

**TREE GENETIC RESOURCES OF BOTANIC GARDEN,
NATIONAL BOTANICAL RESEARCH INSTITUTE, LUCKNOW**

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The Botanical Garden of National Botanical Research Institute is one of the premier and oldest gardens in India. The garden is spread over an area of 25 hectares in the heart of Lucknow, the capital city of Uttar Pradesh, along the southern bank of river Gomti between 26°55' N latitude and 80°59' E longitudes at an altitude of 113 m. It has been designed to conserve the indigenous and exotic flora and fulfil the basic function of making available for study, research and use, at one place, a variety of plant species. The Garden with about 5000 taxa has rich genetic treasure comprising the germplasm collection of trees, shrubs, herbs, climbers etc. of ornamental, economic, medicinal, and aromatic importance, hailing from the indigenous and exotic sources of various tropical and subtropical regions. The plant wealth of the Botanic Garden is displayed in the Arboretum, Conservatory, Cactus & Succulent House, Palm House, Bonsai Section, Fern House, Orchid House, Cycad House, Moss House and Percy - Lancaster House.

Trees are the prominent component of the garden. Over the period of time, a large number of tree species have been introduced in the NBRI botanic garden either from neighbouring areas or from different parts of the country

as well as from other parts of the world. The survey of the botanic garden reveals the presence of ca. 345 tree species belonging to 61 families and 199 genera. The species have been enumerated with correct name with complete original citation and a reference to relevant accessible work followed by synonyms, vernacular names (if any), phenology, distribution and reference to voucher specimens for majority of the species, except some places where herbarium specimens are still in the process of preparation. The families and the genera under each family and species under each genus have been arranged alphabetically. In the present work, the Leguminous plants have been dealt under three separate families: Caesalpinaceae, Mimosaceae, and Fabaceae. Some of the species marked with asterisk (*), have been included based on previous report. The further survey and study on the garden plants are still continuing to add more information and to keep the data up to date.

ENUMERATION OF THE SPECIES

1. ALANGIACEAE

Alangium salviifolium (L.f.) Wang. in Engler, Pflanzenr. 4. 220b.

(heft 41) : 9. 1910. *Grewia salviifolia* L.f. *Alangium lamarkii* Thwaites.

Vernacular names: Ankol, Vang, Sage Leaved Alangium.

Phenology: *Fl.:* Mar. - May; *Fr.:* Jun. - Jul.

Distribution: India (Wild throughout the hotter parts), Africa, Asia (Cambodia, China, Indonesia, Laos, Malaysia, Nepal, Philippines, Sri Lanka, Thailand, Vietnam).

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind Conservatory (Imambara side), 03.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249789.

2. ANACARDIACEAE

Lannea coromandelica (Houtt.) Merr., J. Arnold Arbor. 19: 353. 1938. *Dialium coromandelicum* Houtt.

Vernacular names: Mohin, Jhingan.

Phenology: *Fl.:* Feb. - Apr.; *Fr.:* June onwards.

Distribution: India (Throughout), Bangladesh, Bhutan, Cambodia, China, Laos, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand, Vietnam.

Cultivated elsewhere.

Mangifera indica L., Sp. Pl. 200. 1753; Brandis, Indian Trees 206. 1906. *Mangifera mekongensis* anon.

Vernacular names: Aam, Amba, Amri, Mango.

Phenology: *Fl.:* Feb. - Apr.; *Fr.:* May - Jul.

Distribution: India (Indigenous in the Northern region and Western Ghats, cultivated throughout), Myanmar.

Widely cultivated in Tropics.

Pleiogynium cerasiferum (Muell.) Parker, Forest Fl. Punjab 560. 1924.

Phenology: *Fr.:* Dec.

Distribution: India (cultivated), Australia.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Hargovind Khurana Marg, 01.12.08, L. B. Chaudhary, R. K. Srivastava & A. Kumar 249769.

Spondias pinnata (Koenig ex L.f.) Kurz, Prelim. Rep. Forest Pegu appendix 44. t. B, 42. 1875. *Mangifera pinnata* Koenig ex L.f. *Spondias mangifera* Willd.

Vernacular names: Ambara, Ambari, Amra, Bhringi - Phal.

Phenology: Fl.: Mar. - May.

Distribution: India (Throughout), Bhutan, Cambodia, China, Indonesia, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Vietnam.

Also cultivated.

3. ANNONACEAE

Annona reticulata L., Sp. Pl. 537. 1753; Mitra in Sharma *et al.*, Fl. India 1: 207. 1993. *A. leutiscens* Saff. *A. excelsa* Kunth. *A. humboldtiana* Kunth. *A. humboldtii* Dunal. *A. laevis* Kunth. *A. longifolia* Sesse & Moc. *A. micrantha* Bertero ex Spreng. *A. riparia* Kunth.

Vernacular names: Ramphal, Luvun, Nonai.

Phenology: Fl.: May - Jul.; Fr.: Sep. - Jan.

Distribution: India (Throughout), Native of Central America and West Indies.

Cultivated and naturalized in many parts of the World.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 16.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250160.

Annona squamosa L., Sp. Pl. 537. 1753; Mitra in Sharma *et al.*, Fl. India 1: 207. 1993. *A. asiatica* L. *A. biflora* Moc & Sesse. *A. forskahlii* DC. *A. cinerea* Dunhal.

Vernacular names: Sitaphal, Ata, Sharifa, Custard apple.

Phenology: *Fl.:* Mar. - May; *Fr.:* Jul. - Nov.

Distribution: India (Throughout), Native of Afrotropic, Neotropic, Australasia, Indomalaya, Palearctic.

Widely cultivated in Tropics.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 16.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250159.

Polyalthia longifolia (Sonner.) Thwaites, Enum. Pl. Zeyl. 398. 1864; Mitra in Sharma *et al.*, Fl. India 1: 274. 1993. *Uvaria longifolia* Sonner.

Vernacular names: Ashoka, Asoka.

Phenology: *Fl.:* Mar. - May; *Fr.:* Jul. - Sep.

Distribution: Indigenous to South India and Sri Lanka.

Introduced in gardens in many tropical countries around the World.

Cultivated in India, Malaya, Pakistan and Tropical East Africa.

