

DENDROIDS OF MEERUT CITY, UTTAR PRADESH, INDIA

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ABSTRACT

Trees and shrubs form a major component of green infrastructure and contribute to biodiversity conservation, microclimatic regulation, air-pollution mitigation, storm-water moderation, cultural identity and human well-being in the urban environment. This study presents a taxonomic inventory of dendroids recorded in Meerut City, western Uttar Pradesh, between 2023– 2024. The inventory comprised 166 taxa distributed among 131 genera, 52 families and 22 orders. Angiosperms accounted for 161 taxa, while five taxa belonged to gymnosperms. Fabaceae was the dominant family with 29 taxa, followed by Moraceae (16), Arecaceae and Malvaceae (11 each), Bignoniaceae and Rubiaceae (10 each), and Apocynaceae (9). Fabales was the largest order (29 taxa), followed by Rosales (22), Gentianales (19), Lamiales (17), Sapindales (14) and Malvales (13). The genus *Ficus* was represented by ten taxa and was the most diverse genus, followed by *Bauhinia* (five) and *Hibiscus* (four). Broad growth-form assignment indicated 123 trees, 32 shrubs, five small tree/shrub intermediates and six atypical tree-like or non-target forms retained for completeness. The flora combines native South Asian trees, long-cultivated fruit and sacred species, avenue trees, palms and a substantial component of introduced ornamentals. The inventory demonstrates that Meerut supports a rich managed dendroid assemblage. This inventory provides a baseline for urban biodiversity research, landscape planning and future assessment of ecosystem services in Meerut City.

Keywords: *Urban Flora; Dendrology; Tree Diversity; Shrubs; APG IV; Green Infrastructure; Meerut; Western Uttar Pradesh*

INTRODUCTION

Urban vegetation is increasingly recognized as essential ecological element rather than merely decorative landscaping. Trees and shrubs influence urban water, heat and pollution cycles, store carbon, intercept rainfall, moderate local temperatures, provide habitat and improve the visual and psychological quality of cities (Livesley *et al.*, 2016; Roy *et al.*, 2012). The Food and Agriculture Organization has similarly emphasized that urban and peri-urban forests should be planned and managed as multifunctional systems supporting environmental quality, human health, resilience and social well-being (Salbitano *et al.*, 2016). Species composition is a fundamental attribute of an urban forest. High taxonomic diversity reduces dependence on a small number of species and may improve resilience to pests, diseases, extreme weather and changing climatic conditions. At the same time, urban floras frequently contain mixtures of native trees, domesticated fruit species and exotic ornamentals. Such studies therefore document both regional botanical heritage and the historical development of urban landscapes (Kendal *et al.*, 2014; Morgenroth *et al.*, 2016). Meerut is an important and rapidly expanding city of the National Capital Region in western Uttar Pradesh. The official district portal describes Meerut as a major urban centre located approximately 70 km northeast of New Delhi. Its public and institutional landscapes include educational campuses, parks, cantonment greens, roadsides, residential colonies, orchards and private gardens, creating numerous habitats for planted and naturally established woody species. Despite this botanical richness, a consolidated and analytically organized checklist of the city's trees and shrubs has been lacking.

The word “dendroid” is used here in a practical urban-botanical sense for woody or conspicuously tree-like plants. The inventory therefore includes conventional trees and shrubs as well as a small number of arborescent cycads, palms, tree-like herbs and a woody climber that are commonly treated as tree or shrub elements in gardens. The objectives of the study were to: (i) compile the dendroid flora recorded in Meerut during 2023–2024; (ii) analyse taxonomic richness at order, family and genus levels; (iii) characterize broad growth forms and urban-use groups; (iv) discuss ecological, ornamental, medicinal and economic significance; and (v) identify priorities for documentation and conservation.

2. Study Area

Meerut City lies in the upper Gangetic plain of western Uttar Pradesh and forms part of the National Capital Region. The regional landscape is predominantly alluvial and experiences a strongly seasonal subtropical climate, with hot summers, a monsoon period and cool winters. These conditions permit the cultivation of both tropical and subtropical trees, while winter chilling is sufficient for selected temperate fruit and ornamental taxa. The city contains a mosaic of old settlements, expanding residential sectors, cantonment areas, institutional campuses, public parks, road avenues and horticultural gardens. The dataset represents records from the wider urban area, including prominent educational and public green spaces surveyed by us during the 2023–2024 session.

MATERIALS AND METHODS

3.1 Data source and scope

The primary inventory consists of 166 tree and shrub entries compiled from field observations conducted between 2023–2024. Each entry included a botanical name, order, family and common name. The study is therefore a presence-only floristic inventory.

Representative taxa were photographed in the field, and selected images were assembled into six photographic plates. Each panel is labelled alphabetically, and the scientific names correspond to the identifications used in the checklist.

3.2 Taxonomic treatment

Family and order placement followed the APG IV framework for angiosperms (Angiosperm Phylogeny Group, 2016); gymnosperms were retained in their corresponding orders. Scientific names in the list were preserved in the appendix to maintain traceability to the field dataset.

3.3 Data analysis

Taxa were counted at species/infraspecific, genus, family and order levels. Family and order dominance were calculated from the number of listed taxa. Genera were extracted from the first element of each botanical name. For descriptive analysis, each taxon was assigned to one of the following broad growth-form categories: tree, shrub, small tree/shrub, or other tree-like form.

RESULTS

4.1 Overall taxonomic richness

The checklist contained 166 taxa belonging to 131 genera, 52 families and 22 orders (Table 1). Of the 166 taxa, 161 (97.0%) were angiosperms and five (3.0%) were gymnosperms. The angiosperm component comprised 13 monocotyledonous taxa, principally palms, and 148 non-monocot angiosperms. Most genera were represented by a single taxon: 112 genera (85.5% of all genera) were monospecific within the checklist, whereas 19 genera had two or more taxa.

Table 1. Summary of taxonomic richness in the Meerut dendroid checklist (2023–2024).

Inventory attribute	Value
Total taxa	166
Genera	131
Families	52
Orders	22
Angiosperm taxa	161
Gymnosperm taxa	5
Monospecific genera in the checklist	112
Genera represented by two or more taxa	19

4.2 Family-level composition

Fabaceae was the most species-rich family with 29 taxa (17.5% of the total inventory). Moraceae ranked second with 16 taxa (9.6%), followed by Arecaceae and Malvaceae with 11 taxa each (6.6% each). Bignoniaceae and Rubiaceae contained 10 taxa each, while Apocynaceae contained nine taxa. Together, the seven richest families accounted for 96 taxa (57.8% of the checklist), indicating a moderately concentrated family structure associated with ornamental planting, avenue forestry, fruit cultivation and the high representation of figs, legumes, palms and flowering shrubs.

Table 2. Twelve most species-rich families represented in the checklist.

Rank	Family	Number of taxa
1	Fabaceae	29
2	Moraceae	16
3	Arecaceae	11
4	Malvaceae	11
5	Bignoniaceae	10
6	Rubiaceae	10
7	Apocynaceae	9
8	Meliaceae	5
9	Rosaceae	4
10	Myrtaceae	4
11	Rutaceae	4
12	Lythraceae	4

