das
निदेशक
*Director*

सत्यमेव जयते

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& CLIMATE CHANGE
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## FOREWORD

Protected areas stand as cornerstones in our global commitment to biodiversity. They are vital instruments for realizing the ambitious goals set forth in Articles 6 and 8 of the Convention on Biological Diversity (CBD), serving as indispensable ecosystems for the preservation of life on Earth. India, a nation renowned for its rich biological heritage, has demonstrated an unwavering dedication to this cause. The country currently boasts a robust and expanding network of **1,014 protected areas,** collectively safeguarding an impressive 1,75,169.42 km$^2$ of land. This extensive network is a testament to India's significant and ongoing efforts to secure its natural legacy for future generations.

The administrative landscape of India has seen significant changes, and following the Andhra Pradesh Reorganization Act of 2014, the state of Andhra Pradesh now encompasses **19 distinct protected areas** including one Biosphere Reserve, three National Parks, 13 Wildlife Sanctuaries, one Tiger Reserve, and one Elephant Reserve. Together, these areas span a considerable geographical expanse of 8139.89 square kilometers, representing a significant 22.05% of the state's total notified forest area. This substantial coverage underscores Andhra Pradesh's commitment to protecting its unique ecological wealth.

As a core component of the Botanical Survey of India's diligent Annual Research Programme, a comprehensive study on the floristic diversity of Sri Lankamalleswara Wildlife Sanctuary, Kadapa, Andhra Pradesh (SLWLS) was meticulously carried out between 2022 and 2025. The floristic documentation resulted from this extensive research is now presented in the e-book, "Flora of Sri Lankamalleswara Wildlife Sanctuary, Andhra Pradesh". This particular Wildlife Sanctuary, a vital part of the broader conservation network, covers an area of 464.42 square kilometers. It is a mosaic of diverse vegetation, encompassing various forest types, each contributing its unique characteristics and performing essential ecological functions, creating a rich tapestry of biodiversity.

This e-book is an invaluable resource, meticulously documenting the area's impressive species diversity. It includes a remarkable **226 plant taxa,** systematically categorized across 193 genera and 63 families. To facilitate ease of use and enhance its practical utility, the flora is presented with high-quality photographs, clear and intuitive artificial keys, enabling straightforward species identification.

I congratulate the authors for their immense effort and unwavering commitment in making this important documentation readily available in this accessible format. This will surely help the researchers and amateurs in the area dealing with floristic studies and the forest managers to identify the important species.

(Kanad Das) 24/04/2026

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**Sankararao Mudadla**
**Peddi Harikrishna**

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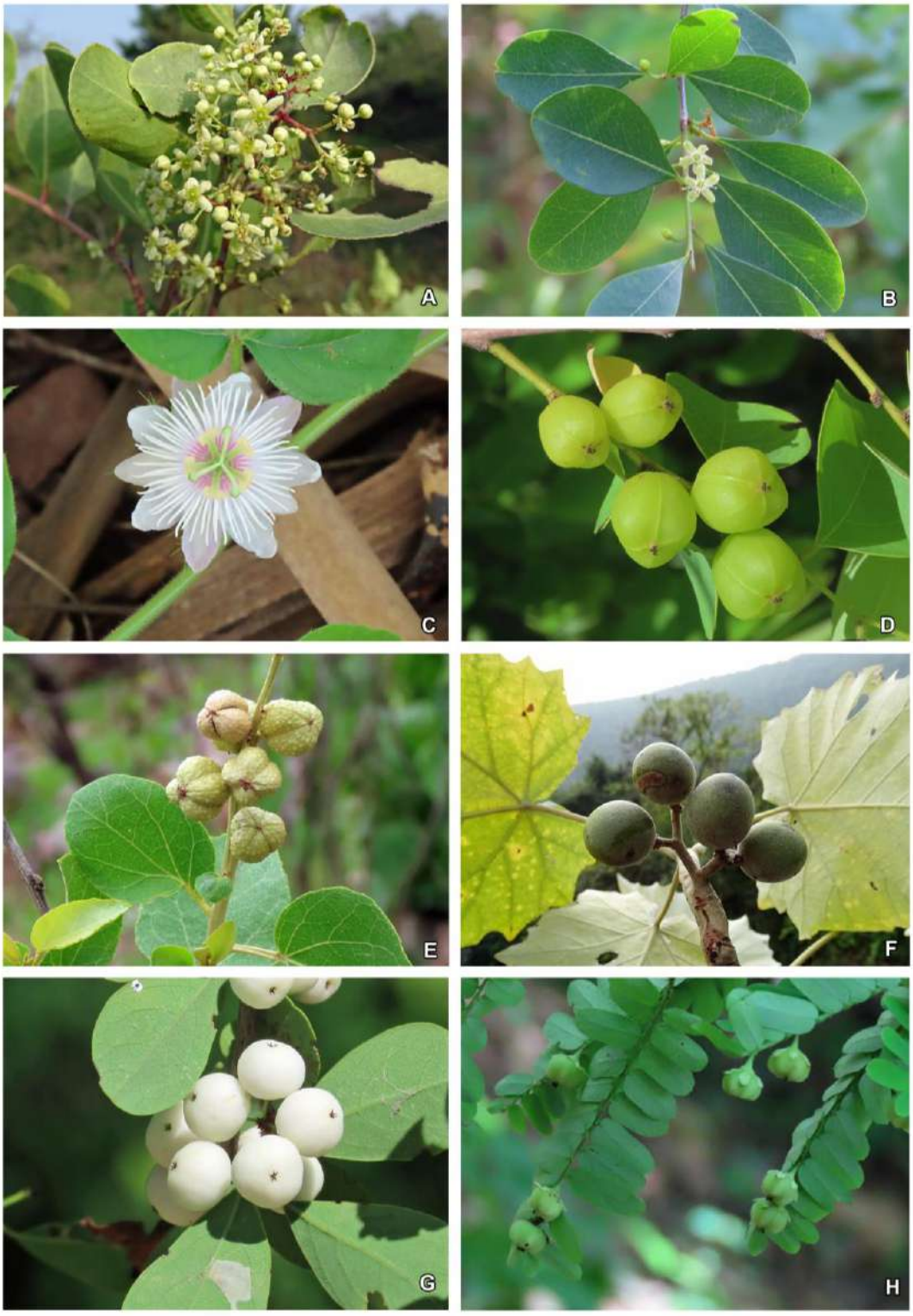


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# 1. Introduction

India possesses a significant expanse of forest and tree cover, estimated at 24.62% of its total geographical area according to the India State of Forest Report 2021 (FSI, 2021). Within this green mantle lies a crucial network of Protected Areas (PAs) designed to conserve the nation's rich biodiversity. This network, encompassing approximately 106 National Parks, 573 Wildlife Sanctuaries, 220 Community Reserves, and 115 Conservation Reserves, covers about 5.29% (173,966.7 km²) of India's landmass under formal protection regimes (WII). Wildlife Sanctuaries constitute a substantial portion of this network, covering nearly 122,561 km² (3.78%). These sanctuaries are often established within existing reserve forests, primarily designated to offer enhanced protection to specific threatened fauna, flora, or unique ecological habitats.

Historically, many of these PAs originated from reserve forests that had already experienced varying intensities of human use and resource extraction. Traditional rights granted to local communities, such as the regulated collection of Non-Timber Forest Products (NTFPs), grazing, and fuelwood gathering, continue in many PAs, particularly Wildlife Sanctuaries (Karanth *et al.*, 2008). These ongoing anthropogenic activities, coupled with natural disturbances like fire or drought, contribute to ecosystem dynamics and, in some cases, degradation (Tripathi and Singh, 2009; Gubbi *et al*., 2017). Understanding the interplay between human reliance, traditional rights, and conservation objectives is therefore critical for effective PA management.

Furthermore, accurate and comprehensive information on plant resources is increasingly vital in the context of global climate change mitigation efforts. Specifically, the international mechanism for Reducing Emissions from Deforestation and Forest Degradation (REDD+), operating under the United Nations Framework Convention on Climate Change (UNFCCC), emphasizes forest conservation, sustainable forest management, and the enhancement of forest carbon stocks. Achieving these goals requires robust data on forest structure, species composition, and biomass to accurately estimate carbon sequestration potential (Aye et al., 2014; GOI, 2021). Detailed botanical inventories provide the foundational data for such estimations.

Therefore, a thorough understanding of plant diversity and distribution within PAs is paramount not only for formulating effective species and habitat conservation strategies but also for contributing to national and international climate commitments like REDD+. Importantly, REDD+ also stresses the significance of safeguarding the socio-economic well-being of forest-dependent communities. Integrating local communities through participatory approaches, ensuring equitable benefit-sharing, and respecting traditional knowledge are crucial for the long-term success and sustainability of conservation programs, aligning ecological goals with social imperatives (Lele & Menon, 2014; Sekhar, 2019). Such integration strengthens conservation outcomes by fostering local stewardship and support.

**Objective(s):** Survey, Collection and Identification of Flora of Sri Lankamalleswara Wildlife Sanctuary Kadapa District, Andhra Pradesh

## 2. Methodology

### 2.1 Study Area

Sri Lankamalleswara Wildlife Sanctuary, established in 1998, is one of the 13 sanctuaries in Andhra Pradesh. Covering an area of 464.42 sq. km (Fig. 1). The declaration of Sri Lankamalleswara Wildlife Sanctuary under Section 18 of the Wildlife (Protection) Act of 1972 was made through Government Order No. 285 EFES & T For (III) Department, issued on October 15, 1988. The Sanctuary was primarily designated to protect the habitat of the critically endangered Jerdon's Courser. However, the conservation efforts within the Sanctuary have likely benefited a broader range of species beyond the target species.

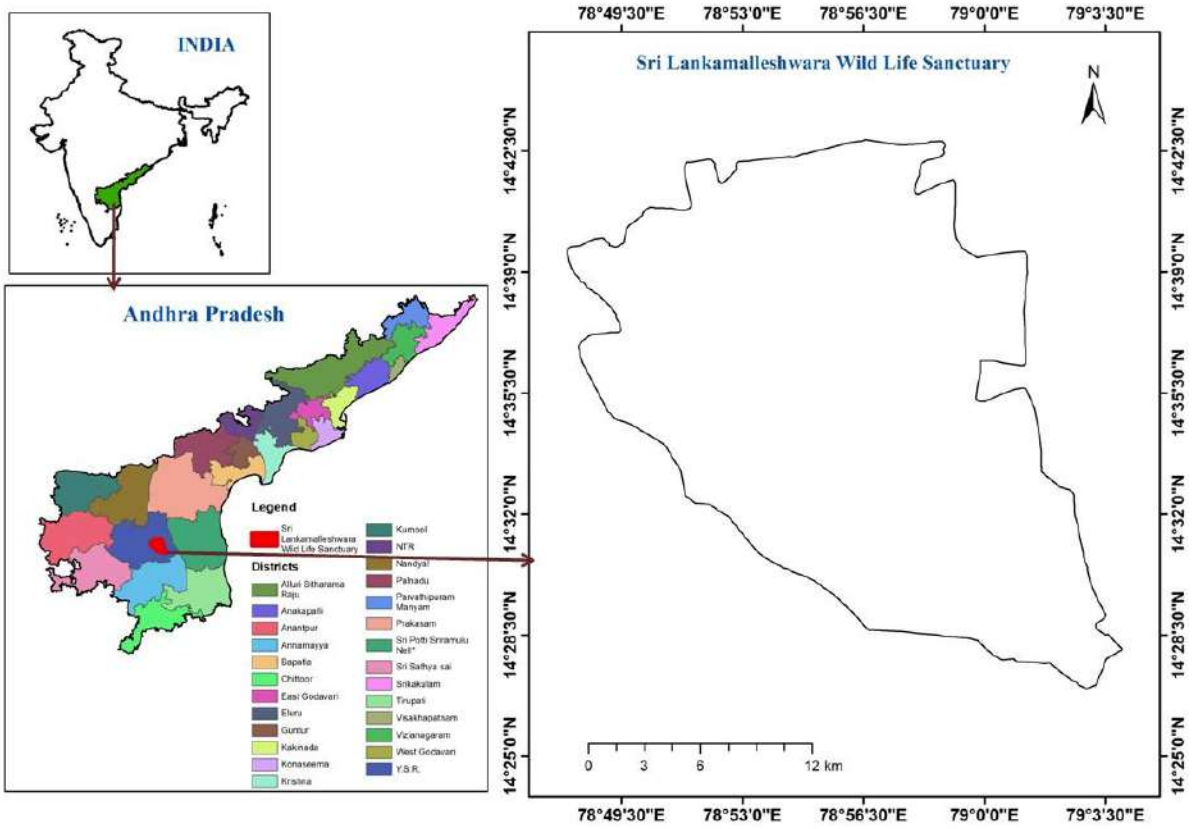


Fig.1. Sri Lankamalleswara Wild Life Sanctuary map

The total area of the Sri Lankamalleswara Wildlife Sanctuary, as officially recorded and notified, encompasses a substantial expanse of 464.442 square km or 46,442 hectares. This extensive area comprises diverse habitats, including rugged hills, dense forests, and pristine valleys, which provide essential ecosystems for a wide variety of flora and fauna.

| Sl. No. | Name of the Division | Name of the Range | Area of the sanctuary (in Ha) |
|---|---|---|---|
| 1 | Kadapa | Sidhout | 26392.75 |
| 2 | Kadapa | Badvel | 9786.00 |
| 3 | Kadapa | Proddatur | 10264.07 |
| **Total** | | | **46442.82** |

## Geology, Rocks and Soil:

*Kadapa Formation*: Located in the southeastern portion of SLWLS, the Kadapa Formation is characterized by its diverse composition. Predominantly made up of quartzites, which are metamorphosed sandstones, this formation also contains shales, fine-grained sedimentary rocks formed from mud or clay. Quartzites within this formation often exhibit hardness and resistance to weathering, forming prominent ridges and outcrops. Shales, on the other hand, may contain fossils and display fissility, the ability to split along planes, adding to the geological diversity of the area.

*Kurnool Formation*: In the southwestern part of the sanctuary near Khajipet lies the Kurnool Formation, distinguished by its varied rock types. Comprising quartzites, slates, and limestones, this formation offers a rich geological tapestry. Quartzites, metamorphic rocks primarily composed of quartz, may display a range of colors and textures, reflecting different mineral compositions and metamorphic conditions. Slates, known for their excellent cleavage and ability to split into thin, smooth sheets, contribute to the formation's geological complexity. Limestones, sedimentary rocks predominantly composed of calcium carbonate, may contain fossils and are susceptible to dissolution in acidic groundwater, adding further intrigue to the geological landscape.

*Gneiss or Crystalline Series*: The presence of granite and gneiss characterizes the Gneiss or Crystalline Series within the sanctuary. Granite, a coarse-grained igneous rock composed mainly of quartz, feldspar, and mica, is renowned for its resistance to weathering and erosion. It often forms rugged landscapes with exposed bedrock, shaping the terrain of the sanctuary. Gneiss, a metamorphic rock displaying banded appearance due to alternating layers of different minerals, adds to the geological diversity. With its foliated texture and potential inclusion of schist and amphibolite layers, gneiss contributes to the intricate geological mosaic of the area.

*Traps and Superficial Deposits*: Alluvium and pothist gravel constitute the Traps and Superficial Deposits within the sanctuary. Alluvium, comprising loose sediment deposited by rivers and streams, reflects the dynamic nature of fluvial processes shaping the landscape over time. Pothist gravel, possibly referring to gravel deposited by ancient river systems, offers clues to past geological events and environmental conditions. These deposits contribute to the geological history and geomorphological features of the sanctuary, enriching our understanding of its landscape evolution.

## Soils:

**Red Soil:** Along the bases of SLWLS, red soil dominates the landscape, characterized by its rich iron oxide content. Formed through the weathering of granite and other acidic rocks, red soil exhibits a distinctive reddish coloration. Despite its vibrant hue, red soil often lacks significant humus content, influencing its suitability for various plant species and agricultural practices.

**Mixed Soil:** Similar to red soil, mixed soil is prevalent along the bases of SLWLS. Comprising a blend of sand, silt, and clay, mixed soil exhibits diverse physical properties influenced by its parent material and local geological processes. This variability in composition contributes to the ecological diversity of the sanctuary, supporting a wide range of vegetation and habitats.

**Black Cotton Soil**: In the plains of the sanctuary, black cotton soil is found, characterized by its high clay content. Known for its dark coloration when moist, black cotton soil exhibits unique properties such as swelling and shrinking with changes in moisture levels. Despite its agricultural challenges, black cotton soil plays a crucial role in shaping the landscape and ecosystem dynamics of the sanctuary.

**Soil Profile:** The soil profile Of SLWLS reflects a diverse range of depths and consistencies. While approximately 56% of the area features very shallow soil (30 cm depth), the remaining 44% consists of medium to considerable depths (30 cm - 90 cm and above). Mixed and red soils predominate, covering 97% of the total area, followed by black soils occupying 3%. Soil consistency varies from friable to slightly compact and occasionally cemented, reflecting the complex interplay of geological processes and environmental factors shaping the sanctuary's soil scape.

**Texture:** The predominant soil texture in the SLWLS Hills sanctuary is red ferruginous loamy, covering approximately 72% of the area. This texture indicates a soil composition rich in iron oxide, contributing to its reddish coloration and loamy consistency.

## Terrain Characteristics:

**Topography:** The Lankamalai Hills form an unbroken, rugged, and steep range of hills. Originating north of Pennar, they extend in confused spurs towards the north until they abruptly rise into solid, imposing masses of hills. Near the plains, the hills dip, and the Mydukur – Badvel Road passes over a low spur of hills close to their base.

**Elevation:** The elevation within the sanctuary varies significantly. Approximately 2% of the total area lies at an elevation of 800 meters and above, while 18% falls within the range of 600 - 700 meters. A considerable portion, about 27%, is situated between 300 - 500 meters, and the majority, comprising 53%, is below 200 meters. Notable peaks include "Lankamalai" hill, the highest at 898 meters, along with Bangariahbodu (880 meters), Manikatava (818

meters), Talpuribodu (759 meters), and Bokkaratibodu (754 meters). The lowest point in the sanctuary is at 120 meters.

## Climate:

**Rainfall:** Lankamala Sanctuary falls within the dry regions of Peninsular India, experiencing diverse climatic conditions. The Southwest monsoon, prevalent from the second half of June to the first week of October, contributes to the major portion of the rainfall. This is followed by a short dry spell lasting about a month. The Northeast monsoon influences the sanctuary from November to the first half of December. The average annual rainfall is approximately 687 mm. Following the receding of the Northeast monsoon, the area experiences heavy dewfall during the winter months.

**Temperature:** The sanctuary exhibits high diurnal temperature variations throughout the year. Extreme climatic conditions are observed, with maximum temperatures reaching about 44°C during the summer months and minimum temperatures dropping to 20°C during winter nights. The hot period extends from March to May. Higher elevations and interior locations like Lankamala Temple, Kailasa Swamy Temple, Rolla Penta, and Nitya Pooja Swamy Temple offer a more temperate climate. In contrast, the plains and valleys of the sanctuary experience hot and dry conditions, while higher elevations are characterized by dry and cool climates.

## Seasonal Patterns:

1. Summer (March to Mid-June):
    - Characterized by increasing temperatures, with maximums ranging from 32°C to 44°C.
    - Prevalence of hot and dry conditions, leading to desiccation of vegetation and high evaporation rates.

2. Rainy Season (Mid June to Mid November):
    - Southwest monsoon onset occurs in the second half of June, lasting until mid-August, bringing relief from the heat.
    - Receding monsoon and increasing wind speeds contribute to temperature reduction.
    - Further temperature declines in September and October due to both receding Southwest monsoon and onset of Northeast monsoon.

3. Winter (Mid November to February end):
    - Cold weather sets in from the end of November until the middle of February.
    - Clear skies prevail from February to April, with winds blowing from the southwest.

## Humidity:

Relative humidity in the sanctuary varies from 60% to 80%, reaching up to 90% during rainy periods. The presence of high humidity during the monsoon season supports lush vegetation growth, while dry periods experience lower humidity levels.

## Wind Speeds:

Strong winds, with speeds ranging from 30 to 40 km/h, are prominent throughout most of the year, particularly between May and December. These winds, along with breezes, have a desiccating effect on vegetation and contribute to high soil moisture evaporation rates.

## Drought and Periodicity:

The southwest monsoon constitutes the primary source of rainfall, lasting from mid-June to September. Even in years with average rainfall (around 650mm), the sanctuary experiences dry conditions for approximately
8 months annually. However, inadequate monsoon rainfall can lead to drought conditions. During drought years, water scarcity affects both human communities and wildlife, necessitating the development of water harvesting structures to improve vegetation and wildlife habitat.

## Water Sources:

Streams: Numerous streams, both small and large, flow throughout the sanctuary, eventually joining the River Penna. Most streams remain dry throughout the year except during the monsoon season, when they may form pools.

Springs: Perennial springs are located at the origin of hill streams like Nithyapoojakona vanka, ulavakttaloya vanka, Manchirevulu vanka, Lankamalleswara vanka, Pasirevulu vanka and Bugga within the sanctuary, providing a continuous source of water.

Waterfalls: Within the Sri Lankamalleswara Wildlife Sanctuary several captivating waterfalls add to the natural beauty and allure of the sanctuary.

Here are some of the notable waterfalls found within SLWLS:

1. Pasupula Gundam waterfall, with a height of approximately 170 meters, is the highest waterfall within the sanctuary
2. Nithyapoojakona Waterfall
3. Kailaskona Waterfall
4. Gopalaswamy Waterfall
5. Lankamalleswara Waterfall
6. Kapartheeswarakona Waterfall

These waterfalls not only enhance the scenic charm of SLWLS but also contribute to the ecological diversity of the region, providing habitats for various species and serving as crucial water sources for wildlife.

Tanks: Historically constructed tanks and kunta (ponds) are scattered across the sanctuary, dating back to the Kakatiya, Vijayanagar, and Reddy Rajula periods. However, many of these structures are heavily silted and only hold water during the rainy season.

**Water Quality**: Freshwater sources within the sanctuary vary in quality. Hill streams typically contain minerals but are generally free of parasites. However, stagnant pools during summer and early monsoon can become breeding grounds for malarial mosquitoes. No studies have been conducted regarding pollution levels and their impacts on local flora and fauna, highlighting the need for further research and conservation efforts in this area.

The sanctuary's vegetation encompasses various forest types, each with its unique characteristics and ecological functions. The main mass of natural vegetation belongs to the dry mixed deciduous forest type, which exhibits significant diversity in terms of physiognomy, floristic composition, and dynamism influenced by environmental factors (Fig. 2).

These forests can be classified into different groups and sub-groups based on the Forest Types of India (Champion and Seth, 1968) classification system. The vegetation not only provides essential habitat for wildlife but also serves as a source of food, shelter, and nesting sites for various animal species.

Understanding the distribution and composition of forest types within the sanctuary is essential for assessing habitat quality, identifying critical wildlife corridors, and prioritizing conservation efforts. It enables conservationists and policymakers to develop effective management plans aimed at maintaining ecosystem health and preserving biodiversity.

**Group 5: Tropical Dry Deciduous Forests:**

- Subgroup 5-A: Southern Tropical Dry Deciduous Forests: This subgroup encompasses forests characterized by a mix of deciduous tree species adapted to drier climates (Fig. 2).
- C-3: Southern Dry Mixed Deciduous Forests: These forests consist of a blend of deciduous tree species, indicating a mix of both moisture- loving and drought-resistant species.
- C-2: Dry Red Sanders Bearing Forests: This subtype refers to forests where the Red Sanders (Pterocarpus santalinus) tree species, known for its valuable red heartwood, is prevalent.
- E-4: *Hardwickia* Forest: This forest type is dominated by the *Hardwickia binata* tree species, commonly known as Anjan, and is characteristic of drier regions (Fig. 2).


**Fig.2.** Vegetation types of Sri Lankamalleswara Wildlife Sanctuary, **A.** View of Dry Deciduous Forests; **B.** View of *Hardwickia* Forest; **C.** View of grassland.

**Group 6: Tropical Thorn Forests:**

- Subgroup 6-A: Southern Tropical Thorn Forests: These forests are characterized by the presence of thorny tree species adapted to arid and semi-arid conditions.
- C-1: Southern Thorn Forests: This subtype comprises forests dominated by thorny tree species, forming dense thickets.
- D.S.–1: Southern Thorn Scrub: These are scrublands dominated by thorny shrubs and bushes, typical of dry and rocky terrain.
- D.S.–2: Southern Euphorbia Scrub: This subtype refers to scrublands dominated by Euphorbia species, known for their succulent and spiny stems.

**Group 7 C-1: Tropical Dry Evergreen Forest:**

- II 5–A / C-3: South Indian Dry Mixed Deciduous Forest Type: This forest type represents a mix of deciduous tree species adapted to the drier conditions prevalent in southern India.

This diverse vegetation structure provides essential habitat and food sources for various wildlife species within the sanctuary.

## 2.2 Floristic survey and collection of plants:

Plant collections were made in the Sri Lankamalleswara Wildlife Sanctuary at regular intervals from Nov. 2022 to Nov., 2024. Field trips of 7 to 12 days duration were planned taking into consideration the flowering and fruiting seasons of the plants inhabiting the area. Four exhaustive botanical explorations were conducted during different seasons of the year. For each plant 2 voucher specimens were collected and duly tagged. In all 411 field numbers of plant specimens were collected during the above tours (Table 1.). Data on habit, habitat, locality, latitude, longitude, altitude and phenology were recorded in the field note book. Wet preservation technique was used for preserving the plants. For this method the preservative was prepared in the following ratio of Glacial acetic acid (5 c.c.), 40% Formaldehyde (10 c.c.) and Ethyl alcohol (85 c.c.). The collections were spread out in ordinary newspaper and bundled up. Each bundle is then placed in large polythene bag and this preservative is poured evenly over the bundles, so that bundles get soaked thoroughly, without however leaving excess preservative in the bags. The bags are then tied air tight. No further change is required. The bundle is then brought to headquarters and opened after 15 days or month and then the specimens are dried in blotters. Vegetative, floral and fruit characters were critically studied. Measurements were taken for leaves, flowers, fruits and seeds. Descriptions were written using herbarium and pickled specimens.

Specimens were initially identified using standard floras viz., Flora of Andhra Pradesh and Flora of presidency of Madras. For critical identification recent monographs, revisionary works and relevant research floras were consulted for determining correct identity of plants and updating nomenclature. Specimens were compared with authenticated specimens deposited in Herbarium of Botanical Survey of India, Deccan Regional Centre (BSID).

Details of local uses and critical field observations notes if any are also provided with descriptions.

**Table 1.** Details of tours conducted

| Sl. No. | Tour duration details | Field No's collected |
|---|---|---|
| **1.** | 23.09.2023 to 28.09.2023 | 107 field numbers |
| **2.** | 30.12.2023 to 04.01.2024 | 65 filed numbers |
| **3.** | 20.06.2024 to 26.06.2024 | 76 field numbers |
| **4.** | 29.09.2024 to 06.10. 2024. | 54 field numbers |
| **5.** | 02.12.2024 to 09.12.2024 | 109 field numbers |

*Note. This office received forest permission in June 2023.*

The floral wealth has been subsequently inventorised and documented. Keys for identification from family to infra-specific level have been provided. The nomenclature of all taxa is brought up-to-date in accordance with the ICN (2019-Shenzen Code). Documentation has been done following The Angiosperm Phylogeny Group (APG) IV system of classification (2016). Each taxon is provided short diagnostic description and phenological, ecological and distributional information, along with specimens studied. Local names of almost all species have been also given after taxonomic citation in parenthesis.

## 3. RESULTS

### 3.1. Floristic Analysis

The total indigenous and widely naturalised angiosperm flora of the sanctuary comprises about 226 species, belonging to 193 genera in 63 families (Table 2&4). Of these, 198 taxa are eudicots belonging to 165 genera and 53 families, and 25 taxa are Monocots belonging to 25 genera and 7 families, Magnolids are represented by 3 taxa belongs to 3 genera under 3 families respectively. Gymnosperms are completely lacking in the area; however, some species of ferns are found within the sanctuary, which are not taken into account in the present study.

**Table 2.** Statistical synopsis of the flora sanctuary

| Category | Families | | Genera | | Taxa | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| **Magnolids** | 3 | 4.8 | 3 | 1.6 | 3 | 1.3 |
| **Monocots** | 7 | 11.1 | 25 | 13.0 | 25 | 11.1 |
| **Eudicots** | 53 | 84.1 | 165 | 85.5 | 198 | 88.0 |
| **Total** | **63** | **100** | **193** | **100** | **226** | **100** |

The analysis revealed that Eudicots show maximum diversity from species level (87.6%) to family level (84.1%). Monocots are represented by 25 genera and 25 species of monocots. The family Fabaceae is the dominant family with 27 genera and 29 species followed by Poaceae with 16 genera and 16 species, Apocynaceae with 12 genera and 13 species, Rubiaceae with 10 genera and 12 species and Malvaceae with 9 genera and 13 species (Table 3).