Notes: Some varietal forms like *P. longifolia* var. *angustifolia* (with narrow leaves) and *P. longifolia* var. *pendula* (with pendent branches) are also found in the garden.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Introduction Plot, 03.07.08, *L. B. Chaudhary & R. K. Srivastava*, 249056; Lucknow, National Botanical Research Institute, National Botanic Garden, Besides Floriculture Division, 13.10.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh* 249710.

***Polyalthia suberosa** (Roxb.) Thwaites, Enum. Pl. Zeyl. 398. 1864; Hook f. & Thomson in Fl. Brit. India 1: 65. 1872. *Uvaria suberosa* Roxb.

Phenology: *Fl.:* Apr. - May; *Fr.:* Oct. - Dec.

Distribution: India (Andhra Pradesh, Assam, Kerala, Madhya Pradesh, Meghalaya, Orissa, Tamil Nadu, West Bengal), China, Malaysia, Myanmar, Philippines, Sri Lanka, Thailand.

4. APOCYNACEAE

Alstonia macrophylla Wall. ex. G. Don, Gen. Hist. 4: 87. 1837.

Fig. 1(A & B)

Vernacular names: Batino, Match stick Tree, Devil tree.

Phenology: *Fl. & Fr.:* May - Sep.



Fig. 1. *Alstonia macrophylla* Wall. ex. G. Don

Distribution: India (Hyderabad), China, Indonesia, Philippines, Sri Lanka, Native of Malaya, Thailand, Vietnam.

Cultivated & Naturalized elsewhere.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg (in front of B. P. Pal Rose Garden), 03.10.08, *L. B. Chaudhary, R. K. Srivastava & Vartika Singh* 249692.

Alstonia scholaris (L.) R. Br., *Asclepiadeae* 64. 1810; Brandis, *Indian Trees* 459. 1906. *A. kurzii* Hook. f. *Echites scholaris* L. *E. pala* Buch.-Ham. ex Spreng.

Vernacular names: Chitvan, Chatiun, Chhataun, Satni, Saitan-ki-jhar, Indian devil-tree.

Phenology: *Fl:* Oct. - Mar.; *Fr.:* Apr. - Jun.

Distribution: India (Subhimalayan tract, ascending to 3000 ft, from the Jamuna eastwards, Westren Peninsula), Australia, Bangladesh, Brunei, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Papua New Guinea, Philippines, Solomon Islands, Sri Lanka, Taiwan, Thailand, Vietnam, United States of America.

Naturalized elsewhere.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg (in front of B. P. Pal Rose Garden), 31.08.09, *L. B. Chaudhary, A. Kumar, G. Kaur & O. Bajpai* 250374.

Averrhoa carambola L., Sp. Pl. 428. 1753; Brandis, Indian Trees 110. 1906. **Fig. 2 (A & B)**

Vernacular names: Carambola, Kamrakh, Kamar anga.

Phenology: *Fl.:* Jun. - Sep.; *Fr.:* Sep. - Oct.

Distribution: India (Assam, Bihar, Kerala, Maharashtra, Orissa, Tamil Nadu, West Bengal), Australia, Brazil, Cambodia, China, Colombia, Dominican Republic, Indonesia, Israel, Japan, Laos, Malaysia, Myanmar, Philippines, Singapore, Taiwan, Thailand, Trinidad and Tobago, Uganda, United States of America, Vietnam. Cultivated in parts of China, India, Burma, Malaysia and Madagascar, ornamental in parts of S. America.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanical Garden, Inside Plant Introduction Plot, 14.08.08, *L. B. Chaudhary, A. Kumar & G. Kaur* 249646.

Holarrhena pubescens (Buch.-Ham.) Wall. ex G. Don, Gen. Hist. 4: 78. 1837; Flow. Pl. South. Africa t. 1758. 1977. *Echites pubescens* Buch.-Ham. *E. antidysentrica* (L.) Roxb. ex Flem. *Chenomorpha antidysentrica* (L.) G. Don. *Holarrhaena antidysentrica* (L.) Wall ex DC. *H. febrifuga* Klotzsch.

Vernacular names: Dudhi, Karva Indrajau, Kutaja.

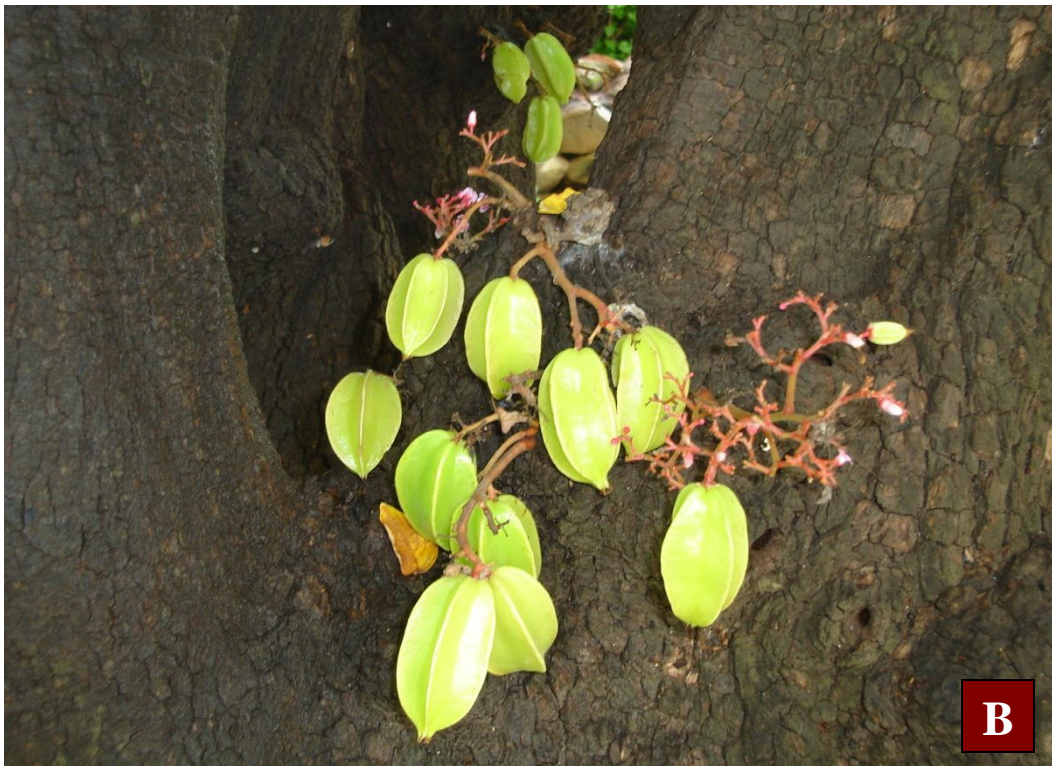
Phenology: *Fl.:* May - Jun.; *Fr.:* Oct. - Dec.

