

# Divine Flora of Anakapalli District: Need for Documentation and Conservation

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**Abstract:** India's plant biodiversity has long been intertwined with culture, spirituality, and traditional medicine, forming the backbone of indigenous healthcare and ritual practices. In southern India, several species regarded as "divine flora" occupy a unique position linking religion, ethnobotany, and ecological stewardship. This study documents sacred plant species in Anakapalli District, Andhra Pradesh, with emphasis on their taxonomy, ethnobotanical uses, and conservation importance. Data were collected through field surveys, interviews with local informants, and review of regional floristic and ethnobotanical literature, focusing on sacred groves, temple premises, and ritual landscapes. The study records a diverse assemblage of culturally significant species, including *Ocimum tenuiflorum* (Tulsi) and *Aegle marmelos* (Bael), along with several lesser-known plants integral to local worship, festivals, and primary healthcare. These findings highlight the role of traditional knowledge systems in integrating sacred flora into daily life, thereby supporting cultural identity and ecological resilience. However, threats such as habitat loss, urbanization, over-exploitation, and erosion of traditional knowledge endanger these resources. The study emphasizes the need for systematic documentation and culturally sensitive conservation strategies to ensure the sustainable management of sacred plant diversity.

**Keywords:** Sacred plants, Ethnobotany, Traditional medicine, Biodiversity conservation, Indigenous knowledge

## 1. Introduction

Plants have played an important role in human civilization by providing food, medicine, shelter, ecological stability, and cultural identity (Rampilla & Mahammad, 2015). In India, plants are deeply embedded in religious traditions, spiritual symbolism, and indigenous healthcare systems (Savithamma et al., 2013 & Sunitha et al., 2014). Certain species are regarded as "sacred" or "divine" because of their association with deities, rituals, and traditional beliefs. Examples include Tulsi (*Ocimum tenuiflorum*), Bael (*Aegle marmelos*), Neem (*Azadirachta indica*), etc. which are commonly grown in temple premises of South India, sacred groves, and household gardens (Naidu, et. al., 2015 & Savithamma, et al., 2015). These plants not only represent spiritual devotion but also embody traditional ecological knowledge that contributes to biodiversity conservation and primary healthcare.

In India, sacred groves and temple landscapes function as living repositories of biocultural heritage, where plant species are traditionally protected through religious beliefs and ritual practices (Rao & Sunitha, 2011). In southern India, particularly in Andhra Pradesh (Kumar, 2010 & Sivaramakrishna, 2023), reverence for sacred plants is closely linked with Hindu religious customs, seasonal festivals, and ethnobotanical traditions (Padal, et al., 2017 & Nagendra et al., 2025). Through ritual protection and cultural respect, many of these plants have been conserved for generations, helping maintain ecological balance and supporting local biodiversity. However, increasing urbanization, land-use changes, and the gradual decline in the transmission of traditional knowledge are threatening the survival and cultural importance of many sacred plant species. Documenting and understanding such plants, is therefore essential for preserving both ethnobotanical knowledge and ecological diversity.

## 2. Study Area

The newly formed Anakapalli District of Andhra Pradesh, located along the eastern coastal plains and influenced by the nearby Eastern Ghats, exhibits diverse ecological conditions along with a rich cultural heritage. The region characterized by varied landforms such as river plains, forested hills, freshwater lakes, and agricultural fields. Anakapalli is primarily an agricultural district, with major crops including paddy, pulses, and various cash crops. At the same time, it also encompasses forested hill regions and sacred groves (locally known as "Pavithranas"), which support diverse plant communities.

Notable ecological sites such as Kondakarla Ava, a freshwater lake and wetland ecosystem, support hydrophytic plants like *Typha angustata* and *Pistia stratiotes*, reflecting the diversity of plant habitats in the district. Similarly, temple hills such as Satyanarayana Swamy Hill near Anakapalle town are known for the presence of important sacred flora. Climatically, the district experiences a tropical wet and dry climate, receiving moderate rainfall influenced by both the southwest and northeast monsoons. Soil types vary from fertile alluvial soils in the coastal plains to skeletal soils in upland areas, supporting both cultivated crops and natural vegetation. The Sarada and Tandava river basins play a significant role in sustaining agricultural activity due to favourable environmental and irrigation conditions.