**Table 3.** Ten dominant families of sanctuary with ten or more species

| Position No. | Family | No. of genera | No. of species |
|---|---|---|---|
| **1** | Fabaceae | 27 | 29 |
| **2** | Poaceae | 16 | 16 |
| **3** | Apocynaceae | 12 | 13 |
| **4** | Rubiaceae | 10 | 12 |
| **5** | Malvaceae | 9 | 13 |
| **6** | Lamiaceae | 9 | 10 |
| **7** | Acanthaceae | 8 | 17 |
| **8** | Euphorbiaceae | 8 | 8 |
| **9** | Asteraceae | 7 | 8 |
| **10** | Rutaceae | 6 | 6 |

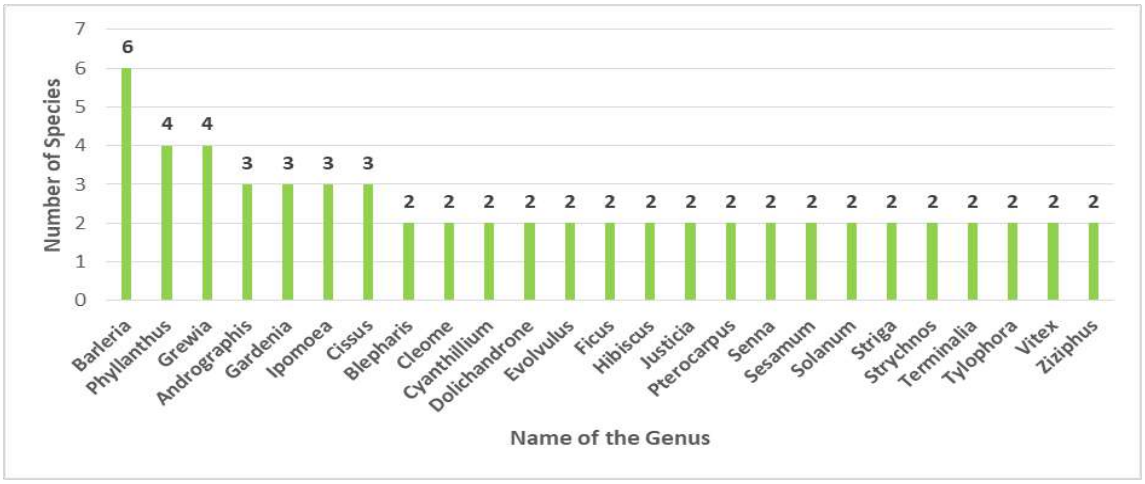


**Fig. 3.** Ten dominant genera in sanctuary

*Barleria* is the most species rich genus represented by 06 species, followed by *Grewia* and *phyllanthus* by 04 species, *Andrographis*, *Gardenia*, *Ipomoea*, *Cissus* with 03 species each, 18 genera by 02 species each (Fig. 3).

## 3.2 Endemic taxa of Sri Lankamalleswara WLS:

Sri Lankamalleswara Wildlife Sanctuary is home to a rich variety of flora, many of which are endemic to the region. The unique climate and terrain of the sanctuary provide an ideal habitat for these species. Below is a list of some notable endemic flora found in SLWLS. *Andrographis glandulosa, Andrographis nallamalayana, Barleria Montana, Barleria stocksii, Boswellia ovalifoliolata, Brachystelma ciliatum, Brachystelma pullaiahii, Croton scabiosus, Decaschistia kadapaensis, Eriolaena lushingtonii, Meyenia hawtayneana, Pterocarpus santalinus, Rhynchosia heynei.*


## 3.3 threatened taxa of Sri Lankamalleswara WLS:

This sanctuary, situated in the Eastern Ghats, harbors a remarkable floral diversity due to favorable edaphic conditions, diverse habitats and altitudinal variations. It is a home for several endemic and threatened species, including Red Sandal (*Pterocarpus santalinus*- EN), *Decalepis hamiltonii*- EN, *Syzygium alternifolium*-EN and *Boswellia ovalifoliolata*-VU.

However, recent years have witnessed a decline in the sanctuary's flora due to environmental degradation, such as forest fires and habitat destruction. Effective conservation efforts within SLWLS must prioritize the protection of these endemic plant taxa. This requires a multi-faceted approach encompassing strict enforcement against illegal logging and smuggling of species such as *P. santalinus*, strengthening community engagement to promote sustainable forest management practices, and conducting rigorous scientific research on the ecology and conservation requirements of these endemic and threatened species.

Significantly, the survey highlights the sanctuary's crucial role in conserving unique biodiversity, confirming the presence of several endemic and threatened plant species. Notable among these are Red Sanders (*Pterocarpus santalinus*), a highly valuable and exploited timber species endemic to the region. Red Sanders, a highly valuable timber species endemic to the Rayalaseema Region, faces severe threats from illegal logging and smuggling, driven by its high market demand. Conservation efforts must focus on stringent law enforcement, intelligence gathering to disrupt smuggling networks, and community engagement to promote sustainable forest management practices. Moreover, in-depth research into Red Sanders' ecological requirements, regeneration dynamics, and genetic diversity is imperative for informing conservation actions aimed at ensuring its long-term viability.

*Decalepis hamiltonii* (known for its medicinal roots), and *Boswellia ovalifoliolata* (a source of aromatic resin). The occurrence of these ecologically and economically important, yet vulnerable, species strongly emphasizes the critical need for continued and robust conservation efforts within the Sri Lankamalleswara Wildlife Sanctuary to protect its valuable floristic heritage.

## 4. Systematic Enumeration of Taxa

### Artificial key to the families

1a. Leaves usually with parallel venation; cotyledon 1; flowers usually 3-merous; vascular bundles in stem scattered and closed **5**
b. Leaves usually with reticulate venation; cotyledons 2; flowers 4 or 5- and rarely 3-merous; vascular bundles of the stem arranged in ring **2**

2a. Plants always terrestrial; leaves always simple large, net veined; flowers with parts in multiples of three (petals, sepals, stamens) **3**
b. Plants aquatic or terrestrial; leaves either large, scaly or filiform, net veined or reticulate, simple or compound; flowers with parts in multiples of four or five **12**

3a. Autophytes **4**
b. Parasites **Lauraceae**

4a. Calyx modified into utricle structure, plants herbaceous **Aristolochiaceae**
b. Calyx not as above, plants woody tree **Annonaceae**

5a. Flowers in spikelets with bristly or scaly perianth; ovary 1-celled **6**
b. Flowers not in spikelets; ovary 1-many-celled **7**

6a. Culms with nodes and internodes; leaves with open sheaths; florets usually subtended by lemma and palea; fruit a caryopsis **Poaceae**

b. Culms without nodes and internodes; leaves with open sheaths; florets not subtended by lemma and palea; fruit an achene **Cyperaceae**

7a. Plants aquatic, marshy or riparian **8**
b. Plants terrestrial or epiphytic **9**

8a. Leaves cauline (on the stem), not fleshy; flowers bisexual, often blue or purple **Commelinaceae**

b. Leaves basal or cauline, sometimes climbing; flowers often unisexual; stamens 6 **Dioscoreaceae**

9a. Leaves compound; flowers enclosed in spathe-like bracts **Arecaceae**

b. Leaves simple, if compound then flowers not enclosed in spathe-like bracts **10**

10a. Ovary superior **11**
b. Ovary inferior **Dioscoreaceae**

11a. Plants cormatous **Colchicaceae**
b. Plants not cormatous **Asparagaceae**

12a. Plants usually autotrophic; flowers polypetalous or apetalous (except Cucurbitacecae); flowers usually actinomorphic (except Cleomaceae, Fabaceae, Malvaceae and Violaceae); plants usually monoecious, if dioecious plants with lobed leaves and milky latex **13**

b. Plants autotrophic, heterotrophic or insectivores; flowers either Polypetalous, gamopetalous or apetalous; flowers actinomorphic sometime zygomorphic if perianth fused; plants monoecious if dioecious petals fused and plants without milky latex **40**

13a. Fruit a legume or lomentum **Fabaceae**
b. Fruits otherwise **14**

14a. Ovary inferior **15**
b. Ovary superior **16**

15a. Flowers unisexual **Cucurbitaceae**
b. Flowers bisexual **Myrtaceae**

16a. Flowers dichlamydeous (with bothsepals and petals) **17**
b. Flowers achlamydeous or monochlamydeous **36**

17a. Thalamus prominent **18**
b. Thalamus absent **24**

18a. Flowers unisexual **Menispermaceae**
b. Flowers bisexual **19**

19a. Carpels free **Ranunculaceae**
b. Carpels united **20**

20a. Placentation parietal **21**
b. Placentation otherwise **23**

21a. Plant an herb **22**
b. Plants other than herbs **Capparaceae**
22a. Anthers connectives appendaged **Violaceae**
b. Anthers connectives not appendaged **Cleomaceae**

| | |
|---|---|
| 23a. Anthers monothecous | **Malvaceae** |
| b. Anthers dithecous | **Polygalaceae** |
| 24a. Disc present below the ovary | **25** |
| b. Disc not present below the ovary | **34** |
| 25a. Leaves and floral parts gland-dotted | **Rutaceae** |
| b. Leaves and floral parts not gland-dotted | **26** |
| 26a. Androecium obdiplostemonous or diplostemonous | **27** |
| b. Androecium haplostemonous | **32** |
| 27a. Petals with a ligule or scale at base | **28** |
| b. Petals without a ligule or scale at base | **29** |
| 28a. Leaves simple; petals with a ligule or scale at base | **Erythroxylaceae** |
| b. Leaves compound or ternate; petals with a ligule or scale at base | **Sapindaceae** |
| 29a. Stamens obdiplostemonous | **30** |
| b. Stamens diplostemonous | **31** |
| 30a. Leaves often compound | **Oxalidaceae** |
| b. Leaves simple | **Ochnaceae** |
| 31a. Staminal tube present | **Meliaceae** |
| b. Staminal tube absent | **Burseraceae** |
| 32a. Climber or scandent shrubs | **33** |
| b. Plant a tree | **Anacardiaceae** |
| 33a. Stamens antipetalous | **Rhamnaceae** |
| b. Stamens alternipetalous | **Celastraceae** |
| 34a. Placentation parietal | **Passifloraceae** |
| b. Placentation otherwise | **35** |
| 35a. Plants tendrillar; fruit a berry | **Vitaceae** |
| b. Plants non-tendrillar; fruits otherwise | **Combretaceae** |
| 36a. Stems furrowed or winged | **Cannabaceae** |
| b. Stems neither furrowed nor winged | **37** |
| 37a. Ovary usually 3-locular | **38** |
| b. Ovary 1-2 locular | **39** |

38a. Cells of ovary 1-ovuled **Euphorbiaceae**
b. Cells of ovary 2-ovuled; leaves stipulate **Phyllanthaceae**

39a. Inflorescence a syconium **Moraceae**
b. Inflorescence other than a syconium **Urticaceae**

40a. Plants without true roots, stems, or leaves, usually parasitic on roots of other plants; flowers often fleshy or highly modified **Orobanchaceae**
b. Plants with true roots, stems, and leaves; typically autotrophic, or if parasitic, then with discernible stems and leaves **41**

50a. Ovary inferior **42**
b. Ovary superior **48**

42a. Anthers syngenesious; flowers typically arranged in a capitulum surrounded by involucral bracts; fruit a cypsela **Asteraceae**
b. Anthers free or united in other ways, but not syngenesious; flowers not in capitula as above **43**

43a. Plants often stem or root parasites, often on woody hosts; leaves usually alternate, sometimes reduced to scales **Santalaceae**
b. Plants autotrophic **44**

44a. Leaves stipulate; stipules often interpetiolar **Rubiaceae**
b. Leaves exstipulate **45**

45a. Plants succulent, stems usually fleshy and often armed with spines; flowers often showy **Cactaceae**
b. Plants not succulent; stems not fleshy or spiny **46**

46a. Leaves simple, usually alternate; flowers often large, with numerous stamens often fused at the base into a ring or forming a hood-like structure; fruit often a large, woody circumscissile capsule **Lecythidaceae**
b. Leaves simple, usually opposite or whorled; flowers regular, petals free or fused; fruit a drupe or berry **47**

47a. Petals usually 4, distinct; leaves simple, entire, often opposite; flowers small, usually in cymes or panicles; fruit a drupe **Cornaceae**
b. Petals fused; milky latex often present; stamens often numerous and connate; fruit a berry with persistent calyx **Sapotaceae**

48a. Flowers with petals free **49**
b. Flowers with petals united (sympetalous or gamopetalous) **53**

49a. Plants often succulent herbs; sepals typically 2; placentation free-central; fruit usually a circumscissile capsule (pyxis) **Portulacaceae**
b. Plants not succulent herbs; sepals usually more than 2, or if 2, then placentation not free-central **50**

50a. Leaves usually stipulate; stipules often scarious (dry, membranous); flowers small, often in cymose clusters; fruit a capsule or utricle **Molluginaceae**
b. Leaves exstipulate or stipules not scarious **51**

51a. Herbs; leaves opposite, usually entire; stems often swollen at the nodes; petals typically 5, often notched or bifid; fruit a capsule **Caryophyllaceae**
b. Trees or shrubs; leaves alternate or opposite **52**

52a. Trees or shrubs; leaves alternate, simple; flowers regular, typically small; stamens typically 4-5, free; ovary superior, often 1-locular with 1-3 pendulous ovules; fruit a drupe **Olacaceae**
b. Trees or shrubs; leaves alternate, simple, exstipulate; flowers regular or irregular, petals usually 5; stamens various; ovary 1-5 celled, often with 1-2 seeds per locule; fruit a berry or drupe **Ebenaceae**

53a. Milky latex usually present; stamens usually 5, free or fused to stigma head; carpels often 2 and free at base, united by style or stigma; fruit typically a pair of follicles, or a berry, or a drupe **Apocynaceae**
b. Milky latex absent (or if present, not combined with other characters as above) **54**

54a. Ovary of 2 carpels, free at base but united at the stigma, style terminal **Loganiaceae**
b. Ovary and style otherwise **55**

55a. Flowers strongly zygomorphic; stamens didynamous (2 long, 2 short) or 2; seeds often borne on hardened, hook-like structures in the capsule **Acanthaceae**
b. Flowers actinomorphic or zygomorphic; stamens and seeds otherwise **56**

56a. Fruit of 4 distinct nutlets or a drupe, style often gynobasic **Lamiaceae**
b. Fruit a capsule, berry, or drupe; style terminal **57**

57a. Leaves often alternate; flowers actinomorphic; stamens usually 5, epipetalous; fruit a berry or capsule; placentation axile **Solanaceae**
b. Leaves opposite or alternate; flowers actinomorphic or zygomorphic; stamens and fruit otherwise **58**

58a. Leaves alternate; stems often twining or climbing; flowers actinomorphic, funnel-shaped or campanulate; fruit a capsule or berry **Convolvulaceae**
b. Leaves usually opposite, sometimes whorled; flowers often zygomorphic; fruit a drupe, capsule, or schizocarp **59**

59a. Inflorescence often spicate (spikes) or racemose; fruit a drupe or berry, rarely a capsule; calyx persistent **Verbenaceae**
b. Inflorescence and fruit otherwise **60**

60a. Leaves usually compound; flowers often large and showy, zygomorphic; fruit typically a large, elongated capsule **Bignoniaceae**
b. Leaves simple; flowers often actinomorphic; fruit a capsule or nutlets **61**

61a. Plants often herbaceous; leaves usually alternate, entire; flowers actinomorphic; perianth scarious, often brightly colored; fruit a utricle or pyxis **Amaranthaceae**
b. Plants herbaceous or woody; leaves usually opposite; flowers zygomorphic; fruit typically a capsule with hooks or spines, or a nutlet **62**

62a. Fruits with hooks or spines, often glandular; ovules few per locule; placentation parietal or axile **Pedaliaceae**
b. Fruits smooth nutlets or drupes; leaves often rough-hairy (strigose); flowers often in scorpioid cymes **Boraginaceae**

## Systematic Enumeration of Taxa

## MAGNOLIDS

### ARISTOLOCHIACEAE

**Aristolochia** L.

**Aristolochia indica** L., Sp. Pl. 960. 1753. **(Plate -1A)**

Twining shrub. Leaves very variable, oblong to oblong-obovate, 2-6 cm long, base truncate to subcordate, apex obtuse. Racemes axillary or terminal, 8-15 flowered. Flowers dark purple, rolled back. Capsules oblong. Seeds oblong, obtuse, laterally winged.

*Flowering & Fruiting*: September – April.
*Distribution*: Occasional in open forest areas.
*Specimens examined*: Savarla bavi, *M. Sankarar Rao & P. Harikrishna* 15056 (BSID).

### ANNONACEAE

**Huberantha** Chaowasku

**Huberantha cerasoides** (Roxb.) Chaowasku, Kew Bull. 70(2)-23: 2. 2015. *Polyalthia cerasoides* (Roxb.) Bedd., Fl. Sylv. S. India: t. 1.1870. '*Gutti'* **(Plate -1B)**

Small tree, with spreading branches. Leaves lanceolate, oblong to lanceolate or elliptic, upper surface glabrous, pubescent beneath, obtuse at base, entire along margins, acute or acuminate at apex, nerves ascending. Flowers green, solitary on tubercles of the trunk. Ripe carpels in umbels, slender stalked, bright red, globose.

*Flowering & Fruiting*: May - August.
*Distribution*: Occasional in forests.
*Specimens examined*: Hanuman shela, *M. Sankarar Rao & P. Harikrishna* 14405 (BSID).

## LAURACEAE

### **Cassytha** Osbeck

**Cassytha filiformis** L., Sp. Pl. 35. 1753. '*Sitammavari jadalu, Antaravalli'.* **(Plate -1C)**

A wiry leafless parasite. Stem dark green, filiform. Inflorescences in axillary spikes. Flowers small, yellow. Fruit globose, enclosed in fleshy perianth tube.

*Flowering & Fruiting*: December-May.
*Distribution*: Occasional in open forests and scrublands.
*Specimens examined*: Devara Kona, *M. Sankarar Rao & P. Harikrishna* 15002 (BSID).

## MONOCOTS

## COLCHICACEAE

### **Gloriosa** L.

**Gloriosa superba** L., Sp. Pl. 305. 1753. **(Plate -1D)**

Perennial slender twiner. Leaves spiral, opposite, or whorled, oblong-lanceolate, sessile, 5-12 × 1-3 cm, flat, mid nerve prominent, chartaceous, glabrous, cordate, amplexicaul, entire, acuminate, tendrilled. Flowers scarlet red to yellow orange, solitary, axillary. Capsule ellipsoid-oblong.

*Flowering & Fruiting*: August – December.
*Distribution*: Common along the roads of open forests.
*Specimens examined*: Bangla bavi rollabodu base camp, *M. Sankarar Rao & P. Harikrishna* 15045 (BSID).

## DIOSCOREACEAE

### **Dioscorea** Plum. ex L.

**Dioscorea oppositifolia** L., Sp. Pl.: 1033. 1753.

Climbing shrub, upto 5 m. Leaves oblong-elliptic, base rounded, acute at apex slightly 3-nerved. Male inflorescences in axillary spikes, shortly peduncled, puberulous. Capsules winged, suborbicular, retuse at apex.

*Flowering & Fruiting*: September-April.
*Distribution*: Occasional in forest edges.
*Specimens examined*: On way to Lankamalleshwara Temple, *M. Sankarar Rao & P. Harikrishna* 13910(BSID).

## ASPARAGACEAE

### Key to the Genera

1a. Leaves minute, often spinescent scales, bearing needle like or flattened cladodes **Asparagus**

b. Leaves well developed **2**

2a. Undershrubs; leaves thick and leathery **Dracaena**

b. Herbs without distinct above-ground stems **3**

3a. Rootstock small, with fleshy or tuberous roots **Chlorophytum**

b. Rootstock a bulb or corm **Ledebouria**

**Asparagus** Tourn. ex L.

**Asparagus racemosus** Willd., Sp. Pl., ed. 4. 2: 152. 1799. '*Pilli teegalu'.* **(Plate -1E)**.

Thorny climbing shrub. Spines erect, 0.3-2 cm, leaves scaly, triangular, 4-6 mm, stiff acuminate. Cladodes 2-6, linear, 6-8 – 2 × 0.5-0.7 cm, base narrow, entire, apex acuminate. Raceme solitary or 3 in a cluster, 3-6 cm. Peduncle much reduced. Flowers white, fragrant, anthers black. Berry globose, ripening red.

*Flowering & Fruiting*: July – October.
*Distribution*: Occasional along the edges of forests.
*Specimens examined*: Bayanna palle, near Darga, *M. Sankarar Rao & P. Harikrishna* 13887 (BSID).

**Chlorophytum** Ker Gawl.

**Chlorophytum tuberosum** (Roxb.) Baker, J. Linn. Soc., Bot. 15: 332. 1876.

Small tuberous herb. Leaves ensiform, 15-20 × 1.5-2.5 cm, flat, coriaceous, base narrow, suberulous, apex gradually tapering, acuminate. Scape solitary, racemes to 25 cm. Pedicels 1-3 in a cluster, jointed at or below middle. Flowers white, 2.5 cm across. Capsule oblong, 1.5 × 1 cm, triquetrous, nerved, glabrous.

*Flowering & Fruiting*: September – November.
*Distribution*: Rare in forests.
*Specimens examined*: Mamileru, *M. Sankarar Rao & P. Harikrishna* 14427 (BSID).

**Dracaena** Vand. ex L.

**Dracaena roxburghiana** (Schult. & Schult.f.) Byng & Christenh., Global Fl. 4: 66. 2018. *Sansevieria roxburghiana* Schult. & Schult.f., J.J.Roemer & J.A.Schultes, Syst. Veg., ed. 15[bis]. 7: 357. 1829. *'Nela kithala, Yerra jaga*'.

Small herb with stout creeping root stout. Leaves basal, rigid, sheathing, thick, with spine like tapering tip. Flowers pale-green, scapes solitary; bracts membranous. Ovary

superior, erect, style filiform; stigma simple. Berries globose, yellow when ripe; seeds1-3, large, fleshy, ripening-outside the pericarp.

*Flowering & Fruiting*: January-April.
*Distribution*: Occasional in open rocky crevices.
*Specimens examined*: Dornala, *M. Sankarar Rao & P. Harikrishna* 14411 (BSID).

**Ledebouria** Roth

**Ledebouria revoluta** (L.f.) Jessop, J. S. African Bot. 36: 255.1970. '*Adavi tellagadda'.*
**(Plate -1F)**

Small herb. Bulb globose, tunicate, apex narrowing into a short neck. Leaves radical, 4.5-15 × 2-4 cm, lorate, chartaceous, 9-12 nerved, inter connected by cross nerves, with purplish blotches, base gradually attenuate and sheathing. Scapes 1-5; racemes 5-12 cm, 30-60 flowered. Flowers pinkish green. Capsule globose, loculicidal, thin walled.

*Flowering & Fruiting*: July – December.
*Distribution*: Occasional in forests.
*Specimens examined*: Dornala hill top, *M. Sankarar Rao & P. Harikrishna* 14414 (BSID).

**ARECACEAE**
**Phoenix** L.

**Phoenix loureiroi** Kunth, Enum. Pl. 3: 257. 1841.

Shrubs. Trunks up to 2 m. Leaves 2.5 m long; leaflets 15-30 leaves to 2.5 m long leaflets 15-30 × 0.8-1 cm, base narrow, apex acuminate, spinous. Flowers unisexual, pale-yellow, in spikes, in interfoliar, several, branched spadices. Male flowers-calyx cupular, 3-lobed. Petals 3, oblong, imbricate. Drupe oblong-ellipsoid, pericarp more or less fleshy, green through red to purple.

*Flowering & Fruiting*: March-June.
*Distribution*: Occasional in palins and rocky exposed hills.
*Specimens examined*: Dabbudu banda rasta, *M. Sankarar Rao & P. Harikrishna* 15066 (BSID).

**COMMELINACEAE**
**Cyanotis** D.Don

**Cyanotis tuberosa** (Roxb.) Schult. & Schult.f., J.J.Roemer & J.A.Schultes, Syst. Veg., ed. 15[bis]. 7: 1153. 1830.

Small tuberous herb. Branchlets softy villous; roots tuberous. Basal leaves oblong, 10-30 × 1-2 cm; upper ones linar-ensiform, to 3 × 1 cm, chartaceous, base obtuse, apex subacute. Cymes terminal and axillary to 2 cm, corymbose. Flowers purple. Capsule to 2.5 mm. Seeds ca. 6, obsurely rugose.

*Flowering & Fruiting*: August-March.
*Distribution*: Occasional in open forests and rocky crevices.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13825 (BSID).

**Murdannia** Royle

**Murdannia nudiflora** (L.) Brenan, Kew Bull. 7: 189. 1952.

Decumbent herbs. Roots fibrous. Leaves linear or linear-lanceolate, 3-8 × 0.3-0.5 cm, chartaceious, base obtuse, apex tapering, acuminate. Cymes subcorymbose, lax to 2 cm. Capsule subglobose, glabrous. Seed 2 per cell, deeply pitted.

*Flowering & Fruiting*: July –December.
*Distribution*: Occasional on the thin layer of soil by exposed rocks.
*Specimens examined*: Devara Kona rasta, *M. Sankarar Rao & P. Harikrishna* 15004 (BSID).

## CYPERACEAE

**Abildgaardia** Vahl

**Abildgaardia ovata** (Burm.f.) Kral, Sida 4: 72. 1971. *Fimbristylis ovata* (Burm. f.) Kern., Blumea 15: 126. 1967.

Small densely tufted herb, up to 40 cm high. Leaves filiform, crowed at base, 0.5-1 mm wide, apex acute. Involucral bracts glume like, linear-lanceolate. Inflorescence 1-2 spikeleted; spikelets terete, 5-8 mm. Glumes basally distichous, apically spiral. Nut obovoid, trigonous to 2mm, glossy, tubercled.

*Flowering & Fruiting*: December-March.
*Distribution*: Occasional in marshy forest floors and grasslands.
*Specimens examined*: Bayanna palle, on the way to Darga, *M. Sankarar Rao & P. Harikrishna* 13895 (BSID).

## POACEAE

### Key to the genera

1a. Spikelets with 1 to many-flowered, breaking up at maturity above the persistent glumes, or if falling entire then not 2-flowered. Spikelets laterally compressed or terete **2**
b. Spikelets 2-flowered, falling entire at maturity, with upper floret bisexual and lower one male or barren, the latter often much reduced. Spikelets dorsally compressed **7**

2a. Spikelets with 2 or more fertile florets, or if with one fertile floret then with sterile reduced floret above it **3**
b. Spikelets with one fertile floret, with or without one or two male or barren florets below it **6**

3a. Inflorescence of panicles, if racemes or spikes, then the spikelets not secund **4**
b. Inflorescence a raceme or panicle of racemes; the spikelets secund. **5**

4a. Spikelets in open, contracted or spike-like panicles or solitary, secund spikes or in globose dense clusters **Eragrostiella**
b. Spikelets in digitate or racemosely arranged spikes or spike-like racemes, or in solitary spike, but not second **Acrachne**

5a. Spikelets sunken into the thick tough rachis **Oropetium**
b. Spikelets not sunken in a thick rachis **Enteropogon**

6a. Spikelets not falling entire, if falling entire, then with firmly membranous to coriaceous, awned or 5-nerved lemmas **Aristida**
b. Spikelets falling entire at maturity, either singly or in clusters from the axis of slender spike-like panicle or raceme; lemmas delicate, 1 to 3-nerved. **Perotis**

7a. Spikelets solitary, if paired, then the spikelets all alike. Glumes membranous; the lower mostly smaller or sometimes suppressed. Lower lemma resembling the upper glume in texture; upper one papery to very tough and rigid, awnless **8**
b. Spikelets paired, with one sessile and other pedicelled, if solitary, then all alike. Glumes of equal size, as long as the spikelet and enclosing the floret, rigid. Lower lemma hyaline or membranous lemmas not resembling upper glume; upper one with a geniculate awn **Oplismenus**

8a. Spikelets with an involucre of bristles or subtended by a solitary bristle and falling with or without the bristles at maturity **Setaria**
b. Spikelets not subtended by bristles, or if so, then the bristles persisting after the spikelets have fallen **9**

9a. Sessile spikelets with a male and a hermaphrodite florets; upper lemma mostly awned **10**
b. Sessile spikelets with a hermaphrodite floret only or occasionally with a male floret below; upper lemma awnless **Hackelochloa**

10a. Joints of rachis and pedicels of the pedicelled spikelet swollen, 3-angled, rounded or flattened **11**
b. Joints of the rachis and the pedicels narrow, seldom thickened upwards, occasionally with a translucent longitudinal groove **12**

11a. Racemes 1-noded, reduced to three hermaphrodite spikelets, enclosed in a boat-shaped spathe **Apluda**
b. Racemes many-noded, not enclosed in a spathe-like sheath **Sehima**

12a. Inflorescence a terminal raceme **Sehima**
b. Inflorescence a panicle of racemes **13**

13a. Spikelets in racemes are not interrupted by spathes or solitary at the ends of branches; the racemes collected into whorled panicle. Joints and pedicels not furrowed. **Chrysopogon**

b. Panicle of racemes are interrupted by spathes, or the espatheate racemes digitate or in pairs or solitary and terminal, sometimes the joints and/or pedicels with a translucent median furrow **14**

14a. Margins of the lower glume of the sessile spikelets sharply infolded, 2-keeled; awn glabrous **15**

b. Margins of the lower glumes inturned and rounded at the sides, at the most keeled upwards; awns hairy **16**

15a. Joints and pedicel with a translucent longitudinal furrow **Bothriochloa**

b. Joints and pedicel without a translucent longitudinal furrow **Cymbopogon**

16a. Racemes surrounded at the base by an involucre **Themeda**

b. Racemes without an involucre **Heteropogon**

**Acrachne** Wight & Arn. ex Chiov.

**Acrachne racemosa** (Heyne) Ohwi, Bull. Tokyo Sci. Mus. 18: 1.1947.

An annuall tufted herb. Culms erect, upto 60 cm tall. Leaves 12-30 × 0.5-1.5 cm, lanceolate, base semi-amplexicaul, apex acuminate. Spiciform racemes 20 cm long, whorled or scattered Spikelets 6-20 flowered, closely overlapping, whitish-green or brownish. Caryopsis oblong, rugose, grooved.