Distribution: India (Sub Himalayan tract, ascending to 3500 ft., from the Chenab eastwards, Aravalli hills, Bihar, Central provinces, Western Peninsula), Africa, Bangladesh, Bhutan, Cambodia, China, Laos, Myanmar, Nepal, Thailand, Vietnam.

Cultivated elsewhere.



A



B

Fig. 2. *Averroha carambola* L.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind *Bougainvillea* Germplasm Collection, 15.01.09, *L. B. Chaudhary, R. K. Srivastava, A. Kumar & G. Kaur* 250154.

Hunteria zeylanica (Retz.) Gardner ex Thwaites, Enum. Pl. Zeyl. 191. 1860. *Cameraria zeylanica* Retzius. *Hunteria corymbosa* Roxb.

Vernacular names: Mediya, Wal mediya.

Phenology: *Fl.:* Apr. - Sep.; *Fr.:* May - Dec.

Distribution: India (Southern part of the Deccan Peninsula, the Andaman Islands), E Africa, Indonesia, Laos, Malaysia, Myanmar, Southern China, Sri Lanka, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Tubewell No. 1, 10.07.08, *L. B. Chaudhary & R. K. Srivastava* 249070.

Plumeria alba L., Sp. Pl. 210. 1753.

Vernacular names: Champa, Gulchin, Catterpillar tree, Pagoda tree, Temple tree.

Phenology: Almost throughout the year.

Distribution: India (cultivated), South America.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, *Bougainvillea* Germplasm Collection Area, 20.04.09, *L. B. Chaudhary, A. Kumar & G. Kaur* 250348.

Plumeria obtusa L., Sp. Pl. 210. 1753. *P. barahonensis* Urb. *P. jamaicensis* Britton.

Phenology: Fl.: May - Jul.

Distribution: India (cultivated), South America.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near *Bougainvillea* Germplasm Collection, 20.04.09, L. B. Chaudhary, A. Kumar & G. Kaur 250349.

***Plumeria rubra** L., Sp. Pl. 209. 1753. *P. acuminata* Aiton. *P. megaphylla* DC. **Fig. 3**

Vernacular names: Chameli.

Phenology: Almost throughout the year.

Distribution: India (cultivated), North & South America.

Plumeria rubra L.f. **lutea** (Ruiz & Pav.) Wood, Ann. Mis. Bot. Gard. 25: 211. 1937.

Vernacular names: Lal Champa, Temple tree.

Phenology: Fl.: Jun. - Sep.

Distribution: India (cultivated).

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Bargad Chauraha, 13.01.09, L. B. Chaudhary, R.K. Srivastava & A. Kumar 250133.

In addition to above taxa of *Plumeria* several cultivated forms are also available in the garden.



Fig. 3. *Plumeria rubra* L.

***Plumeria rubra** L.f. **tricolor** (Ruiz & Pav.) Wood., Ann. Missouri Bot. Gard. 25: 211. 1938. *P. tricolor* Ruiz & Pav. **Fig. 4**

Phenology: Fl.: Apr. - Nov.

Distribution: Only cultivated.

***Tabernaemontana divaricata** (L.) R. Br. ex Roem. & Schult., Syst. Veg. 4: 427. 1819. *Nerium divaricatum* L. *N. coronarium* Jacq. *Tabernaemontana coronaria* (Jacq.) Willd. *Ervatamia divaricata* (L.) Burkill. *E. coronaria* (Jacq.) Stapf.

Vernacular names: Chandni, Taggar.

Phenology: Fl.: May - Dec.

Distribution: India (common throughout), Bangladesh, Bhutan, China, Laos, Myanmar, Nepal, Thailand.

Cultivated in Tropics.

Tabernaemontana elegans Stapf., Bull. Misc. Inform. Kew 1894: 24. 1894. *Conopharyngia elegans* (Stapf.) Stapf.

Phenology: Fl.: Oct. - Dec.

Distribution: India (cultivated), Africa.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Introduction Plot, 14.08.08, L. B. Chaudhary & R. K. Srivastava, 249645; Lucknow, National Botanical Research Institute, Botanic Garden, Behind Bargad Chauraha, 03.10.08, L. B. Chaudhary, R. K. Srivastava & Vartika Singh 249691.



Fig. 4. *Plumeria rubra* f. *tricolor* (Ruiz & Pav.) Wood.

Thevetia peruviana (Pers.) Schum. in Engl. & Prantl, Nat. Pflanzenfam. 4 (2): 159. 1895; Bor & Raizada l.c.; Woodson & Schery, l.c. 91. *Cerbera peruviana* Pers. *C. thevetia* L. *Cascabela thevetia* (L.) Lippold. *Thevetia nerifolia* Juss. ex Steud.

Vernacular names: Kaner.

Phenology: Throughout the year.

Distribution: India (cultivated with different forms), Native of Central & South America.

Widely cultivated throughout the tropical and Sub - Tropical regions.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Introduction Plot, 03.07.08, *L. B. Chaudhary & R. K.Srivastava* 249055.

Voacanga grandifolia (Miq.) Rolfe, J. Bot. 21: 202. 1883. *Pootia grandifolia* Miq.

Phenology: Fl.: Jul. - Aug.

Distribution: India (cultivated), Australia, Indonesia, Papua New Guinea, Philippines.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Introduction Plot, 14.08.08, *L. B. Chaudhary & A. Kumar* 249644.

Wrightia arborea (Dennst.) Mabb., Taxon 26: 533. 1977. *Periploca arborea* Dennst. *Nerium tomentosum* Roxb. *Wrightia tomentosa* (Roxb.) Roem. & Schult.

Vernacular names: Daira, Dharauli, Dudhi.

Phenology: *Fl.:* Apr. - Jun.; *Fr.:* Oct. - Dec.

