

**Research Article****Documentation of Plant Species in Visakha Govt Degree College for Women(A), Visakhapatnam, Andhra Pradesh, India.**

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**Abstract**

Recording green spaces is vital to assess current natural resources and plan for sustainable development (Rao, J.P *et al.*, 2013). The present study reveals the diversity of plants distributed in the Visakha Govt Degree college campus, located in Visakhapatnam. A total of 121 species were identified in the campus representing 56 families and 104 genera. Fabaceae was the most dominant family with the highest number of species, followed by Araceae, Apocynaceae, Euphorbiaceae, Myrtaceae, Rutaceae, Lamiaceae, Acanthaceae, and Arecaceae. The study area supports rich floristic diversity with multifunctional plant usage, encompassing ecological, medicinal, ornamental, cultural, and economic values.

**Keywords:** Campus flora, Biodiversity, Documentation, Identification, Native.

**Introduction**

Floras give a detailed information on plant species in a region, that are essential references for understanding local plant life. They are valuable tools for a wide range of people, including botanists, ecologists, conservationists, foresters, gardeners, agronomists, researchers, and the general public. Exploring the plant life of an area and compiling this information into a flora has long been recognized as an important societal task, often leading to the identification of plants with economic and practical significance. The purpose of this list of plant species is to offer a thorough resource for academic study, environmental consciousness, and upcoming conservation initiatives. It provides a basis for tracking ecological changes throughout time in addition to being an educational tool for students studying botany and environmental science. This identification and recording the present flora help students and researchers gain insight into species diversity, seasonal variations, habitat preferences, and the potential impact of human activities on the campus environment.

**Materials and methods**

The study was conducted within the premises of Visakha Govt Degree College for Women (A) Visakhapatnam covering an area of 3.33 acres. The campus includes a variety of habitats such as gardens, lawns, roadside vegetation, shaded areas, open fields, and wet zones. These microhabitats provide suitable conditions for diverse plant species and identification is done using floras and available literature. Identification of the collected plant specimens was carried out using standard floras and relevant botanical literature (Pullaiah, T. and Chennaiah 1997, Pullaiah T. and Alimoulali, D 1997, Pullaiah T 1997). Floras provide detailed descriptions, diagnostic keys, and illustrations that help in distinguishing species based on morphological characters such as leaf shape, venation patterns, flower structure, fruit type, and other distinguishing features.



**Figure 1:** Survey and recording of plants in the college campus

### Results and Discussion

The floristic survey of the campus revealed a total of 121 plant species, representing 104 genera and 56 families, recorded from the study area. The documented flora represents a wide range of angiosperms, gymnosperms, pteridophytes, and orchids, indicating considerable plant diversity and ecological heterogeneity. The predominance of angiosperms reflects their adaptive versatility and ecological dominance in tropical and subtropical regions.

Analysis of family-wise distribution revealed that Fabaceae was the most dominant family with the highest number of species, followed by Araceae, Apocynaceae, Euphorbiaceae, Myrtaceae, Rutaceae, Lamiaceae, Acanthaceae, and Arecaceae. The dominance of Fabaceae may be attributed to its nitrogen-fixing ability, wide ecological amplitude, and extensive use in afforestation, medicinal, and ornamental purposes.

Families such as Orchidaceae, Cycadaceae, Cupressaceae, Pandanaceae, Strelitziaceae, and Adiantaceae were represented by one or two species, suggesting either selective cultivation or restricted ecological distribution within the study area. Similar patterns of family dominance have been reported in floristic studies of tropical campuses and botanical gardens.

### Habit-wise Composition

The flora comprises a diverse range of trees, shrubs, herbs, climbers, succulents, palms, and epiphytes. Trees form a major component of the vegetation, including ecologically and culturally significant species such as *Manilkara hexandra*, *Parkia biglandulosa*, *Ficus benghalensis*, *Azadirachta indica*, *Mangifera indica*, *Syzygium cumini*, *Terminalia arjuna*, and *Santalum album*. Shrubs and ornamental plants such as *Duranta erecta*, *Plumeria spp.*, *Adenium obesum*, and *Catharanthus roseus* contribute significantly to landscape aesthetics. Herbs including medicinally important species like *Andrographis paniculata*, *Ocimum spp.*, *Curcuma longa*, and *Aloe vera* reflect traditional ethnobotanical importance. Climbers and creepers such as *Cissus quadrangularis*, *Clitoria ternatea*, and *Ipomoea quamoclit* add structural diversity.