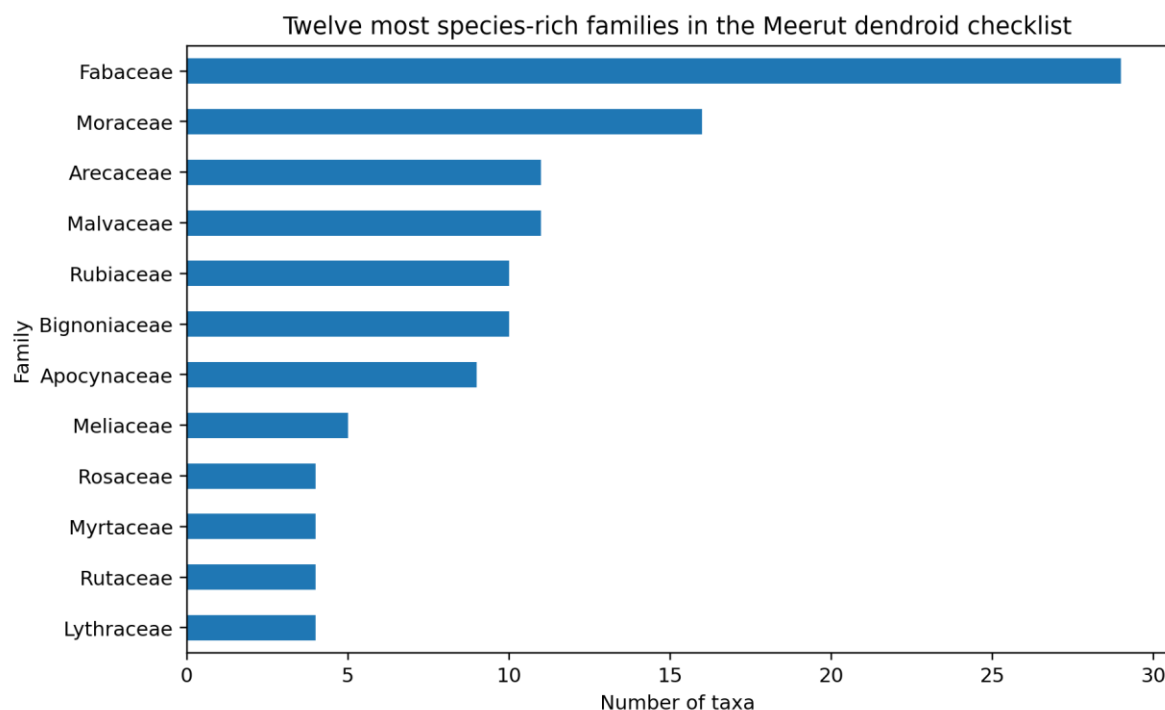


Figure 1. Dominant plant families in the dendroid flora of Meerut City.

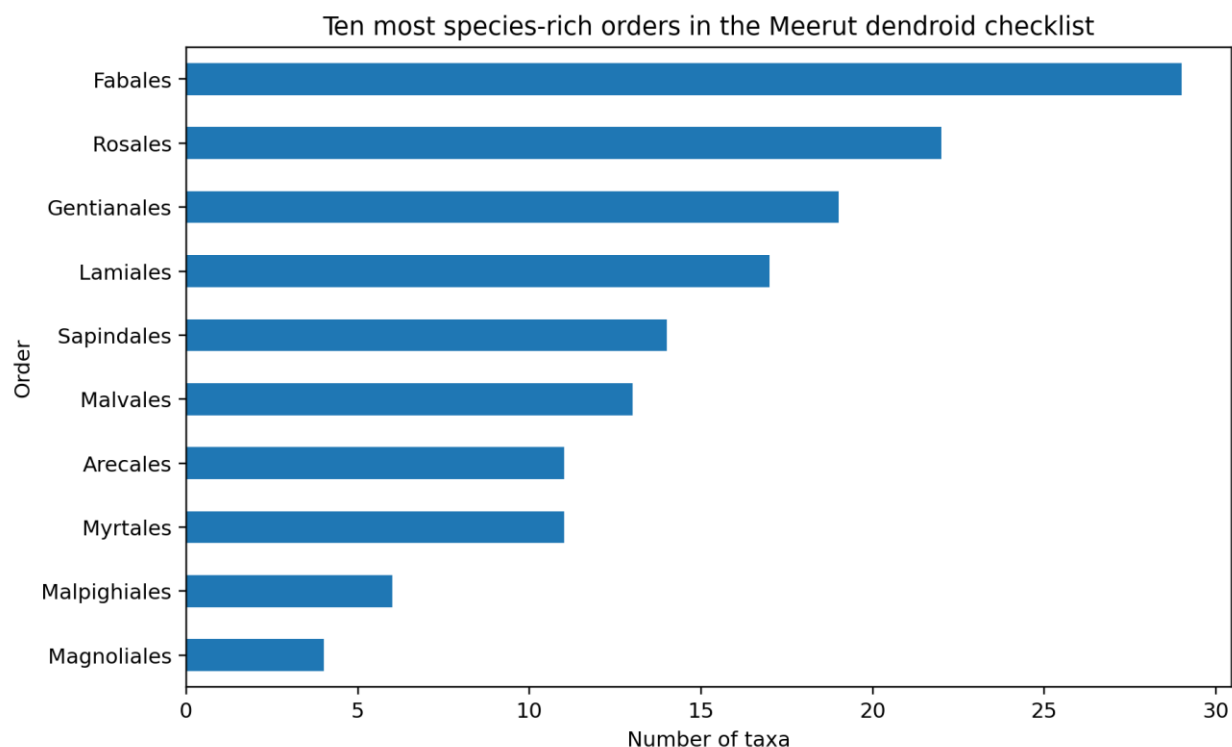
4.3 Order-level composition

Fabales was the dominant order with 29 taxa, all belonging to Fabaceae in the supplied classification. Rosales was the second largest order with 22 taxa, primarily contributed by Moraceae and Rosaceae. Gentianales (19 taxa) included Apocynaceae and Rubiaceae, while Lamiales (17 taxa) was enriched by Bignoniaceae, Verbenaceae, Oleaceae, Lamiaceae and allied families. Sapindales (14), Malvales (13), Myrtales (11) and Arecales (11) were also prominent.

Table 3. Ten most species-rich orders represented in the checklist.

Rank	Order	Number of taxa
1	Fabales	29
2	Rosales	22
3	Gentianales	19
4	Lamiales	17
5	Sapindales	14
6	Malvales	13
7	Myrtales	11
8	Arecales	11
9	Malpighiales	6
10	Magnoliales	4

Figure 2. Dominant orders in the dendroid flora of Meerut City



4.4 Genus-level representation

The genus *Ficus* was the richest with ten taxa, representing both native sacred and shade trees and ornamental figs. *Bauhinia* contained five taxa, *Hibiscus* four, and *Cassia*, *Mussaenda* and *Plumeria* three taxa each. Nineteen genera contained two or more taxa, whereas the strong predominance of single-taxon genera indicates broad phylogenetic and horticultural representation rather than concentration in a few lineages.

Rank	Genus	Number of taxa
1	<i>Ficus</i>	10
2	<i>Bauhinia</i>	5
3	<i>Hibiscus</i>	4
4	<i>Plumeria</i>	3
5	<i>Mussaenda</i>	3
6	<i>Cassia</i>	3
7	<i>Prunus</i>	2
8	<i>Pongamia</i>	2
9	<i>Terminalia</i>	2

Rank	Genus	Number of taxa
10	<i>Cycas</i>	2
11	<i>Erythrina</i>	2
12	<i>Dalbergia</i>	2

Table 4. Most species-rich genera in the Meerut checklist.

4.5 Growth-form composition

Broad morphological classification identified 123 trees (74.1%), 32 shrubs (19.3%), five taxa that commonly occur as small trees or shrubs (3.0%), and six atypical tree-like or non-target forms (3.6%). The final category included two arborescent cycads, a tree-like papaya herb, traveller's palm, a woody climbing fig and *Senna tora* as an herb/subshrub. Their retention reflects the practical nature of horticultural inventories and should be stated explicitly when the checklist is used for strict dendrological comparisons.