Distribution: India (Sub - Himalayan tracts ascending to 4000 ft., Assam, Bihar, Rajasthan, Western Peninsula), Bangladesh, China, Laos, Malaysia, Myanmar, Nepal, Sri Lanka, Thailand, Vietnam

Voucher specimens: Lucknow, National Botanical Research Institute, Botanical Garden, Inside Plant Introduction Plot, 14.08.08, *L. B. Chaudhary & R. K. Srivastava* 249644; Lucknow, National Botanical Research Institute, Botanic Garden, Behind Conservatory (Imambara side), 03.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249794.

Wrightia coccinea Sims, Bot. Mag. t. 2696. 1826; Brandis, Indian Trees 461. 1906. *Nerium coccineum* Loddiges. **Fig. 5**

Phenology: *Fl.:* Jan. - May; *Fr.:* Jun. - Dec.

Distribution: India (Widely spread, ascending to 5000 ft. in the Himalaya and to both Peninsulas), Bangladesh, Myanmar, Pakistan, S.W. China, Thailand.

Occasionally cultivated.

Wrightia tinctoria (Roxb.) R. Br, Asclepieadeae 62. 1810; Brandis, Indian Trees 461. 1906. *Nerium tinctorium* Roxb.

Vernacular names: Kapar, Dudhi, Khirni.

Phenology: *Fl.:* Mar. - May; *Fr.:* Dec. - Jan.

Distribution: India (Rajasthan, Central Provinces and the Western Peninsula), Myanmar.

Often cultivated.



Fig.5. *Wrightia coccinea* Sims

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind Conservatory (Imambara side), 03.12.08, *L. B. Chaudhary, R.K. Srivastava & A. Kumar* 249785.

5. AQUIFOLIACEAE

****Ilex paraguariensis*** St.-Hil., Mem. Mus. Hist. Nat. 9: 351. 1822.

Distribution: India (cultivated), South America.

6. ARECACEAE

****Arenga pinnata*** (Wurmb) Merr., Interpr. Herb. Amboin. 119. 1917.

Saguerus pinnatus Wurmb. *Arenga saccharifera* Labill. ex DC.

Vernacular names: Sugar Palm, Arenga Palm.

Phenology: *Fl. & Fr.:* Throughout the year.

Distribution: India (Eastern), China, Malaysia, Myanmar, Philippines, Thailand.

Borassus flabellifer L., Sp. Pl. 1187. 1753. *B. flabelliformis* Roxb.

Vernacular names: Tar, Tal.

Phenology: *Fl.:* Mar. - Apr.

Distribution: India (Throughout), Africa, Indochina, Indonesia, Malaysia, Myanmar, Papua New Guinea, Sri Lanka, Thailand.

Cultivated, & self shown.

****Caryota mitis*** Lour., Fl. cochinch. 2: 569. 1790; Brandis, Indian

Trees 654. 1906. *C. griffithii* Becc. *C. sobolifera* Wall. ex Mart.

Phenology: *Fl.:* May - Jul.

Vernacular names: Burmese Fishtail Palm.

Distribution: India (Andaman & Nicobar), Indonesia, Philippines.

Naturalized elsewhere.

Caryota urens L., Sp. Pl. 1189.1753.

Fig.6 (A & B)

Vernacular names: Mari, Fish tail palm.

Phenology: *Fl.:* Mar. - Apr.; *Fr.:* Apr. - Jun.

Distribution: India (Sub Himalayan tract ascending to 5000 ft., Assam, Khasi hills, Manipur, Orissa, Western Ghats), Bangladesh, Malaysia, Myanmar, Sri Lanka.

Widely cultivated.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanical Garden, Inside Conservatory, 27.08.08, *L. B. Chaudhary & R. K. Srivastava* 249655.

***Cocos nucifera** L., Sp. Pl. 1188. 1753; Brandis, Indian Trees 648. 1906.

Vernacular names: Nariyal, Khopar.

Phenology: *Fl.:* Dry season.

Distribution: India (cultivated in the states of Andaman and Nicobar, Andhra Pradesh, Goa, Karnataka, Kerala, Maharashtra, Orissa, Pondicherry, Tamil Nadu, West Bengal, and Islands of Lakshadweep), Australia, Belize, French Polynesia, Guam,



A



B

Fig 6. *Caryota urens* L.

Indonesia, Madagascar, Malaysia, Marshall Islands, Northern Mariana Islands, Palau, Papua New Guinea, Philippines, Sri Lanka, Thailand, United States, Vanuatu.

Widely cultivated elsewhere.

Livistona chinensis (Jacq.) R. Br. ex Mart., Hist. Nat. Pal. 3: 240, t.

136, f. 1 - 3. 1838. *Latania chinensis* Jacq. *Livistona mauritiana* Wall. ex Voigt *L. oliviformis* (Hassk.) Mart.

Vernacular names: Chinese fan palm, Chinese fountain palm.

Phenology: *Fl.:* Feb. - Mar.; *Fr.:* Jun.

Distribution: India (Southern region), China, Japan, Taiwan.

Commonly cultivated as an ornamental plant.

***Phoenix dactylifera** L., Sp. Pl. 1188. 1753; Brandis, Indian Trees 645. 1906.

Vernacular names: Khajur, Date palm.

Phenology: *Fl.:* Feb. - Mar.

Distribution: India (Eastern part of the country - cultivated), S. W. Asia.

Only cultivated.

Phoenix rupicola Anderson, J. Linn. Soc. Bot. 11: 13. 1871; Brandis, Indian Trees 646. 1906.

Phenology: *Fl.:* Dec. - Jan.; *Fr.:* Apr. - May.

Distribution: India (Andaman, Himalayas and Mishni hills, Sikkim, West Bengal), Bhutan.

Naturalized elsewhere.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Percy Lancaster House, 08.09.08, L. B. Chaudhary & R.K. Srivastava 249669.

Phoenix sylvestris (L.) Roxb., Fl. Ind. 3: 787. 1832; Brandis, Indian Trees 645. 1906. *Elate sylvestris* L.

Vernacular names: Khajur, Khajuri, Khaji.

Phenology: *Fl.:* Mar. - Apr.; *Fr.:* Aug. - Oct.

Distribution: India (Throughout), Nepal, Southern Pakistan. Cultivated elsewhere.

Roystonea regia (Kunth) Cook, Science 12 (300): 479. 1900.