The occurrence of sacred, endemic, and threatened species such as *Santalum album*, *Pterocarpus santalinus*, *Saraca asoca*, and *Butea monosperma* underscores the conservation importance of the study area. Their presence underscores the importance of protected landscapes in conserving native and valuable plant genetic resources.

**Table:1 List of Plants in Visakha Govt Degree College Campus**

S.No	Botanical Name	Family	Common Name
1.	<i>Abelmoschus moschatus</i> Medik.	Malvaceae	Kasturi Benda
2.	<i>Acalypha indica</i> L.	Euphorbiaceae	Muripinda
3.	<i>Acalypha wilkesiana</i> Müll.Arg.	Euphorbiaceae	Copper leaf
4.	<i>Adenium obesum</i> (Forssk.) Roem. & Schult.	Apocynaceae	Adenium

5.	<i>Adiantum capillus-veneris</i> L.	Adiantaceae	Maidenhair fern
6.	<i>Adiantum philippense</i> L.	Adiantaceae	Maidenhair fern
7.	<i>Aegle marmelos</i> (L.) Corrêa	Rutaceae	Mareedu
8.	<i>Agave americana</i> L.	Agavaceae	Kittanara
9.	<i>Agave salmiana</i> Otto ex Salm-Dyck	Agavaceae	Century plant
10.	<i>Aglaonema commutatum</i> Schott.	Araceae	Poison dart plant
11.	<i>Ailanthus excelsa</i> Roxb.	Simaroubiaceae	Heaven tree
12.	<i>Albizia lebeck</i> (L.) Benth.	Fabaceae	Lebeck tree
13.	<i>Alocasia macrorrhizos</i> (L.) G.Don.	Araceae	Gaint taro
14.	<i>Aloe vera</i> (L.) Burm.f.	Liliaceae	Kalabanda
15.	<i>Andrographis paniculata</i> (Burm.f.) Wall. ex Nees	Acanthaceae	Nelavemu
16.	<i>Annona cherimola</i> Mill.	Annonaceae	Hanuman Phal
17.	<i>Annona muricata</i> L.	Annonaceae	Lakshman Phal
18.	<i>Annona reticulata</i> L.	Annonaceae	Ramaphal
19.	<i>Annona squamosa</i> L.	Annonaceae	Seethaphal
20.	<i>Araucaria araucana</i> (Molina) K.Koch	Araucariaceae	Monkey puzzle tree
21.	<i>Artabotrys odoratissima</i> R.Br. ex Ker Gawl.	Annonaceae	Sampenga
22.	<i>Artocarpus heterophyllus</i> Lam.	Moraceae	Jack fruit
23.	<i>Artemisia vulgaris</i> L.	Asteraceae	Davanamu
24.	<i>Asparagus racemosus</i> Willd.	Asparagaceae	Shatavari
25.	<i>Azadirachta indica</i> A.Juss.	Meliaceae	Neem
26.	<i>Barleria cristata</i> L.	Acanthaceae	Mulla gorinta
27.	<i>Bauhinia purpurea</i> L.	Fabaceae	Deva kanchanam
28.	<i>Bergera koenigii</i> L. (Murraya koenigii L.)	Rutaceae	Curry leaf
29.	<i>Brugmansia suaveolens</i> (Humb. & Bonpl. ex Willd.) Sweet.	Solanaceae	Brugmansia
30.	<i>Butea monosperma</i> (Lam.) Kuntze	Fabaceae	Modhuga
31.	<i>Caladium bicolor</i> (Aiton) Vent.	Araceae	Angel wings
32.	<i>Canna indica</i> L.	Cannaceae	Indian shot
33.	<i>Carica papaya</i> L.	Caricaceae	Papaya
34.	<i>Cascabela thevetia</i> (L.) Lippold. (Thevetia)	Apocynaceae	Kaner
35.	<i>Catharanthus roseus</i> (L.) G.Don	Apocynaceae	Bilva Ganneru
36.	<i>Cissus quadrangularis</i> L.	Vitaceae	Nalleru
37.	<i>Citrus × microcarpa</i>	Rutaceae	Sour orange
38.	<i>Clitoria ternatea</i> L.	Fabaceae	Shanku puvuu
39.	<i>Cocos nucifera</i> L.	Arecaceae	coconut
40.	<i>Codiaeum variegatum</i> (L.) Rumph. ex A.Juss.	Euphorbiaceae	Croton
41.	<i>Coffea arabica</i> L.	Rubiaceae	Coffee
42.	<i>Combretum indicum</i> (L.) DeFilippis (Quisqualis)	Combretaceae	Quisqualis
43.	<i>Costus spicatus</i> (Jacq.) Sw.	Costaceae	Insulin plant
44.	<i>Couroupita guianensis</i> Aubl.	Myrtaceae	Nagalingam/Cannonball tree
45.	<i>Crinum asiaticum</i> L.	Amoryllidaceae	Poison bulb
46.	<i>Crotalaria laburnifolia</i> L.	Fabaceae	Pedda Gilagitcha