*Flowering & Fruiting*: July - December.
*Distribution*: Occasional in near streams and wet areas.
*Specimens examined*: Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13853 (BSID).

**Apluda** L.

**Apluda mutica** L., Sp. Pl. 92. 1753. **(Plate -1G)**

Tufted, perennial herb, to 1.5 m high. Leaf sheath glabrous, margins ciliate; ligule oblong, membranous; leaf blades elliptic-linear, acuminate at apex, sparsely pilose. Inflorescences in terminal panicles, decumbent; racemes solitary in each spatheole. Spikelets sessile, enclosed in boat shaped spathe. Caryopsis ellipsoid.

*Flowering & Fruiting*: August-May.
*Distribution*: Common in forests.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13871 (BSID). near Sri Lankamalleswara Temple, *M. Sankarar Rao & P. Harikrishna* 13927 (BSID).

## **Aristida** L.

**Aristida setacea** Retz., Observ. Bot. 4: 22. 1786. '*Cheepuru gaddi*'

Perennial herb, up to 1.2 m high. Leaf-blades oblong, glabrous, entire and convolute, acuminate. Infloresacences in contacted panicles, up to 30 cm. Spikelets grayish, 1.4 cm long. Caryopsis fusiform.

*Flowering & Fruiting*: September-March.
*Distribution*: Occasional in open forests and scrub.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13871(BSID), near Sri Lankamalleswara Temple, *M. Sankarar Rao & P. Harikrishna* 13927 (BSID).

## **Bothriochloa** Kuntze

**Bothriochloa pertusa** (L.) A.Camus, Ann. Soc. Linn. Lyon, n.s., 76: 164. 1931.

Perennial, tufted, erect herb. Leaf, narrowly linear, crowded at base, glabrous or sparsely pilose. Inflorescences in racemes, digitately fascicled, purplish. Caryopsis oblong.

*Flowering & Fruiting*: July – January.
*Distribution*: Occasional in open forests, in plains and hilly areas.
*Specimens examined*: Boring area-Lothuvanka beat, *M. Sankarar Rao & P. Harikrishna* 15113 (BSID).

## **Chrysopogon** Trin.

**Chrysopogon fulvus** (Spreng.) Chiov., Fl. Somala 1: 327. 1929.

A perennial, tufted herb. Culms upto 60 cm; nodes glabrous. Leaf sheaths keeled; ligule membranous, ciliate; leaf blades linear. Inflorescence terminal panicle, with numerous triads of spikelets, one sessile, two pedicelled.

*Flowering & Fruiting*: September – January.
*Distribution*: Occasional in open forests, in plains and hilly tracts.
*Specimens examined*: Bayanna palle, on the way to Darga, *M. Sankarar Rao & P. Harikrishna* 13884(BSID), Ragi manu danulu-Khajipet, *M. Sankarar Rao & P. Harikrishna* 13960(BSID), Loddibanda, *M. Sankarar Rao & P. Harikrishna* 14469(BSID), Near Venugopala Swamy temple forest area, *M. Sankarar Rao & P. Harikrishna* 15096 (BSID).

## **Cymbopogon** Spreng.

**Cymbopogon martini** (Roxb.) Will.Watson, E.T.Atkinson, Gaz. N. W. Ind. 10: 392. 1882.

A perennial, tufted, herb. Culms upto 2 m tall, straw-coloured, glabrous. Leaf sheaths flat, linear-lanceolate, base cordate, apex acuminate. Panicle upto 25 cm long. Spikelets 2-nate. Sessile spikelet, bisexual, oblong, 4 mm long; lower glume chartaceous, 2-keeled,

slightlybidentate; upper glume boat-shaped, 1-keeled, ciliate; lower lemma narrowlanceolate, ciliate; upper lemma narrow, deeply bidentate, awned, epaleate; stamens 3; stigmas plumose. Pedicelled spikelet, male or barren, oblong.

*Flowering & Fruiting*: August - February.
*Distribution*: Occasional in forests.
*Specimens examined*: Bayanna palle, on the way to Darga, *M. Sankarar Rao & P. Harikrishna* 13900(BSID), Venugopala swami temple forest area, *M. Sankarar Rao & P. Harikrishna* 15076 (BSID).

**Enteropogon** Nees

**Enteropogon dolichostachyus** (Lag.) Keng, Clav. Gen. Sp. Gram. Prim. Sin.: 197. 1957. *Chloris dolichostachya* Lag., Gen. Sp. Pl.: 5. 1816.

A perennial, tufted herb. Culms up to1.5 m tall, rooting at base; nodes glabrous. Leaf sheaths 3-7 cm long, sparsely hairy; ligule obscure; blades 18 × 0.7 cm, scabrid; midrib prominent; base narrow, margin scaberulous, apex acuminate. Inflorescences in terminal spikes, digitate, drooping. Spikelets oblong, narrow, 2-flowered, 2-awned.

*Flowering & Fruiting*: June – December.
*Distribution*: Occasional in forests.
*Specimens examined*: Near Rolabadu base camp, *M. Sankarar Rao & P. Harikrishna* 14495 (BSID).

**Eragrostiella** Bor

**Eragrostiella bifaria** (Vahl) Bor, Indian Forester 66: 270. 1940. **(Plate -1H)**

A perennial herb. Culms up to 50 cm high, tufted, basal portion covered with persistent older sheaths; nodes glabrous. Leaf sheaths glabrous, keeled; ligules ciliate; leaf blades 5-15 × 0.5-1 cm; filiform. Spike up to 25 cm long. Spikelets elliptic, laterally compressed, olive green or grey.

*Flowering & Fruiting*: August-December.
*Distribution*: Common in grasslands and forests.
*Specimens examined*: Near pulapala bavi area, *M. Sankarar Rao & P. Harikrishna* 13932(BSID), Pothu battani bavi rasta, *M. Sankarar Rao & P. Harikrishna* 15012(BSID), Near Venugopala Swamy temple forest area, *M. Sankarar Rao & P. Harikrishna* 15084 (BSID).

**Hackelochloa** Kuntze

**Hackelochloa granularis** (L.) Kuntze, Revis. Gen. Pl. 2: 776. 1891. *Mnesithea granularis* (L.) Koning & Sosef, Blumea 31: 295.1986.

Annual, tufted herb. Culms tuberculate, pilose; nodes bearbed. Leaf blades lanceolate, flat, acute, base rounded; ligule membranous. Racemes speciform, both terminal and axillary; rachis fragile and hallow. Spikelets globose, 2-nate. Caryopsis ovoid.

*Flowering & Fruiting*: July-December.
*Distribution*: Common in grasslands and forests.
*Specimens examined*: Near Venugopala Swamy temple forest area, *M. Sankarar Rao & P. Harikrishna* 15095 (BSID).

**Heteropogon** Pers.

**Heteropogon contortus** (L.) P.Beauv. ex Roem. & Schult., Syst. Veg., ed. 15[bis]. 2: 836.1817. '*Kaserigaddi, Eddigaddi'*.

Annual tufted herb. Culms upto 70 cm high Leaf blades lanceolate, flat, 15 × 0.5 cm. Inflorescences in solitary raceme, awns twisted spiral; lower 4-6 pairs of spikelets homogamous, awnless, male; upper ones awned, heterogamous, sessile ones female, pedicelled ones male or sterile.

*Flowering & Fruiting*: July - December.
*Distribution*: Common in grasslands and forests.
*Specimens examined*: Rollapenta, *M. Sankarar Rao & P. Harikrishna* 14482(BSID); Near Venugopala Swamy temple forest area, *M. Sankarar Rao & P. Harikrishna* 15090 (BSID).

**Oplismenus** P.Beauv.

**Oplismenus compositus** (L.) P.Beauv., Ess. Agrostogr.: 54. 1812. '*Kodijuttugaddi*' **(Plate -2A)**.

Perennial, creeping herb. Leaf balde oblong--lanceolate, 3-10 × 1-1.5 cm, ligule fimbriate, acuminate at apex. Inflorescences in spiciform racemes. Spikelets secund, paired, pinkish green. Caryopsis linear.

*Flowering & Fruiting*: July - December.
*Distribution*: Common in moist shaded localities of forests.
*Specimens examined*: On way to Lankamalleshwara Temple, *M. Sankarar Rao & P. Harikrishna* 13909 (BSID).

**Oropetium** Trin.

**Oropetium thomaeum** (L.f.) Trin., Fund. Agrost.: 98. 1820.

Annual herb. Culms up to 12 cm high; nodes glabrous. Leaf sheaths glabrous, compressed; ligules membranous; leaf blades, filiform, sparsely ciliate. Spikes 1-3, up to 5 cm long, straight or curved, rachis trigonous. Spikelets 1.5-2 mm long, 1-flowered, embedded in cavities of rachis; callus bearded. Caryopsis oblong.

*Flowering & Fruiting*: August-November.

*Distribution*: Occasional in Scrub and forests.
*Specimens examined*: Loddibanda, *M. Sankarar Rao & P. Harikrishna* 14468 (BSID).

**Perotis** Aiton

**Perotis indica** (L.) O.Kuntze, Revis. Gen. Pl. 2: 787. 1891.

Annual herb. Culms tufted; nodes glabrous. Leaf sheaths terete; ligule membranous, leaf blades ovate-lanceolate, acute at apex, rounded at base, margins scabrid. Spike slender, to 12 cm. Spikelets 2 mm long, linear, purple, awned, spiral on rachis, 1-flowered. Caryopsis linear.

*Flowering & Fruiting*: July -November.
*Distribution*: Occasional in Scrub and sandy tracks of forests.
*Specimens examined*: Near pulapala bavi area, *M. Sankarar Rao & P. Harikrishna* 13937 (BSID).

**Sehima** Forssk.

**Sehima nervosa** (Rotller) Stapf, Prain,, Fl. Trop. Africa 9: 36. 1917.

Perennial, tufted herb. Clums up to 1 m high. Leaf blades linear, flat, coriaceous, acuminate, base rounded, glabrous 5-25 × 0.5 cm, acuminate at apex. Racemes up to 10 cm long, solitary, densely ciliate along angles. Caryopsis oblanceolate.

*Flowering & Fruiting*: August -November.
*Distribution*: Occasional in grasslands, forests and plains.
*Specimens examined*: Savarla bavi, *M. Sankarar Rao & P. Harikrishna* 15065 (BSID).

**Setaria** P.Beauv.

**Setaria pumila** (Poir.) Roem. & Schult., Syst. Veg., ed. 15[bis]. 2: 891. 1817.

An annual, tufted herb. Culms upto 50 cm high. Leaf blades lanceolate, 4-15 × 0.5 cm, flat, base cordate, apex acuminate, flaccid. Panicles spiciform, up to 8 cm long, cylindric, densely flowered; involucral bristles 9-11 per whorl, antrosely barbed. Spikelets 3 in a cluster or solitary, ovoid. Caryopsis ovoid-ellipsoid.

*Flowering & Fruiting*: August - December.
*Distribution*: Occasional in edges of forests and plains.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13842(BSID), Rollapenta, *M. Sankarar Rao & P. Harikrishna* 14487(BSID), Venugopala swami temple forest area, *M. Sankarar Rao & P. Harikrishna* 15075 (BSID).

**Themeda** Forssk.

**Themeda quadrivalvis** (L.) Kuntze, Revis. Gen. Pl. 2: 794. 1891.

An annual herb. Clums up to 1 m high. Leaf blades lanceolate, flat, 7-12 × 0.4 cm. Panicles spatheolate, lanceolate up to 20 cm long. Involucral spikelets male, tuberculate-pilose; sessile spikelets bisexual, with awned lemmas; pedicelled spikelets linear-lanceolate.Caryopsis linear.

*Flowering & Fruiting*: August - December.
*Distribution*: Occasional in grasslands and forests.
*Specimens examined*: Rollapenta, *M. Sankarar Rao & P. Harikrishna* 14475 (BSID).

## EUDICOTS

### MENISPERMACEAE

**Cissampelos** L.

**Cissampelos pareira** L., Sp. Pl.: 1031. 1753. '*Adavi banka teega*'.

A slender climber. Leaves broadly ovate - cordate, very variable in shape; male flowers small, dull green, female flowers yellowish coloured, axillary. Fruit drupe, scarlet red.

*Flowering & Fruiting*: July - December.
*Distribution*: Occasional in forests.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13859 (BSID).

### RANUNCULACEAE

**Clematis** L.

**Clematis gouriana** Roxb. ex DC., Syst. Nat. 1: 138. 1817. '*Gowri-kuntala*'. **(Plate -2B)**

Spreading climber. Branches ribbed, pubescent when young. Leaves opposite, pinnate, bipinnate or biternate; leaflets ovate or lanceolate, acute to acuminate at apex. Panicles axillary. Flowers small, pale or greenish-white. Stamens numerous; anthers up to 0.2 cm long. Fruit achenes.

*Flowering & Fruiting*: March - December.
*Distribution*: Rare in moist areas of forests along the streams.
*Specimens examined*: Stream near Sri Lankamalleswara Temple, *M. Sankarar Rao & P. Harikrishna* 13924 (BSID).

## Super Rosids [Rosids: Fabids and Malvids]

### VITACEAE

**Key to the genera**

1a. Inflorescence axillary; berries 2-4 seeded **Cayratia**
b. Inflorescence leaf opposed; berries 1-2 seeded **Cissus**

**Cayratia** Juss.

**Cayratia pedata** (Lam.) Juss. ex Gagnep., Notul. Syst. (Paris) 1: 346. 1911.

Climbing shrubs. Stem brittle. Leaves pedately 5-7-foliolate, leaflets 7-12 × 3-6 cm, terminal one elliptic, oblong or ovate-lanceolate; laterals pedately lobed, inequilateral, membranous, pubescent, cuneate, subentire or serrate, acuminate. Cymes axillary, corymbose. Petals 4, green, disc 4-lobed. Berry subglobose, to 6 × 8 mm. 2-4 seeded.

Flowering & Fruiting: April-November.
Distribution: Rare in moist areas of forests along the streams.
Specimens examined: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13854(BSID), on the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13820 (BSID).

**Cissus** L.

**Key to the species**

| | |
|---|---|
| 1a. Stems fleshy, 4- angled, contracted at nodes | **C. quadrangularis** |
| b. Stems not as above | **2** |
| 2a. Seeds smooth | **C. repanda** |
| b. Seeds pitted or rugulose | **C. vitiginea** |

**Cissus quadrangularis** L., Syst. Nat., ed. 12. 2: 124. 1767. '*Nalleru'.* **(Plate -2C)**

Climbing shrub. Stem 4-angular, glabrous, winged or margined, constricted at nodes, tendrils simple. Leaves simple, opposite to leaf, ovate-suborbicular, 3 × 3 cm thick-coriaceous, apex and base round, margin serrate. Cymes umbellate. Petals greenish yellow, red tipped. Berry globose 8 × 5.5 mm, red, apiculate; seed smooth.

*Flowering & Fruiting*: March - November.
*Distribution*: Occasional along the edges of forests.
*Specimens examined*: Teerthalu, *M. Sankarar Rao & P. Harikrishna* 14438 (BSID).

**Cissus repanda** (Wight & Arn.) Vahl, Symb. Bot. 3: 18. 1794.

Climbing shrub, to 2m high. Leaves broadly ovate orbicular, crenate- senate, cordate at base, pubescent above, silky-tomentose beneath. Flowers pink, in umbellately branched cymes. Berries pyriform.

*Flowering & Fruiting*: March - July.
*Distribution*: Rare, in forests.
*Specimens examined*: Venugopala swami temple forest area, *M. Sankarar Rao & P. Harikrishna* 15073 (BSID).

**Cissus vitiginea** L., Sp. Pl. 1: 117. 1753. '*Godhuma theega*'.

Climbing, fulvous-pubescent shrubs. Branches terete, tendrils simple, stout. Leaves simple, broadly cordate, lobed, pubescent, dentate, acuminate. Flowers pale yellow, in dichotomous cymes. Berries ovoid, purple when ripe.

*Flowering & Fruiting*: June -November.
*Distribution*: Occasional, on hedges of forests and in scrublands.
*Specimens examined*: Bayanna palle, on the way to Darga, *M. Sankarar Rao & P. Harikrishna* 13897 (BSID).

## FABACEAE

### Key to the genera

| | | |
|---|---|---|
| 1a. | Flowers zygomorphic, usually in lax racemes, rarely heads | **2** |
| b. | Flowers actinomorphic, usually in dense heads, rarely spike | **25** |
| 2a. | Petals not papilionaceous, upper one innermost; stamens free | **3** |
| b. | Petals papilionaceous, upper one outermost; stamens united | **9** |
| 3a. | Leaves simple or unipinnate, entire or lobed | **4** |
| b. | Leaves bipinnate | **Pterolobium** |
| 4a. | Leaflets usually 2 or one-foliolate with lobes, palmately nerved | **5** |
| b. | Leaflets 4-numerous. reticulately nerved | **6** |
| 5a. | Petals absent; pods compressed, not woody, 1- seeded | **Hardwickia** |
| b. | Petals present; pods flattened, woody, many-seeded | **Bauhinia** |
| 6a. | Petals 3; pods with pulpy mesocarp | **Tamarindus** |
| b. | Petals 5; pods without pulpy mesocarp | **7** |
| 7a. | Bracteoles absent | **Senna** |
| b. | Bracteoles present | **8** |
| 8a. | Stomata present on the abaxial surface of leaflets only; filaments of three abaxial antisepalous stamens sigmoidly curved | **Cassia** |
| b. | Stomata present on both surfaces of leaflets; filaments of all stamens straight or simply Incurved | **Chamaecrista** |
| 9a. | Trees | **10** |
| b. | Shrubs, climbers or twinners, undershrubs or herbs | **11** |
| 10a. | Pods orbicular, winged | **Pterocarpus** |
| b. | Pods not as above | **Pongamia** |

| | |
|---|---|
| 11a. Climbing or twining herbs or shrubs or lianas | **12** |
| b. Erect or prostrate or diffuse herbs, undershrubs or shrubs | **17** |
| 12 a. Leaves 5-many-foliolate | **13** |
| b. Leaves 3-foliolate | **14** |
| 13a. Leaves even-pinnate | **Abrus** |
| b. Leaves odd-pinnate | **Clitoria** |
| 14a. Stamens monadelphous | **Canavalia** |
| b. Stamens diadelphous | **15** |
| 15a. Anthers dimorphic | **Mucuna** |
| b. Anthers uniform | **16** |
| 16a. Leaves gland dotted beneath | **Rhynchosia** |
| b. Leaves not gland dotted beneath | **Vigna** |
| 17a. Anthers dimorphic, alternately basifixed and shorter dorsifixed | **Crotalaria** |
| b. Anthers uniform | **18** |
| 18a. Pod transversely jointed | **19** |
| b. Pods not jointed | **23** |
| 19a. Calyx glumaceous, striate | **Alysicarpus** |
| b. Calyx not as above | **20** |
| 20a. Stamens monadelphous, dimorphic | **Stylosanthes** |
| b. Stamens diadelphous, 5+5 or 9+1 | **21** |
| 21a. Stamens 5+5 | **Aeschynomene** |
| b. Stamens 9+1 or monadelphous, anthers uniform | **22** |
| 22a. Pods enclosed in auricled bracts | **Phyllodium** |
| b. Pods not enclosed in auricled bracts | **Pleurolobus** |
| 23a. Anthers apiculate. | **Indigofera** |
| b. Anthers muticous or obtuse. | **24** |
| 24a. Leaves simple or 5-many-foliolate | **Tephrosia** |
| b. Leaves 3-foliolate | **Pseudarthria** |
| 25a. Flowers tetramerous; stamens 4-8 | **Mimosa** |
| b. Flowers pentamerous; stamens 10 or more | **Vachelia** |

**Abrus** Adans.

**Abrus precatorius** L., Syst. Nat. ed. 12. 2: 472. 1767. '*Guruvenda*'. **(Plate -2D)**

Climbing shrub, upto 3 m. Leaves paripinnate; leaflets stipellate, oblong-elliptic, base rounded acute at apex. Inflorescences in axillary racemes, up to 10 cm long. Flowers bluish-white, clustered. Pods oblong, c. 3 cm long.

*Flowering & Fruiting*: August-November.
*Distribution*: Occasional, along the edges of forests.
*Specimens examined*: Nimma kunta bavi, *M. Sankarar Rao & P. Harikrishna* 13995 (BSID).

**Aeschynomene** L.

**Aeschynomene indica** L., Sp. Pl. 713. 1753 & Gen. Pl. ed. 5: 319. 1754.

Erect, annual herb, up to 1 m high. Leaves 12 cm long; leaflets oblong, 3-5 × 2-2.5 mm, base obtuse obtuse at apex with a mucro. Inflorescences in axillary racemes. Flowers yellow with pink stripes in the middle. Pods linear-oblong, stipitae.

*Flowering & Fruiting*: August-December.
*Distribution*: Occasional, in wetlands and along the streams of forests.
*Specimens examined*: M. Sankarar Rao & P. Harikrishna 15061 (BSID).

**Alysicarpus** Desv.

**Alysicarpus bupleurifolius** (L.) DC., Prodr. 2: 352. 1825.

Erect or ascending herb. Stem glabrous. Leaves linear-lanceolate, glabrous above, sparsely pubescent beneath, 6 × 1.5 cm; primary veins prominent. Flowers yellow with pink tinge, in axillary and terminal, lax racemes.

*Flowering & Fruiting*: August-December.
*Distribution*: Occasional, in moist places among grasses.
*Specimens examined*: Venugopala swami temple forest area, *M. Sankarar Rao & P. Harikrishna* 15074 (BSID).

**Bauhinia** Plum. ex L.

**Bauhinia racemosa** Lam., Encycl. 1: 390. 1785. '*Arechettu'*. **(Plate -2E)**

Small deciduous tree, upto 6 m high. Leaves broader with subcordate base, 2-4 × 2-5 cm, divided about 1/3 or 1/4 down into 2-lobes, glabrous above, tomentose beneath. Flowers in terminal or leaf-opposed racemes. Flowers light cream or fading yellow, narrowly oblanceolate, 8 mm long. Pod glabrous, turgid, falcate, 15-25 cm long; seeds 12-20, dark reddish brown, oblong.

*Flowering & Fruiting*: March-July.

*Distribution*: Occasional, in forests.
*Specimens examined*: M. Sankarar Rao & P. Harikrishna 13996, 13821 (BSID).

**Canavalia** DC.

**Canavalia gladiata** (Jacq.) DC., Prodr. 2: 404. 1825. '*Thammakaya'.*

Climbing shrub, upto 8 m high. Leaves trifoliate; leaflets rhombate to broadly ovate, 5-12 × 4-6 cm, obtuse at apex, cuneate at base. Inflorescences in axillary racemes. Flowers purplish-white. Pods oblong.

*Flowering & Fruiting*: September-February.
*Distribution*: Occasional along the edges of forests.
*Specimens examined*: M. Sankarar Rao & P. Harikrishna 13940 (BSID).

**Cassia** L.

**Cassia fistula** L., Sp. Pl. 1: 377. 1753. '*Rela'.* **(Plate -2F)**

Deciduous tree. Branchlets glabrous. Leaves to 40 cm long, eglandular; leaflets 4-8 pairs, ovate, subacute, 16 × 8 cm. Raceme to 40 cm long. Flowers yellow in racemes. Stamens 10. Fruit indehiscent, cylindrical, to 60 × 2 cm.

*Flowering & Fruiting*: February – April.
*Distribution*: Occasional in forests.
*Specimens examined*: Usarla banda-rollabadu road, *M. Sankarar Rao & P. Harikrishna* 15038 (BSID).

**Chamaecrista** (L.) Moench

**Chamaecrista pumila** (Lam.) V.Singh, J. Econ. Taxon. Bot. 16: 600.1992. *Cassia pumila* Lam., Encycl. 1: 651. 1785.

Small ascending herb, upto 30 cm high. Leaves 4 cm long; leaflets 15-25 pairs, linear-oblong, 0.5-1 × 0.2-0.4 cm, base cuneate mucronate at apex. Inflorescences axillary, solitary. Flowers yellow. Pods oblong, pubescent, 9-12 seeded.

*Flowering & Fruiting*: September-November.
*Distribution*: Occasional, in grassy areas, under shade in forests.
*Specimens examined*: Rollapenta, *M. Sankarar Rao & P. Harikrishna* 14481 (BSID).

**Clitoria** L.

**Clitoria ternatea** L., Sp. Pl.: 753. 1753. '*Sankupoolu*'. **(Plate -2G)**

Twining herb. Leaves pinnate, persistent stipules, leaflets 5-7, elliptic-oblong. Flower bluish- white coloured. Pods linear-oblong, flat, 5-7 cm long, shortly beaked. Seeds 10-15, reniform.

*Flowering & Fruiting*: March – May.
*Distribution*: Occasional, along streams in the forests.
*Specimens examined*: Teerthalu, M. Sankarar Rao & P. Harikrishna 14437 (BSID).

**Crotalaria** L.

**Crotalaria hirsuta** Willd., Sp. Pl. 3: 978. 1802.

Small, erect herb, upto 40 cm high. Branches silky pubescent. Leaves ovate, elliptic-ovate, 2-4.5 × 1-2.5 cm, base cuneate, acute at apex. Inflorescences leaf-opposed and terminal racemes. Flowers yellow with brown streaks and dots, exceeding the calyx lobes. Pods oblong, densely hirsute. Seeds reniform, pale yellow.

*Flowering & Fruiting*: September-December.
*Distribution*: Occasional, in forests.
*Specimens examined*: Teerthalu, *M. Sankarar Rao & P. Harikrishna* 14437 (BSID).

**Hardwickia** Roxb.

**Hardwickia binata** Roxb., Pl. Coromandel. t. 209. 1811. '*Yepi'*.

Large tree, upto 12 m high. Leaves 2-foliolate; leaflets obliquely ovate-obovate, 5 × 3 cm, obtuse at apex. Flowers greenish-cream, in axillary and terminal panicles. Pods orbicular, pointed at one end.

*Flowering & Fruiting*: August – March.
*Distribution*: Occasional, in open forests.
*Specimens examined*: Lothuvanka beat-vothimadugu, mulathirugu section, *M. Sankarar Rao & P. Harikrishna* 13966(BSID), Teegala doddi penta-compartment no. 281, *M. Sankarar Rao & P. Harikrishna* 13977 (BSID).

**Indigofera** L.

**Indigofera trifoliata** L., Cent Pl. 2: 29. 1756. '*Baragadamu'*.

Suffruticose herb. Leaves trifoliolate; leaflets 3, oblanceolate, obtuse, with brown gland dots beneath, base cuneate, margin entire, apex obtuse. Flowers red, 6-10 in racemes. Pods straight, slightly tetragonous, deflexed, faintly hoary.

*Flowering & Fruiting*: August – February.
*Distribution*: Occasional, in open forests and scub areas.
*Specimens examined*: On the way to Nitya Pooja Kona, M. Sankarar Rao & P. Harikrishna 13828 (BSID).

**Mimosa** L.

**Mimosa rubicaulis** Lam., Encycl. 1: 20. 1783.

Prickly shrub. Leaves 10-12 cm long; pinnae 4-7 pairs; leaflets 11-15 pairs, oblong, mucronate at apex, obliquely rounded or truncate at base, apex obtuse, acute; petiole prickly. Flower heads pink, 3-5 in a cluster on racemes. Pods falcate, glabrous, without prickles.

*Flowering & Fruiting*: July - December.
*Distribution*: Occasional, in scrublands.
*Specimens examined*: Teerthalu, *M. Sankarar Rao & P. Harikrishna* 14435 (BSID).

**Mucuna** Adans.

**Mucuna pruriens** (L.) DC., Prodr. 2: 405. 1825. '*Pilliadugu'*.

Climbing shrub, up to 5 m high. Leaves trifoliate; leaflets ovate-rhomboid, 5-8 × 5-6 cm, base obliquely truncate, acuminate at apex. Flowers purple, in axillary racemes. Pods with brown bristly hairs.

*Flowering & Fruiting*: November-April.
*Distribution*: Occasional, in edges of forests.
*Specimens examined*: On way to Lankamalleshwara Temple, *M. Sankarar Rao & P. Harikrishna* 13911 (BSID).