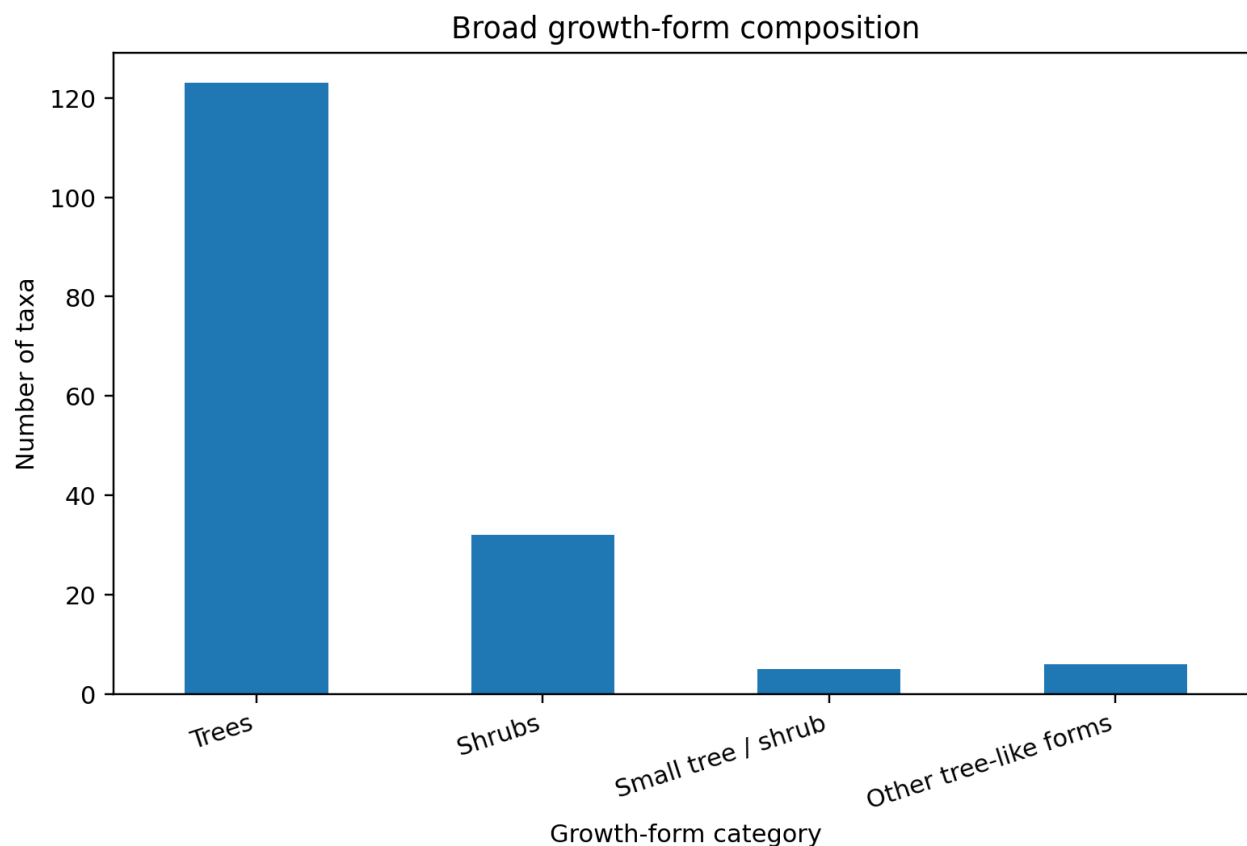


Figure 3. Broad growth-form composition of the listed taxa.

4.6 Floristic and functional character

The inventory contains several recognizable functional groups. Native and long-established shade or avenue trees include *Azadirachta indica*, *Albizia lebbbeck*, *Dalbergia sissoo*, *Ficus benghalensis*, *F. religiosa*, *Holoptelea integrifolia*, *Neolamarckia cadamba*, *Pongamia pinnata*, *Syzygium cumini* and *Terminalia arjuna*. Flowering ornamentals are well represented by *Cassia fistula*, *Delonix regia*, *Jacaranda mimosifolia*, *Lagerstroemia spp.*, *Plumeria spp.*, *Spathodea campanulata*, *Tabebuia rosea* and *Tecoma stans*. Palms form a conspicuous landscaping component, with 11 species of Arecaceae. Fruit and multipurpose trees include mango, guava, jamun, bael, aonla, litchi, citrus, jackfruit, mulberry, loquat, pomegranate, pear, peach, plum and sapodilla.

The checklist also records culturally important species such as *Ficus religiosa*, *F. benghalensis*, *Aegle marmelos*, *Saraca indica*, *Nyctanthes arbor-tristis*, *Mimusops elengi* and *Magnolia champaca*. Medicinal and economically useful species include *Azadirachta indica*, *Phyllanthus emblica*, *Terminalia arjuna*, *Moringa oleifera*, *Commiphora wightii*, *Aegle marmelos*, *Madhuca longifolia*, *Tectona grandis*, *Dalbergia sissoo*, *Toona ciliata* and *Swietenia mahagoni*. Thus, the urban dendroid flora is multifunctional and cannot be understood solely as an ornamental assemblage.

Representative flowering, fruiting and vegetative features of selected dendroid taxa are presented in Photographic Plates 1-6.

DISCUSSION

5.1 Taxonomic diversity and urban horticultural history

A richness of 166 listed taxa is substantial for a city. The high number of genera and the predominance of monospecific genera indicate that the urban flora has accumulated through many independent planting choices rather than through diversification of a small number of lineages. This pattern is common in cities, where nursery availability, aesthetic preference, colonial and post-colonial landscaping, institutional collections and household fruit cultivation collectively shape species composition (Kendal *et al.*, 2014).

Fabaceae dominance is consistent with the broad ecological and horticultural versatility of legumes. Members of the family include large shade trees, flowering avenue trees, small ornamentals and nitrogen-fixing species. Moraceae richness is driven particularly by *Ficus*, a genus of high cultural and ecological importance that supplies fruit and microhabitats to urban fauna. The prominence of Arecaceae, Bignoniaceae, Rubiaceae and Apocynaceae reflects extensive ornamental landscaping, whereas Malvaceae includes both large canopy trees and common flowering shrubs.

5.2 Ecological significance

Trees and shrubs contribute ecosystem services at individual-tree, street and city scales. Canopies intercept rainfall and particulate matter, shade built surfaces, reduce radiant heat and influence evapotranspiration. Roots improve infiltration and soil structure, while woody biomass stores carbon. Diverse flowering and fruiting schedules support insects, birds and other urban fauna. These benefits depend on tree size, health, species traits, placement and long-term maintenance rather than on planting numbers alone (Livesley *et al.*, 2016; Nowak *et al.*, 2006; Roy *et al.*, 2012).

The presence of many fruit-bearing taxa and ten *Ficus* taxa is especially important for urban food webs. Native figs, jamun, mulberry, ber, neem, kadamba and other trees provide seasonal resources and structural habitat. Shrub layers represented by *Ixora*, *Murraya*, *Hamelia*, *Carissa*, *Mussaenda* and *Hibiscus* can improve vertical complexity and support pollinators when managed without excessive pruning or pesticide use.

5.3 Ornamental, medicinal and economic value

Meerut's dendroid flora has high ornamental value through contrasting crown forms, bark, foliage, flowers and fruits. Seasonal displays of amaltas, gulmohar, jacaranda, tabebuia, lagerstroemia, silk-cotton trees and coral trees contribute to urban identity and visual continuity. Fragrant taxa such as *Mimusops elengi*, *Magnolia champaca*, *Nyctanthes arbor-tristis*, *Millingtonia hortensis*, *Murraya paniculata* and *Plumeria* spp. add sensory value to campuses and gardens.

Medicinal and economic functions are also prominent. Neem, bael, aonla, arjun, guggul, moringa, mahua, jamun and harsingar are widely recognized in traditional-use systems, while teak, shisham, toon, mahogany, eucalyptus, poplar and casuarina have timber or industrial value. Fruit species contribute provisioning services and household nutrition. Such multifunctionality supports the FAO view that urban forests should be managed for a combination of ecological, social and economic benefits (Salbitano *et al.*, 2016).

5.4 Native–exotic balance and management concerns

The checklist combines native South Asian taxa with numerous introduced ornamentals from tropical America, Africa, Madagascar, Australia, East Asia and the Mediterranean region. Introduced plants are an important part of urban horticultural history and may provide substantial shade or aesthetic value; however, excessive reliance on a narrow set of exotics can reduce regional ecological identity and may increase vulnerability where species are poorly adapted. Planting policy should therefore favour a diverse portfolio of site-suitable native and naturalized species while retaining selected non-invasive ornamentals.

Lantana camara requires particular attention because it is an invasive shrub in India and can spread in disturbed, poorly managed sites. Other species should be evaluated locally for spontaneous recruitment, root conflicts, branch failure, water demand, allergenic pollen, litter load and interference with utilities. Urban forestry decisions should balance ecosystem services with potential disservices and should avoid monoculture planting (Dobbs *et al.*, 2011; Morgenroth *et al.*, 2016).