These diverse ecological and cultural settings support a wide variety of plant species, including many with religious, symbolic, and ethnobotanical importance. Therefore, the present study aims to document sacred plant species in Anakapalli District, examine their traditional uses and cultural significance, and highlight their ecological and conservation value. This work contributes to the preservation of regional ethnobotanical knowledge and provides a foundation for future research and conservation planning related to sacred plant diversity.

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### 3. Materials and Methods

#### 3.1 Literature Review

Secondary data on sacred and divine plants were gathered via literary surveys of regional floristic studies, sacred grove documentation from Andhra Pradesh, and ethnobotanical resources covering sacred species in the southern Indian context. Key sources included published floristic checklists from Satyanarayana Swamy Hill, sacred plant lists from Andhra/Telangana regions, and ethnobotanical compilations of revered plant species.

#### 3.2 Species Selection Criteria

Species were categorized as “divine” if they met one or more of the following:

- Documented religious significance in Indian tradition (e.g., association with Hindu deities or temple rituals).
- Presence in sacred groves or temple environs in Andhra Pradesh.
- Common cultivation in home gardens for spiritual or ritual use.

#### 3.3 Data Compilation

For each divine plant identified, information was compiled on:

- Scientific and common names
- Cultural/significance in religious practice
- Presence or likelihood of occurrence in Anakapalli District
- Utility and ecological notes

Data were analyzed qualitatively to assess cultural prominence and ecological relevance.

### 4. Results

The study identified several plant taxa regarded as divine or of cultural significance within Anakapalli and broader Andhra Pradesh contexts. These species are widely recognized in India for their sacred status, although formal floristic documentation in Anakapalli is limited.

#### 1) Sacred Trees and Religious Associations

- *Ficus religiosa* (Peepal tree): A sacred tree associated with Hindu worship and temple landscapes (AP History Congress).
- *Plumeria alba* (Temple Jasmine): Often found in temple gardens, known for fragrant flowers and ceremonial use.

#### 2) Medicinally Important Species

- *Holarrhena antidysenterica*: Medicinal tree used traditionally for gastrointestinal ailments, found historically in groves (APHC Proceedings).
- *Hemidesmus indicus* (Anantamul): Root used in Ayurveda as a detoxifier and blood purifier.

#### 3) Wetland and Ecosystem Plants

- *Typha angustata*: Emergent aquatic plant in Kondakarla Ava, supporting bird habitats and local ecology.
- *Pistia stratiotes*: Free-floating aquatic species contributing to wetland nutrient cycles and often tied to local uses.

#### Folk and Cultural Flora

Field observations and local knowledge indicate the presence of other culturally valued plants such as neem (*Azadirachta indica*), banyan species, and marigolds used in festivals and temple offerings.

#### 4.1 *Ocimum tenuiflorum* (Tulsi)

Tulsi, widely worshipped in Hindu households and temples, is a sacred aromatic plant associated with Vishnu and Lakshmi worship. It is commonly cultivated in home courtyards and temple precincts across Andhra Pradesh.

#### 4.2 *Aegle marmelos* (Bael)

Bael is revered in Hindu tradition and often planted near temples and homes. Its trifoliate leaves are symbolic in Shaivism and are integral to Shivaratri worship.

#### 4.3 Sacred Trees and Grove Species

Traditional sacred groves documented in Andhra Pradesh often contain species such as Neem (*Azadirachta indica*), Peepal (*Ficus religiosa*), Mango (*Mangifera indica*), Hibiscus (*Hibiscus rosa-sinensis*), and Indian gooseberry (*Phyllanthus emblica*). These species are culturally significant across temple landscapes and sacred sites.

#### 4.4 Floristic Survey of Satyanarayana Swamy Hill

The flora of Satyanarayana Swamy Hill near Anakapalle includes a range of deciduous forest species, among which several divine plants are likely represented. Though specific sacred plant inventories were not provided in the survey, many medicinal and culturally valued species occur in similar habitats and temple groves.

#### 4.5 Additional Culturally Significant Species

Although not directly documented in the Anakapalli literature, general sacred plant lists for Andhra Pradesh include species such as Sandalwood (*Santalum album*) revered for use in rituals, and Vetiver (*Vetiveria zizanioides*), often used in festival decorations and ceremonies.