**Phanera** Lour.

**Phanera vahlii** (Wight & Arn.) Benth., F.A.W.Miquel, Pl. Jungh.: 263. 1852. *Bauhinia vahlii* Wight & Arn., Prodr. Fl. Ind. Orient. 297. 1834. '*Adda-aku'*.

A large woody climber, with circinate tendrils. Leaves simple, broadly ovate to orbicular, deeply lobed, base cordate, obtuse at apex. Flowers white in terminal corymbose racemes. Pods woody, flat, and velvety.

*Flowering & Fruiting*: March-May.
*Distribution*: Occasional in forests.
*Specimens examined*: On the way to Nitya Pooja Kona**,** *M. Sankarar Rao & P. Harikrishna* 13870(BSID), Near Rolabadu base camp, *M. Sankarar Rao & P. Harikrishna* 14492(BSID), Bangla bavi, *M. Sankarar Rao* 15047 (BSID).

**Phyllodium** Desv.

**Phyllodium pulchellum** (L.) Desv., J. Bot. Agric. 1: 124. 1813. *Desmodium pulchellum* (L.) Benth. Fl. Hong. 83. 1861.

Shrub, up to 2 m. Stem zigzag, striate, puberlous. Leaves 3-foliolate, ovate, base acute in terminal and oblique in laterals, margin wavy, apex apiculate, glabrous above, pubescent beneath. Flowers white-pinkish, solitary. Pods 2-3 jointed. Seeds compressed, reniform.

*Flowering & Fruiting*: August-February.
*Distribution*: Occasional in forests edges.
*Specimens examined*: Rollapenta, *M. Sankarar Rao & P. Harikrishna* 14489 (BSID).

**Pleurolobus** J.St.-Hil.

**Pleurolobus gangeticus** (L.) J.St.-Hil. ex H.Ohashi & K.Ohashi, J. Jap. Bot. 93: 184. 2018. *Desmodium gangeticum* (L.) DC., Prodr. 2: 327. 1825.

Erect under shrubs, up to 1m tall, branches angled, grooved, sparsely pubescent. Leaves simple, membranous, oblong, obovate or lanceolate. Flowers deep violet or white in axillary and terminal panicles. Fruit linear pod, moniliform, 6-7-jointed.

*Flowering & Fruiting*: September - February.
*Distribution*: Occasional, in forests.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13839 (BSID).

**Pongamia** Adans.

**Pongamia pinnata** (L.) Pierre, Fl. For. Cochinch. 5: t. 385. 1899. '*Kanuga'*.

Medium sized tree, up to 12 m tall, with light-brown bark. Leaves imparipinnate, pale green. Leaflets opposite, elliptic or ovate-oblong. Flowers pinkish-white, axillary racemes. Pods obliquely oblong, narrowed at base, shortly mucronate at apex, compressed, woody, indehiscent, glabrous. Seeds 1-2, reniform, dirty white with brown streaks.

*Flowering & Fruiting*: August-February.
*Distribution*: Occasional in forests edges and near habitations.
*Specimens examined*: Nimma kunta bavi, *M. Sankarar Rao* 14000 (BSID).

**Pseudarthria** Wight & Arn.

**Pseudarthria viscida** (L.) Wight & Arn., Prodr. 209. 1834. **(Plate -2H)**

Small herb, upto 70 cm. Leaves 3-foliolate; leaflets broadly ovate-rhomboid, 3-7 × 2-6 cm, cuneate or obtuse at base, acute with a mucro at apex. Inflorescences axillary and terminal racemes, up to 30 cm long. Flowers in pairs, rose. Pods linear-oblong, flat, compressed, hooked-pubescent, apiculate. Seeds 4-reniform, glossy.

*Flowering & Fruiting*: March-July.
*Distribution*: Occasional along the forest roads and scrublands.
*Specimens examined*: On way to Lankamalleshwara Temple, *M. Sankarar Rao & P. Harikrishna* 13917 (BSID).

**Pterocarpus** Jacq.

**Pterocarpus marsupium** Roxb., Pl. Coromandel t. 116. 1799. '*Yegisa'*. **(Plate -3A)**

Tree, upto 10 m high. Leaves imparipinnate; leaflets up to 3 pairs, elliptic-oblong, 6-8 × 4-8 cm, base obtuse-truncate, apex emarginate. Inflorescences in terminal panicles, c. 10 cm long. Flowers golden yellow. Pods stipitate, broadly winged.

*Flowering & Fruiting*: March-July.
*Distribution*: Rare in forests.
*Specimens examined*: Bayanna palle, on the way to Darga, *P. Harikrishna & M. Sankarar Rao* 13889(BSID), Narasimha kunta rasta, Narasimha kunta rasta, *M. Sankarar Rao* 14447 (BSID).

**Pterocarpus santalinus** L.f., Suppl. Pl. 318. 1782. '*Yerrachandanamu, Raktachandanam'*. **(Plate -3B)**

Tree, up to 10-12 m tall. Bark blakish brown, deeply cut into rectangular plates. Leaves 10-18 cm long; leaflets 3, rarely 4-5, ovate-orbicular, 3.8-7.6 cm long, as long as broad, base obtuse-subcordate, apex emarginated. Flowers yellow in simple or sparingly branched racemes. Pod obliquely orbicular, narrowly winged; seeds 1 or 2, reddish brown, smooth, leathery, 1-1.5 cm long.

*Flowering & Fruiting*: March-July.
*Distribution*: Occasional in forests.
*Specimens examined*: Near Balayyapally chekpost area, *M. Sankarar Rao & P. Harikrishna* 15118 (BSID).
Endemic and Endangered.

**Pterolobium** R.Br. ex Wight & Arn.

**Pterolobium hexapetalum** (Roth) Santapau & Wagh., Bull. Bot. Surv. India 5: 108. 1963. '*Korintha, Pariki'*. **(Plate -3C)**

Straggling thorny shrubs, up to 5 m high. Branches prickly, prickles recurved. Leaves bipinnate, leaflets 8-10 pairs, glabrous. Racemes axillary or terminal. Flowers white with a red tinge. Pods samaroid, with reddish terminal wing above. 3-4 × 1 cm; seed solitary.

*Flowering & Fruiting*: August –December.
*Distribution*: Occasional in scrublands and forest edges.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13861(BSID), Gollapalli, *M. Sankarar Rao & P. Harikrishna* 13867(BSID), Bayanna palle, on the way to Darga, *M. Sankarar Rao & P. Harikrishna* 13885(BSID), Paya bavi Base camp, *M. Sankarar Rao & P. Harikrishna* 13953(BSID), On the way to Madara bai, *M. Sankarar Rao & P. Harikrishna* 14401 (BSID).

**Rhynchosia** Lour.

**Rhynchosia heynei** Wight &Arn., Prodr. Fl. Ind. Orient.1: 240. 1834.

Undershrubs with densely, shortly grey-downy, elongated, slender branches. Leaves 3-foliolate; leaflets elliptic-ovate or oblong, subcoriaceous, rounded at base, margin entire, apex acute, minutely pubescent. Flowers yellow, in 5-cm long, 4-6 flowered racemes. Calyx accrescent. Corollaincluded. Pods oblong, minutely pubescent. Seeds 2.

*Flowering & Fruiting*: August – February.
*Distribution*: Occasional in forests.
*Specimens examined*: Kapardeeswaraswami temple, *P. Harikrishna & M. Sankarar Rao* 13811(BSID).

**Senna** Mill.

**Key to the Species**

1a. Foliar glands present on the petiole and or rachis **S. auriculata**
b. Foliar glands absent on the petiole or rachis **S. montana**

**Senna auriculata** (L.) Roxb., Fl. Ind. 2: 349. 1832. *Cassia auriculata* L., Sp. Pl.: 379. 1753. '*Thangedu*'. **(Plate -3D)**

Much branched shrub, up to 2 m high. Leaves 7-12 cm long, with an erect linear gland in between each pair of leaflets; stipules foliaceous, reniform-rotund, 1-1.5 cm long, produced below into a long subulate point; leaflets 7-8 pairs; elliptic-oblong 2-2.5 × 0.8 cm, rounded at both ends, mucronate, entire. Flowers, yellow, in axillary and terminal corymbs. Pods flat, pale brown, obtuse, mucronate. Seeds compressed, tapering towards base.

*Flowering & Fruiting*: October-May.
*Distribution*: Common in rocky hills of forests and palin areas.
*Specimens examined*: Matchaya kunta, *M. Sankarar Rao* 15025 (BSID).

**Senna montana** (B. Heyne ex Roth) V. Singh, J. Econ. Taxon. Bot. 16: 600. 1992. *Cassia montana* B. Heyne ex Roth, Nov. Pl. Sp. 214. 1821. '*Konda tangedu'*.

Shrub, up to 1.5 m high. Leaves oblong-elliptic leaflets. Flowers yellow, in corymbose racemes. Calyx, petals ovate. Stamens 10, including staminodes. Ovary stipitate, developing into a flat, membranous pod with 20 seeds.

*Flowering & Fruiting*: August – February.
*Distribution*: Occasional in rocky hills of forests.
*Specimens examined*: Kapardeeswaraswami temple, *P. Harikrishna & M. Sankarar Rao* 13805 (BSID).

**Stylosanthes** Sw.

**Stylosanthes fruticosa** (Retz.) Alston, Trimen, Handb. Fl. Ceylon 6: Suppl.: 77. 1931.

Diffuse, rigid, pubescent undershrub. Leaflets elliptiz to elliptic-lanceolate, acute, sharply mucronate, to 1.3 × 0.5 cm. Corolla arising from the throat of calyx-tube exerted yellow. Joints of pod longitudinally veined, pubescent, 1-seeded.

*Flowering & Fruiting*: October – February.
*Distribution*: Occasional in dry areas.
*Specimens examined*: Vaneshwara rasta, *M. Sankarar Rao* 15031 (BSID).

**Tamarindus** Tourn. ex L.

**Tamarindus indica** L., Sp. Pl. 1: 34. 1753. '*Chinta*'. **(Plate -3E)**

Large tree, 15-25 m tall. Leaves 10-15 cm long; rachis minutely pubescent; leaflets 15 pairs, oblong-elliptic, 2-2.5 × 0. 8 cm, rounded at base, emarginate at apex, mucronate. Flowers pale yellow with orange lines in short axillary and terminal racemes at the end of branchlets. Pods sub-compressed, slightly curved, brown. Seeds somewhat orbicular, dark brown, compressed.

*Flowering & Fruiting*: November-April.
*Distribution*: Occasional in forests especially in near temple areas.
*Specimens examined*: Teerthalu, *M. Sankarar Rao* 14430 (BSID).

**Tephrosia** Pers.

**Tephrosia strigosa** (Dalzell) Santapau & Maheshw., J. Bombay Nat. Hist. Soc. 54: 805. 1956.

Ascending herb. Leaves simple, linear – lanceolate, pubescent on both surfaces, to 5.5 × 0.5 cm. Flowers solitary, axillary, blue. Pod appressed-pubescent, seeds 7-9.2 × 0.3 cm oblong - ellipsoid.

*Flowering & Fruiting*: July - December.
*Distribution*: Occasional in open forests and scrublands.
*Specimens examined*: Bayanna palle, on the way to Darga, *M. Sankarar Rao & P. Harikrishna* 13906 (BSID).

**Vachellia** Wight & Arn.

**Vachellia nilotica** (L.) P.J.H. Hurter & Mabb., Mabberley's Pl.-Book: 1021. 2008. *Acacia nilotica* (L.) Delile, Fl. Aegypt. Illust.: 2. 1813. '*Nallatumma*'.

Medium sized tree, 5-10 m high. Leaves 8 cm long; rachis with a gland between the first pair of pinnae and one between the terminal pair; stipular spines straight, to 5 cm long; pinnae 4-7 pairs; leaflets 18-25 pairs, 5 × 1.1 mm. elliptic, oblique at base, margins entire, apex rotund. Flowers golden yellow, fragrant, in globose solitary heads, sometimes forming axillary clusters of 2-5 heads. Pod grey pubescent, moniliform 20 × 1.5 cm, 10-12 seeded; seeds brownish, orbicular.

*Flowering & Fruiting*: August–May.
*Distribution*: Occasional in dry areas.
*Specimens examined*: Bodamulu, *M. Sankarar Rao & P. Harikrishna* 13952 (BSID).

**Vigna** Savi

**Vigna aconitifolia** (Jacq.) Maréchal, Bull. Jard. Bot. Natl. Belg. 39: 160. 1969.

Prostrate twiner. Branchlets hispid. Leaves 3-foliolate; leaflets leaflets palmately 3 or more lobed. Flowers yellow, in axillary racemes. Pods oblong, indented on sutures, turgid.

*Flowering & Fruiting*: August– January.
*Distribution*: Occasional in grasslands of forests.
*Specimens examined*: Near Venugopala Swamy temple, *M. Sankarar Rao & P. Harikrishna* 15080 (BSID).

## POLYGALACEAE

**Polygala** Tourn. ex L.

**Polygala glaucoides** L., Sp. Pl. 2: 705. 1753. *Polygala elongata* J.G.Klein ex Willd. in Willd., Sp. Pl., ed. 4, 3: 879. 1802.

Profusely branched, erect annual herb, up to 20 cm high. Leaves linear - lanceolate or oblong–elliptic, 1.5-3 × 2-0.5 cm, base attenuate, margins entire, apex obtuse, apiculate; petioles 1.5 mm long. Flowers yellow with red streaks, 5.5 mm long, in lateral, leaf opposed or terminal racemes to 6 cm. Capsule laterally compressed, 4.5 × 3.5 mm; seeds black, oblong, 2.5 × 1.5 mm; caruncle hood shapped with 3-toothed or linear appendages.

*Flowering & Fruiting*: August– November.
*Distribution*: Occasional in open forests and wastelands.
*Specimens examined*: Gollapalli, *P. Harikrishna & M. Sankarar Rao* 13873 (BSID).

## RHAMNACEAE

**Ziziphus** Mill.

### Key to the species

1 a. Styles 2; drupes fleshy **Z. oenoplia**
b. Styles 3; drupes hard, stony **Z. xylopyrus**

**Ziziphus oenopolia** (L.) Mill., Gard. Dict., ed. 8: 3. 1768. '*Paraki'*. **(Plate -3F)**

Scandent, straggling shrub, up to 5 m tall. Leaves ovate- lanceolate, to 4 × 2 cm, asymmetric, base oblique, sub-acuteo obtuse, margins denticulate, apex acute; petioles 3-6 mm long; stipular spines solitary, hooked. Flowers white or yellowish in sub-sessile paniculate cymes. Calyx lobes triangular or ovate, 1.5-2 mm long. Petals obovate, with cuneate base, 1 mm long. Drupe globose or ovoid, 3-5 cm in diam., black, shining.

*Flowering & Fruiting*: July – November.
*Distribution*: Common in open forests and scrublands.
*Specimens examined*: Vaneshwara rasta, *M. Sankarar Rao* 15033(BSID), Near Bhogademma thalli temple forest area, *M. Sankarar Rao* & P. Harikrishna 14455 (BSID).

**Ziziphus xylopyrus** (Retz.) Willd., Sp. Pl. 1: 1104. 1798. '*Gotti'*. **(Plate -3G)**

Medium sized sparsely armed tree, 10 m high. Leaves ovate-oblong, 5-6 × 2-3 cm, asymetrical, base subcordate or obtuse, margins serrulate, apex rounded; petioles 1.2 cm long; stipular spines slightly curved, 4 mm long. Flowers cream-coloured, in axillary cymose clusters. Calyx lobes triangular, 2-2.5 mm long. Petals spathulate, 1.5-2 mm long. Drupe globose, hard woody, brown-tomentose. Seeds oblong, compressed, black.

*Flowering & Fruiting*: May – September.
*Distribution*: Common in open forests.
*Specimens examined*: Lothuvanka beat-vothimadugu, mulathirugu section, *M. Sankarar Rao & P. Harikrishna* 13969(BSID), Near Bhogademma thalli temple forest area, *M. Sankarar Rao & P. Harikrishna* 14456 (BSID).

## Rosids

### CANNABACEAE
### **Celtis** L.

**Celtis philippensis** Blanco var. **wightii** (Planch. Soepadmo, Fl. Males., ser. 1, Spermatoph. 8: 62. 1977. C. wightii Planch. , Ann. Sci. Nat., Bot., ser. 3, 10: 307. 1848. '*Koti bira, Chipura, Kaki-mnshti*'.

Evergreen tree. Leaves thick, coriaceous, ovate or elliptic-oblong, entire, acuminate, base acute or cuneate, ribbed, reticulately veined with transverse parallel nervules. Flowers polygamous, yellow, pedicellate, in axillary puberulous cymes. Drupes ellipsoid, orange-red when ripe.

*Flowering & Fruiting*: August-November.
*Distribution*: Occasional in forests.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13865(BSID), Boring area-Lothuvanka beat, *M. Sankarar Rao & P. Harikrishna* 15115 (BSID).

## Super Rosids [Rosids: Fabids and Malvids]

### MORACEAE
### **Ficus** L.

**Key to the species**

1a. Leaves scabrid-hispid above, pubescent or tomentose beneath, margin toothed or serrate **F. hispida**
b. Leaves glabrous, leaves not shining, distinctly 3-veined at base, margins entire **F. microcarpa**

**Ficus hispida** L.f., Suppl. Pl. 442. 1782. '*Kakimedi'*. **(Plate -3H)**

Shrub or small tree, 5-6 m high. Leaves broadly oblong to elliptic-lanceolate, 16-20 × 6-10 cm, base truncate to cordate, margins entire or dentate, apex apiculate or shortly

acuminate, coriaceous, both surfaces hispid-pubescent. Receptacles depressed globose, or turbinate, greenish yellow, in pairs or in clusters on leafless shoots, 1.5-2 cm diam; peduncle stout, 5 mm; bracts triangular. Perianth 2 mm long. Achenes lenticular, 1.5 mm long.

*Flowering & Fruiting*: December-April.
*Distribution*: Occasional in forests edges and thickets.
*Specimens examined*: Mamileru, *M. Sankarar Rao* 14428 (BSID).

**Ficus microcarpa** L.f., Suppl. Pl. 442. 1782. '*Juvvi, Konda juvvi'*.

Densely foliaceous tree to 15 m. Leaves spiral, elliptic-ovate to obovate, 5-12 × 3-5 cm, coriaceous, 3-nerved, lateral nerves 12-15 pairs, closely pinnate, acute to cuneate, entire to undulate, rounded to acute. Figs monoecious, axillary or on leaflets branchelts, often paired, sessile, globose, ripening orange. Achenes smooth.

*Flowering & Fruiting*: December-April.
*Distribution*: Rare in forests and often planted in avenues.
*Specimens examined*: Kapardeeswaraswami temple, *P. Harikrishna & M. Sankarar Rao* 13813 (BSID).

## URTICACEAE

**Pouzolzia** Gaudich.

**Pouzolzia auriculata** Wight, Icon. Pl. Ind. Orient. 6: 42.1853.

Erect scabrid herbs to under shrubs, tems woody, young branches angled, pubescent. Leaves 2-7 × 1-2 cm, elliptic-lanceolate, alternate, base acute to rounded, margin entire, apex acuminate, appressed hairy. Flowers in axilalry, sessile clisters greenish. Achenes white.

*Flowering & Fruiting*: January - November.
*Distribution*: Occasioanal in forests along the streams and water bodies.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13827(BSID)**,** On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13869 (BSID).

## CUCURBITACEAE

### Key to the genera

1a. Male flowers solitary **Coccinia**
b. Male flowers in clusters; calyx and corolla campanulate **Solena**

**Coccinia** Wight & Arn.

**Coccinia grandis** (L.) Voigt, Hort. Suburb. Calcutt. 59.1845.

Perennial herbaceous climber with tuberous root stock; tendrils simple. Leaves broadly ovate, 3-5 lobed, 10 × 13 cm, margins denticulate. Flowers white, axillary. Male solitary or sometimes 3, on 2-5 cm long peduncles. Calyx 4-5 mm long; teeth ovate. Corolla

2.5-3.5 cm long. Staminal column 2-3 mm long. Female solitary on 1-3 cm long peduncles. Berry oblong, cylindrical, rounded at both ends, green with white stripes, deep red when ripe.

*Flowering & Fruiting*: July-November.
*Distribution*: Occasioanal in forests edges.
*Specimens examined*: Dornala, *M. Sankarar Rao & P. Harikrishna* 14417 (BSID).

**Solena** Lour.

**Solena amplexicaulis** (Lam.) Gandhi, Fl. Hassan District 179. 1976.

Dioecious, climbing herb. Stems strongly grooved, glabrous, roots tuberous, tendrils simple. Leaves highly variable in shape, deltoid-ovate, ovate-oblong or suorbicular, 4-8 x 2.5-4.5 cm, 3-5 lobed, hastae, sometimes denticulate, cordate at base, often amplexicaul, sinus small or big, scabrous. Flowers pale yellow to creamy-white, axillary, subsessile. Staminate flowers in a short corymb; pistillate flowers solitary. Fruits ellipsoid or subglobose, reddish-yellow or orange-coloured.

*Flowering & Fruiting*: May-October.
*Distribution*: Occasioanal in forests edges.
*Specimens examined*: Bayanna palle, near Darga, *M. Sankarar Rao & P. Harikrishna* 13899 (BSID).

## CELASTRACEAE

**Gymnosporia** (Wight & Arn.) Hook.f.

**Gymnosporia emarginata** (Willd.) Thwaites, Enum. Pl. Zeyl.: 409. 1864. *Maytenus emarginata* (Willd.) Ding Hou, Fl. Males., Ser. I. Spermat. 6: 241. 1962. '*Danti'*. **(Plate -4A)**

A tall armed shrub. Leaves obovate or oblanceolate, 2.5-6 × 1.5-4.5 cm, coriaceous, glabrous, attenuate, entire or serrate, emarginate or obtuse. Cymes axillary or terminal on short lateral shoots aften on spines. Petals white. Capsule black, obovoid-globose to 7 mm; seeds 2 per cell, aril fleshy or membranous.

*Flowering & Fruiting*: May- June.
*Distribution*: Common in scrublands and forests edges.
*Specimens examined*: Near pulapala bavi area, *M. Sankarar Rao & P. Harikrishna* 13929(BSID), Near Bhogademma thalli temple forest area, *M. Sankarar Rao & P. Harikrishna* 14450 (BSID).

## OXALIDACEAE

**Biophytum** DC.

**Biophytum sensitivum** (L.) DC., Prodr. 1: 690. 1824.

Annual herb, up to 25 cm tall. Leaves arising from a stout stock, some what sensitive to touch, 3-8 cm long; leaflets 7-12 pairs, upper ones oblong to rectangular, lower ones

ovate, strigose, base obtuse, or rotund, apex apuculate. Flowers dimorphic, yellow, in umbels. Capsule ellipsoid, 5 locular, 3 mm long; seeds spirally, sometimes reticulately ridged.

*Flowering & Fruiting*: August-December.
*Distribution*: Common in scrublands and open forest roads.
*Specimens examined*: Ladda banda beat pattur, M. Sankarar Rao & P. Harikrishna 14472 (BSID).

**Rosids**

**ERYTHROXYLACEAE**
**Erythroxylum** P.Browne

**Erythroxylum monogynum** Roxb., Pl. Coromandel 1: 61, t. 88. 1795. '*Davadaru'*. **(Plate -4B)**

Small tree, to 8 m high. Leaves obovate to oblanceolate, 3-5.5 × 1-2.5 cm, obtuse at apex, cuneate at base. Inflorescences 1-4 in axillary fascicles. Flowers greenish-white. Drupes oblong, to 8 × 3 mm, apiculate, 1-seeded, ripening red.

*Flowering & Fruiting*: October-January.
*Distribution*: Common in forests.
*Specimens examined*: Nitya Pooja Kona, *P. Harikrishna* 13831 (BSID), Near pulapala bavi area, *M. Sankarar Rao & P. Harikrishna* 13938(BSID), Usarla banda-rollabadu road, *M. Sankarar Rao & P. Harikrishna* 15040(BSID), on the way to Madara bai, *M. Sankarar Rao* 14402(BSID), On the way to Madara bai, *M. Sankarar Rao* 14410(BSID).

**OCHNACEAE**
**Ochna** L.

**Ochna obtusata** DC., Ann. Mus. Natl. Hist. Nat. 17: 411. 1811.

A small tree. Leaves apically aggregated, obovate-elliptic, 5-9 × 2.5-6 cm, cuneate, serrate or entire, obtuse or acute. Flowers golden yellow in terminal and axillary, many-flowered racemes at the end of short woody leaflets branchlets. Stamens numerous. Drupe 3-10-lobbed. Seeds many.

*Flowering & Fruiting*: February-May.
*Distribution*: Occasional in forests.
*Specimens examined*: Kapardeeswaraswami temple, *P. Harikrishna & M. Sankarar Rao* 13812 (BSID).

**Super Rosids [Rosids: Fabids and Malvids]**

**VIOLACEAE**
**Pigea** Ging.

**Pigea enneasperma** (L.) P.I.Forst., Austrobaileya 11: 29. 2021. *Hybanthus enneaspermus* (L.) F.Muell., Fragm. Phyt. Austr. 10: 81. 1876. '*Ratnapurusha'*.

Small, annual herb, to 20 cm high. Leaves oblong-elliptic to linear-lanceolate, acute at apex, cuneate at base. Flowers axillary, solitary, pink coloured. Fruit globose, covered by calyx.

*Flowering & Fruiting*: July-January.
*Distribution*: Common in open forests and road sides.
*Specimens examined*: Bayanna palle, on the way to Darga, *M. Sankarar Rao & P. Harikrishna* 13905 (BSID).

## PASSIFLORACEAE

### **Passiflora** L.

**Passiflora foetida** L., Sp. Pl. 2: 959. 1753.

A viscid climber, to 3 m high. Leaves broadly ovate, 3-5-lobed, 4-10 × 4-9 cm, acute at apex, cordate at base. Inflorescences in axillary, solitary. Flowers white. Berries globose, shiny, covered by involucral bracts.

*Flowering & Fruiting*: June-December.
*Distribution*: Occasional along the road sides of open forests.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13826(BSID), Nimma kunta bavi, *M. Sankarar Rao* 13988 (BSID).

## Super Rosids [Rosids: Fabids and Malvids]

## EUPHORBIACEAE

### Key to the genera

| | |
|---|---|
| 1a. Trees | **2** |
| b. Shrubs or herbs | **3** |
| 2a. Leaves distichous; flowers axillary | **Cleistanthus** |
| b. Leaves other than distichous; flowers not axillary | **Givotia** |
| 3a. Shrubs | **Jatropha** |
| b. Herbs or undershrubs | **4** |
| 4a. Twining herbs with stinging hairs | **Tragia** |
| b. Erect herbs | **5** |
| 5a. Perianth 2-seriate; stamens numerous | **Croton** |
| b. Perianth 1-seriate; stamens less than 10 | **Acalypha** |

### **Acalypha** L.

**Acalypha capitata** Willd., Sp. Pl., ed. 4. 4: 525. 1805. *Acalypha alnifolia* J.G.Klein ex Willd., Sp. Pl. ed. 4, 4: 525. 1805.

Undershrub, up to 70 cm high. Branchlets densely hispid. Leaves elliptic ovate, 2-2.5 × 1.5-2 cm, base rounded, crenase to serrate, apex acute to obtuse. Male flowers in slender, elongate, cylindric spikes to 10 cm, usually in lower axils, female spikes short, subterminal to 2 cm. Styles 3, each with filiform hairs. Capsule 5 mm across, globose, hirsute; seeds globose, smooth.

*Flowering & Fruiting*: April-September.
*Distribution*: Occasional in scrub jungles, in bushes and rocky hill areas.
*Specimens examined*: Nitya Pooja Kona, *P. Harikrishna & M. Sankarar Rao* 13850 (BSID).

**Cleistanthus** Hook.f. ex Planch.

**Cleistanthus collinus** (Roxb.) Hook.f., Fl. Brit. India 5: 274. 1887. '*Odise chettu, Wodesha, Korai'*. **(Plate -4D)**.

Small tree, to 7 m high. Leaves elliptic-ovate, 2-8 × 1-5 cm, emarginate at apex, rounded at base. Flowers in axillary clusters, greenish-white. Capsule 3-lobed, globose, c. 2 cm across.

*Flowering & Fruiting*: February-May.
*Distribution*: Occasional in forests.
*Specimens examined*: Bayanna palle, near Darga, *P. Harikrishna & M. Sankarar Rao* 13875(BSID), Hanuman shela, *M. Sankarar Rao* 14408(BSID), Teerthalu entrance, *M. Sankarar Rao* 14429 (BSID).

**Croton** L.

**Croton scabiosus** Bedd., Fl. Sylv. S. India 283. 1872. '*Chilla'*. **(Plate -4E)**

Trees, up to 8 m tall. Leaves elliptic to orbicular, cordate, rounded or subtruncate at base, crenateserrate along margins, obtuse, rounded to acute at apex. Inflorescences 3-10 cm long; bracts ovate, subulate or linear-lanceolate. Male flowers: sepals ovate to oblong-elliptic; petals oblong-elliptic to spathulate; stamens 8-16, 3-3.5 mm long. Female flowers: sepals as in male; ovary globose or ovoid, 3 or 4-locular; styles free, bifid. Capsules subglobose, prominently 3 or 4-lobed. Seeds oblong.