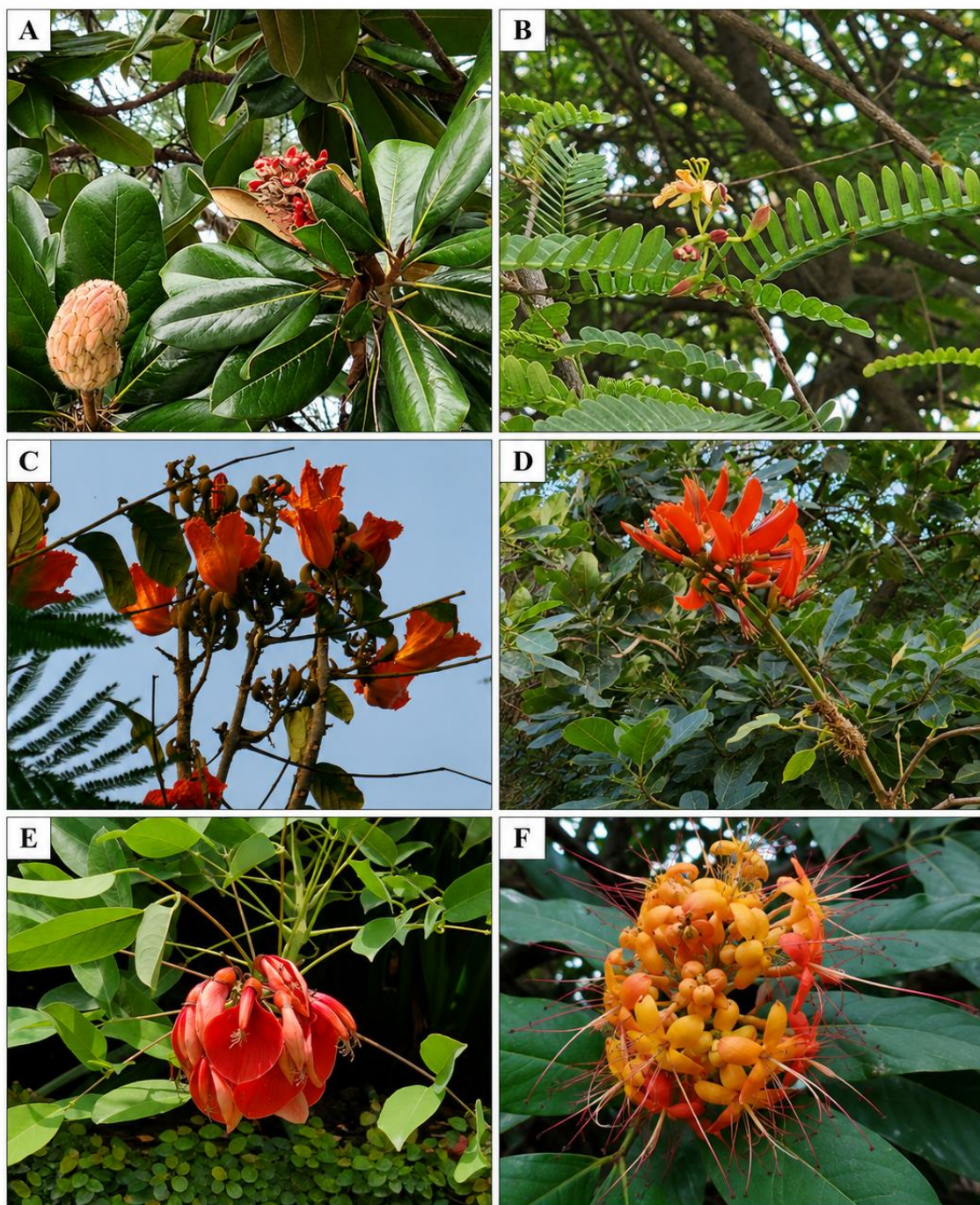
5.5 Conservation and documentation priorities

Old individuals of banyan, peepal, mango, jamun, arjun, shisham, neem and other long-lived species should be assessed for heritage-tree designation. Rarely cultivated native or conservation-important taxa such as *Commiphora wightii*, *Cycas circinalis* and the true *Saraca asoca* require special protection. In future a digital tree atlas could make the inventory useful for teaching, citizen science and municipal monitoring.

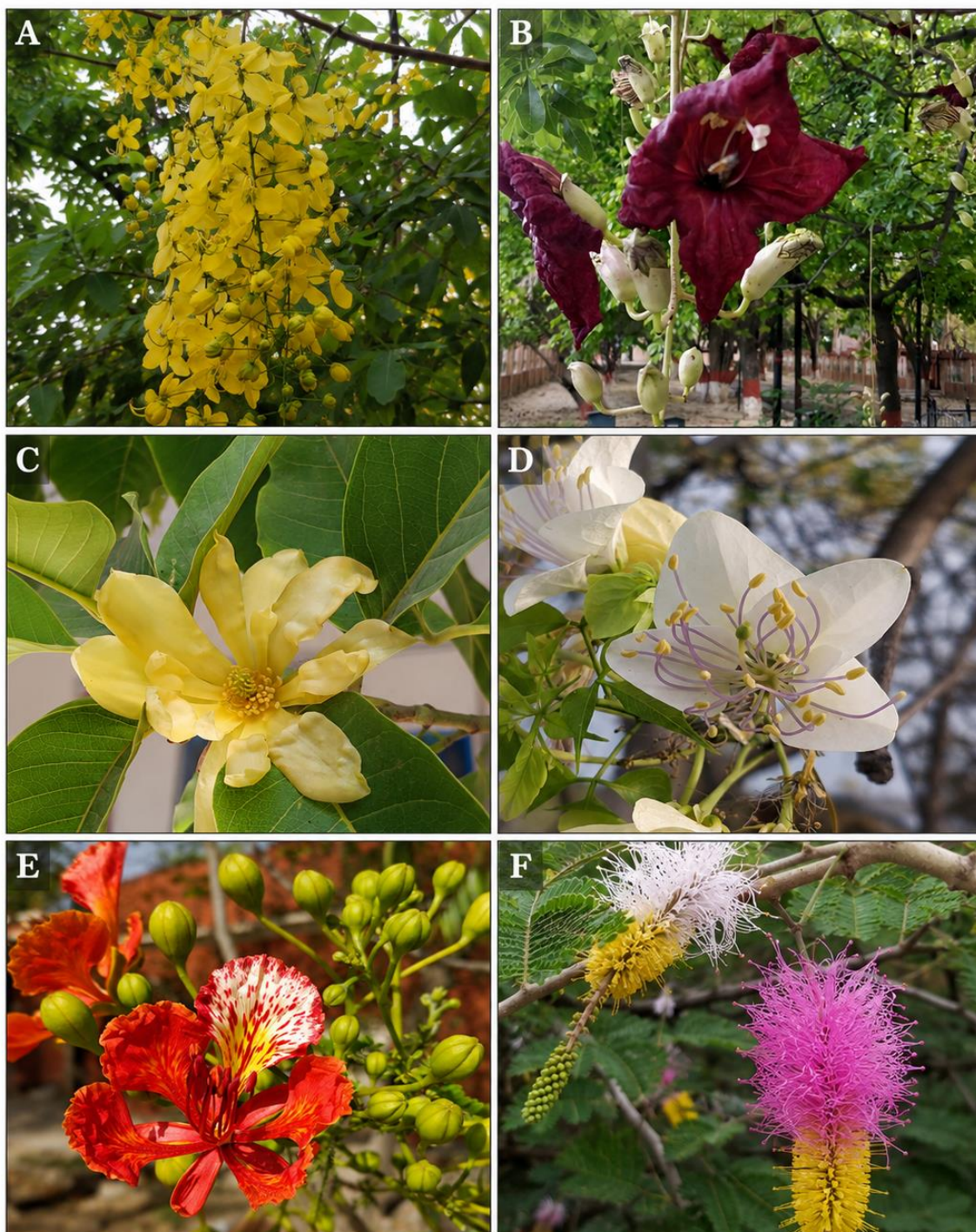
6. Recommendations for Urban Dendroid Management

1. Establish a ward-wise, GPS-linked inventory of trees and shrubs, including public institutions, cantonment greens, parks, roadsides and major private campuses.
2. Adopt species-diversity targets that prevent overdependence on one species, genus or family, while recognizing that presence-only data cannot test abundance-based diversity rules.
3. Prioritize locally suitable native trees for new public planting, combined with carefully selected non-invasive ornamentals and fruit trees.
4. Protect mature and heritage trees through condition assessment, root-zone protection and scientifically supervised pruning.
5. Monitor invasive shrubs, particularly *Lantana camara*, and restore disturbed areas with competitive native vegetation.
6. Evaluate plantation success using survival, growth, canopy development and ecosystem-service indicators rather than sapling numbers alone.
7. Develop a collaborative digital tree atlas involving educational institutions, municipal agencies and citizen observers.