Oreodoxa regia Kunth. *Oenocarpus regius* (Kunth) Spreng. *Palma elata* Bartram. *Euterpe jenmanii* Wright. *E. ventricosa* Wright. *Roystonea floridana* Cook. *R. jenmanii* (Wright) Burret. *R. elata* (Bartram) Harper. *R. ventricosa* (Wright) Bailey. *R. regia* var. *hondurensis* Allen.

Vernacular names: Royal Palm.

Phenology: *Fl.:* Throughout the year.

Distribution: India (cultivated), Bahamas, Belize, Cayman Islands, Cuba, Honduras, Mexico, United States. Cultivated throughout the Tropics and Sub-Tropics as an ornamental tree.

7. BARRINGTONIACEAE

Barringtonia acutangula (L.) Gaertn. in Fruct. Sem. Pl. 2: 97. t. 101. 1791. Brandis, Indian Trees 330. 1906. *Eugenia acutangula*

L. Michelia acutangula (L.) Kuntze. *Stravadium acutangulum* (L.)
Miers. **Fig.7 (A & B)**

Vernacular names: Hijagal, Hijjal, Samundarphal.

Phenology: *Fl.:* May - Sep.; *Fr.:* Oct. - Nov.

Distribution: India (Sub Himalayan tract from the Ganges eastwards, M. P., Peninsula, W. Bengal), Afghanistan, Australia, Bangladesh, Cambodia, Indonesia, Irian Jaya, Java, Kalimantan, Laos, Malaysia, Moluccas, Myanmar, Pakistan, Papua New Guinea, Philippines, Sri Lanka, Sumatra, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanical Garden, Inside Plant Introduction Plot, 14.04.08, *L. B. Chaudhary & R. K. Srivastava* 249650; Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 05.08.08, *L. B. Chaudhary & R. K. Srivastava* 249641.

8. BIGNONIACEAE

Crescentia alata H.B.K. in Humboldt *et al.*, Nov. Gen. Sp. 3: 123.

1819. *Parmentiera alata* (Kunth) Miers.

Vernacular names: Gourd tree

Phenology: *Fl.:* Wet as well as in dry season.

Distribution: India (cultivated), North & South America.



Fig. 7. *Barringtonia acutangula* (L.) Gaertn.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Corner of Hargobind Khurana Marg, 02.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250120.

***Handroanthus chrysanthus** (Jacq.) Grose & Olmstead in Syst. Bot. 32: 664. 2007. *Tabebuia chrysantha* (Jacq.) Nicholson. *Bignonia chrysantha* Jacq.

Phenology: Fl. & Fr.: Feb. - Apr.

Distribution: India (cultivated), North & South America.

***Handroanthus chrysanthus** (Jacq.) Grose subsp. *meridionalis* (Gentry) Grose & Olmstead in Syst. Bot. 32: 664. 2007. *Tabebuia chrysantha* (Jacq.) Nicholson subsp. *meridionalis* Gentry. *T. spectabilis* (Planch. & Linden) Nicholson.

Distribution: India (cultivated), South America.

Handroanthus chrysotrichus (Mart. ex DC.) Mattos, *Leofgrenia* 50: 2. 1970. *Tecoma chrysotricha* Mart. ex DC. *Tabebuia chrysotricha* (DC.) Standl.

Vernacular names: Golden trumpet tree, Trumpet flower.

Phenology: Fl. & Fr.: Jan. - Mar.

Distribution: India (cultivated), Argentina, Brazil.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 19.03.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250282.

Handroanthus guayacan (Seem.) Grose & Olmstead in Syst. Bot. 32: 664. 2007. *Tabebuia guayacan* (Seem.) Hemsl.

Vernacular names: Trumpet tree.

Phenology: Fl.: Dry season.

Distribution: India (cultivated), North & South America.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind Moss House, 16.12.08, L. B. Chaudhary, R. K. Srivastava & A. Kumar 250115.

Handroanthus impetiginosus (Mart. ex Dc.) Mattos, Loefgrenia 50: 2. 1970. *Tecoma impetiginosa* Mart. ex DC. *T. palmeri* Rose. *Tabebuia avellaneda* Lorentz ex Griseb. *T. impetiginosa* (Mart. ex DC.) Standl. **Fig.8**

Vernacular names: Pink trumpet tree.

Phenology: Fl.: Dec.

Distribution: India (cultivated), North & South America.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind Botanic Garden Office, 02.12.08, L. B. Chaudhary, R. K. Srivastava & A. Kumar 249782.

Haplophragma adenophyllum (Wall. ex G. Don) Dop. in Bull. Soc. Bot. France 72: 890. 1926. *Bignonia adenophylla* Wall. ex G. Don. *Fernandoa adenophylla* (Wall. ex G. Don) Steenis. *Heterophragma adenophyllum* (Wall. ex G. Don) Seem. ex Benth. & Hook.f. *Spathodea adenophylla* (Wall. ex G. Don) DC. **Fig. 9**

Vernacular names: Marodphali.



Fig. 8. *Handroanthus impetiginosus* (Mart. ex Dc.) Mattos



Fig. 9. *Haplophragma adenophyllum* (Wall. ex G. Don) Dop.

Phenology: Fl.: Nov. - Dec.; *Fr.:* Jan. - Feb.

Distribution: India (Assam, Andaman and Nicobar), Bangladesh, Laos, Malaysia, Myanmar, Singapore, Thailand, Vietnam.

Cultivated as an ornamental tree.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, K. N. Kaul Block, 10.11.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh* 249737.

Jacaranda cuspidifolia Mart. ex A. DC., Prodr. 9: 228. 1845. *J. chapadensis* Barb. Rodr.

Phenology: Fl.: Spring & Summer season.

Distribution: India (cultivated), Southern Brazil to Northern Argentina.

Cultivated as an ornamental tree.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 03.10.08, *L. B. Chaudhary, R. K. Srivastava & Vartika Singh* 249696.

Jacaranda mimosifolia D. Don, Bot. Reg. 8: t. 631. 1822. *J. ovalifolia* R. Br. *J. chelonia* Griseb.

Vernacular names: Neeli Gulmohur.

Phenology: Fl.: Mar. - May; *Fr.:* Jun. - Oct.

Distribution: India (cultivated), Native to South America.