*Flowering & Fruiting*: January – July.
*Distribution*: Endemic. Occasional in rocky hills and open forests.
*Specimens examined*: Narasimha kunta rasta, *M. Sankarar Rao & P. Harikrishna* 14445(BSID), Bayanna palle, on the way to Darga, *M. Sankarar Rao & P. Harikrishna* 13892 (BSID).

**Euphorbia** L.

**Euphorbia deccanensis** V.S. Raju, Taxon 34: 519. 1985.

Small herb, to 20 cm high. Leaves linear-oblong, 1-4 × 0.2-0.5 cm, apiculate at apex, obliquely subcordate at base, margins serrulate. Flowers in axillary cymes, rose or white. Capsules c. 2 mm across, 3-gonous.

*Flowering & Fruiting*: February-June.
*Distribution*: Occasional in hill slopes and palins of open forests.
*Specimens examined*: Dornala hill top, *M. Sankarar Rao* 14412 (BSID).

**Givotia** Griff.

**Givotia moluccana** (L.) Sreem., Taxon 24: 696. 1975. *Givotia rottleriformis* Griff. ex Wight, Icon. Pl. Ind. Orient. 5: 24. 1852. **(Plate -4F)**

Deciduous tree. Leaves alternate, chartaceous, broadly ovate or orbicular, coarsely dentate, acuminate, glabrous above, yellowish tomentose below, 5-nerved. Flowers pale yellow, in axillary or subterminal recemes or paniculate cymes. Drupes ellipsoid, epicarp fulvous, tomentose; seeds globose, testa bony.

*Flowering & Fruiting*: April-August.
*Distribution*: Occasional in forests, on the slopes in forests.
*Specimens examined*: Kapardeeswaraswami temple, *P. Harikrishna& M. Sankarar Rao* 13801 (BSID).

**Jatropha** L.

**Jatropha glandulifera** Roxb., Fl. Ind. ed. 3: 688. 1832.

Shrub, up to 2.5 m tall, monoecious. Branchlets stout, short. Leaves 7-10 × 8-11 cm, palmately 3 to 5 lobed, posterior lobes smaller than anterior lobe; lobes obovate, cordate at base, serrate, serratures gland tipped, acuminate. Flowers in axillary cymes. Capsules 2cm, subglobose.

*Flowering & Fruiting*: August - January.
*Distribution*: Occasional along the road sides of open forests.
*Specimens examined*: Teerthalu, *M. Sankarar Rao* 14440 (BSID).

**Tragia** L.

**Tragia gallabatensis** Prain, Bull. Misc. Inform. Kew 1909: 51. 1909. *T. plukenetii* Radcl.-Sm., Kew Bull. 37: 688. 1983. '*Pedda dulagondi'*.

Herb, up to 1 m tall with sparsely hispid stinging hairs, monoecious; branchlets striate. Leaves 1.5-7 × 1.5-4 cm, lanceolate or palmetely 3-lobed, middle longer than the laterals, truncate-cordate at base, serrate-crenate dentate, acuminate, sparsely hispid. Flowers in axillary racemes; male flowers many, at above; female flowers few at base. Capsule 4 × 7 mm, hispid; seeds globose.

*Flowering & Fruiting*: December-March.

*Distribution*: Occasional in edges of forests.
*Specimens examined*: Stream near Sri Lankamalleswara Temple, *M. Sankarar Rao & P. Harikrishna* 13928 (BSID).

## Rosids

### PHYLLANTHACEAE

**Key to the genera**

| | |
|---|---|
| 1a. Stamens 3, rarely 5, filaments connate or sometimes not | **Phyllanthus** |
| b. Stamens 5 | **2** |
| 2a. Filaments free | **Flueggea** |
| b. Filaments connate | **Meineckia** |

**Flueggea** Willd.

**Flueggea leucopyrus** Willd., Sp. Pl., ed. 4. 4:757. 1806. '*Telia purugudu*'. **(Plate -4G)**

Spreading shrub, to 3 m high. Leaves obovate to orbicular, 2-4 × 1.5-3 cm, acute at apex, rounded at base. Flowers in axillary clusters, yellow. Capsules white, globose, c. 5 mm across.

*Flowering & Fruiting*: June- October.
*Distribution*: Common along the road sides of open forests and open places.
*Specimens examined*: Siddavatam base camp, M. Sankarar Rao 15013 (BSID).

**Meineckia** Baill.

**Meineckia parvifolia** (Wight) G.L. Webster, Acta Bot. Neer l. 14:342, f. 5, 11, 19. 1965.

Herb, up to 40 cm high, monoecious. Leaves ovate, acute-rounded at base, entire, acute. Flowers axillary, solitary, bracteate. Male flowers: tepals 5 free. Female flowers: tepals slightly connate; a globose ovary with 3 styles. Capsule depressed globose. Seeds pitted.

*Flowering & Fruiting*: January-March.
*Distribution*: Rare, in hilly areas of forests and scrublands.
*Specimens examined*: Nimma kunta bavi, *M. Sankarar Rao* 13991 (BSID).

**Phyllanthus** L.

**Key to the Species**

| | |
|---|---|
| 1a. Tepals of male flower turbinate, ovary truncate | **P. retusus** |
| b. Tepals spreading, ovary globose | **2** |
| 2a. Fruit a dry capsule of 3, 2-valved cocci | **3** |
| b. Fruit a berry or drupe | **P. emblica** |
| 3a. Shrubs or trees | **P. racemosus** |
| b. Annual herbs, sub-shrubs or undershrubs | **4** |

4a. Stamens 3 **P. maderaspatensis**
b. Stamens 5 **P. rheedei**

**Phyllanthus emblica** L., Sp. Pl. 982. 1753. '*Pedda Usirikaya*'.

Medium sized tree, up to 10 m high. Leaves oblong, 8-12 × 1-2 mm, apiculate at apex, subcordate at base. Inflorescences in axillary fascicles, male flowers in the upper axils and female flowers in the lower axils, greenish-white. Drupes depressed globose.

*Flowering & Fruiting*: November-March.
*Distribution*: Common in forests.
*Specimens examined*: Boring area-Lothuvanka beat, *M. Sankarar Rao & P. Harikrishna* 15112 (BSID).

**Phyllanthus maderaspatensis** L., Sp. Pl. 2: 982. 1753.

Small annual herb, up to 40 cm high. Leaves linear to obovate or oblanceolate, entire, obtuse at apex, cuneate at base. Flowers axillary, unisexual, greenish-yellow; male flowers above; female ones below, in axils. Capsule globose, 3 lobed.

*Flowering & Fruiting*: June - April.
*Distribution*: Common in wastelands and scrublands.
*Specimens examined*: Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13835 (BSID).

**Phyllanthus racemosus** L.f., Suppl. Pl.: 415. 1782. *Phyllanthus polyphyllus* Willd., Sp. Pl. ed. 4, 4: 586. 1805. **(Plate -4H)**

Small tree to large shrub, up to 5 m high. Leaves oblong, 5-15 × 3-5 mm, subacute at apex, rounded or subcordate at base. Flowers axillary, clustered, greenish-white. Capusles subglobose, 3-valved, c. 5 mm across; seeds triangular, densely pitted.

*Flowering & Fruiting*: December - April.
*Distribution*: Occasional in forests and scrublands.
*Specimens examined*: Nimma kunta bavi, *M. Sankarar Rao* 13994(BSID), Ragi manu danalu, *M. Sankarar Rao* 14420 (BSID).

**Phyllanthus retusus** Dennst., Schlüssel Hortus Malab.: 31. 1818. *Breynia retusa* (Dennst.) Alston in Ann. Roy. Bot. Gard. (Paradeniya) 11: 204. 1929.

Shrub, up to 2 m high. Leaves ovate or orbicular, 1.6-3 × 1-1.5 cm, obtuse at apex, rounded at base. Flowers in axillary cymes, greenish-white. Capsules globose, c. 8 mm across, reddish when mature, 3-loculed, seated on accrescent calyx lobes.

*Flowering & Fruiting*: December-March.
*Distribution*: Occasional in forests.
*Specimens examined*: Near Umamaheshwara Swamy temple forest area, *M. Sankarar Rao & P. Harikrishna* 13950 (BSID).

**Phyllanthus rheedei** Wight, Icon. Pl. Ind. Orient, t. 1895. f.l. 1852.

Annual, erect, herbs, up to 60 cm high, entirely glabrous. Leaves symmetric, obovate, obovate-oblong, cuneate, acute, obtuse to rounded at base, obtuse or apiculate at apex, 7-30 × 4-15 mm. Inflorescences axillary; cymules consisting of 1-3 males, 1 or 2 males and 1 female (proximal axils) or 1 female (at tips) flowers; bracts lanceolate, linear to filiform. Fruits subglobose or depressed, unlobed or shallowly lobed, smooth. Seeds trigonous, with longitudinal ribs on back.

*Flowering & Fruiting*: October - December.
*Distribution*: Occasional inhills of forests.
*Specimens examined*: On the way to Nitya Pooja Kona, *P. Harikrishna & M. Sankarar Rao* 13823 (BSID).

## Super Rosids [Rosids: Fabids and Malvids]

## COMBRETACEAE

### Terminalia L.

### Key to the Species

1a. Flowers in globose heads **T. anogeissiana**
b. Flowers in simple or paniculate spikes **T. bellirica**

**Terminalia anogeissiana** Gere & Boatwr., Bot. J. Linn. Soc. 184: 319. 2017. *Anogeissus latifolia* (Roxb. ex DC.) Wall. ex Guill. & Perr., Fl. Seneg. Tent. 1: 280. 1832. '*Chiru-manu'*.

Deciduous tree, up to 30 m tall. Leaves elliptic-oblong, or elliptic to ovate, 6.3-10 × 3-5 cm, rounded to cordate at base, acute or retuse at apex or shortly acuminate; petioles 6-10 mm long. Flowers greenish-yellow, in fascicled heads. Calyx teeth short, broadly triangular. Style thickened at base. Fruits crowded in globose heads, yellowish brown or reddish brown. Seeds ovoid, solitary.

*Flowering & Fruiting*: September – April.
*Distribution*: Common in forests.
*Specimens examined*: Lothuvanka beat-vothimadugu, mulathirugu section, *M. Sankarar Rao & P. Harikrishna* 13970(BSID), Batta ganapa Kunta, *M. Sankarar Rao* 15020(BSID), Khasim Peer Saheb Dargah, Bayanna palle, *M. Sankarar Rao & P. Harikrishna* 13880 (BSID).

**Terminalia bellirica** (Gaertn.) Roxb., Pl. Coromandel 2 : 54. t. 198. 1805. '*Tani'*.
**(Plate -5A)**.

Large tree, up to 40 m tall. Leaves clustered near the ends of branches, elliptic obovate, 13 × 10 cm, base cuneate-attenuate or obtuse, oblique, margins entire-subcrenulate, apex rotund, emarginated. Flowers pale yellow or creamy white, with an offensive odour on

solitary, axillary spikes; upper ones in the spike often male and lower bisexual; bracts linear, early caduceus. Drupes broadly ellipsoid to subglobose.

*Flowering & Fruiting*: March-October.
*Distribution*: Common in forests.
*Specimens examined*: Teerthalu, M. Sankarar Rao 14434 (BSID).

## MYRTACEAE

### **Syzygium** Gaertn.

**Syzygium alternifolium** (Wight) Walp., Repert. Bot. Syst. 2: 179. 1843.

Trees, up to 12 m tall, branchlets pale, glabrous. Leaves alternate, ovate-oblong, orbicular, 13 × 7 cm, unequally rounded at base, glaucous beneath, thick, emarginate at apex, lateral nerves almost parallel, prominent, joining prominent marginal nerve. Flowers pale white in compound, trichotomous, lateral or axillary cymes. Berries 1.5 × 0.8 cm, globose, crowned at top with persistent calyx tube.

*Flowering & Fruiting*: March-May.
*Distribution*: Occasional in hills of forests.
*Specimens examined*: Bayanna palle, near Darga, P. Harikrishna & M. Sankarar Raoj 13878 (BSID).

## BURSERACEAE

### Key to the Genera

1a. Leaflets 2-3 pairs; flowers polygamous; drupe trigonous; armed **Commiphora**
b. Leaflets 5-15 pairs; flowers bisexual; drupe globose; unarmed **Boswellia**

### **Boswellia** Roxb. ex Colebr.

**Boswellia ovalifoliolata** N.P. Balakr. & A.N. Henry, J. Bombay Nat. Hist. Soc. 58: 546. 1961.

Medium sized tree, up to 10 m high, bark papery. Leaves crowded at ends of branches, alternate, imparipinnate, exstipulate. Leaflets opposite or alternate, sessile, ovate-oblong, base inequilateral and rounded, margin entire or slightly wavy, apex obtuse, glabrous, glaucous beneath, veins reddish. Flowers greenish, in axillary panicles. Drupe tri-gonous, containing three pyrenes, bony, winged. Seeds compressed.

*Flowering & Fruiting*: February-April.
*Distribution*: Endemic. Rare in hills of forests.
*Specimens examined*: Kapardeeswaraswami temple, *P. Harikrishna & M. Sankarar* Rao 13803 (BSID).

### **Commiphora** Jacq.

**Commiphora caudata** (Wight & Am.) Engler in A. & C.DC. Monog. Phan. 4: 27. 1833. '*Kondamamidi, Ronda ragi'*.

Deciduous tree, upto 10 m high. Bark greenish, papery. Leaves alternate, imparipinnate; leaflets 3-7 foliolate, ovate or lanceolate, 2.5-6 × 1-5.5 cm, base cuneate, caudate at apex. Flowers red, scented, polygamous, in axillary, long peduncled, dichasial cymes. Drupe globose; pyrenes 1 or 2. Seed solitary.

*Flowering & Fruiting*: March-September.
*Distribution*: Rare in forests.
*Specimens examined*: Kapardeeswaraswami temple, P. Harikrishna & M. Sankarar Rao 13806 (BSID).

## ANACARDIACEAE

### Key to the Genera

| | |
|---|---|
| 1a. Leaves simple | **Buchanania** |
| b. Leaves compound | **2** |
| 2a. Leaflets 3; branch lets spine-tipped; shrubs or trees | **Searsia** |
| b. Leaflets 7-9; branchlets unarmed; trees | **Lannea** |

### **Buchanania** Spreng.

**Buchanania axillaris** (Desr.) Ramamoorthy, C.J.Saldanha & D.H.Nicolson, Fl. Hassan Distr.: 374. 1976. '*Sarapappu, Peddmorli*'.

Evergreen tree, up to 8 m tall; branchelts glabrous, deeply fissured. Leaves oblong-elliptic, 5-10 × 3-6 cm, acute at base, undulate margin, apex emerginate, coriaceous, lateral nerves about 15 pairs. Flowers white in axillary panicles. Drupes compressed-globose; seeds 1, gibbose.

*Flowering & Fruiting*: June-December.
*Distribution*: Occasional in forests.
*Specimens examined*: Bayanna palle, near Darga, *M. Sankarar Rao & P. Harikrishna* 13881 (BSID).

### **Lannea** A.Rich.

**Lannea coromandelica** (Houtt.) Merr., J. Arnold Arb. 19: 353. 1938. '*Gumpina'*. **(Plate -5B)**.

Large deciduous tree. Leaves odd-pinnate, 15-22 cm; leaflets opposite, 4 pairs, oblong-lanceolate, 5-9 × 3-4 cm, chartaceous, nerves ca. 7 pairs, base obtuse, oblique, entire, apex attenuate. Flowers pale yellow, in terminal racemes. Drupe obovoid.

*Flowering & Fruiting*: March -May.
*Distribution*: Common in forests.
*Specimens examined*: Ragi manu danalu, *M. Sankarar Rao* 14418 (BSID).

**Searsia** F.A.Barkley

**Searsia mysorensis** (G. Don) Moffett, Bothalia 37: 170. 2007. *Rhus mysorensis* G. Don, Gen. Hist. 2: 74. 1832.

Shrub or small tree, up to 3 m high, branches reddish, hirtellous, thorns about 2.5 cm long. Leaves 3-foliolate, lateral leaflets obovate, terminal one oblanceolate, coriaceous, base cuneate, margin sinuate toothed, puberulous. Flowers pale green in terminal and axillary panicles. Drupe flattened, 5-loculed; seeds one in each locule.

*Flowering & Fruiting*: December-March.
*Distribution*: Occasional, found on hills.
*Specimens examined*: Near Bhogademma thalli temple forest area, *M. Sankarar Rao & P. Harikrishna* 14451 (BSID).

## SAPINDACEAE

### Key to the Genera

| | |
|---|---|
| 1a. Tendrillar climbers | **Cardiospermum** |
| b. Trees or shrubs | **2** |
| 2a. Leaves simple or odd-pinnate | **3** |
| b. Leaves even pinnate | **Sapindus** |
| 3a. Leaves simple; petals absent | **Dodonoea** |
| b. Leaves compound; petals 4 or 5 | **Allophyllus** |

**Allophylus** L.

**Allophylus serratus** (Roxb.) Kurz, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 44: 185. 1876.

Climbing shrub, up to 2 m long, branchlets whitish. Leaves 3-foliolate; leaflets elliptic or obovate, 7-10 × 5-6 cm. apex shortly acuminate, base cuneate, margin serrate-denticulate, petiolule up to 2.5 cm long. Flowers yellowish or white, in simple axillary racemes, peduncle to 3 cm long. Fruit globose, orange red on ripening.

*Flowering & Fruiting*: June -September.
*Distribution*: Occasional, in forests.
*Specimens examined*: Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13832 (BSID).

**Cardiospermum** L.

**Cardiospermum corindum** L., Sp. Pl., ed. 2: 526. 1762.

Tendrillar climbing herb. Stems deeply furrowed. Leaves bitemate, alternate; leaflets ovate, inciso-serrate, mucronate. Flowers white, in long peduncled umbellate cymes on tendrils. Capsules inflated, 3-lobed; seeds globose with orbicular hilum.

*Flowering & Fruiting*: July -December.
*Distribution*: Occasional, in forests along the streams and hedges.
*Specimens examined*: Boring area-Lothuvanka beat, *M. Sankarar Rao & P. Harikrishna* 15110 (BSID).

**Dodonaea** Mill.

**Dodonaea viscosa** Jacq., Enum. Syst. Pl. 19. 1760. '*Bhandara'*. **(Plate -5C)**.

Shrub or small tree, 2-3 m high; branches angled; young parts gland–dotted. Leaves oblanceolate, 3-7 × 1.8 cm. base attenuate, margins entire, apex obtuse-acute, subsessile. Flowers greenish yellow, unisexual, in few flowered axillary or terminal cymes. Capsule compressed, 2-4 valved with wings, 1 × 2 cm; 1-seeded.

*Flowering & Fruiting*: October -March.
*Distribution*: Common in scrublands.
*Specimens examined*: Near pulapala bavi area, *M. Sankarar Rao & P. Harikrishna* 13935(BSID), Near Bhogademma thalli temple forest area, *M. Sankarar Rao & P. Harikrishna* 14454 (BSID).

**Sapindus** Tourn. ex L.

**Sapindus emarginatus** Vahl, Symb. Bot. 3: 54. 1794. *S. trifoliatus* L., Sp., Pl. 36(1): 586. 1753. '*Kunkudu'*.

Moderately sized tree. Leaves 12-30 cm long; leaflets subopposite, usually 3 pairs, obovate–oblong, 4.5 × 3 cm, base cuneate, margins entire, apex emarginated-retuse. Flowers pale yellow, polygamous, in terminal rusty pubescent panicles. Sepals outer one oblong, inner ones obovate. Petals pale yellow, obovate, shortly clawed. Drupe ovoid, 2-3 lobed, 2.5 × 1.5 cm. Seeds smooth, blackish.

*Flowering & Fruiting*: October -February.
*Distribution*: Occasional in Forests, often planted.
*Specimens examined*: Near Paya bavi Base camp forest area, *M. Sankarar Rao & P. Harikrishna* 13955 (BSID).

**RUTACEAE**

**Key to the Genera**

1a. Fruit a capsule **Chloroxylon**
b. Fruit other than capsul **2**

2a. Plants armed **3**
b. Plants unarmed **Bergera**

3a. Leaves uni-foliolate **Atalantia**
b. Leaves 3-manv-foliolate **4**

4a. Petiole winged **5**
b. Petiole not winged **Aegle**

5a. Disc columnar; stamens 8-10; seeds 3-4 **Naringi**
b. Disc annular; stamens 10-12; seeds numerous **Limonia**

**Aegle** Corrêa

**Aegle marmelos** (L.) Correa, Trans. Linn. Soc. London 5: 223. 1800. '*Maredu'*. **(Plate -5D)**

Deciduous armed tree, up to 10 m tall. Bark greyish white with longitudinal wrinkles. Spines axillary. Leaves trifoliolate (rarely 5), leaflets 1-3 × 0.5-1.5 cm, elliptic, crenulate, obtuse or emarginate. Flowers greenish white, fragrant, in axillary panicles. Fruits globose grey or yellowish brown, up to 20 cm in diam. with a woody rind. Seeds numerous, oblong.

*Flowering & Fruiting*: April – November.
*Distribution*: Occasional in forest understorey.
*Specimens examined*: Teegala doddi penta-compartment no. 281, *M. Sankarar Rao & P. Harikrishna* 13973(BSID), near chilakala gutta Venugopala Swamy temple, *M. Sankarar Rao & P. Harikrishna* 15083 (BSID).

**Atalantia** Corrêa

**Atalantia monophylla** (L.) DC., Prodr. 1: 535. 1824. '*Karu nimma, Erra munukudu, Adavi nimma*'. **(Plate -5E)**

Densely foliaceous, armed tree. Spines 1 or 2 axillary on branches. Leaves 3-6 × 2-2.2 cm, glabrous, simple, lanceolate, obtuse or cuneate, entire, emarginate. Flowers creamish in axillary racemes. Berries globose, seeds 4, ovoid.

*Flowering & Fruiting*: September-May.
*Distribution*: Occasional in forests.
*Specimens examined*: Nimma kunta bavi, *M. Sankarar Rao & P. Harikrishna* 13992(BSID), Guratla bavi, *M. Sankarar Rao* 15028(BSID), Ragi manu danulu-Khajipet, *M. Sankarar Rao & P. Harikrishna* 13961(BSID), Narukudu vanka, *M. Sankarar Rao & P. Harikrishna* 15104 (BSID).

**Bergera** J.Koenig

**Bergera koenigii** L., Mant. Pl. 2: 563. 1767. *Murraya koenigii* (L.) Spreng. Svst. Veg. 2: 315. 1826. '*Karuvepaku'*.

Small tree, up to 5m tall. Bark grey. Leaves imparipinnate, leaflets oblong-lanceolate 2-5 × 1.25 cm, pale green. Flowers small, white in terminal corymbose panicles. Berry subglobose, shining, pale yellow, purplish black when ripe.

*Flowering & Fruiting*: March – May.
*Distribution*: Rarely in forests, often planted.

*Specimens examined*: Teegala doddi penta-compartment no. 281, *M. Sankarar Rao* 13986 (BSID).

**Chloroxylon** DC.

**Chloroxylon swietenia** DC., Prodr. 1: 625. 1824. '*Billu, Billudu*'.

Medium sized deciduous tree, 5-10 m tall. Leaves 12-24 cm long; leaflets 10-20 pairs, oblong, 1.5-3 × 0.6-1.5 cm, unequilateral at base, margines entire, apex obtuse, gland dotted. Flowers white- cream colored, in axillary and terminal, many flowered, branched pyramidal panicles. Capsule oblong, acute. Seeds compressed, winged.

*Flowering & Fruiting*: March – August.
*Distribution*: Common in forests.
*Specimens examined*: Kapardeeswaraswami temple, *P. Harikrishna & M. Sankarar Rao* 13810 (BSID).

**Limonia** L.

**Limonia acidissima** L. Sp. Pl. ed. 2. 554. 1762. *Feronia elephantum* Correa in Trans. Linn. Soc. London 5: 224. 1800. '*Velaga'*.

Armed medium sized tree. Bark brown-grey. Spines axillary. Branches spreading horizontally. Leaves spiral, leaflets 1-4 pais, imparipinnate. Petioles and rachis often winged. Flowers pale green-creamish in axillary and terminal panicles. Fruits large, globose, rind woody.

*Flowering & Fruiting*: March – December.
*Distribution*: Occasional in forests.
*Specimens examined*: Lothuvanka beat-vothimadugu, mulathirugu section, *M. Sankarar Rao & P. Harikrishna* 13972 (BSID).

**Naringi** Adans.

**Naringi crenulata** (Roxb.) Nicolson, C.J.Saldanha & D.H.Nicolson, Fl. Hassan Distr.: 387.1976. '*Tor-elaga*'. **(Plate -5F)**

Deciduous armed tree, upto 7 m tall. Spines axilary, straight. Leaves in clusters; leaflets 3 pairs, ovate or elliptic, glabrous, crenulate, subacute; petiole and rachis winged, jointed. Flowers white in axillary racemes. Berries globose. Seeds ovoid.

*Flowering & Fruiting*: November - March.
*Distribution*: Occasional in forests.
*Specimens examined*: Near Rolabadu base camp, *M. Sankarar Rao & P. Harikrishna* 14490(BSID), Bangla bavi, *M. Sankarar Rao & P. Harikrishna* 15048 (BSID).

## MELIACEAE

### Key to the Genera

1a. Leaves even-pinnate **Cipadessa**
b. Leaves odd-pinnate **Soymida**

### **Cipadessa** Blume

**Cipadessa baccifera** (Roth) Miq., Ann. Mus. Bot. Lugduno-Batavi 4: 6. 1868. '*Chandbera, Purudona*'. **(Plate -5G)**

Deciduous small tree. Leaves imparipinnate; leaflets oblong-lanceolate, pilose below, margin proximally entire, distally serrate, acuminate. Flowers white, in axillary panicles. Fruit drupe, globose, 5-lobed, scarlet red when ripe.

*Flowering & Fruiting*: October - March.
*Distribution*: Occasional in hills of forests.
*Specimens examined*: Stream near Sri Lankamalleswara Temple, *M. Sankarar Rao & P. Harikrishna* 13925 (BSID).

### **Soymida** A.Juss.

**Soymida febrifuga** (Roxb.) A. Juss., Mém. Mus. Hist. Nat. 19: 251.1832. '*Somi'*.

Tall deciduous tree, up to 12 m high. Leaves clustered at the ends of the branches, 20 - 45 cm long; petioles 5-7 cm long, swollen at base; leaflets 3-9, ovate-oblong, 5-10 × 2.6.5 cm, base rounded to obtuse, inequilateral, margins entire, apex obtuse. Flowers white, in axillary and terminal panicle. Capsule pear shapeds, 5-valved, 5-9 cm long with a winged seeds.

*Flowering & Fruiting*: February- October.
*Distribution*: Occasional in forests.
*Specimens examined*: Bayanna palle, near Darga, *P. Harikrishna & M. Sankarar Rao* 13874 (BSID).

## MALVACEAE

### Key to the Genera

1a. Anthers dithecous **5**
b. Anthers monothecous **2**

2a. Flowers bisexual **3**
b. Flowers unisexual **Kydia**

3a. Lower surface of the petal densely ferruginous hairy **Azanza**
b. Lower surface of the petal not as above **4**

| | |
|---|---|
| 4a. Stylar branches 5 | **Hibiscus** |
| b. Stylar branches 10 | **Pavonia** |
| 5a. Petals with scaly or thickened glands on base | **6** |
| b. Petals not with scaly or thickened glands on base | **7** |
| 6a. Fruit a drupe | **Grewia** |
| b. Fruit a capsule | **Triumfetta** |
| 7a. Trees | **Pterospermum** |
| b. Herbs or shrubs or under-shrubs | **8** |
| 8a. Petals appendaged | **Ayenia** |
| b. Petals not appendaged | **Helicteres** |

**Ayenia** L.

**Ayenia herbacea** (Roxb.) T.K.Paul, Pleione 18: 395. 2024. *Byttneria herbacea* Roxb., Pl. Coromandel 1: 28. 1795.

Small prostrate herb, upto 30 cm high. Leaves ovate-triangular, 2-4 × 1-1.5 cm, base truncate, acuminate at apex, serrate along margins. Flowers reddish, in axillary cymes. Fruits echinate.

*Flowering & Fruiting*: October-January.
*Distribution*: Common in forests.
*Specimens examined*: Mamileru, *M. Sankarar Rao* 14424 (BSID).

**Azanza** Alef.

**Azanza lampas** (Cav.) Alef., Bot. Zeitung (Berlin) 19: 297. 1861. *Thespesia lampas* (Cav.) Dalzell, N.A.Dalzell & A.Gibson, Bombay Fl.: 19. 1861. '*Kondapatti'*.