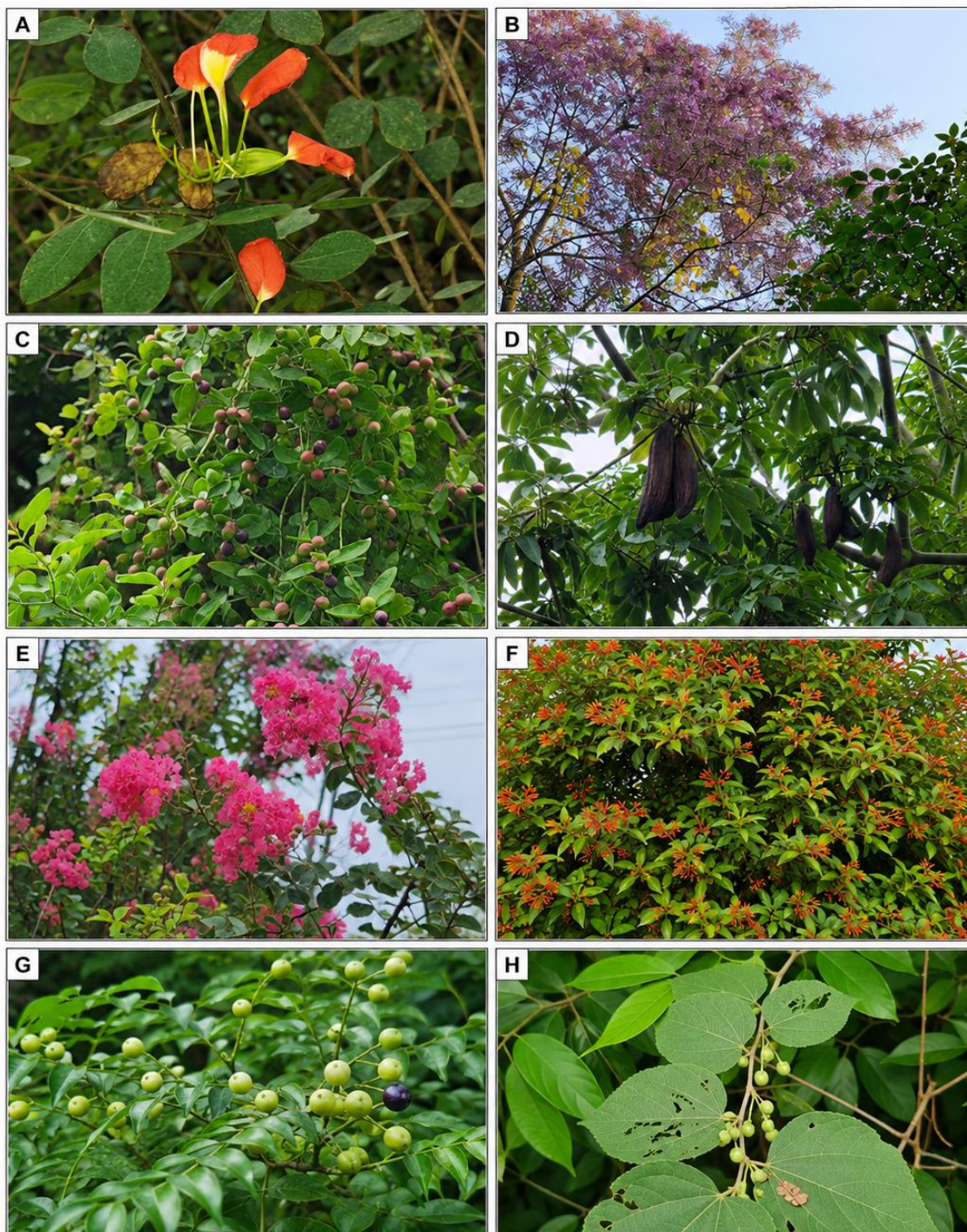
Photographic Plates



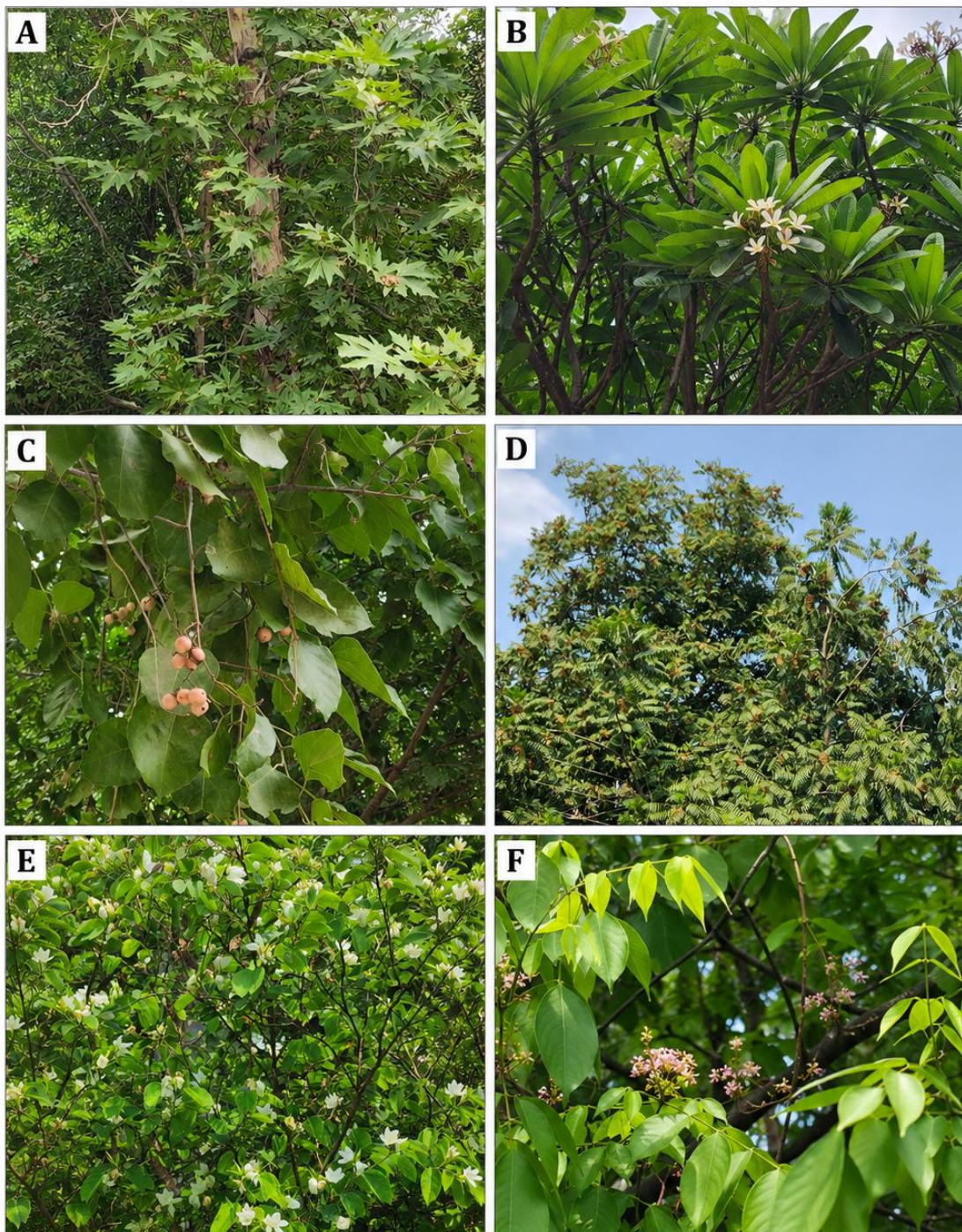
Photographic Plate 1. A, *Magnolia grandiflora*; B, *Tamarindus indica*; C, *Spathodea campanulata*; D, *Erythrina variegata*; E, *Erythrina crista-galli*; F, *Saraca indica*.