Cultivated in almost every part of the World.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, K. N. Kaul Block, 23.07.08, *L. B. Chaudhary & R. K. Srivastava* 249628.

Kigelia Africana (Lam.) Benth. in Hook., Nigr. Fl. 463. 1849.
Bignonia africana Lam. *Crescentia pinnata* Jacq. *Kigelia pinnata* (Jacq.) Rev. Bign.

Vernacular names: Balam khira.

Phenology: *Fl.:* Mar. - Apr.; *Fr.:* Nov. - Dec.

Distribution: India (cultivated), Throughout tropical Africa.

Cultivated and Naturalized elsewhere.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, K. N. Kaul Block, 23.07.08, *L. B. Chaudhary & R. K. Srivastava* 249628; Lucknow, National Botanical Research Institute, Botanic Garden, Hargobind Khurana Marg, 01.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249765.

Oroxylum indicum (L.) Vent., Dec. Gen. Nov. 8. 1808. *Bignonia indica* L. *B. quadripinnata* Blanco. *Calosanthus indica* (L.) Blume. *Hippoxylon indica* (L.) Raf. *Spathodea indica* (L.) Pers.

Vernacular names: Bhut-Vriksha, Dirghavrinta, Kutannat, Manduk, Patrona, Putivriksha, Shallaka, Shuran, Son, Vatuk.

Phenology: *Fl.:* Jun. - Aug.; *Fr.:* Dec. - Mar.

Distribution: India (Sub Himalayan tract, Peninsulas). Bhutan, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Philippines, Sri Lanka, Taiwan, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 14.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250142.

Paramentiera cereifera Seem. in J. Bot. 3: 302. 1841. *P. edulis* DC.

Crescentia aculeata Kunth.

Vernacular names: Candle tree.

Phenology: *Fl. & Fr.:* Nov.

Distribution: India (cultivated), South America.

Cultivated elsewhere in Tropics.

Voucher specimens: Lucknow, National Botanic Research Institute, Botanic Garden, Hargovind Khurana Marg, Pt. no. 911, 1053, 20.11.08, *L. B. Chaudhary & R. K. Srivastava* 249750.

Spathodea campanulata Beauv., Fl. Oware 1: 47, t. 27, 28. 1805. *S.*

nilotica Seem.

Vernacular names: African tulip tree.

Phenology: *Fl. & Fr.:* Feb. - May.

Distribution: India (cultivated) Africa, Hawaii, West Indies.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 14.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250140; Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 19.03.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250283.

***Stereospermum chelonoides** (L.f.) DC., Biblioth. Universelle Genève 17: 124-125. 1838; Brandis, Indian Trees 495. 1906.
Bignonia chelonoides L.f.
Vernacular names: Padal, Padri.
Phenology: Fl.: Apr. - Jun.
Distribution: India (Bihar, Oudh forests, Sikkim, ascending to 2,000 ft., West Bengal), Bangladesh, Malaysia, Myanmar, Nepal, Thailand.

Stereospermum colais (Buch.-Ham. ex Dillwyn) Mabb. in Taxon 27: 553. 1978. *Bignonia colais* Buch.-Ham. ex Dillwyn.
Stereospermum personatum (Hassk.) Chatterjee.
Vernacular names: Paral, Paroli, Trumpet flower tree, Yellow snake tree.
Phenology: Fl.: May - Jul.
Distribution: India (Throughout), Bangladesh, Bhutan, China, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Nepal, Sri Lanka, Thailand, Vietnam.

Tabebuia aurea (Silva Manso) Benth. & Hook.f. ex. S. Moore. in Trans Linn. Soc. London Bot. 4: 423. 1895. *Tabebuia argentea* (Bureau & K. Schum.) Britton. *Tecoma argentea* Bureau & K. Schum.
Vernacular names: Caribbean trumpet tree.
Phenology: Fl.: Oct.
Distribution: India (cultivated), South America.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, K. N. Kaul Block, 23.07.08, *L. B. Chaudhary & R. K. Srivastava* 249629; Lucknow, National Botanical Research Institute, Botanic Garden, Hargovind Khurana Marg, 24.10.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh* 249729.

Tabebuia rosea (Bertol.) DC., Prodr. 9: 215. 1845. *Tecoma rosea* Bertol.

Vernacular names: Basant rani, Rosy trumpet-tree.

Phenology: *Fl.:* Dec. - Mar.

Distribution: India (It grows widely in the rainforest and Tropics of India), North & South America.

Tecoma castanifolia (D. Don) Melch., Ber. Deutsch. Bot. Ges. 59: 26. 1941. *Stenolobium castanifolium* D. Don. *Tecoma gaudichaudi* DC. **Fig. 10 (A & B)**

Vernacular names: Chestnutleaf trumpet bush.

Phenology: *Fl.:* Oct.

Distribution: India (cultivated), South America.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Besides Ram Jharokhe, Birbal Sahni Marg, 24.10.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh* 249726.



A



B

Fig. 10. *Tecoma castanifolia* (D. Don) Melch.

***Tecoma stans** (L.) Juss. ex Kunth in F. W. H. A. von Humboldt *et al.*, Nov. Gen. Sp. 3: 112 [folio]; 3: 144 [quarto]. 1819. *Bignonia stans* L. *Stenolobium stans* (L.) Seem.

Phenology: Fl.: Throughout the year.

Distribution: India (cultivated), North & South America.

Tecomella undulata (Sm.) Seem., Ann. Mag. Nat. Hist. ser. 3. 10: 30. 1862. *Bignonia undulata* Sm. *Tecoma undulata* (Sm.) G. Don

Vernacular names: Roheda, Rohida, Desert teak.

Phenology: Fl.: Jan. - Apr.

Distribution: India (Gujarat, Haryana, Madhya Pradesh, Maharashtra, Punjab, Rajasthan), Afghanistan, Arabia, Iran, Pakistan.

Voucher specimens: Lucknow, National Botanic Research Institute, Botanic Garden, P. N. Mehra Marg (in front of B. P. Pal Rose Garden), 02.12.08, L. B. Chaudhary, R. K. Srivastava & A. Kumar 249777.

9. BIXACEAE

Bixa orellana L., Sp. Pl. 512. 1753.

Fig. 11 (A & B)

Vernacular names: Latkan, Lipstick tree.