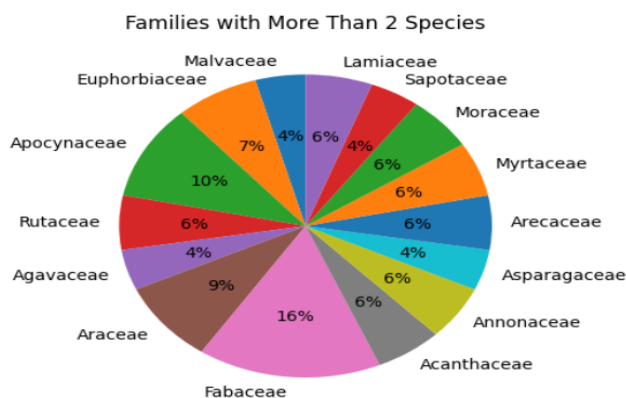
47.	<i>Curcuma longa</i> L.	Zingiberaceae	Turmeric
48.	<i>Cycas revoluta</i> Thunb.	Cycadaceae	Cycas
49.	<i>Cymbopogon citratus</i> (DC.) Stapf.	Poaceae	Lemon grass
50.	<i>Dendrobium aphyllum</i> (Roxb.) C.E.C.Fisch.	Orchidaceae	Dendrobium small
51.	<i>Dendrobium regium</i> Prain.	Orchidaceae	Dendrobium large
52.	<i>Dioscorea bulbifera</i> L.	Dioscoreaceae	Air potato
53.	<i>Dracaena fragrans</i> (L.) Ker Gawl	Asparagaceae	Dracaena
54.	<i>Dracaena roxburghiana</i> (Schult. & Schult.f.) Byng & Christenh.(sansevieria)	Asparagaceae	Sansevieria
55.	<i>Duranta erecta</i> L.	Verbenaceae	Sky flower
56.	<i>Elaeocarpus lanceifolius</i> Roxb.	Eleocarpaceae	Rudraksha
57.	<i>Equisetum ramosissimum</i> Desf.	Equisetaceae	Branched horsetail
58.	<i>Euphorbia tithymaloides</i> L.	Euphorbiaceae	Slipper flower
59.	<i>Ficus benghalensis</i> L.	Moraceae	Marri
60.	<i>Ficus hispida</i> L.f.	Moraceae	Pitta Marri
61.	<i>Ficus racemosa</i> L.	Moraceae	Ravii
62.	<i>Ficus religiosa</i> L.	Moraceae	Ravii
63.	<i>Heptapleurum arboricola</i> Hayata. ( <i>Schefflera arboricola</i> (Hayata) Merr.)	Araliaceae	Umbrella tree
64.	<i>Holoptelea integrifolia</i> (Roxb.) Planch.	Ulmaceae	Indian elm
65.	<i>Hydrocotyle verticillata</i> Thunb.	Menispermaceae	Penny wort
66.	<i>Ipomoea quamoclit</i> L.	Convolvulaceae	Kasigartham
67.	<i>Licuala grandis</i> (T.Moore) H.Wendl.	Arecaceae	Palas palm
68.	<i>Limonia acidissima</i> L.	Rutaceae	Velaga
69.	<i>Magnolia champaca</i> (L.) Baill. ex Pierre.	Magnoliaceae	Champakamu
70.	<i>Mangifera indica</i> L.	Anacardiaceae	Mango
71.	<i>Manilkara hexandra</i> (Roxb.) Dubard	Sapotaceae	Pala komma
72.	<i>Manilkara zapota</i> (L.) P.Royen.	Sapotaceae	Sapota
73.	<i>Mimusops elengi</i> L.	Sapotaceae	Spanish cherry
74.	<i>Moringa oleifera</i> Lam.	Moringaceae	Munaga
75.	<i>Musa × paradisiaca</i> L.	Musaceae	Banana
76.	<i>Nyctanthes arbor-tristis</i> L.	Oleaceae	Parijatham
77.	<i>Ocimum gratissimum</i> L.	Lamiaceae	Clove Tulasi
78.	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Holy basil
79.	<i>Origanum majorana</i> L.	Lamiaceae	Maruvamu
80.	<i>Pandanus tectorius</i> Parkinson.	Pandanaceae	Pandanus
81.	<i>Parkia biglandulosa</i> Wight & Arn.	Fabaceae	Badminton Ball Tree
82.	<i>Peltophorum pterocarpum</i> (DC.) Backer ex K.Heyne.	Fabaceae	Turai
83.	<i>Pentapetes phoenicea</i> L.	Malvaceae	Mankena Puvuu
84.	<i>Philodendron hederaceum</i> (Jacq.) Schott.	Araceae	Philodendron
85.	<i>Phoenix sylvestris</i> (L.) Roxb.	Arecaceae	Wild date palm
86.	<i>Phyllanthus acidus</i> (L.) Skeels	Phyllanthaceae	Usiri
87.	<i>Phyllanthus emblica</i> L.	Phyllanthaceae	Amla
88.	<i>Pisonia alba</i> Span.	Nyctaginaceae	Lettuce tree
89.	<i>Plumeria alba</i> L.	Apocynaceae	West Indian jasmine