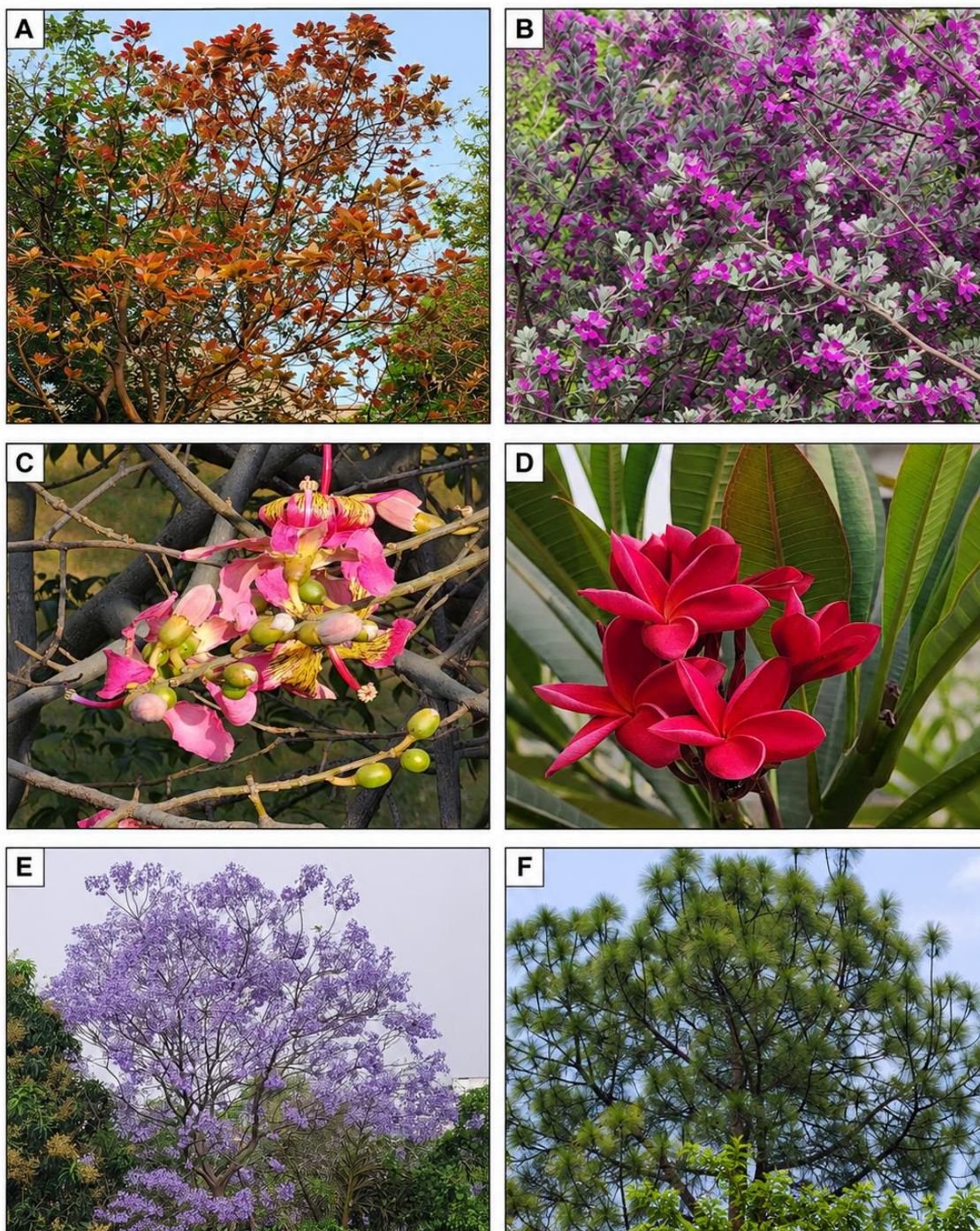
Photographic Plate 2. A, *Cassia fistula*; B, *Kigelia africana*; C, *Magnolia champaca*;
D, *Crateva religiosa*; E, *Delonix regia*; F, *Dichrostachys cinerea*.



Photographic Plate 3. A, *Bauhinia madagascariensis*; B, *Pongamia peguensis*; C, *Carissa carandus*; D, *Oroxylum indicum*; E, *Lagerstroemia indica*; F, *Hamelia patens*; G, *Murraya koenigii*; H, *Grewia asiatica*.



Photographic Plate 4. A, *Platanus orientalis*; B, *Plumeria obtusa*; C, *Cordia dichotoma*; D, *Chukrasia tabularis*; E, *Bauhinia acuminata*; F, *Averrhoa carambola*.



Photographic Plate 5. A, *Madhuca longifolia*; B, *Leucophyllum frutescens*;
C, *Ceiba speciosa*; D, *Plumeria rubra*; E, *Jacaranda mimosifolia*; F, *Pinus roxburghii*.



Photographic Plate 6. A, *Delonix regia*; B, *Swietenia mahagoni*; C, *Albizia lebbeck*;
D, *Pterygota alata*; E, *Alstonia scholaris*; F, *Enterolobium cyclocarpum*.

Appendix 1. Complete Checklist of Dendroids Recorded in Meerut City during 2023–2025

S. No.	Botanical name	Order	Family	Common name(s)	Broad life form
1	<i>Acacia auriculiformis</i>	Fabales	Fabaceae	Earleaf acacia / Australian babul	Tree
2	<i>Aegle marmelos</i>	Sapindales	Rutaceae	Bael / Bengal quince	Tree
3	<i>Ailanthus excelsa</i>	Sapindales	Simaroubaceae	Indian tree-of-heaven / maharukh	Tree
4	<i>Albizia lebbeck</i>	Fabales	Fabaceae	Siris / woman's-tongue tree	Tree
5	<i>Allamanda cathartica</i>	Gentianales	Apocynaceae	Golden trumpet allamanda	Shrub
6	<i>Alstonia scholaris</i>	Gentianales	Apocynaceae	Blackboard tree / saptaparni	Tree
7	<i>Annona squamosa</i>	Magnoliales	Annonaceae	Sugar apple / sitaphal	Tree
8	<i>Artocarpus heterophyllus</i>	Rosales	Moraceae	Jackfruit / kathal	Tree
9	<i>Artocarpus lacucha</i>	Rosales	Moraceae	Monkey jack / lakuch	Tree
10	<i>Averrhoa carambola</i>	Oxalidales	Oxalidaceae	Star fruit / kamrakh	Tree
11	<i>Azadirachta indica</i>	Sapindales	Meliaceae	Neem	Tree
12	<i>Bauhinia acuminata</i>	Fabales	Fabaceae	Dwarf white bauhinia / white orchid tree	Shrub
13	<i>Bauhinia madagascariensis</i>	Fabales	Fabaceae	Madagascar bauhinia	Tree
14	<i>Bauhinia purpurea</i>	Fabales	Fabaceae	Purple orchid tree / kachnar	Tree
15	<i>Bauhinia tomentosa</i>	Fabales	Fabaceae	Yellow bauhinia / yellow bell orchid tree	Shrub
16	<i>Bauhinia variegata</i>	Fabales	Fabaceae	Mountain ebony / kachnar	Tree
17	<i>Beaucarnea recurvata</i>	Asparagales	Asparagaceae	Ponytail palm	Tree
18	<i>Bismarckia nobilis</i>	Arecales	Arecaceae	Bismarck palm	Tree
19	<i>Bixa orellana</i>	Malvales	Bixaceae	Annatto / lipstick tree	Small tree / shrub
20	<i>Bombax ceiba</i>	Malvales	Malvaceae	Semal / red silk-cotton tree	Tree
21	<i>Borassus flabellifer</i>	Arecales	Arecaceae	Palmyra palm / tad	Tree
22	<i>Broussonetia papyrifera</i>	Rosales	Moraceae	Paper mulberry	Tree