Phenology: Most part of the Year.

Distribution: India (cultivated), North & South America.

Widely cultivated & naturalized elsewhere in Tropics.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Mini Pilot Plant (in front of



Fig. 11. *Bixa orellana* L.
Ethnopharmacology Lab., 01.10.08, L. B. Chaudhary & R. K.
Srivastava, 249689.

10.BOMBACACEAE

Adansonia digitata L., Syst. Nat. ed. 10, 2: 1144. 1759; Brandis, Indian Trees 78. 1906. *A. sulcata* Chev. *A. digitata* var. *congolensis* Chev. *A. integrifolia* Raf. *A. bahobab* L. *Ophelus sitularis* Lour. **Fig. 12**

Vernacular names: Gorakh-imli, Kapla - vriksha.

Phenology: *Fl.:* Oct. - Dec.; *Fr.:* Apr. - May.

Distribution: India (cultivated), Africa, Oman, Yemen.

Cultivated and naturalized in Tropics.

Voucher specimens Lucknow, National Botanical Research Institute, Botanic Garden, Behind Conservatory (Imambara side), 22.05.09, L. B. Chaudhary, A. Kumar, G. Kaur, P. Dubey & O. Bajpai 250367.

Adansonia za Baill., Bull. Mens. Soc. Linn. Paris sér. 2, 1: 844. 1890.

Vernacular names: Za baobab.

Phenology: *Fl.:* Aug.

Distribution: India (cultivated), Africa (Madagascar) - endemic.

Bombax ceiba L., Sp. Pl. 511. 1753. *B. malabarica* DC. *Salmalia malabarica* (DC.) Schott.

Vernacular names: Semal, Silk cotton tree.

Phenology: *Fl.:* Jan. - Mar.; *Fr.:* Apr. - May



Fig. 12. *Adansonia digitata* L.

Distribution: India (Subhimalayan tract from Hazara to eastward, upto 3500 ft., Peninsula), Australia, Bhutan, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Papua New Guinea, Philippines, Sri Lanka, Thailand, Vietnam.

Commonly cultivated as a roadside and garden tree.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Dhanvantari Marg, 01.12.08, *L. B. Chaudhary, R. K. Srivastava, A. Kumar, & G. Kaur* 249767.

Ceiba insignis (Kunth) Gibbs. & Semir, Notes Roy. Bot. Gard. Edinburgh 45: 134. 1988. *Chorisia insignis* Kunth. **Fig. 13 (A & B)**

Vernacular names: Resham rui.

Phenology: *Fl.:* Jul. - Sep.

Distribution: India (cultivated in the gardens), South America.

Two forms are available in the garden - red & yellow flowered.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Introduction Plot, 03.07.08, *L. B. Chaudhary & R. K. Srivastava* 249054. (Red flowered); Lucknow, National Botanical Research Institute, Botanic Garden, Besides T. N. Khushoo Block, 29.09.08, *L. B. Chaudhary & R. K. Srivastava* 249677. (Yellow flowered).

Ceiba pentandra (L.) Gaertn., Fruct. Sem. Pl. 2: 244. 1791. *Bombax pentandrum* L. *Ceiba caribaea* (DC.) A. Chev. *C. casearia* Medik. *Eriodendron anfractuosum* DC.

Vernacular names: Safed semal.



Fig. 13. *Ceiba insignis* (Kunth) Gibbs. & Semir

Phenology: Fl.: Jan. – Feb.

Distribution: India (cultivated), Africa, North & South America.

Naturalized in Tropical Asia.

***Ceiba speciosa** (A. St.-Hil.) Ravenna, *Onira* 3 (15): 46. 1998.

Chorisia speciosa A. St.-Hil.

Vernacular names: Resham rui.

Phenology: Fl.: Feb. – May.

Distribution: India (cultivated), South America.

Pseudobombax ellipticum (Kunth) Dugand, *Caldasia* 2: 67. 1943.

Bombax ellipticum Kunth. *Carolinea fastuosa* DC.

Vernacular names: Shaving Brush Tree.

Phenology: Fl.: Mar. - May.

Distribution: India (cultivated), Native of America.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind Conservatory (Imambara side), 03.12.08, L. B. Chaudhary, R.K. Srivastava & A. Kumar 249792.

11. BORAGINACEAE

Cordia sinensis Lam., *Tabl. Encycl.* 1: 423. 1792. *C. gharaf* Ehrenb.

ex Asch.. *C. rothii* Roem.& Schult.

Phenology: Fl.: Apr. - Jun.; *Fr.:* Jun. - Sep.

Distribution : India (Deccan Peninsula, Gujrat, Punjab, Rajasthan), Africa, Iran, Israel, Jordan, Pakistan, Saudi Arabia, Sri Lanka.

12. BURSERACEAE

***Boswellia serrata** Roxb. ex Colebr., *Asiat. Res.* 9: 379, t. 5. 1807.

B. glabra Roxb.

Vernacular names: Salai.

Phenology: Fl.: Dec. - Apr.

Distribution: India (Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh)

Bursera penicillata (DC.) Engl., *Bot. Jahrb. Syst.* 1: 44. 1881;

Chithra & Henry in Hajra *et al.*, *Fl. India* 4: 434. 1997. *Elaphrium penicillatum* DC. *Bursera delpechiana* Poiss. ex Engl.

Vernacular names: Indian lavender.

Phenology: Fl.: Mar. - Apr.; *Fr.:* May - Sep.

Distribution: India (cultivated), Mexico.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 01.06.09, L. B. Chaudhary, A. Kumar, G. Kaur & P. Dubey 250371.

***Commiphora wightii** (Arn.) Bhandari in *Bull. Bot. Surv. India* 6:

327. 1964. *Balsamodendrum wightii* Arn. *B. mukul* Hook. ex Stocks. *Commiphora mukul* (Hook. ex Stocks) Engl.

Vernacular names: Guggul.

Phenology: Fl.: Dec. - Jul.

Distribution: India (Gujarat, Karnataka, Madhya Pradesh, Rajasthan), Pakistan.

Protium serratum (Wall. ex Colebr.) Engl., A. L. P. P. de Candolle & A. C. de Candolle, Monogr. phan. 4: 88. 1883; Chithra & Henry in Hajra *et al.*, Fl. India 4: 451. 1997. *Bursera serrata* Wall. ex Colebr.