Shrub, upto 2 m high. Leaves simple to palmately trilobed, ovate to orbicular, 6-10 × 6-7.5 cm, base subcordate, acuminate at apex. Flowers yellow, in terminal or axillary recemes, rarely solitary. Corolla bright yellow with purple centre. Capsules ovoid, 4-valved.

*Flowering & Fruiting*: September-December.
*Distribution*: Occasional in open forests and slopes.
*Specimens examined*: Near Umamaheshwara Swamy temple forest area, *M. Sankarar Rao & P. Harikrishna* 13948(BSID), Savarla bavi, *M. Sankarar Rao & P. Harikrishna* 15063 (BSID).

**Grewia** L.

**Key to the Species**

| | |
|---|---|
| 1a. Leaves 3-nerved from the base of the leaf blade | **2** |
| b. Leaves 5- or more-nerved from the base of leaf blade | **3** |

2a. Flowers polygamous, leaves oblique, fruits pilose at maturity **G. hirsuta**
b. Flowers bisexual, leaves glabrous beneath **G. rhamnifolia**

3a. Plants trees **G. tiliifolia**
b. Plants shrubs **G. villosa**

**Grewia hirsuta** Vahl, Symb. Bot. 1: 37. 1790. '*Kadurupandlu'*.

Erect or straggling shrub, up to 1.5 m high; branchlets velvety. Leaves oblong or lanceolate, 3-7 × 1-4.5 cm, oblique, base subcordate, acute at apex, serrate along margins. Flowers white, in axillary, umbelled cymes. Drupe globose, obscurely 4 lobed, hirsute.

*Flowering & Fruiting*: May – November.
*Distribution*: Occasional in open forests.
*Specimens examined*: On the way to Nitya Pooja Kona, *P. Harikrishna & M. Sankarar Rao* 13829(BSID), Bayanna palle, near Darga, *P. Harikrishna & M. Sankarar Rao* 13882 (BSID).

**Grewia rhamnifolia** Roth, Nov. Pl. Sp.: 244. 1821.

Straggling or scandent shrub, up to 2.5 m high. Leaves elliptic-lanceolate, base tapering, subcordate-obtuse, margins crenulate, apext acute to acuminate. Flowers white in axillary, terminal, 3 flowered cymes. Drupes globose, yellow.

*Flowering & Fruiting*: May – February.
*Distribution*: Occasional in forests.
*Specimens examined*: Guratla bavi, *M. Sankarar Rao* 15027(BSID).

**Grewia tiliifolia** Vahl, Symb. Bot. 1: 35. 1790. '*Jana'*.

Medium sized tree, upto 7 m high. Leaves broadly ovate or orbicular, 8-12 × 6.5-9.5 cm, base cordate, margins crenate-dentate, apex acuminate. Flowers yellowish, 2 cm across, axillary, 2-3 flowered, cymes. Drupe shallowly 2-lobed, glabrescent.

*Flowering & Fruiting*: January – October.
*Distribution*: Occasional in forests.
*Specimens examined*: Gollapalli, *P. Harikrishna & M. Sankarar Rao* 13866(BSID), Nimma kunta bavi, *M. Sankarar Rao & P. Harikrishna* 13998 (BSID).

**Grewia villosa** Willd., Neue Schriften Ges. Naturf. Freunde Berlin 4: 205. 1803.

Shrub, branchlets rusty-velvety. Leaves ovate-orbicular, base cordate, crenate-serrulate margin, obtuse at apex. Flowers yellowish-brown, in axillary or leaf-opposed cymes. Drupes obscurely 4-lobed, compressed, rind crustaceous.

*Flowering & Fruiting*: March – October.
*Distribution*: Occasional in scrublands and open forests.
*Specimens examined*: Narukudu vanka, *M. Sankarar Rao & P. Harikrishna* 15107 (BSID).

**Helicteres** Pluk. ex L.

**Helicteres isora** L., Sp. Pl. 2: 963. 1753.

Large shrub. Leaves obovate or orbicular, 6-12 × 4-7 cm, coriaceous, basally 3-5 nerved, tomentose, sub-cordate subacute, irregularly serrulate, acuminate. Flowers crimson, in axillary cymes. Follicles 5, beaked, spirally twisted. Seeds wrinkled, angular.

*Flowering & Fruiting*: April-January.
*Distribution*: Common in forests.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13822(BSID), Nimma kunta bavi, *M. Sankarar Rao & P. Harikrishna* 13997(BSID), On way to Lankamalleshwara Temple, *M. Sankarar Rao & P. Harikrishna* 13912(BSID), Pothu battani bavi, *M. Sankarar Rao* 15009 (BSID).

**Hibiscus** L.

**Key to the Species**

1a. Epicalyx present **H. micranthus**
b. Epicalyx absent or very short **H. lobatus**

**Hibiscus lobatus** (Murray) Kuntze, Revis. Gen. Pl. 3(2): 19.1898. '*Atakanara'*.

Erect annual herb, upto 60 cm high; stem densely pubescent. Leaves basal unlobed, upper often palmatley 3-lobed or narrowly 3-partite, ovate, 5-9 × 4-8 cm, subcordate at base, margins coarsely serrate-dentate, apex acute. Flowers white or pale pink, initially axillary solitary, later due to reduction of distal leaves in teminal racemes. Capsule oblong, beaked, sparsely pubscent. Seeds trigonous, with rounded angles, black.

*Flowering & Fruiting*: August- November.
*Distribution*: Occasional in forests.
*Specimens examined*: Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13852(BSID), Venugopala swami temple forest area, *M. Sankarar Rao & P. Harikrishna* 15079 (BSID).

**Hibiscus micranthus** L.f., Suppl. Pl. 308. 1781.

Undershrub, upto 2 m high. Leaves ovate, 1-3 × 0.5-1.5 cm, base subcordate, serrate, apex acute. Flowers white or pink, axillary, solitary. Capsules globose, 5-valved. Seeds many, reniform, black, silky.

*Flowering & Fruiting*: May- November.
*Distribution*: Common along the edges of forests.
*Specimens examined*: Vaneshwara rasta, *M. Sankarar Rao* 15030 (BSID).

**Kydia** Roxb.

**Kydia calycina** Roxb., Pl. Coromandel 3: 11, t. 215. 1819.

Deciduous tree, up to 8 m high. Leaves broad ovoid, to nearly orbicular, with 3-5 angular lobes, 5-9 × 4-8 cm. Flowers white, axillary or in terminal panicles. Capsule subglobose, surrounded by the accrescent. Seeds reinform, brown, minutely hairy, concentrically ribbed.

*Flowering & Fruiting*: September-March.
*Distribution*: Rare in forests.
*Specimens examined*: Savarla bavi, *M. Sankarar Rao & P. Harikrishna* 15062 (BSID).

**Pavonia** Cav.

**Pavonia zeylanica** (L.) Cav., Diss. 3: 134. 1787.

Small annual herb, upto 80 cm high. Leaves orbicular-ovate, deeply 3-lobed, 1-1.7 × 1-1.5 cm, base cordate, acuminate at apex. Flowers pinkish-white. Mericarps winged at edges, smooth, glabrous.

*Flowering & Fruiting*: May-January.
*Distribution*: Common along the forest roads and edges of open forests.
*Specimens examined*: On the way to Madara bai, *M. Sankarar Rao* 13999 (BSID).

**Pterospermum** Schreb.

**Pterospermum suberifolium** (L.) Lam., Tabl. Encycl. 3: 136, 1. 576. 1794. '*Lolagu, Tada'*.

Medium sized tree, upto 8 m high. Leaves oblong – obovate, coracious, wooly below, base oblique, subcordate, margins coarsely toothed, acuminate at apex. Flowers white, fragrant, in axillary, solitary. Fruit capsule, tapering at both ends, 4-5 valved, covered with fluffy pubescent.

*Flowering & Fruiting*: Throughout the year.
*Distribution*: Occasional in forests.
*Specimens examined*: Near Paya bavi Base camp forest area, *M. Sankarar Rao & P. Harikrishna* 13954(BSID), Usarla banda-rollabadu road, *M. Sankarar Rao & P. Harikrishna* 15039 (BSID).

**Triumfetta** Plum. ex L.

**Triumfetta pentandra** A. Rich., Guill. & Perr., Fl. Seneg. Tent. 1: 93, f. 19. 1831.

Undershrub. Lower leaves palmately 3 lobed, 5 × 5 cm; upper leaves rhomboid or elliptic, 2.5 × 1.5 cm, basally 3-5 nerved, strigose, cuneate, crenate-serrate, acuminate. Flowers yellow, in axillary racemes. Capsule ovoid-concial; prickles hispid. Seeds ovoid, beaked.

*Flowering & Fruiting*: July – January.
*Distribution*: Occasional in road sides and open forests.
*Specimens examined*: Savarla bavi, *M. Sankarar Rao & P. Harikrishna* 15060 (BSID).

## CAPPARACEAE

### **Capparis** Tourn. ex L.

**Capparis sepiaria** L., Syst. Nat. ed. 10. 2: 1071. 1759.

Armed, climbing shrub. Stem zig-zag, terete, branches sub-flexuous, thorns paired, recurved, leaves 2-5 × 1-3 cm, ovate-lanceolate, elliptic. Flowers white, in many flowered, terminal umbels. Berries ovoid, ripe black.

*Flowering & Fruiting*: April – September.
*Distribution*: Occasional in edges of open forests and scrublands.
*Specimens examined*: Teegala doddi penta-compartment no. 281, *M. Sankarar Rao* 13974 (BSID).

## CLEOMACEAE

### **Cleome** L.

**Key to the Species**

1a. Plants viscous with stalked glands **C. viscosa**
b. Plants mostly glabrous, rarely with scale like hairs **C. aspera**

**Cleome aspera** J.Koenig ex DC., Prodr. 1: 241. 1824.

Small, annual herb, upto 30 cm high. Basally 3-foliolate, apically simple; leaflets oblanceolate, middle ones 2 x 0.5 cm, lateral ones 1 x 0.3 cm, cuneate, ciliate, apex obtuse. Flowers yellow, in axillary, solitary. Capsule glabrous, obliquely striate, beaked. Seeds 15-20, clefts closed, ridges prominent, transverse, crests concentric.

*Flowering & Fruiting*: July-January.
*Distribution*: Occasional along the roads and wastelands.
*Specimens examined*: Narasimha kunta rasta, *M. Sankarar Rao* 14442 (BSID).

**Cleome viscosa** L., Sp. Pl. 672. 1753.

Erect annual herb, up to 60 cm high. Stem grooved, viscid, densely clothed with glandular or simple hairs. Leaves 3-5 foliolate; leaflets elliptic- oblong or obovate, 3 x 1 cm, acute or obtuse at apex, cuneate at base. Flowers yellow, in axillary and terminal racemes. Capsules terete, striate, glandular hairy; seeds many, sub-globose.

*Flowering & Fruiting*: July-November.
*Distribution*: Common along the forest roads and wastelands.
*Specimens examined*: Narasimha kunta rasta, *M. Sankarar Rao* 14443(BSID), Gate bhai vanka, *M. Sankarar Rao* 15022 (BSID).

## Super Asterids [Asterids: Campanulids and Lamids]

## OLACACEAE

### Key to the Genera

1a. Calyx enveloping drupe only at base **Ximenia**
b. Calyx enveloping drupe to half or more the length **Olax**

### **Olax** L.

**Olax scandens** Roxb., Pl. Coramandel t. 102. 1799 '*Kurpodur'*. **(Plate -5H)**.

Armed straggler, upto 3 m high. Leaves oblong or ovate-lanceolate, 3.5-7 × 2.5-3 cm, 1.5-7 × 1-3 cm, obtusely acute at apex, rounded at base. Flowers white, in axillary racemes. Drupes globose to oblong, basal half enclosed by calyx, ripening pinkish.

*Flowering & Fruiting*: April-July.
*Distribution*: Occasional in forests.
*Specimens examined*: Teerthalu, *M. Sankarar Rao* 14433(BSID), Gollapalli, *P. Harikrishna & M. Sankarar Rao* 13864(BSID), Bayanna palle, on the way to Darga, *P. Harikrishna & M. Sankarar Rao* 13890 (BSID).

### **Ximenia** Plum. ex L.

**Ximenia americana** L., Sp. Pl. 1193. 1753 '*Uranechra'*. **(Plate -6A)**.

Bushy straggler; spines axillary. Leaves ovate, 1.5-3-5 × 1-3 cm, thin-coriaceous, base and apex obtuse, entire, petiole to 7 mm. Flowers white, in umbellate racemes, axillary and terminal. Drupe globose or ovoid, ripening yellow. Seed solitary to 5 mm.

*Flowering & Fruiting*: March -July.
*Distribution*: Occasional in forests.
*Specimens examined*: Teegala doddi penta-compartment no. 281, *M. Sankarar Rao* 13984 (BSID).

## OPILIACEAE

### **Opilia** Roxb.

**Opilia amentacea** Roxb., Pl. Coromandel 2: 31. 1802. **(Plate -6B)**.

Climbing shrub. Branches brownish, terete, faintly striate. Leaves 9 × 3 cm, elliptic, acuminate, base rounded or acute, entire, penninerved. Flowers greenish, small, in axillary racemes about 2 cm long, concealed by rhomboid, peltate, ciliate bracts. Style and stigma are simple. Drupes about 2.7 × 1.5 cm, oblong, glacous; seed 1, blackish.

*Flowering & Fruiting*: March -July.
*Distribution*: Occasional in forests.

*Specimens examined*: Teegala doddi penta-compartment no. 281, *M. Sankarar Rao* 13987 (BSID).

## SANTALACEAE
### Viscum L.

**Viscum articulatum** Burm.f., Fl. Ind. 311. 1768. **(Plate -6C)**.

Slender, leafless stem parasitic herb. Leaves redcuced to scales, minute. Internodes in young branches linear, flattened, narrowed at each end. Flowers minute, green or yellowish green, subsessile, 1-6 together in fascides at the nodes. Berry globose, glassy white, apex truncate.

*Flowering & Fruiting*: July-November.
*Distribution*: Occasionally found in forests.
*Specimens examined*: Near pulapala bavi area, *M. Sankarar Rao & P. Harikrishna* 13934(BSID), on the way to Venugopala swami temple, *M. Sankarar Rao & P. Harikrishna* 15069 (BSID).

## CARYOPHYLLACEAE
### Polycarpaea Lam.

**Polycarpaea corymbosa** (L.) Lam., Tabl. Encycl. 2: 129. 1797.

Erect, dichotomously branched annual herb, upto 30 cm high. Leaves linear–lanceolate, 10-25 × 1-2 cm, many per node, mucronate, sessile; stipules lanceolate. Flowers small, silvery white or brown, in termnal cymose panicles. Capsule globose, reddish-brown, 1.25 mm; seeds few, obovoid.

*Flowering & Fruiting*: August-December.
*Distribution*: Occasionally in forests and wastelands.
*Specimens examined*: Loddibanda, *M. Sankarar Rao & P. Harikrishna* 14470 (BSID).

## AMARANTHACEAE
### Achyranthes L.

**Achyranthes aspera** L., Sp. Pl. 204. 1753. '*Uttareni'*.

Erect, pubescent herb, up to 1 m high. Branches obtusely 4-angled, striate, pubescent. Leaves ovate-obovate or broadly elliptic, 8 × 5 cm, rounded or subcordate at base, margins entire or undulate, sub acute or acuminate at apex. Flowers greenish-white, in terminal spikes, 20 cm long. Urticle oblong-cylindric, enclosed in hardened perianth, truncate at apex. Seeds brown.

*Flowering & Fruiting*: July - December.
*Distribution*: Occasionally along the roads and wastelands.
*Specimens examined*: Near Sri Lankamalleswara Temple, *M. Sankarar Rao & P. Harikrishna* 13923 (BSID).

**Alternanthera** Forssk.

**Alternanthera paronychioides** A.St.-Hil., Voy. Distr. Diam. 2(2): 43. 1833.

Prostrate, creeping herbs; stem with long crisped hairs on the younger parts. Leaves oblanceolate-elliptic, 1-1.3 × 0.5-0.7 cm, sessile, hairy. Flowers white, in numerous heads. Utricle orbicular, seed discoid, 1 mm across, faintly reticulate.

*Flowering & Fruiting*: January – May.
*Distribution*: Occasional along the roads and open forest borders.
*Specimens examined*: Khasim Peer Saheb Dargah, Bayanna palle, *M. Sankarar Rao & P. Harikrishna* 13903 (BSID).

**Pupalia** Juss.

**Pupalia lappacea** (L.) Juss. Ann. Mus. Natl. Hist. Nat. 2: 132. 1803.

Erect, straggling, under shrub, upto 1 m high. Leaves ovate or elliptic, with rounded and shortly cuneate base, pubescent, ciliate, apiculate, 6.5 × 3.5 cm. Flowers pale green or whitish, in terminal and axillary sticky spikes; bracts spinous at apices. Perianth subeual, 5 × 2.5 mm, thorny with spreading hooked awns. Urticle, broadly oblong, suddenly tapering into persistent styles. Seeds black, compressed shining.

*Flowering & Fruiting*: October-February.
*Distribution*: Occasionally along the roads and open forest borders.
*Specimens examined*: Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13833 (BSID).

**MOLLUGINACEAE**

**Trigastrotheca** F.Muell.

**Trigastrotheca pentaphylla** (L.) Thulin, Taxon 65: 784. 2016. *Mollugo pentaphylla* L., Sp. Pl. 89. 1753.

Small, annual herb, up to 20 cm high. Leaves radical as well as cauline; radical leaves oblanceolate, spathulate, cauline leaves 3-5 in a whort at each node, obovate-elliptic, 1-2.3 × 0.3-0.8 cm, base cuneate-attenuate, margin entire, apex subacute. Flowers white in terminal or leaf opposed peduncled cymes. Capsule ellipsoid.

*Flowering & Fruiting*: June – December.
*Distribution*: Common in in disturbed places and open forests.
*Specimens examined*: Narasimha kunta rasta, *M. Sankarar Rao* 14444 (BSID).

**PORTULACACEAE**

**Portulaca** L.

**Portulaca tuberosa** Roxb., Fl. Ind., ed. 1832. 2: 464. 1832.

Perennial, erect or decumbent herb, up to 30 cm high, with thick tuberous root. Leaves spiral, oblong, apex obtuse or rounded. Flowers yellow, solitary or 2-4 in capitula. Capsule ovoid-globose.

*Flowering & Fruiting*: June – October.
*Distribution*: Occasional in sandy areas.
*Specimens examined*: Gundala banda, *M. Sankarar Rao* 15037 (BSID).

## CACTACEAE

### **Opuntia** Mill.

**Opuntia tuna** (L.) Mill., Gard. Dict., ed. 8: n. 3. 1768. *Opuntia stricta* var. *dillenii* (Ker Gawl.) L.D.Benson, Cact. Succ. J. (Los Angeles) 41: 126. 1969.

Shrub, up to 2 m tall, succulent. Stem and branches jointed; areoles raised, densely wooly, glochiodate with yellow spines. Leaves scaly, deciduous. Flowers yellow, solitary; perianth and stamens indefinite. Berry obovoid. Seeds numerous.

*Flowering & Fruiting*: February-April.
*Distribution*: Occasional in Scrublands and roadsides.
*Specimens examined*: Teegala doddi penta-compartment no. 281, *M. Sankarar Rao* 13975 (BSID).

## CORNACEAE

### **Alangium** Lam.

**Alangium salviifolium** (L.f.) Wangerin, H.G.A.Engler (ed.), Pflanzenr., IV, 220b: 9. 1910. '*Udugu, Ooduga'*. **(Plate -6D)**

Small deciduous tree, to 8 m high, with spinescent branches and grey bark. Leaves oblong-lanceolate, 6-10 × 2-4 cm, obtuse at apex, cuneate at base, entire along margins. Flowers small, white, fragrant, woolly, in axillary clusters. Berry globose, red when ripe.

*Flowering & Fruiting*: February- June.
*Distribution*: Occasional in Scrublands and open forests.
*Specimens examined*: Ragi manu danalu, *M. Sankarar Rao* 14421 (BSID).

## LECYTHIDACEAE

### **Careya** Roxb.

**Careya arborea** Roxb., Pl. Coromandel 3: 14. 1819. **(Plate -6E)**

Medium sized deciduous tree, up to 8 m. Leaves crowded at the ends of branches, obovate, 17 × 10 cm, crenate- serrate, rounded or subacute, tapering at base. Flowers sessile, dull white, in terminal spikes or racemes. Berry fleshy, green, indehiscent, globose.

*Flowering & Fruiting*: February- July.
*Distribution*: Occasional in forests.

*Specimens examined*: Erradanulu, *M. Sankarar Rao* 14422 (BSID).

## SAPOTACEAE

### **Manilkara** Adans.

**Manilkara hexandra** (Roxb.) Dubard, Ann. Mus. Colon. Marseille, sér. 3, 3: 9. 1915. '*Puttapala, Pala nemmi, Manchipala, Kanupala, Nimmi pala*'. **(Plate -6F)**

A medium sized tree, upto 6 m high. Leaves obovate-cuneate, thick, glabrous, shining. Flowers white, in fascicles of 3-7, axillary, buds club shaped. Fruit berry, ellipsoid, reddish yellow when ripe; 1 often 2 seeded.

*Flowering & Fruiting*: November- January.
*Distribution*: Occasional in forests.
*Specimens examined*: Narukudu vanka, *M. Sankarar Rao & P. Harikrishna* 15103 (BSID).

## EBENACEAE

### **Diospyros** L.

**Diospyros chloroxylon** Roxb., Pl. Coromandel 1: 38. 1795. '*Illinta, Kavakimanu, Ullinda, Koshavo, Nela-ulimira, Ellinda, Thorika*'.

Small tree. Branches occasionally throny, young parts rusty tomentose. Leaves elliptic-obovate, 7 × 3.5 cm, thinly pubescent, above, fulvous-pubescent beneath, entire, subacute. Flowers white, sessile. Berry globose, glabrous, browinish.

*Flowering & Fruiting*: July-November.
*Distribution*: Occasional in forests.
*Specimens examined*: Lothuvanka beat-vothimadugu, mulathirugu section, *M. Sankarar Rao & P. Harikrishna* 13967 (BSID).

## RUBIACEAE

### Key to the genera

| | |
|---|---|
| 1a. Herbs or undershrubs | **Knoxia** |
| b. Trees or shrubs | **2** |
| 2a. Ovules single in each cell | **3** |
| b. Ovules 2 or more than 2, usually many in each cell | **6** |
| 3a. Corolla lobes contorted | **4** |
| b. Corolla lobes valvate | **5** |
| 4a. Flowers four-merous; style glabrous | **Pavetta** |
| b. Flowers five-merous; style hairy | **Tarenna** |
| 5a. Armed shrubs; flowers 4-merous; drupe ellipsoid | **Canthium** |
| b. Unarmed trees; flowers 5-merous; drupe globose | **Psydrax** |

6a. Flowers in globose heads **7**
b. Flowers not in globose heads **9**

7a. Fruit a syncarpium **Morinda**
b. Fruit aggregated capsule **8**

8a. Peduncles solitary; calyx truncate, not lobed; stigma mitiform; capsule oblong, faintly 10-ribbed **Mitragyna**
b. Peduncles 2-3 together; calyx lobed; stigma clavate; capsule cuneate, not ribbed **Adina**

9a. Armed shrubs **Catunaregum**
b. marmed trees or shrubs **Gardenia**

**Adina** Salisb.

**Adina cordifolia** (Roxb.) Hook.f. & Benth., D.Brandis, Forest Fl. N.W. India: 263. 1874. *Haldina cordifolia* (Roxb.) Ridsdale, Blumea 24: 361. 1978. '*Pasupu ganapa, Bandari, Bandaru, Pedda Kamba*'.

Deciduous tree, up to 13 m. Leaves cordate to suborbicular, 10-15 × 12-18 cm, coriaceous, lateral nerves 8-10 pairs, cordate, entire, acuminate. Flowers yellowish-white, sessile or subsessile, in axillary, globose head. Capsule cuneate, clustered. Seeds elongate, tailed above.

*Flowering & Fruiting*: June – December.
*Distribution*: Occasional near river banks and streams of forests.
*Specimens examined*: Rollabadu rasta, *M. Sankarar Rao* 15053 (BSID).

**Canthium** Lam.

**Canthium coromandelicum** (Burm.f.) Alston , Trimen, Handb. Fl. Ceylon. 6: 152.

Thorny, subscandent, glabrous shrub, up to 2 m high; throns opposite, supra-axillary, 1-3 cm long. Leaves broadly ovate or sub-orbicular, 3.5 × 3 cm, base attenuate, margins entire, apex subacute. Flowers white or pale greenish yellow, in axillary fascicled cymes. Drupe 2-3 clustered, ellipsoid, didynamous, orange when ripe.

*Flowering & Fruiting*: March – September.
*Distribution*: Occasional in Scrublands and open forests.
*Specimens examined*: Bayanna palle, near Darga, *P. Harikrishna & M. Sankarar Rao* 13877(BSID), Near Bhogademma thalli temple forest area, *M. Sankarar Rao & P. Harikrishna* 14453 (BSID).

**Catunaregam** Wolf

**Catunaregam spinosa** (Thunb.) Tirveng., Bull. Mus. Hist. Nat. Ser. 3, Bot. 35: 13. 1978. '*Manga'*. **(Plate -6G)**

Deciduous shrub, up to 4 m tall, armed with shout, straight, nearly opposite and decussate, axillary spines. Leaves clustered, obovate spathulate or oblanceolate, 2.5-5 cm long, obtuse or shortly acuminate at apex, cuneate to a attenuate at base. Flowers white or yellow, fragrant, solitary or in fascicles at ends of sort leaf-bearing branchlets, sometimes on axillary spines. Berry globose or ovoid, crowned by semi-persistent calyx-teeth.

*Flowering & Fruiting*: February-June.
*Distribution*: Occasional in Scrublands and open forests.
*Specimens examined*: Bayanna palle, near Darga, *P. Harikrishna & M. Sankarar Rao* 13876(BSID), Teegala doddi penta-compartment no. 281, *M. Sankarar Rao* 13981(BSID), Teerthalu, *M. Sankarar Rao* 14439(BSID), Vaneshwara rasta, *M. Sankarar Rao* 15032 (BSID).

**Gardenia** J.Ellis

**Key to the Species**

1a. Leaves petiolate, secondary nerves slender, parallel, very prominent beneath **G.resinifera**
b. Leaves sessile or subsessile, secondary nerves other than above **2**

2a. Leaves 7-30 × 2.5-18.5 cm; flowers pedicillate; clayx-lobes linear- lanceolate; stamens subexserted; fruit large **G. latifolia**
b. Leaves 3-8.5 x 1.5-6 cm; flowers sessile; calyx lobes triangular; stamens included; fruit small **G. gummifera**

**Gardenia gummifera** L.f., Suppl. Pl.: 164. 1782. '*Bikki, Manchi bikki'*.

Small tree, upto 4 m tall. Leaves simple, oblong-obovate, 2-6 × 1-3 cm, acute, entire, acute-obtuse, main nerves 10-18 pairs. Flowers yellowish-white, in axillary, solitary. Berry ellipsoid or oblong, beake stout.

*Flowering & Fruiting*: January-May.
*Distribution*: Occasional in forests.
*Specimens examined*: Bayanna palle, near Darga, *P. Harikrishna & M. Sankarar Rao* 13888(BSID), Pothu battani bavi, *M. Sankarar Rao* 15010(BSID), Mamileru, *M. Sankarar Rao* 14425 (BSID).

**Gardenia latifolia** Aiton, Hort. Kew 1: 294. 1789. '*Pedda bikki'*. **(Plate -6H)**

Moderate-sized tree, up to 8 m high. Leaves sometimes whorled, ovate or obovate, 6-13 × 3-7 cm, acuteattenuate, entire, glabrous. Flowers white, in short cymes. Berries globose, with a crown of calyx. Seeds numerous, compressed, rugose.

*Flowering & Fruiting*: February-November.
*Distribution*: Occasional in forests.
*Specimens examined*: Narasimha kunta rasta, *M. Sankarar Rao* 14448 (BSID).

**Gardenia resinifera** Roth, Nov. Pl. Sp. Pl. 150. 1821. '*Karinga, Chinna karinga, Verri bikki*'.

Small tree to 6 m. Leaves elliptic-ovate, 5-14 × 3-5 cm, attenute-rounded at base, margin entire, obtuse-acute at apex, glabrous above, puberulous beneath. Flowers white, in axillary, solitary. Berries ellipsoid, with a crown of calyx. Seeds rugose.

*Flowering & Fruiting*: March-November.
*Distribution*: Occasional in forests.
*Specimens examined*: Near Bhogademma thalli temple forest area, *M. Sankarar Rao & P. Harikrishna* 14457 (BSID).

**Knoxia** L.

**Knoxia sumatrensis** (Retz.) DC., Prodr. 4: 569. 1830.

Erect herb, upto 90 cm. Leaves linear-lanceolate to oblanceolate, 4-10 × 0.5-1.2 cm, hirsute above, hispid beneath, base cuneate, apex acute; lateral nerves 7-9 pairs. Flowers purplish-white, in cymes, laxly branched.

*Flowering & Fruiting*: January-March.
*Distribution*: Occasional along the streams of forest.
*Specimens examined*: Near Sri Lankamalleswara Temple, *M. Sankarar Rao & P. Harikrishna* 13922 (BSID).