90.	<i>Plumeria rubra</i> L.	Apocynaceae	Deva ganneru
91.	<i>Polyscias fruticosa</i> (L.) Harms	Araliaceae	Ming aralia
92.	<i>Pongamia pinnata</i> (L.) Pierre	Fabaceae	Kanuga
93.	<i>Portulaca grandiflora</i> Hook.	Portulacaceae	Moss rose
94.	<i>Prosopis cineraria</i> (L.) Druce.	Fabaceae	Jammi
95.	<i>Pseuderanthemum maculatum</i> (G.Lodd.) I.M.Turner	Acanthaceae	Eranthemum
96.	<i>Psidium guajava</i> L.	Myrtaceae	Guava
97.	<i>Pterocarpus santalinus</i> L.f.	Fabaceae	Erra Chandanam/Red sandal
98.	<i>Punica granatum</i> L.	Punicaceae	Pomegranate
99.	<i>Ravenala madagascariensis</i> Sonn.	Strelitziaceae	Travellers palm
100.	<i>Roystonea regia</i> (Kunth) O.F.Cook	Arecaceae	Royal palm
101.	<i>Santalum album</i> L.	Santalaceae	Sri Gandham
102.	<i>Sapindus emarginatus</i> Vahl.	Sapindaceae	Soapnut
103.	<i>Saraca asoca</i> (Roxb.) W.J.de Wilde	Fabaceae	Seetha asoca
104.	<i>Spathodea campanulata</i> P.Beauv.	Bignoniaceae	African tulip
105.	<i>Swietenia macrophylla</i> King.	Meliaceae	Big leaf macrophylla
106.	<i>Syngonium podophyllum</i> Schott	Araceae	Arrowhead vine
107.	<i>Syzygium cumini</i> (L.) Skeels.	Myrtaceae	Neeredu
108.	<i>Syzygium samarangense</i> (Blume) Merr. & L.M.Perry.	Myrtaceae	Wax apple
109.	<i>Tabebuia pallida</i> (Lindl.) Miers	Bignoniaceae	Pink trumpet flower
110.	<i>Tabernaemontana divaricata</i> (L.) R.Br. ex Roem. & Schult.	Apocynaceae	Nandivardhanamu
111.	<i>Tagetes erecta</i> L.	Asteraceae	Marigold
112.	<i>Tamarindus indica</i> L.	Fabaceae	Tamarind
113.	<i>Terminalia arjuna</i> (Roxb. ex DC.) Wight & Arn.	Combretaceae	Tella Maddi
114.	<i>Terminalia catappa</i> L.	Combretaceae	Badam
115.	<i>Thespesia populnea</i> (L.) Sol. ex Corrêa	Malvaceae	Indian tulip
116.	<i>Thuja occidentalis</i> L.	Cupressaceae	Thuja
117.	<i>Thunbergia erecta</i> (Benth.) T.Anderson	Acanthaceae	Kings mantle
118.	<i>Vitex negundo</i> L.	Lamiaceae	Vavili
119.	<i>Wrightia tinctoria</i> (Roxb.) R.Br.	Apocynaceae	Pala indigo tree
120.	<i>Yucca gloriosa</i> L.	Agavaceae	Spanish dagger
121.	<i>Zamioculcas zamiifolia</i> (G.Lodd.) Engl.	Araceae	Z-Z plant