S. No.	Botanical name	Order	Family	Common name(s)	Broad life form
23	<i>Butea monosperma</i>	Fabales	Fabaceae	Palash / flame-of-the-forest	Tree
24	<i>Caesalpinia pulcherrima</i>	Fabales	Fabaceae	Peacock flower / guletura	Shrub
25	<i>Calliandra haematocephala</i>	Fabales	Fabaceae	Powder-puff tree	Shrub
26	<i>Carica papaya</i>	Brassicales	Caricaceae	Papaya	Tree-like herb
27	<i>Carissa carandas</i>	Gentianales	Apocynaceae	Bengal currant / karonda	Shrub
28	<i>Caryota urens</i>	Arecales	Arecaceae	Fishtail palm	Tree
29	<i>Cascabela thevetia</i>	Gentianales	Apocynaceae	Yellow oleander / pili kaner	Small tree / shrub
30	<i>Cassia fistula</i>	Fabales	Fabaceae	Golden shower / amaltas	Tree
31	<i>Cassia javanica</i>	Fabales	Fabaceae	Java cassia / pink shower tree	Tree
32	<i>Cassia javanica subsp. nodosa*</i>	Fabales	Fabaceae	Pink cassia / apple-blossom cassia	Tree
33	<i>Casuarina equisetifolia</i>	Fagales	Casuarinaceae	Coast she-oak / Australian pine / casuarina	Tree
34	<i>Ceiba speciosa</i>	Malvales	Malvaceae	Silk floss tree	Tree
35	<i>Chamaedorea cataractarum</i>	Arecales	Arecaceae	Cat palm	Tree
36	<i>Chrysalidocarpus lutescens</i>	Arecales	Arecaceae	Areca palm / golden cane palm	Tree
37	<i>Chukrasia tabularis</i>	Sapindales	Meliaceae	Indian mahogany / chikrassy	Tree
38	<i>Citrus limetta</i>	Sapindales	Rutaceae	Sweet lime / mosambi	Tree
39	<i>Citrus limon</i>	Sapindales	Rutaceae	Lemon / nimbu	Tree
40	<i>Commiphora wightii</i>	Sapindales	Burseraceae	Guggul	Shrub
41	<i>Cordia dichotoma</i>	Boraginales	Boraginaceae	Indian cherry / lasora	Tree
42	<i>Crateva religiosa</i>	Brassicales	Capparaceae	Sacred garlic pear / varuna	Tree
43	<i>Cycas circinalis</i>	Cycadales	Cycadaceae	Queen sago / fern palm	Arborescent cycad

S. No.	Botanical name	Order	Family	Common name(s)	Broad life form
44	<i>Cycas revoluta</i>	Cycadales	Cycadaceae	Sago palm / king sago	Arborescent cycad
45	<i>Dalbergia lanceolaria</i>	Fabales	Fabaceae	Lance-leaved rosewood / takoli	Tree
46	<i>Dalbergia sissoo</i>	Fabales	Fabaceae	Indian rosewood / shisham	Tree
47	<i>Delonix regia</i>	Fabales	Fabaceae	Gulmohar / royal poinciana	Tree
48	<i>Dichrostachys cinerea</i>	Fabales	Fabaceae	Sickle bush	Shrub
49	<i>Diospyros montana</i>	Ericales	Ebenaceae	Bombay ebony / mountain persimmon	Tree
50	<i>Dombeya spectabilis</i>	Malvales	Malvaceae	Showy dombeya	Tree
51	<i>Duranta inermis</i> *	Lamiales	Verbenaceae	Golden dewdrop / skyflower	Shrub
52	<i>Enterolobium cyclocarpum</i>	Fabales	Fabaceae	Elephant-ear tree / Guanacaste	Tree
53	<i>Eriobotrya japonica</i>	Rosales	Rosaceae	Loquat	Tree
54	<i>Erythrina crista-galli</i>	Fabales	Fabaceae	Cockspur coral tree	Tree
55	<i>Erythrina variegata</i>	Fabales	Fabaceae	Indian coral tree / pangara	Tree
56	<i>Eucalyptus hybrida</i> *	Myrtales	Myrtaceae	Hybrid eucalyptus / safeda	Tree
57	<i>Euphorbia pulcherrima</i>	Malpighiales	Euphorbiaceae	Poinsettia / Christmas star	Shrub
58	<i>Ficus benghalensis</i>	Rosales	Moraceae	Banyan / bargad	Tree
59	<i>Ficus benjamina</i>	Rosales	Moraceae	Weeping fig	Tree
60	<i>Ficus carica</i>	Rosales	Moraceae	Common fig / anjeer	Tree
61	<i>Ficus elastica</i>	Rosales	Moraceae	Rubber fig / rubber plant	Tree
62	<i>Ficus krishnae</i>	Rosales	Moraceae	Krishna's buttercup / Krishna banyan	Tree
63	<i>Ficus lacor</i> *	Rosales	Moraceae	Java fig / pakar	Tree
64	<i>Ficus microcarpa</i>	Rosales	Moraceae	Chinese banyan / Indian laurel fig	Tree
65	<i>Ficus pumila</i>	Rosales	Moraceae	Creeping fig / climbing fig	Woody climber
66	<i>Ficus racemosa</i>	Rosales	Moraceae	Cluster fig / gular	Tree

S. No.	Botanical name	Order	Family	Common name(s)	Broad life form
67	<i>Ficus religiosa</i>	Rosales	Moraceae	Sacred fig / peepal	Tree
68	<i>Gardenia jasminoides</i>	Gentianales	Rubiaceae	Gardenia / Cape jasmine	Shrub
69	<i>Grevillea robusta</i>	Proteales	Proteaceae	Silver oak	Tree
70	<i>Grewia asiatica</i>	Malvales	Malvaceae	Phalsa	Small tree / shrub
71	<i>Hamelia patens</i>	Gentianales	Rubiaceae	Firebush / scarlet bush	Shrub
72	<i>Hibiscus mutabilis</i>	Malvales	Malvaceae	Confederate rose / gul-e-ajab	Shrub
73	<i>Hibiscus pluricalis*</i>	Malvales	Malvaceae	Hibiscus	Shrub
74	<i>Hibiscus rosa-sinensis</i>	Malvales	Malvaceae	Chinese hibiscus / gudhal	Shrub
75	<i>Hibiscus schizopetalus</i>	Malvales	Malvaceae	Fringed hibiscus / Japanese lantern	Shrub
76	<i>Holoptelea integrifolia</i>	Rosales	Ulmaceae	Indian elm / chilbil	Tree
77	<i>Ixora coccinea</i>	Gentianales	Rubiaceae	Jungle geranium / Rukmini	Shrub
78	<i>Ixora parviflora</i>	Gentianales	Rubiaceae	White jungle flame	Shrub
79	<i>Jacaranda mimosifolia</i>	Lamiales	Bignoniaceae	Blue jacaranda	Tree
80	<i>Juniperus communis</i>	Cupressales	Cupressaceae	Common juniper	Tree
81	<i>Kigelia africana</i>	Lamiales	Bignoniaceae	Sausage tree	Tree
82	<i>Lagerstroemia indica</i>	Myrtales	Lythraceae	Crape myrtle	Tree
83	<i>Lagerstroemia speciosa</i>	Myrtales	Lythraceae	Pride of India / jarul	Tree
84	<i>Lantana camara</i>	Lamiales	Verbenaceae	Lantana / raimunia	Shrub
85	<i>Lawsonia inermis</i>	Myrtales	Lythraceae	Henna / mehndi	Shrub
86	<i>Leucaena leucocephala</i>	Fabales	Fabaceae	Subabul / lead tree	Tree
87	<i>Leucophyllum frutescens</i>	Lamiales	Scrophulariaceae	Texas sage / barometer bush	Shrub
88	<i>Litchi chinensis</i>	Sapindales	Sapindaceae	Litchi / lychee	Tree
89	<i>Livistona chinensis</i>	Arecales	Arecaceae	Chinese fan palm	Tree
90	<i>Madhuca longifolia</i> var. <i>latifolia</i>	Ericales	Sapotaceae	Mahua	Tree

S. No.	Botanical name	Order	Family	Common name(s)	Broad life form
91	<i>Magnolia champaca</i>	Magnoliales	Magnoliaceae	Champak / champa	Tree
92	<i>Magnolia grandiflora</i>	Magnoliales	Magnoliaceae	Southern magnolia / bull bay	Tree
93	<i>Mangifera indica</i>	Sapindales	Anacardiaceae	Mango / aam	Tree
94	<i>Manilkara zapota</i>	Ericales	Sapotaceae	Sapodilla / chikoo	Tree
95	<i>Melaleuca viminalis</i>	Myrtales	Myrtaceae	Weeping bottlebrush	Tree
96	<i>Melia azedarach</i>	Sapindales	Meliaceae	Chinaberry / bakain	Tree
97	<i>Memecylon ellipticum</i>	Myrtales	Melastomataceae	Blue mist tree	Tree
98	<i>Mesua ferrea</i>	Malpighiales	Calophyllaceae	Ceylon ironwood / nagkesar	Tree
99	<i>Millingtonia hortensis</i>	Lamiales	Bignoniaceae	Indian cork tree / neem chameli	Tree
100	<i>Mimusops elengi</i>	Ericales	Sapotaceae	Spanish cherry / maulsari	Tree
101	<i>Mitragyna parvifolia</i>	Gentianales	Rubiaceae	Kaim tree	Tree
102	<i>Monoon longifolium</i>	Magnoliales	Annonaceae	False ashoka / Indian mast tree	Tree
103	<i>Morinda citrifolia</i>	Gentianales	Rubiaceae	Noni / Indian mulberry	Small tree / shrub
104	<i>Moringa oleifera</i>	Brassicales	Moringaceae	Drumstick tree / sahjan	Tree
105	<i>Morus alba</i>	Rosales	Moraceae	White mulberry / shahtoot	Tree
106	<i>Morus nigra</i>	Rosales	Moraceae	Black mulberry / black shahtoot	Tree
107	<i>Murraya paniculata</i>	Sapindales	Rutaceae	Orange jasmine / Kamini	Shrub
108	<i>Mussaenda erythrophylla</i>	Gentianales	Rubiaceae	Red flag bush / red mussaenda	Shrub
109	<i>Mussaenda frondosa</i>	Gentianales	Rubiaceae	Wild mussaenda / dhobi tree	Shrub
110	<i>Mussaenda philippica</i>	Gentianales	Rubiaceae	White mussaenda / tropical dogwood	Shrub
111	<i>Neolamarckia cadamba</i>	Gentianales	Rubiaceae	Kadamba / burflower tree	Tree
112	<i>Nerium oleander</i>	Gentianales	Apocynaceae	Oleander / kaner	Shrub