**Mitragyna** Korth.

**Mitragyna parvifolia** (Roxb.) Korth., Observ. Naucl. Indic. 19. 1839. '*Bottuka'*.

Large, deciduous trees. Leaves oblong-suborbicular, 5-15 × 4-9 cm, Base rounded, margins entire, apex acute-obtuse. Flowers greenish yellow, in a globose head, terminal and axillary. Capsule aggregated into a globular head. Seeds many, flat, winged.

*Flowering & Fruiting*: March- December.
*Distribution*: Occasional in forests.
*Specimens examined*: Teegala doddi penta-compartment no. 281, *M. Sankarar Rao* 13979 (BSID).

**Morinda** L.

**Morinda pubescens** Sm., A. Rees, Cycl. 24: n. 3. 1813. '*Maddi, Togoda'*.

Small tree. Leaves obovate-elliptic, 8-15 × 3-6 cm, attenuate-rounded at base, margin undulate, apex acuminate, tomentose. Flowers white, in a simple head, terminal or axillary. Fruit a syncarpium. Seeds oblong-ovoid.

*Flowering & Fruiting*: May- December.
*Distribution*: Occasional in forests.

*Specimens examined*: Nimma kunta bavi, *M. Sankarar Rao* 13993(BSID), Kapardeeswaraswami temple, *P. Harikrishna & M. Sankarar Rao* 13814(BSID), Near Venugopala Swamy temple forest area, *M. Sankarar Rao & P. Harikrishna* 15088 (BSID).

**Pavetta** L.

**Pavetta tomentosa** Roxb. ex Sm. , Rees, Cyclop. 26: n. 2. 1819. **(Plate -7A)**

Large spreading shrub, up to 5 m high. Leaves elliptic-oblanceolate, 9-13 × 4-6.5 cm, base rounded, acute at apex. Flowers white, in axillary corymbose cymes. Fruit a drupaceous berry, globose.

*Flowering & Fruiting*: May- January.
*Distribution*: Occasional in forests.
*Specimens examined*: Ragi manu danalu, M. Sankarar Rao & P. Harikrishna 14419 (BSID).

**Psydrax** Gaertn.

**Psydrax dicoccos** Gaertn., Fruct. Sem. Pl. 1: 125, t. 26, f. 2. 1788. **(Plate -7B)**

Small tree, up to 3.5 m high. Leaves elliptic-ovate or oblanceolate, base cordate, margins entire, apex acuminate. Flowers creamish, in lax dichasial or densely umbellate cymes. Drupes globose, compressed. Seeds oblong.

*Flowering & Fruiting*: December-May.
*Distribution*: Occasional in open forests.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13836 (BSID).

**Tarenna** Gaertn.

**Tarenna asiatica** (L.) Kuntze ex K.Schum., Bot. Tidsskr. 24: 332. 1902. '*Komari, Papidi, Honda papidi, Komi'*. **(Plate -7C)**

Large shrub, up to 3 m high. Leaves oblong to oblanceolate, 8-12 × 1.5-3.5 cm, base acute, obtusely acuminate at apex. Flowers white to cream coloured, fragrant, in terminal, trichotomous corymbs. Berries globose, with persistent calyx above.

*Flowering & Fruiting*: April-December.
*Distribution*: Common in forests.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13860(BSID), Terthalu forest area, *M. Sankarar Rao & P. Harikrishna* 13943 (BSID).

**LOGANIACEAE**

**Strychnos** L.

**Key to the Species**

1a. Berries less than 1.5 cm across, blue when ripe **S. potatorum**
b. Berries more than 2 cm across, deep orange when ripe **S. nux-vomica**

**Strychnos nux-vomica** L., Sp. Pl. 189. 1753. '*Mushti, Visha mushti*'. **(Plate -7D)**

Tree, upto 12 m tall. Leaves orbicular, 6-8 × 4-5 cm, shining, 3-nerved, base rounded, margins entire, obtuse-apiculate at apex. Flowers greenish - yellow in terminal racemes. Berries globose, orange when ripe.

*Flowering & Fruiting*: March – August
*Distribution*: Common in forests.
*Specimens examined*: Kapardeeswaraswami temple, *P. Harikrishna & M. Sankarar Rao* 13802(BSID), Lothuvanka beat-vothimadugu, mulathirugu section, *M. Sankarar Rao & P. Harikrishna* 13965 (BSID).

**Strychnos potatorum** L.f., Suppl. Pl. 148. 1782. '*Chilla, Induga, Chilaka mushti*'.
**(Plate -7E)**

Medium sized tree, up to 10 m high. Leaves elliptic-ovate, glabrous, 6 × 3 cm, acute or rounded at base, margins entire, apex acuminate or mucronate. Flowers white, fragrant, in axillary glabrous cymes. Berry globose, black, 1 or 2 seeded. Seeds discoid.

*Flowering & Fruiting*: February – June.
*Distribution*: Common in forests.
*Specimens examined*: Gate bhai vanka, *M. Sankarar Rao* 15024(BSID), Teegala doddi penta-compartment no. 281, *M. Sankarar Rao* 13982 (BSID).

## APOCYNACEAE

### **Aganosma** (Blume) G.Don

**Aganosma heynei** (Spreng.) I.M.Turner, Taxon 62: 156. 2013. *A. dichotomum* K. Schum., Nat. Pflazenfam. 4(2): 173. 1895. '*Guda palateega, Nalla teega, Malathi teega*'.

Extensive climbing shrub, upto 5 m high. Leaves ovate or elliptic, main nerves 3-pairs. Flowers white, fragrant, in laxy corymbose cymes. Follicles curved upwards, glabrous.

*Flowering & Fruiting*: February – September.
*Distribution*: Occasional near streams in forest.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13844(BSID), Chaka revulu, *M. Sankarar Rao & P. Harikrishna* 15050 (BSID).

### **Ceropegia** L.

**Ceropegia pullaiahiana** Bruyns, S. African J. Bot. 112: 430. 2017. *Brachystelma pullaiahii* B.R.P.Rao, K.Prasad, Sadas., S.K.Basha, M.V.S.Babu & Prasanna in Taiwania 56: 223. 2011.
**(Plate -7F)**

Erect tuberous herb, up to 1.5 m high. Leaves sessile, linear 12 × 0.2 cm, acute at apex, margins entire. Flowers star-shaped, ash-grey, in axillary, sessile or shortly pedicellate. Follicles paired, erect divergent.

*Flowering & Fruiting*: June-December.
*Distribution*: Rare in forests on hill slopes.
*Specimens examined*: Dornala hill top, *M. Sankarar Rao* 14413(BSID), *M. Sankarar Rao* 14415(BSID), Dornala hill top, *M. Sankarar Rao* 14416 (BSID).

**Carissa** L.

**Carissa spinarum** L., Mant. Pl. 559. 1771. *'Palaregi, Kalivi, Chinna kalivi, Chinna vaaka*'. **(Plate -7G)**

Large thorny shrub, up to 3.6 m tall; bark light grey, fibrous; branches zigzag spreading with straight long throns. Leaves elliptic-ovate, lower suborbicular, 1.5-5 × 1.2-4 cm, acute at both ends, mucronate, entire. Flowers white, in terminal cymes. Berry globose, ovoid, dark purple when ripe.

*Flowering & Fruiting*: February - October.
*Distribution*: Occasional in scrublands and open forests.
*Specimens examined*: Lothuvanka beat-vothimadugu, mulathirugu section, *M. Sankarar Rao & P. Harikrishna* 13968(BSID), Vanala tirugudu, *M. Sankarar Rao* 14409(BSID), Balisinghana palli-Narasimha kunta rasta, *M. Sankarar Rao* 14441 (BSID).

**Cascabela** Raf.

**Cascabela thevetia** (L.) Lippold, Feddes Repert. 91:52. 1980. *Thevetia peruviana* (Pers.) K.Schum., H.G.A.Engler & K.A.E.Prantl, Nat. Pflanzenfam. 4(2): 159. 1895.

Evergreen, leafy shrub. Leaves alternate, linear-lanceolate, 10-15 × 0.7-1 cm, subcoriaceous base cuneate, margin recurved, apex acute, lateral nerves 15-20 pairs. Flowers yellow, in terminal cyme. Drupe broadly turbinate, compressed laterally.

*Flowering & Fruiting*: Throughout the year.
*Distribution*: Commonly plated along the roads and temples, also found as an escape.
*Specimens examined*: Rollabodu base camp, *M. Sankarar Rao & P. Harikrishna* 15051 (BSID).

**Decalepis** Wight & Arn.

**Decalepis hamiltonii** Wight & Arn., Wight, Contr. Bot. India 64. 1834. '*Nannari, Maredu kommulu, Madina kommulu'*.

An extensive climber, upto 7 m high. Leaves ovate or orbicular, 2-67 × 1-5 cm, base truncate, obtuse at apex. Flowers creamish white, in axillary, trichotomous cymes.

*Flowering & Fruiting*: May-January.
*Distribution*: Rare in forests.
*Specimens examined*: Kapardeeswaraswami temple, *P. Harikrishna & M. Sankarar Rao* 13807 (BSID).

**Gymnema** R.Br.

**Gymnema sylvestre** (Retz.) R.Br. ex Sm., Cycl. 17: n. 4. 1811. '*Podapatri'*. **(Plate -7H)**

Large woody climber. Leaves elliptic to obovate, 1.5-5 × 1-4 cm, pubescent along nerves below, base obtuse, apex abruptly acute. Flowers dull yellow in axillary cmes. Follicles single; beaked at apex

*Flowering & Fruiting*: July – December.
*Distribution*: Occasional in forests.
*Specimens examined*: Savarla bavi, *M. Sankarar Rao & P. Harikrishna* 14498 (BSID).

**Hemidesmus** R.Br.

**Hemidesmus indicus** (L.) R.Br., W.T.Aiton, Hortus Kew., ed. 2. 2:75. 1811. '*Sugandapala, Paia sugandhi*'.

Twining or prostrate shrub. Leaves variable, linear, oblong-lanceolate or broadly elliptic, 10 × 3 cm, base rounded or subcordate, margins entire, apex obtuse or broadly acute, tip mucronate. Flowers greenish outside, purple within, in axillary, clustered, racemose cymes. Follicles cylindric. Seeds black, flattened, comose; hairs long, silvery-white.

*Flowering & Fruiting*: August – December.
*Distribution*: Occasional in forests.
*Specimens examined*: Near pulapala bavi area, *M. Sankarar Rao & P. Harikrishna* 13931(BSID), Ragi manu danulu-Khajipet, *M. Sankarar Rao & P. Harikrishna* 13962(BSID), Mamileru, *M. Sankarar Rao* 14423 (BSID).

**Holarrhena** R.Br.

**Holarrhena pubescens** (Buch.-Ham.) Wall. ex G.Don, Gen. Hist. 4: 78. 1837 '*Kolamukki, Palavareni, Paia chettu, Tedlapala, Kodisipala*'. **(Plate -8A)**

Deciduous large shrub or small tree, up to 6 m high. Leaves elliptic-oblong, 10-30 × 6-12 cm, characteous, base broadly rounded, margins entire, apex shortly acuminate. Flowers white, fragrant, in axillary and terminal corymbose cymes. Follicles cylindric, slightly torulose; seeds brown, linear-oblong, with an apical tuft of light brown hairs.

*Flowering & Fruiting*: May-November.
*Distribution*: Occasional in forests.
*Specimens examined*: Mamileru, *M. Sankarar Rao* 14426 (BSID).

**Pergularia** L.

**Pergularia daemia** (Forssk.) Chiov., Res. Sci. Somalia Ital. 1: 115. 1916. '*Dushtaupa tige, Jittupaku*'.

Foetid, twinig herb. Leaves sub-orbicular 8 × 8 cm, with deeply cordate base, margins entire, apex acute, pubescent above, velvety beneath. Flowers pale green, in axillary long peduncled, drooping, corymbs. Follicles lanceolate, strongly reflexed, echinate. Seeds flat, ovate, coarsely dentate along margin, comose.

*Flowering & Fruiting*: June–December.
*Distribution*: Common in open forests and scrublands.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13868 (BSID).

**Cynanchum** L.

**Cynanchum viminale** (L.) L., Mant. Pl. 2: 392. 1771. *Sarcostemma viminale* (L.) R.Br., Prodr. Fl. Nov. Holland.: 464. 1810. '*Konda pala*, *Somalatha*'.

Leafless climber. Flowers creamish-white, fragrant, in terminal umbels. Follicles paired, slightly divergent, lanceolate, narrowed towards ends. Seeds glabrous.

*Flowering & Fruiting*: June–December.
*Distribution*: Occasional in open forests and scrublands.
*Specimens examined*: Near pulapala bavi area, M. Sankarar Rao & P. Harikrishna 13930 (BSID).

**Vincetoxicum** Wolf

**Key to the species**

1a. Plants twining, trailing or climbing **V. indicum**
b. Plants erect, short undershrubs **V. fasciculatum**

**Vincetoxicum fasciculatum** (Buch.-Ham. ex Wight) Kuntze, Revis. Gen. Pl. 2: 424. 1891. *Tylophora fasciculata* Buch.-Ham. ex Wight, Contr. Bot. India 50. 1834.

Slender, erect, suffruticose undershrub, up to 40 cm high. Leavess ovate-lanceolate, 1.6-6 × 1-2.5 cm, coraceous, glabrous above, pubescent on the nerves beneath, base rounded to cordate, apex acute to acuminate. Flowers small, chocolate brown, in lateral, peduncled, umbellate or racemose cymes. Follicles ovate or spindle shaped, striate, glabrous.

*Flowering & Fruiting*: April–December.
*Distribution*: Rare in open forests among the grassses.
*Specimens examined*: Near chilakala gutta Venugopala Swamy temple, *M. Sankarar Rao & P. Harikrishna* 15081(BSID), *Bayanna palle, on the way to Darga, P. Harikrishna & M. Sankarar Rao* 13902 (BSID).

**Vincetoxicum indicum** (Burm.f.) Mabb., Mabberley's Pl.-Book, ed. 4: 1102. 2017. *Tylophora indica* (Burm.f.) Merr., Philipp. J. Sci. 19: 373. 1921.

Twining, much branched undershrub. Leaves cordiform, oblong-ovate or lanceolate, 5-8 × 3-5 cm, base truncate to cordate, margins entire, apex acute to obtusely mucronate. Flowers greenish-yellow outside, pale purple within, in lateral umbellate cymes. Follicles in pair, tapering to apex. Seeds ovate; coma silky white.

*Flowering & Fruiting*: June–December.
*Distribution*: Occasional in forest edges.
*Specimens examined*: Rollabadu rasta, *M. Sankarar Rao* 15054 (BSID).

**Wrightia** R.Br.

**Wrightia arborea** (Dennst.) Mabb., Taxon 26: 533. 1977. '*Tella pala'*.

Deciduous tree, up to 7 m high. Leaves oblong-ovate or elliptic, base acute-cuneate, rounded, margin entire to undulate, apex acuminate, shortly cuspidate. Flowers white, in terminal corymbose cyme. Follicles connate through out, with white tubercles, apically beaked.

*Flowering & Fruiting*: April-December.
*Distribution*: Occasional in forests.
*Specimens examined*: Savarla bavi, *M. Sankarar Rao & P. Harikrishna* 13945 (BSID).

**BORAGINACEAE**

**Cordia** L.

**Cordia monoica** Roxb., Pl. Coromandel 1: 43. 1796. '*Bankeera'*. **(Plate -8B)**

A small tree, up to 6 m tall. Leaves alternate, elliptic-ovate, 5-9 × 2.5-5 cm, base rounded, margin crenate, apex acute. Flowers yellowish, fragrant, in terminal cymes. Drupes ovoid, bright orange red.

*Flowering & Fruiting*: October - April.
*Distribution*: Occasional in forests.
*Specimens examined*: Batta ganapa Kunta, *M. Sankarar Rao & P. Harikrishna* 15017 (BSID).

**Ehretia** P.Browne

**Ehretia aspera** Willd., Phytographia 1: 4. 1794. *E. laevis* Roxb., Pl. Coromandel 1: 42. 1796. '*Paldatam, Peddapulmera, Pogadi, Telia pisini'*.

Small tree, up to 6 m high. Leaves ovate to elliptic, 4-7 × 2-4 cm, base cuneate, margins entire, acute at apex. Flowers white, sessile or shortly pedicelled terminal, dichotomous cymes. Drupes globose, orange-red when ripe.

*Flowering & Fruiting*: September - April.
*Distribution*: Occasional in forests.
*Specimens examined*: Kapardeeswaraswami temple, *M. Sankarar Rao & P. Harikrishna* 13809 (BSID).

**Heliotropium** Tourn. ex L.

**Heliotropium bracteatum** R. Br., Prodr. Fl. Nov. Holland. 493. 1810.

Erect herb, up to 40 cm. Leaves chartaceous, sericeous on either side, base cuneate, margin revolute, apex acute, 1-nerved. Lateral nerves obscure. Flowers white, in terminal racemes, sparingly branched. Nutlets rounded, 1mm smooth.

*Flowering & Fruiting*: August – December.
*Distribution*: Occasional in wastelands and edges of forests.
*Specimens examined*: Batta ganapa Kunta, *M. Sankarar Rao* 15021 (BSID).

## CONVOLVULACEAE

**Distimake** Raf.

**Distimake aegyptius** (L.) A.R.Simões & Staples, Bot. J. Linn. Soc. 183: 573. 2017. *Merremia aegyptia* (L.) Urb., Symb. Antill. 4: 505. 1910.

Annual, slender twining herb. Leaves palmately 5-foliolate, leaflets 5, elliptic-oblong, 5-10 x 2-4 cm, acuminate at both ends, pubescent on both sides. Flowers white, in axillary cymes. Capsules covered by calyx lobes.

*Flowering & Fruiting*: August- February.
*Distribution*: Occasioal in hedges of open forests and scrublands.
*Specimens examined*: Gopala bavi area, *M. Sankarar Rao & P. Harikrishna* 13941 (BSID).

**Evolvulus** L.

**Key to the species**

1a. Corolla blue, rotate; capsules 2-celled **E. alsinoides**
b. Corolla white, tubular-campanulate; capsule 1-celled **E. nummularius**

**Evolvulus alsinoides** (L.) L. , Sp. Pl. (ed.2) 392.1762. '*Vishnukrantham'*.

Spreading or ascending much branched hairy herb. Leaves elliptic or oblong – lanceolate, 1-2 × 0.4-0.6 cm, villous on both sides, obtuse or acute, margins entire, base narrowed. Flowers blue, in axillary, solitary. Capsule depressed globose. Seeds glabrous.

*Flowering & Fruiting*: Throughout the year.
*Distribution*: Common in forests and waste places.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13856 (BSID).

**Evolvulus nummularius** (L.)L., Sp. Pl., ed. 2: 391.1762. '*Chiti elukachevi aku*'.

A prostrate herb, rooting at nedes. Leaves suborbicular to subquadrate, 1-2 × 1-2 cm, glabrous, base sub cordate or truncate, apex obtuse. Flowers white, 1 or 2 per node. Capsule 1-celled.

*Flowering & Fruiting*: Round the year.
*Distribution*: Common in moist places of forests.
*Specimens examined*: Batta ganapa Kunta, *M. Sankarar Rao* 15019 (BSID).

**Ipomoea** L.

**Key to the species**

| | |
|---|---|
| 1a. Leaves entire or obscurely lobed | **I. hederifolia** |
| b. Leaves palmatifid or deeply lobed | **2** |
| 2a. Leaves 3-lobed | **I. nil** |
| b. Leaves 5-9 lobed or 5-7 foliolate | **I. pes-tigridis** |

**Ipomoea hederifolia** L., Syst. Nat. ed. 10, 2: 925.1759. '*Kasiratnamu'*.

Twining herbs, up to 3 m high. Leaves broadly ovate to cordate, 4-7 × 3-6 cm, deeply cordate at base, acuminate at apex. Flowers yellow, in axillary cymes. Capsule globose.

*Flowering & Fruiting*: September-February.
*Distribution*: Common along the edges of forests.
*Specimens examined*: Near Umamaheshwara Swamy temple forest area, *M. Sankarar Rao & P. Harikrishna* 13947 (BSID).

**Ipomoea nil** (L.) Roth, Catal. Bot. 1: 36. 1797. '*Jirika kolli, Kallivittulu'*.

Slender twining herb. Leaves broadly ovate, palmately 3-lobed, rarely entire, 6-10 × 8-11 cm, hairy on both sides, base cordate, acute to shortly acuminate at apex. Flowers blue in axillary long peduncled umbellate cymes. Capsules 3-celled, ovoid, glabrous.

*Flowering & Fruiting*: July-February.
*Distribution*: Common in edges of open forests and road sides.
*Specimens examined*: Gopala bavi area, *M. Sankarar Rao & P. Harikrishna* 13939(BSID), Boring area-Lothuvanka beat, *M. Sankarar Rao & P. Harikrishna* 15109 (BSID).

**Ipomoea pes - tigridis** L. , Sp. Pl. 162.1753.

Spreading or twining hispid herb. Leaves palmately 5-7 lobed, lobes oblanceolate or obovate, 3-5 × 1-2 cm, sericeous on both sides base obtuse, margin entire, apex acuminate. Flowers light pink, in axillary, long peduncled capitate clusters. Capsules globose. Seed pubescent.

*Flowering & Fruiting*: September- March.
*Distribution*: Common in hedges of open forests.
*Specimens examined*: Pothu battani bavi, *M. Sankarar Rao* 15005 (BSID).

**Rivea** Choisy

**Rivea hypocrateriformis** (Desr.) Choisy, Mem. Soc. Phys. Geneve 6: 408. 1833. '*Boddikura, Niru boddi*'.

Extensive climbing shrub, up to 6 m high. Leaves orbicular, 3-5 × 3-6 cm, base cordate, margin entire, apex obtuse, apiculate. Flowers white, in axillary, solitary or in cymes. Capsules globose, enclosed in persistent calyx lobes, glabrous.

*Flowering & Fruiting*: August- March.
*Distribution*: Occasioal along the edges of forests.
*Specimens examined*: Kapardeeswaraswami temple, *P. Harikrishna & M. Sankarar Rao 13819*(BSID), Bayanna palle, near Darga, *M. Sankarar Rao & P. Harikrishna* 13891(BSID), Badvel-lothuvanka beat, balaya pally base camp, *M. Sankarar Rao & P. Harikrishna* 15102 (BSID).

## SOLANACEAE

### **Physalis** L.

**Physalis minima** L., Sp. Pl. 183. 1753. '*Budama*, *Budda budama*'.

Small annual herb, up to 55 cm high, stems angular ribbed. Leaves ovate, 3-8 × 2-4 cm, obliquely obtuse at base, margins irregularly serrate, acute at apex. Flowers yellow with brown centre, in axillary, solitary. Fruits globose, covered with inflated calyx, 2-3 cm long hairy.

*Flowering & Fruiting*: August- March.
*Distribution*: Occasioal along the edges of forests and wastelands.
*Specimens examined*: Near Venugopala Swamy temple forest area, *M. Sankarar Rao & P. Harikrishna* 15087 (BSID).

### **Solanum** L.

**Key to the species**

1a. Plants unarmed; leaf margin bluntly toothed **S. americanum**
b. Plants armed; leaf margin entire **S. incanum**

**Solanum americanum** Miller, Gard. Dict. ed. 8: n. 5. 1768. '*Kamanchi'*.

An annual, erect herb. Leaves ovate, ovate oblong, with a cuneate base, entire sinuate to dentate, apex acute. Flowers white, in extra axillary umbellate cymes. Berry globose, glabrous, purplish red or black when ripe. Seeds many, ovate-reniform.

*Flowering & Fruiting*: Throughout the year.
*Distribution*: Occasioal along the edges of forests and road sides, wastelands.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13840 (BSID).

**Solanum incanum** L., Sp. Pl. 1: 188. 1753. '*Konda vankaya'*. **(Plate -8C)**

Small, erect, prickly shrub, upto 1 m high. Leaves ovate to broadly ovate, 4-6.5 × 2-4 cm, base obliquely truncate, margin wavy or shallowly lobed, apex cuneate, prickly along the

nerves, stellate hairy with velvety above, woolly beneath. Flowers purple-blue, in axillary racemes. Berry globose, yellow when ripe.

*Flowering & Fruiting*: January-May.
*Distribution*: Occasioal in edges of forests and road sides.
*Specimens examined*: Teegala doddi penta-compartment no. 281, *M. Sankarar Rao & P. Harikrishna* 13983(BSID), Near Venugopala Swamy temple forest area, *M. Sankarar Rao & P. Harikrishna* 15093 (BSID).

## PEDALIACEAE

**Sesamum** L.

**Key to the species**

1a. Lower leaves palmately lobed; seeds winged **S. alatum**
b. Leaves variable, ovate or lanceolate, lower 3-lobed, parted; seeds not winged **S. indicum**

**Sesamum alatum** Thonn., C.F.Schumacher, Beskr. Guin. Pl.: 284.1827. '*Rekka nuvvulu, Adavi nuvvulu*. **(Plate -8D)**

Annual erect herb. Leaves dimorphic; lower leaves opposite, palmately lobed, lobes linear-lanceolate, entire, obtuse or acute; upper leaves simple, subopposite, linear-lanceolate, glandular below. Flowers pinkish-purple, axillary, solitary, pedicels with 2 cup-shaped glands on either side. Capsules oblong, tetragonous, beaked. Seeds numerous, black, winged on both sides.

*Flowering & Fruiting*: October-December.
*Distribution*: Occasioal in wastelands and roadsides.
*Specimens examined*: Gate bhai vanka, *M. Sankarar Rao & P. Harikrishna* 15023 (BSID).

**Sesamum indicum** L., Sp. Pl. 634. 1753. *Sesamum orientale* L., Sp. Pl. 387. 1753. '*Nuvvulu'*.

An erect, annual herb, to 1 m high. Leaves lanceolate to linear-oblong, 3-6 × 1-2.5 cm, acuminate at apex, rounded to truncate at base. Inflorescences in axillary, solitary. Flowers very showy, pinkish-white, lip pinkish, throat with a yellow blotch. Capsules oblong, beaked at apex, densely tomentose.

*Flowering & Fruiting*: Throughout the year.
*Distribution*: Common along roads and wastelands.
*Specimens examined*: Kapardeeswaraswami temple, *P. Harikrishna & M. Sankarar Rao* 13818 (BSID).

## ACANTHACEAE

**Andrographis** Wall. ex Nees

**Key to the species**

1a. Capsules 4-seeded **A. echioides**
b. Capsules more than 4-seeded **2**

2a. Anther cells bearded **A. paniculata**
b. Anther cells not bearded, glabrous **A. glandulosa**

**Andrographis glandulosa** (Roth) Nees, N.Wallich, Pl. Asiat. Rar. 3: 116. 1832.

Straggling undershrub, up to 50 cm high. Leaves elliptic or ovate, base acute, margins entire, acute at apex. Flowers pale purple, pedicillate, axillary, few-flowered racemes. Capsule linear-oblong. Seeds rugosely pitted.

*Flowering & Fruiting*: July - November.
*Distribution*: Occasional in forests.
*Specimens examined*: Kapardeeswaraswami temple, *P. Harikrishna & M. Sankarar Rao* 13808 (BSID).

**Andrographis echioides** (L.) Nees, N.Wallich, Pl. Asiat. Rar. 3: 117. 1832.

Erect herb, up to 60 cm. Leaves oblong to oblanceolate, 3-5 × 0.7-1 cm, rounded to acute at both ends. Flowers white, in unbranched or scarcely branched racemes. Capsules ellipsoid-lanceolate, with persistent calyx. Seeds brown, rugose.

*Flowering & Fruiting*: September –February.
*Distribution*: Occasional in open forests and along the paths.
*Specimens examined*: Batta ganapa Kunta, *M. Sankarar Rao* 15018(BSID), 15070 (BSID).

**Andrographis paniculata** (Burm.f.) Wall. ex Nees, N.Wallich, Pl. Asiat. Rar. 3: 116. 1832. '*Nelavemu'*.

Erect branched herbs. Leaves linear-obovate, acuminate at both ends. Flowers white with pink-tinge, in axillary or terminal zigzag panicles. Capsules oblong, compressed, hairy, beaked.

*Flowering & Fruiting*: August – December.
*Distribution*: Occasional in forests under shady places.
*Specimens examined*: On way to Lankamalleshwara Temple, *M. Sankarar Rao & P. Harikrishna* 13916 (BSID).

**Barleria** L.

**Key to the species**

1a. Plants with sharp intrapetiolar spines **2**
b. Plants without spines **3**

2a. Flowers yellow; capsule 2-seeded **B. prionitis**
b. Flowers pink to violet or white; capsule 4-seeded **B. buxifolia**

3a. Leaves strigose **B. strigosa**
b. Leaves glabrous (or) pubescent **4**

4a. Capsule beaked; seeds 2 **B. stocksii**
b. Capsule acuminate; seeds 4 **B. montana**

**Barleria buxifolia** L., Sp. Pl. 2: 636. 1753. **(Plate -8E)**

A small, very prickly, hairy undershrub. Leaves 1-2 × 0.5-1.5cm, orbicular or ovate, base cuneate, apex spinous-mucronate. Flowers solitary, axillary, pink or white. Calyx-lobes 4, ellipsoid; outer 2 long. Corolla tubular, hairy within; lobes 5, ovate, obscure. Stamens 5. Capsules ellipsoid. Seeds 4, appressed hairy.