#### 4.6 *Ficus benghalensis* (Banyan Tree)

The Banyan tree is considered sacred in Hindu tradition and is associated with immortality and longevity. It is often planted near temples and village centers in Andhra Pradesh. The tree is linked with the Trimurti (Brahma, Vishnu, Shiva), and rituals like “Vat Savitri Vrat” are performed under its canopy.

**Table:** Important Divine Flora in Study Area

Sl No	Scientific name	Local Name	Family
1	<i>Aegle marmelos</i>	Bael	Rutaceae
2	<i>Azadirachta indica</i>	Neem	Meliaceae
3	<i>Bauhinia variegata</i>	Kanchanam	Fabaceae
4	<i>Calotropis gigantea</i>	Arka / Jilledu	Apocynaceae
5	<i>Datura metel</i>	Datura / Ummetta	Solanaceae
6	<i>Ficus benghalensis</i>	Banyan Tree	Moraceae
7	<i>Ficus religiosa</i>	Peepal tree	Moraceae
8	<i>Hemidesmus indicus</i>	Anantamul	Apocynaceae
9	<i>Mangifera indica</i>	Mango	Anacardiaceae
10	<i>Michelia champaca</i>	Champak	Magnoliaceae
11	<i>Ocimum tenuiflorum</i>	Tulsi	Lamiaceae
12	<i>Pandanus odorifer</i>	Screw Pine / Mogali	Pandanaceae
13	<i>Phyllanthus emblica</i>	Indian gooseberry	Phyllanthaceae
14	<i>Pistia stratiotes</i>	Antara Tamara	Araceae
15	<i>Plumeria alba</i>	Temple Jasmine	Apocynaceae
16	<i>Santalum album</i>	Sandalwood	Santalaceae
17	<i>Saraca asoca</i>	Ashoka Tree	Fabaceae
18	<i>Tabernaemontana divaricata</i>	Nandi Vardhanam	Apocynaceae
19	<i>Typha angustata</i>	Enugu Jammu	Typhaceae
20	<i>Wrightia tinctoria</i>	Pala Indigo Plant	Apocynaceae

**4.7 *Calotropis gigantea* (Arka / Jilledu)**

This hardy shrub is commonly used in the worship of Lord Shiva and Lord Ganesha. Its flowers and leaves are offered during religious rituals, especially in rural temples across Andhra Pradesh, including Anakapalli.

**4.8 *Datura metel* (Datura / Ummetta)**

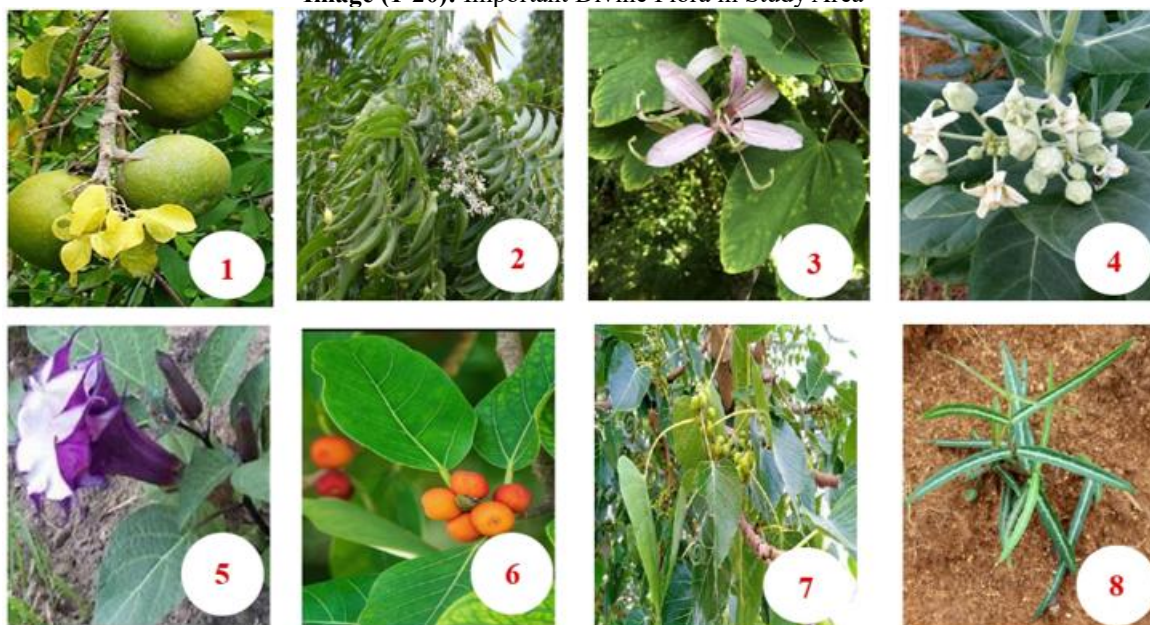
Datura is considered sacred to Lord Shiva and is frequently used in temple offerings, particularly during