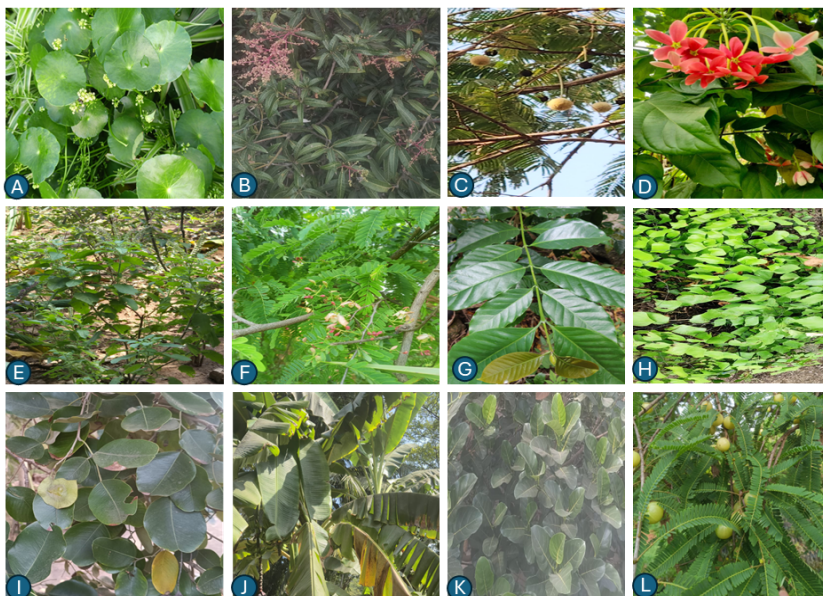
The analysis of the recorded plant species revealed a clear variation in species richness among the different plant families represented in the study area. Among the families with more than two species, Fabaceae was the most dominant family, represented by 11 species. This indicates the high adaptability and ecological significance of members of this family in the study site. The second most represented family was Apocynaceae with 7 species, followed by Araceae with 6 species and Moraceae with 5 species.

Several families showed moderate representation, including Euphorbiaceae, Myrtaceae, Rutaceae, Acanthaceae, Lamiaceae, Arecaceae, and Annonaceae, each contributing four species to the total flora. In contrast, families such as Sapotaceae, Malvaceae, Asparagaceae, and Agavaceae were represented by three species each. The dominance of Fabaceae may be attributed to its wide ecological adaptability and diverse growth forms, ranging from herbs and shrubs to large trees. Similarly, the presence of multiple species from Apocynaceae, Araceae, and Euphorbiaceae suggests

that these families are well suited to the environmental conditions of the surveyed area. Overall, the distribution pattern highlights decent taxonomic diversity with certain families contributing excessively to the total species composition.



**Figure 2: Pie chart of families representing more than two species**



**Figure 3: Some plant species in the campus, A. *Hydrocotyle verticillata*, B. *Mangifera indica*, C. *Parkia biglandulosa*, D. *Combretum indicum*, E. *Ocimum gratissimum*, F. *Tamarindus indica*, G. *Coffea arabica*. H. *Adiantum capillus-veneris*, I. *Pterocarpus santalinus*, J. *Musa x paradisiaca*, K. *Artocarpus heterophyllus*, L. *Phyllanthus emblica*.**

### Discussion

The presence of 121 species across 56 families and 104 genera points to a relatively rich and taxonomically diverse plant community on campus. This diversity suggests that the campus functions as a meaningful micro-ecosystem rather than just a manicured green space. The floristic composition of the study area was dominated by angiosperms, representing about 95% of the total species, while gymnosperms and pteridophytes constituted a minor proportion (approximately 3% each). This indicates the predominance of flowering plants in the garden flora. Such plant richness may support other forms of biodiversity, contributing to the ecological health of the campus. The presence of

native species alongside ornamentals points to a balanced botanical environment. However, assessing which species are native vs. introduced could help the campus prioritize conservation.

### **Conclusion**

The results demonstrate that the study area supports rich floristic diversity with multifunctional plant usage, encompassing ecological, medicinal, ornamental, cultural, and economic values. Such diversity enhances ecosystem services including carbon sequestration, soil stabilization, microclimate regulation, and biodiversity conservation.

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