*Flowering & Fruiting*: August – January.
*Distribution*: Occasional in forests.
*Specimens examined*: Teegala doddi penta-compartment no. 281, *M. Sankarar Rao* 13978(BSID), Venugopala swami temple forest area, *M. Sankarar Rao & P. Harikrishna* 15078 (BSID).

**Barleria montana** Nees , Wallich, Pl. Asiat. Rar. 3: 92. 1832. '*Adavi decembaralu'*.

Subscandent undershrubs. Leaves ovate or obovate, 5-10 × 3-5 cm, thin chartaceous, puberulous above, base decurrent, apex acute-apiculate. Flowers pink to purple, in solitary, axillary or terminal spikes. Capsules 2 × 0.5 cm, beaked above.

*Flowering & Fruiting*: October - February.
*Distribution*: Occasional in forests.
*Specimens examined*: Usarla banda-rollabadu road, *M. Sankarar Rao* 15042 (BSID).

**Barleria prionitis** L., Sp. Pl. 636. 1753. '*Mullu gorinta*'. **(Plate -8F)**

Thorny undershrub, upto 1 m high. Leaves ovate or elliptic, 3-6 × 1.5-3.5 cm, base attenuate, acute to shortly acuminate at apex. Flowers orange-yellow, in axillary, solitary in lower axils and terminal, spicate in upper axils. Capsule ovoid, beaked.

*Flowering & Fruiting*: September- February.
*Distribution*: Occasional in forests.
*Specimens examined*: Sap mora rasta, *M. Sankarar Rao* 15015 (BSID).

**Barleria stocksii** T. Anderson, J. Linn. Soc., Bot. 9: 493. 1867.

Erect herb, without spines, up to 50 m high. Leaves broadly ovate, 10-16 × 5-9 cm, glabrous, base long decurrent, margin entire, apex acuminate. Flowers large, solitary in upper leaf axils and gradually passing into terminal spikes. Capsule beaked; seeds 2, densely silky.

*Flowering & Fruiting*: July - December.
*Distribution*: Rare in forests.
*Specimens examined*: Bayanna palle, on the way to Darga, *M. Sankarar Rao & P. Harikrishna* 13904 (BSID).

**Barleria strigosa** Willd., Sp. Pl., ed. 4, 3: 379. 1800. '*Nilambaram'*. **(Plate -8G)**

Erect undershrub, upto 1 m high. Leaves broadly ovate or elliptic-oblong, 6-15 × 3-8 cm, base attenuate, acuminate at apex. Flowers blue to purple, in terminal spikes. Capsules covered by green bracts.

*Flowering & Fruiting*: August-March.
*Distribution*: Common in moist shady places in forests.
*Specimens examined*: On way to Lankamalleshwara Temple, *M. Sankarar Rao & P. Harikrishna* 13908 (BSID).

**Blepharis** Juss.

**Key to the species**

1a. Leaves petioled; corolla white with pink nerves **B. maderaspatensis**
b. Leaves subsessile narrowly oblong; corolla bluish white **B. integrifolia**

**Blepharis integrifolia** (L.f.) E. Mey. ex Schinz, Vierteljahrsschr. Naturf. Ges. Zürich 60: 416. 1915.

Prostrate herb, rooting at nodes. Leaves linear-oblong to oblanceolate, 1.5- 4 × 0.5-1 cm, strigose above, margin entire, apex obtuse. Flowers violet to purple, in solitary, axillary. Capsules ellipsoid, closely surrounded by the bracts and calyx lobes. Seeds 2.

*Flowering & Fruiting*: September – January.
*Distribution*: Common in dry places, sandy areas in forests.
*Specimens examined*: Ragi manu danulu-Khajipet, *M. Sankarar Rao & P. Harikrishna* 13958 (BSID).

**Blepharis maderaspatensis** (L.) B. Heyne ex Roth, Nov. Pl. Sp.: 320. 1821.

Prostrate herb, rooting at nodes. Leaves elliptic-ovate to oblanceolate, 3-8 × 1-3 cm, margin entire or distantly toothed in upper half, apex acutely apiculate. Flowers white with pink nerves, in axillary clusters. Capsules elliptic, shining. Seeds 2, orbicular, flattened.

*Flowering & Fruiting*: September-March.
*Distribution*: Commoon in scrublands and shady places in forests.
*Specimens examined*: On the way to Nitya Pooja Kona, *P. Harikrishna & M. Sankarar Rao* 13824 (BSID).

**Crossandra** Salisb.

**Crossandra infundibuliformis** (L.) Nees, Wall., Pl. Asiat. Rar. 3: 98. 1832.

Medium sized undershrub, up to 1 m high. Leaves ovate to elliptic-oblong, 2-6.5 × 2-4.5 cm, base cuneate, obtusely acute at apex. Flowers yellow, in terminal and axillary spikes. Capsule oblong.

*Flowering & Fruiting*: Round the year.
*Distribution*: Occasional in scrublands and stream banks in forests.

*Specimens examined*: Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13843(BSID), Teegala doddi penta-compartment no. 281, *M. Sankarar Rao & P. Harikrishna* 13980 (BSID).

**Eranthemum** L.

**Eranthemum purpurascens** Wight ex Nees, Pl. Asiat. Rar. 3: 106. 1832.

Erect undershrub, up to 1 m high. Leaves ovate, 10 × 6 cm, acuminate at both ends. Flowers blue, in axillary spikes. Capsules clavate-oblong, pointed, glabrous.

*Flowering & Fruiting*: November-April.
*Distribution*: Occasional in forests.
*Specimens examined*: Savarla bavi, *M. Sankarar Rao & P. Harikrishna* 14496 (BSID).

**Justicia** L.

**Key to the species**

1a. Calyx 4-partite; bracts and bracteoles usually shorter than calyx segments **J. vahlii**
b. Calyx 5-partite; bracts longer than calyx **J. glauca**

**Justicia glauca** Rottler, Neue Schriften Ges. Naturf. Freunde Berlin 4: 219. 1802. '*Addesaram'*.

Erect herb, upto 30 cm high. Leaves elliptic-ovate, entire, acute or obtuse, base rounded to acute. Flowers pinkish-white with purple spots, in axillary or terminal many flowered spikes, bracts broadly ovate, bracteoles linear, minutely dentate. Capsules obovoid, glabrous, beaked.

*Flowering & Fruiting*: August-December.
*Distribution*: Occasional in edges of forests and scrublands.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13841(BSID), On the way to Venugopala swami temple, *M. Sankarar Rao & P. Harikrishna* 15071 (BSID).

**Justicia vahlii** Roth, Nov. Pl. Sp. 14: 1821.

Small, annual herb, upto 30 cm high. Leaves oblong-ovate or elliptic-ovate, 2-6 × 0.5 cm, cuneate at base, margin entire, apex acuminate. Flowers pale pink with red streaks, in axillary or terminal narrow spikes. Capsule oblong, pubescent.

*Flowering & Fruiting*: August-December.
*Distribution*: Occasional in open forests and wastelands.
*Specimens examined*: Kapardeeswaraswami temple, *M. Sankarar Rao & P. Harikrishna* 13817 (BSID).

**Ruellia** Plum. ex L.

**Ruellia patula** Jacq., Misc. Austriac. 2:358. 1779. *Dipteracanthus patulus* (Jacq.) Nees, N.Wallich, Pl. Asiat. Rar. 3: 82. 1832.

Small erect herb, upto 40 cm high. Leaves elliptic-ovate to obovate rarely spathulate, 1-2 × 0.5-1.5 cm, base rounded to acute, apex sub acute. Flowers blue to violet, in solitary or in cymes. Capsule elliptic.

*Flowering & Fruiting*: July-December.
*Distribution*: Occasional along the roads in open forests and riverbanks.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13847 (BSID).

**Strobilanthes** Blume

**Strobilanthes pavala** (Roxb.) J.R.I.Wood, Novon 23: 392. 2014. *Hemigraphis latebrosa* (B.Heyne ex Roth) Nees, A.P.de Candolle, Prodr. 11: 723.1847.

Erect or straggling herb, upto 60 cm high. Leaves ovate, 3-7 × 2-4 cm, base acute to attenuate, margin crenate-serrate, acuminate at apex. Flowers pale blue in axillary, peduncled cymes. Capsule tetragonous, pubescent above, 6-seeded.

*Flowering & Fruiting*: November-April.
*Distribution*: Occasional in forests.
*Specimens examined*: Near lankamalla water fall area, M. Sankarar Rao & P. Harikrishna 13936 (BSID).

## BIGNONIACEAE

**Dolichandrone** (Fenzl) Seem.

**Key to the species**

1a. Leaflets orbicular; petiolule 1-5mm; capsules compressed, without speckles **D. falcata**
b. Leaflets ovate or elliptic-ovate; petiolule 6-20mm; capsules sub terete, with white speckles **D. atrovirens**

**Dolichandrone atrovirens** (B. Heyne ex Roth) K. Schum., Engl. & Prantl, Nat. Pflanzenfam. 4:240. 1894. '*Oddi*, *Niruoddi*'.

Deciduous tree. Leaves imparipinnate, rachis tomentose; leaflets 3-7, elliptic or broadly ovate, entire, acuminate, base obliquely truncate. Flowers white, in terminal corymbs. Capsules arcuate with white, compressed speckles. Seeds flattend, subrectangular, wings cream, membranous.

*Flowering & Fruiting*: April-July.
*Distribution*: Common in forests.
*Specimens examined*: Kapardeeswaraswami temple, *M. Sankarar Rao & P. Harikrishna* 13804 (BSID).

**Dolichandrone falcata** (Wall. ex DC.) Seem., J. Bot. 8: 381. 1870. '*Chitti-niruddi*, *Chinna oddi*, *Oddi*'.

Medium sized tree, up to 8 m high. Leaves pinnate; leaflets 5-7, elliptic-suborbicular, 3 × 2.5 cm, base rounded, entire, emarginate at apex. Flowers white, scented, in axillary few flowered short corymbs. Capsules compressed, falcate, curved, flat, brown, glabrous. Seeds rectangular, greyish, winged.

*Flowering & Fruiting*: April-July.
*Distribution*: Common in forests.
*Specimens examined*: Lothuvanka beat-vothimadugu, mulathirugu section, *M. Sankarar Rao & P. Harikrishna* 13964 (BSID).

## VERBENACEAE

### Key to the Genera

1a. Shrubs **Lantana**
b. Herbs **Stachytarpheta**

### **Lantana** L.

**Lantana camara** L., Sp. Pl. 627. 1753. '*Gaju pulu'*. **(Plate -8H)**

Straggling, armed shrub, upto 5 m high. Leaves ovate, 3-6 × 1.5-3.5 cm, attenuate at base, crenate-serrate margins, acuminate at apex. Flowers pink or orange or rose, in axillary capitate heads. Drupes globose, fleshy, black when ripe. Seeds reticulate.

*Flowering & Fruiting*: Throughout the year.
*Distribution*: Occasional weed in wastelands and along the roads of forests.
*Specimens examined*: Bayanna palle, near Darga, *M. Sankarar Rao & P. Harikrishna* 13879(BSID), Pothu battani bavi, *M. Sankarar Rao* 15006 (BSID).

### **Stachytarpheta** Vahl

**Stachytarpheta jamaicensis** (L.) Vahl, Enum. Pl. Obs. 1: 206. 1804.

Erect herb. Leaves variable, obovate-elliptic, base acute, crenate-dentate margins, obtuse or acute at apex. Flowers blue, in terminal spikes, up to 25 cm. Fruits, oblong, ribbed.

*Flowering & Fruiting*: March - November.
*Distribution*: Occasional in wet places and in forest undergrowth.
*Specimens examined*: Pothu battani bavi, *M. Sankarar Rao* 15007 (BSID).

## LAMIACEAE

### Key to the Genera

1a. Style terminal; fruit a drupe or of pyrenes **2**
b. Style gynobasic; fruit of 4 nutlets **4**

| | |
|---|---|
| 2a. Corolla tube funnel-shaped, large | **Gmelina** |
| b. Corolla tube mostly cylindric, usually short | **3** |
| 3a. Leaves simple; corolla 4-lobed; stems above the ground | **Premna** |
| b. Leaves palmately compound or 1-foliolate; corolla 5-lobed | **Vitex** |
| 4a. Stamens erect; spreading or ascending | **5** |
| b. Stamens declinate | **7** |
| 5a. Upper lip of corolla almost flat | **Anisomeles** |
| b. Upper lip of corolla cucullate (hood-shaped), densely woolly | **6** |
| 6a. Lower lip of corolla longer than the hood | **Leucas** |
| b. Lower lip of corolla shorter than the hood | **Leonotis** |
| 7a. Corolla distinctly 2-lipped; lower lip longer than the upper | **Coleus** |
| b. Corolla obscurely 2-lipped | **Mesosphaerum** |

**Anisomeles** R.Br.

**Anisomeles indica** (L.) Kuntze, Revis. Gen. Pl. 2: 512 1891. '*Adabeera'*.

Pubescent, aramatic, bushy undershrub, up to 1.5 m. Leaves ovate, 3-6 × 1.5-3 cm, base truncate, margin deeply crenate serrate, apex acute to shortly acuminate. Flowers pink-violet, in axillary and terminal dense spikes. Nutlets ovoid or ellipsoid.

*Flowering & Fruiting*: September –March.
*Distribution*: Occasional along the roadsides in open forests and wastelands.
*Specimens examined*: Near Sri Lankamalleswara Temple, *M. Sankarar Rao & P. Harikrishna* 13921 (BSID).

**Coleus** Lour.

**Coleus strobilifer** (Roxb.) A.J.Paton, PhytoKeys 129: 100. 2019. *Anisochilus carnosus* (L.f.) Wall. ex Benth., Edwards's Bot. Reg. 15: t. 1300. 1830.

Annual herb, upto 60 cm high. Stems quadrangular, sparsely pubescent, brownish from prolonged exposure to sun. Leaves ovate, 6 × 5 cm, verrucose above, pubescent below, base cordate, margin serrate, apex acute. Flowers purple, in terminal longer peduncled ovoid spikes. Fruits strobilus like, enlarging with maturity.

*Flowering & Fruiting*: October –March.
*Distribution*: Occasional in rocky crevisces on hills of forests.
*Specimens examined*: Ragi manu danulu-Khajipet, *M. Sankarar Rao & P. Harikrishna* 13956(BSID), on the way to Venugopala swami temple, *M. Sankarar Rao & P. Harikrishna* 15068 (BSID).

**Gmelina** L.

**Gmelina asiatica** L., Sp. Pl. 626. 1753. '*Kavva gummidi, Chiru gummudu'*.

Large armed shrub, up to 3 m. Spines to 2.5 cm. Leaves elliptic-ovate, 1-4 × 1-2 cm, chartaceous, base cuneate, margin entire to irregularly lobed, apex obtuse to acute. Flowers bright yellow, in axillary and terminal racemes. Drupe yellow, obovoid.

*Flowering & Fruiting*: March – August.
*Distribution*: Occasional in open forests and scrublands.
*Specimens examined*: Teegala doddi penta-compartment no. 281, *M. Sankarar Rao & P. Harikrishna* 13985 (BSID).

**Leonotis** (Pers.) R.Br.

**Leonotis nepetifolia** (L.) R. Br., W. T. Aiton, Hort. Kew. ed. 2, 3: 409. 1811.

Erect undershrub, to 1.5 m high. Leaves ovate, 2-7 × 1.5-4 cm, truncate at base, margins deeply crenate, acuminate at apex. Flowers orange, in axillary verticils, many flowered. Nutlets erect, oblong, trigonous.

*Flowering & Fruiting*: October-April.
*Distribution*: Common in Scrublands and along the edges of roads in open forests.
*Specimens examined*: Near Umamaheshwara Swamy temple forest area, *M. Sankarar Rao & P. Harikrishna* 13951 (BSID).

**Leucas** R.Br.

**Key to the Species**

| | |
|---|---|
| 1a. Mouth of the calyx truncate | **L. biflora** |
| b. Mouth of the calyx oblique | **L. aspera** |

**Leucas aspera** (Willd.) Link, Enum. Hort. Berol. Alt. 2: 113. 1822. *Phlomis aspera* Willd., Enum. Pl. 621. 1809.

Scabrid, erect or diffuse herb, up to 50 cm high. Leaves linear-lanceolate, 2-6 × 0.5-0.8 cm, base cuneate, margin entire to serrete, apex acute. Flowers white, bi-lipped, in axillary and terminal verticils, globose. Nutlets oblong, smooth, brown.

*Flowering & Fruiting*: Throughout the year.
*Distribution*: Common in Scrublands, roadsides and wastelands.
*Specimens examined*: Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13834(BSID), Bayanna palle, on the way to Darga, *M. Sankarar Rao & P. Harikrishna* 13894(BSID), *M. Sankarar Rao & P. Harikrishna* 13907(BSID), Bayanna palle, on the way to Darga, *M. Sankarar Rao & P. Harikrishna* 15041 (BSID).

**Leucas biflora** (Vahl) Sm., A.Rees, Cycl. 20: n. 7. 1812. '*Gobbi'*.

Slender procumbent herb. Leaves ovate, crenate-serrate, obtuse or acute, base truncate, pubescent on both sides. Flowers white, solitary, 2 or 4, in axillary whorls. Nutlets triquetrous, black.

*Flowering & Fruiting*: November-March.
*Distribution*: Occasional in forests and hedges of forests.
*Specimens examined*: Near Venugopala Swamy temple forest area, *M. Sankarar Rao & P. Harikrishna* 15091 (BSID).

**Mesosphaerum** P.Browne

**Mesosphaerum suaveolens** (L.) Kuntze, Revis. Gen. Pl. 2: 525. 1891. *Hyptis suaveolens* (L.) Poit., Ann. Mus. Hist. Nat. 7: 472. 1806. **(Plate -9A)**

Aromatic, erect, undershrub, up to 1.5 m high. Branches terete to 4 gonous. Leaves broadly ovate, 4-6 × 1-3 cm, chartaceous, strigose, base obliquely truncate to acute, irregularly serrulate, apex acute. Flowers blue, in verticils or in short, stalked cymes. Nutlets 2, ovoid or oblong.

*Flowering & Fruiting*: October-May.
*Distribution*: Common in open forests, along the edges of roads and wastelands.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13851(BSID), Devara Kona, *M. Sankarar Rao & P. Harikrishna* 15001 (BSID).

**Premna** L.

**Premna tomentosa** Willd., Sp. Pl. 3: 314. 1800. '*Pedda narava, Kampu gummudu, Nagoora, Pomanti'*. **(Plate -9B)**

Small tree, upto 6 m high. Leaves broadly ovate-cordate, 5-18 × 4-15 cm, thick coriaceous, tomentose along nerves above, densely so beneath, base rounded to truncate, margin entire to minutely toothed, apex acuminate. Flowers cream-colur, in terminal and axillary corymbose cymes. Drupes ovoid.

*Flowering & Fruiting*: February-May.
*Distribution*: Occasional in forests.
*Specimens examined*: Hanuman shela, *M. Sankarar Rao* 14404 (BSID).

**Vitex** L.

**Vitex altissima** L. f., Suppl. Pl. 294. 1782. 'Nemali adugu, Gandarapur'.

Tree, up to 8 m high. Leaves 3-7 foliolate; petiole winged in young plants; leaflets thick, chartaceous, central leaflet obovate, lateral ones similar, lanceolate or oblanceolate, entire, acuminate, base acute. Flowers white or blue, in terminal racemose panicles. Drupes globose. Seeds ovate-oblong.

*Flowering & Fruiting*: March - December.

*Distribution*: Occasional along streams of forests.
*Specimens examined*: On the way to Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13863 (BSID).

**Vitex leucoxylon** L.f., Suppl. Pl.: 293. 1782. '*Luki, Kondavavili'*. **(Plate -9C)**

Deciduous tree, up to 10 m high. Leaves digitately 5-7 foliolate; leaflets elliptic-lanceolate or oblanceolate, entire and toothed, obtuse or acuminate, base acute, acuminate at apex. Flowers white or cream, purplish within, in terminal, divaricate corymbose panicles. Drupe ellipsoid, with persistent calyx.

*Flowering & Fruiting*: March - December.
*Distribution*: Occasional along streams in forests.
*Specimens examined*: Hanuman shela, *M. Sankarar Rao* 14407 (BSID).

## OROBANCHACEAE

### Key to the Genera

1a. Corolla tube short, broad; empty anther cells stipitate **Parasopubia**
b. Corolla tube long, slender; anther cells not stipitate **Striga**

**Parasopubia** H.-P.Hofm. & Eb.Fisch.

**Parasopubia delphiniifolia** (L.) H.P. Hofm. & Eb. Fisch., Bot. Jahrb. Syst. 125: 357. 2004. *Sopubia delphiniifolia* (L.) G. Don., Gen. Hist. 4: 560. 1838.

Erect, aromatic, viscid-pubescent, bushy herb. Leaves pinnatifid below, 3-fid to linear above. Flowers pink or reddish-purple, in lax raceme. Capsule oblong, 2-4 valved, obtuse.

*Flowering & Fruiting*: July – December.
*Distribution*: Occasional in open areas, in thin layer of soil by rocks.
*Specimens examined*: Gundala banda, *M. Sankarar Rao* 15036 (BSID).

**Striga** Lour.

### Key to the Species

1a. Calyx 5-ribbed **S. gesnerioides**
b. Calyx more then 5-ribbed **S. asiatica**

**Striga asiatica** (L.) Kuntze, Rev. Gen. Pl. 2: 446. 1891.

Scabrous herb to 25 cm long. Leaves sessile, linear-oblong, 1-1.5 × 0.2 cm, acute at apex, narrowed towards the base. Flowers white or yellow, in axillary, bracteate spikes. Capsule ovoid, covered by persistent calyx.

*Flowering & Fruiting*: January-May.
*Distribution*: Occasioal in graslnds and forests edges.

*Specimens examined*: Bayanna palle, on the way to Darga, *P. Harikrishna & M. Sankarar Rao* 13901 (BSID).

**Striga gesnerioides** (Willd.) Vatke, Oest. Bot. Z. 25: 11. 1875.

Small, root parasitic herb, up to 15 cm high. Leaves scale-like, ovate, reddish-brown. Flowers pink or brownish, in terminal spikes. Capsule, obovoid-globose. Seeds oblong or elliptic.

*Flowering & Fruiting*: August-January.
*Distribution*: Occasioal in wastelands and grasslands.
*Specimens examined*: Sap mora rasta, *M. Sankarar Rao* 15016 (BSID).

**ASTERACEAE** Bercht. & J.Presl

**Key to the genera**

| | | |
|---|---|---|
| 5a. | Heads homogamous, either male or female or bisexual | **2** |
| b. | Heads heterogamous, outer florets usually female, inner ones bisexual or male | **4** |
| 2a. | Leaves opposite, at least in the lower region | **3** |
| b. | Leaves alternate and radical | **Cyanthillium** |
| 3a. | Pappus of long hairs | **Chromolaena** |
| b. | Pappus of very short hairs | **Ageratum** |
| 4a. | Leaves opposite, at least in the lower region | **5** |
| b. | Leaves alternate or radical | **Parthenium** |
| 5a. | Leaves trifoliolate or pinnate | **Bidens** |
| b. | Leaves simple, entire or serrate-dentate | **6** |
| 6a. | Florets white | **Blainvillea** |
| b. | Florets yellow | **Tridax** |

**Ageratum** L.

**Ageratum conyzoides** L., Sp. Pl. 2: 839. 1753. **(Plate -9D)**

Annual, erect, foetid herb. Leaves ovate to triangular, 3-8 × 1-3.5 cm, rounded or truncate, serrate, acute or acuminate. Florets blue, in terminal corymbose heads. Achenes black, 5-angled. Pappus scales 5, serrate, awn-tipped.

*Flowering & Fruiting*: June -January.
*Distribution*: Common in wastelands and along the road sides.
*Specimens examined*: Rollapenta, *M. Sankarar Rao & P. Harikrishna* 14486 (BSID).

**Bidens** L.

**Bidens bipinnata** L., Sp. Pl. 832. 1753. *Bidens pilosa* var. *bipinnata* (L.) Hook.f., Fl. Brit. India 3: 309. 1881.

Annual, erect herb, up to 1.2 m tall. Stem striated. Lower leaves bipinnately compound, upper most pinnate; lateral segments 2-3 × 1-1.5 cm; terminal 5-7 × 1-2 cm. Flowers yellow, in terminal heads, heterogamous. Achenes 4-ribbed.

*Flowering & Fruiting*: September - January.
*Distribution*: Common in open forests.
*Specimens examined*: Nitya Pooja Kona, *P. Harikrishna & M. Sankarar Rao* 13849 (BSID).

**Blainvillea** Cass.

**Blainvillea acmella** (L.) Philipson, Blumea 6: 350. 1950.

Erect, annual herb, upto 50 cm high. Leaves opposite, upper alternate, obovate, lanceolate, serrate margins, acuminate, base acute, acuminate at apex. Achenes truncate, angled.

*Flowering & Fruiting*: October-April.
*Distribution*: Common in wastelands and in forest undergrowth.
*Specimens examined*: Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13845 (BSID).

**Chromolaena** DC.

**Chromolaena odorata** (L.) R.M. King & H. Rob., Phytologia 20: 204. 1970. **(Plate -9E).**

Erect herb, up to 2 m high. Leaves ovate, 3-9 × 1.5-5 cm, base cuneate, margin serrate-dentate, apex acute to sub acuminate. Flowers white-purple, in terminal corymbose heads, homogamous. Achenes cuneate, oblanceolate, 5-ribbed.

*Flowering & Fruiting*: December – May.
*Distribution*: Common in open forests and along the roads.
*Specimens examined*: On way to Lankamalleshwara Temple, *M. Sankarar Rao & P. Harikrishna* 13913 (BSID).

**Cyanthillium** Blume

**Key to the Species**

1a. Plant parts pubescent; leaves whitish beneath **C. albicans**
b. Plant parts glabrous **C. cinereum**

**Cyanthillium albicans** (DC.) H. Rob., Proc. Biol. Soc. Washington 112: 229. 1999. *Vernonia albicans* DC., Wight, Contr. Bot. India: 6. 1834. **(Plate -9F)**

Erect, tomentose herbs. Leaves ovate-rhomboid, serrate, obtuse, base truncate to obtuse, acute at apex pubescent above, tomentose beneath. Flowers pinkish-white or purple, homogamous, disciform, in terminal panicles. Pappus 2-seriate. Achenes obovate.

*Flowering & Fruiting*: September-December.
*Distribution*: Common in open forests and along the roads.
*Specimens examined*: Mallesh thota (Etala nella), *M. Sankarar Rao & P. Harikrishna* 15011(BSID), Near Venugopala Swamy temple forest area, *M. Sankarar Rao & P. Harikrishna* 15089 (BSID).

**Cyanthillium cinereum** (L.) H. Rob., Proc. Biol. Soc. Washington 103: 252. 1990. *Vernonia cinerea* (L.) Less., Linnaea 4: 291. 1829.

Annual, erect herb. Leaves ovate or elliptic-lanceolate, base cuneate-attenuate, margin entire, apex acute. Flowers pale pink or purple, in terminal corymbose heads. Achenes oblong, brown, villous.

*Flowering & Fruiting*: August - April.
*Distribution*: Common in wastelands, open forests and along the roads.
*Specimens examined*: Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13872(BSID), Near Bhogademma thalli temple forest area, *M. Sankarar Rao & P. Harikrishna* 14452 (BSID).

**Parthenium** L.

**Parthenium hysterophorus** L., Sp. Pl.: 988. 1753. '*Congress gaddi'*. **(Plate -9G)**

Annual, erect herb, up to 1.5 m tall. Branches grooved, hairy. Leaves pinnatifid, 2-15 × 0.5-7cm; pinnules opposite, oblong-lanceolate, base decurrent, apex acute. Heads white, in terminal panicles, heterogamous. Achenes obovoid, flattened.

*Flowering & Fruiting*: Throughout the year.
*Distribution*: Common in wastelands and along the roads.
*Specimens examined*: Bayanna palle, near Darga, *P. Harikrishna & M. Sankarar Rao* 13896 (BSID).

**Tridax** L.

**Tridax procumbens** L., Sp. Pl.: 900. 1753. '*Ravanasurudi talakaai, Kampu-chemanti, Nallaku'*. **(Plate -9H)**.

Annual, decumbent herb, up to 40 cm tall. Leaves ovate, 4 × 2.5 cm, opposite, strigose on both surfaces, base acute, margin coarsely serrate, apex acute. Heads solitary, terminal, yellow, heterogamous. Achenes obconical, ribbed.

*Flowering & Fruiting*: Throughout the year.
*Distribution*: Common in wastelands and along the road sides of forests.
*Specimens examined*: Nitya Pooja Kona, *M. Sankarar Rao & P. Harikrishna* 13855 (BSID).

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