“Mahashivaratri”. Despite its toxic nature, it holds high ritual importance.

**4.9 *Saraca asoca* (Ashoka Tree)**

The Ashoka tree is associated with love, fertility, and prosperity. It is linked to Goddess Sita and is often planted in temple gardens and sacred groves for its ornamental and spiritual value.

**Image (1-20):** Important Divine Flora in Study Area





#### 4.10 *Michelia champaca* (Champak)

Champak flowers are highly fragrant and used in temple offerings. The tree is associated with Lord Vishnu and Goddess Lakshmi and is often cultivated in temple surroundings.

#### 4.11 *Pandanus odorifer* (Screw Pine / Mogali)

This plant is valued for its fragrant flowers used in garlands and temple decorations. It is commonly seen in coastal Andhra regions, including Anakapalli.

#### 4.12 *Bauhinia variegata* (Kanchanam)

Mandara flowers are used in the worship of Lord Shiva and Goddess Durga. The tree is also valued for its ornamental beauty in temple gardens.

#### 4.13 *Wrightia tinctoria* (Pala Indigo Plant)

This species is culturally important in rural Andhra Pradesh and is sometimes associated with local deities. It is also valued for its medicinal properties and presence in sacred groves.

#### 4.14 *Tabernaemontana divaricata* (Nandi Vardhanam / Crape Jasmine)

This ornamental shrub is widely planted in temples and homes. Its white flowers are used in daily worship, especially in offerings to Lord Shiva and Vishnu.

## 5. Discussion

### 5.1 Cultural and Religious Importance

The identified divine plants play essential roles in religious practice and cultural life in Anakapalli and across Andhra Pradesh. Plants like Tulsi and Bael are deeply embedded in Hindu devotional practices, symbolizing purity, prosperity, and divine presence. Their cultivation near homes and temples reinforces cultural continuity and ecological stewardship through ritual planting.

### 5.2 Ecological and Conservation Dimensions

Sacred groves and temple hills often serve as refuges for native flora due to long-standing cultural taboos against tree cutting and disturbance. Such community-protected vegetation patches have higher biodiversity and ecological stability compared to surrounding landscapes. However, pressures such as urbanisation, tourism, and land change have threatened some sacred sites across the state.

### 5.3 Challenges

In Anakapalli District, systematic documentation of divine plants is limited. Apart from isolated flora surveys (e.g., Satyanarayana Swamy Hill), comprehensive ethnobotanical inventories are lacking. Future field studies involving local elders, temple authorities, and traditional healers could enrich understanding of sacred plant use and transmission of indigenous knowledge.

## 6. Conclusions and Future Scope

This study highlights the presence and cultural significance of divine plants in Anakapalli District, demonstrating their intertwined roles in religion, culture, and ecology. Common sacred plants such as Tulsi and Bael, along with other culturally valued species documented elsewhere in Andhra Pradesh, are likely to be integral to local spiritual landscapes. Future research should include:

- Detailed field surveys of sacred groves and temple landscapes in Anakapalli.
- Ethnobotanical interviews with local communities about plant use in rituals.
- Conservation assessments of culturally significant plant populations.
- Integration of botanical data with geospatial mapping of sacred plant habitats.

Effective conservation of divine plants not only preserves biodiversity but also sustains cultural heritage and traditional ecological knowledge.

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