S. No.	Botanical name	Order	Family	Common name(s)	Broad life form
113	<i>Nyctanthes arbor-tristis</i>	Lamiales	Oleaceae	Night-flowering jasmine / harsingar	Tree
114	<i>Ochna serrulata</i>	Malpighiales	Ochnaceae	Mickey Mouse plant	Shrub
115	<i>Oroxylum indicum</i>	Lamiales	Bignoniaceae	Indian trumpet tree / shyonaka	Tree
116	<i>Parmentiera cereifera</i>	Lamiales	Bignoniaceae	Candle tree	Tree
117	<i>Paulownia tomentosa</i>	Lamiales	Paulowniaceae	Princess tree / empress tree	Tree
118	<i>Peltophorum pterocarpum</i>	Fabales	Fabaceae	Copperpod / yellow flame tree	Tree
119	<i>Phoenix dactylifera</i>	Arecales	Arecaceae	Date palm / khajur	Tree
120	<i>Phoenix roebelenii</i>	Arecales	Arecaceae	Pygmy date palm	Tree
121	<i>Phyllanthus emblica</i>	Malpighiales	Phyllanthaceae	Indian gooseberry / amla	Tree
122	<i>Pinus roxburghii</i>	Pinales	Pinaceae	Chir pine	Tree
123	<i>Pithecellobium dulce</i>	Fabales	Fabaceae	Manila tamarind / jungle jalebi	Tree
124	<i>Platanus orientalis</i>	Proteales	Platanaceae	Oriental plane / chinara	Tree
125	<i>Plumeria obtusa</i>	Gentianales	Apocynaceae	White frangipani / safed champa	Small tree / shrub
126	<i>Plumeria pudica</i>	Gentianales	Apocynaceae	Bridal bouquet / white frangipani	Shrub
127	<i>Plumeria rubra</i>	Gentianales	Apocynaceae	Red frangipani / lal champa	Tree
128	<i>Pongamia penguensis*</i>	Fabales	Fabaceae	Moulmein rosewood	Tree
129	<i>Pongamia pinnata</i>	Fabales	Fabaceae	Indian beech / karanja	Tree
130	<i>Populus deltoides</i>	Malpighiales	Salicaceae	Eastern cottonwood / poplar	Tree
131	<i>Prunus domestica</i>	Rosales	Rosaceae	European plum / alubukhara	Tree
132	<i>Prunus persica</i>	Rosales	Rosaceae	Peach / aadu	Tree
133	<i>Psidium guajava</i>	Myrtales	Myrtaceae	Guava / amrud	Tree
134	<i>Pterospermum acerifolium</i>	Malvales	Malvaceae	Kanak champa / dinner-plate tree	Tree
135	<i>Pterygota alata</i>	Malvales	Malvaceae	Buddha's coconut tree	Tree
136	<i>Punica granatum</i>	Myrtales	Lythraceae	Pomegranate / anar	Tree

S. No.	Botanical name	Order	Family	Common name(s)	Broad life form
137	<i>Putranjiva roxburghii</i>	Malpighiales	Putranjivaceae	Child-life tree / putranjiva	Tree
138	<i>Pyrus communis</i>	Rosales	Rosaceae	European pear / nashpati	Tree
139	<i>Radermachera sinica</i>	Lamiales	Bignoniaceae	China doll plant	Tree
140	<i>Ravenala madagascariensis</i>	Zingiberales	Strelitziaceae	Traveller's palm	Tree-like giant herb
141	<i>Roystonea regia</i>	Arecales	Arecaceae	Royal palm	Tree
142	<i>Saraca indica</i> *	Fabales	Fabaceae	Ashoka tree	Tree
143	<i>Schleichera oleosa</i>	Sapindales	Sapindaceae	Kusum / lac tree	Tree
144	<i>Senna tora</i>	Fabales	Fabaceae	Sickle senna / chakunda	Herb/subshrub
145	<i>Shorea robusta</i>	Malvales	Dipterocarpaceae	Sal	Tree
146	<i>Spathodea campanulata</i>	Lamiales	Bignoniaceae	African tulip tree	Tree
147	<i>Streblus asper</i>	Rosales	Moraceae	Sandpaper tree / toothbrush tree / sihora	Tree
148	<i>Swietenia mahagoni</i>	Sapindales	Meliaceae	West Indian mahogany	Tree
149	<i>Syzygium cumini</i>	Myrtales	Myrtaceae	Jamun / Java plum	Tree
150	<i>Tabebuia rosea</i>	Lamiales	Bignoniaceae	Pink trumpet tree	Tree
151	<i>Tabernaemontana divaricate</i>	Gentianales	Apocynaceae	Crape jasmine / Chandni	Shrub
152	<i>Tamarindus indica</i>	Fabales	Fabaceae	Tamarind / imli	Tree
153	<i>Tamarix dioica</i>	Caryophyllales	Tamaricaceae	Salt cedar / farash	Tree
154	<i>Tecoma stans</i>	Lamiales	Bignoniaceae	Yellow trumpetbush	Shrub
155	<i>Tecomaria capensis</i>	Lamiales	Bignoniaceae	Cape honeysuckle	Shrub
156	<i>Tectona grandis</i>	Lamiales	Lamiaceae	Teak / sagwan	Tree
157	<i>Terminalia arjuna</i>	Myrtales	Combretaceae	Arjun tree	Tree
158	<i>Terminalia mantaly</i>	Myrtales	Combretaceae	Madagascar almond / umbrella tree	Tree
159	<i>Thespesia populnea</i>	Malvales	Malvaceae	Portia tree / paras pipal	Tree
160	<i>Thuja occidentalis</i>	Cupressales	Cupressaceae	Northern white cedar / arborvitae	Tree
161	<i>Thunbergia erecta</i>	Lamiales	Acanthaceae	King's mantle / bush clock vine	Shrub

S. No.	Botanical name	Order	Family	Common name(s)	Broad life form
162	<i>Toona ciliata</i>	Sapindales	Meliaceae	Indian red cedar / toon	Tree
163	<i>Vachellia nilotica</i>	Fabales	Fabaceae	Babul / gum arabic tree	Tree
164	<i>Washingtonia filifera</i>	Arecales	Arecaceae	California fan palm / desert fan palm	Tree
165	<i>Wodyetia bifurcata</i>	Arecales	Arecaceae	Foxtail palm	Tree
166	<i>Ziziphus jujuba</i>	Rosales	Rhamnaceae	Chinese jujube / ber	Tree

CONCLUSION

The 2023–2024 checklist documents a rich managed dendroid flora in Meerut City, comprising 166 taxa, 131 genera, 52 families and 22 orders. Fabaceae, Moraceae, Arecaceae, Malvaceae, Bignoniaceae, Rubiaceae and Apocynaceae together form the principal taxonomic framework of the city's trees and shrubs. The inventory integrates native shade and sacred trees, fruit species, palms, flowering ornamentals, medicinal plants and timber trees, demonstrating the ecological and cultural complexity of Meerut's urban vegetation. As a presence-only inventory, it provides a strong baseline for ecological census. Such work would support evidence-based planting, heritage-tree protection, invasive-species management and long-term urban biodiversity planning.

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