Vernacular names: Indian red pear.

Phenology: Fl.: Apr. - May; *Fr.:* Jun. - Sep.

Distribution: India (common along streams, in ravines or on rocky grounds, Andhra Pradesh, Assam, Bihar, Karnataka, Madhya Pradesh, Orissa, Uttar Pradesh, West Bengal), Bangladesh, China, Myanmar, Thailand, Vietnam.

Ocassionally Planted in gardens.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg (in front of B. P. Pal Rose Garden), 02.12.08, L. B. Chaudhary, R. K. Srivastava & A. Kumar 249773.

13. BUXACEAE

Buxus papillosa Schneider, 3. Handb. Laubholzk. 2: 139. 1907. *B. sempervirens* sensu Stewart & Brandis.

Phenology: Fl.: Jan. - May.

Distribution: India (cultivated), Pakistan - endemic.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind Conservatory (Imambara side), 03.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249790.

14. CAESALPINIACEAE

Bauhinia acuminata L., Sp. Pl. 375. 1753; Bandyopadhyay *et al.* in J. Econ. Tax. Bot. 29 (4): 765. 2005. *B. linnaei* Ali. *Pauletia acuminata* (L.) Schmitz.

Vernacular names: Safed Kachnar.

Phenology: *Fl. & Fr.:* Mar. - Feb.; Pods may persist up to Oct.

Distribution: India (commonly cultivated throughout), cultivated all over South East Asia.

Wild in Indonesia and Philippines.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Conservatory side, 27.08.08, *L. B. Chaudhary & A. Kumar* 249651.

Bauhinia hookeri Muell., Trans. Philos. Inst. Victoria 3: 51. 1859; Bandyopadhyay *et al.* in J. Econ. Tax. Bot. 29 (4): 800. 2005. *Lysiphyllum hookeri* (Muell.) Pedley.

Vernacular names: Mountain ebony.

Phenology: *Fl.:* Jun. - Sep.

Distribution: India (cultivated), Australia.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Ram Jharokhe, Birbal Sahni Marg,

24.10.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh*
249727.

Bauhinia purpurea L., Sp. Pl. 375. 1753; Bandyopadhyay *et al.* in J.
Econ. Tax. Bot. 29 (4): 781. 2005. *B. coromandeliana* DC. *B.*
triandra Roxb. *Phanera purpurea* (L.) Benth. *Telestria purpurea*
Raf. **Fig. 14**

Vernacular names: Kaniar.

Phenology: *Fl.:* Sep. - Nov.; *Fr.:* Jan. - Apr.

Distribution: India (Throughout), Bhutan, Burma, Myanmar,
Nepal, Pakistan, Thailand.

Widely cultivated throughout the Tropics.

Voucher specimen: Lucknow, National Botanical Research
Institute, Botanic Garden, Near Tuberose & Plant Nursery,
11.07.08, *L. B. Chaudhary & R. K. Srivastava* 249088; Lucknow,
National Botanical Research Institute, Botanic Garden,
Conservatory House, 27.08.08, *L. B. Chaudhary & R. K.*
Srivastava 249651; Lucknow, National Botanical Research
Institute, Botanic Garden, P. N. Mehra Marg, 14.11.08, *L. B.*
Chaudhary, R. K. Srivastava & U. M. Singh 249738.



Fig. 14. *Bauhinia purpurea* L.

Bauhinia roxburghiana Voigt., Hort. suburb. Calcutt. 254. 1845; Brandis, Indian Trees 257. 1906; Bandyopadhyay, Taxon 56: 587. 2007. *B. retusa* Buch.-Ham. *B. semla* Wunderlin. *B. emarginata* G. Don.

Vernacular names: Chakera, Kandla, Karial, Semla.

Phenology: *Fl.:* Sep. - Nov.; *Fr.:* Mar. - Apr.

Distribution: India (Andhra Pradesh, Bihar, Haryana, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil nadu, Uttar Pradesh, West Bengal), Bangladesh, Nepal, Pakistan.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 16.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250157.

Bauhinia variegata L., Sp. Pl. 375.1753; Bandyopadhyay *et al.* in J. Econ. Tax. Bot. 29 (4): 795. 2005. *B. candida* Aiton. *Phanera variegata* (L.) Benth.

Vernacular names: Kachnar, Orchid tree.

Phenology: *Fl. & Fr.:* Jan. - May.

Distribution: India (almost throughout), Bhutan, China, Laos, Myanmar, Nepal, Pakistan, Thailand, Vietnam.

Bauhinia x blakeana Dunn., J. Bot. 46: 325. 1908; Bandyopadhyay *et al.* in J. Econ. Tax. Bot. 29 (4): 799. 2005. **Fig. 15**

Vernacular names: Red flowered Bauhinia

Phenology: *Fl.:* Oct. - Mar.



Fig. 15. *Bauhinia x blakeana* Dunn.

Distribution: Only in cultivation.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 14.11.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh* 249742.

Brownea ariza Benth., Pl. Hartw. 171. 1845; Sanjappa, Legumes of India 8. 1992. *B. princeps* Linden. *Hermesias ariza* Kuntze.

Phenology: Fl.: Jan. - May.

Distribution: India (cultivated in Bangalore, Indian Botanic Garden - Howrah, West Bengal), Colombia, Ecuador, Peru, Sri Lanka, Venezuela.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, K. N. Kaul Block, 23.07.08, *L. B. Chaudhary, R. K. Srivastava* 249627.

Caesalpinia cacalaco Humb. & Bonpl., Pl. Aequinoct. 2: 173, t. 137. 1808; Sanjappa, Legumes of India 13. 1992. *Coulteria mexicana* DC. *Poinciana horrida* Sesse & Moc. *Russellodendron cacalaco* (Humb. & Bonpl.) Britton & Rose.

Phenology: Fl.: Nov. - Mar.

Distribution: India (cultivated in gardens), Mexico.

Caesalpinia coriaria (Jacq.) Willd., Sp. Pl. 2: 532. 1800; Sanjappa, Legumes of India 10. 1992. *Poinciana coriaria* Jacq.

Fig. 16 (A&B)

Vernacular names: Divi - Divi.

Phenology: Fl. & Fr.: Nov.

Distribution: India (Andhra Pradesh, Bihar, Gujarat Karnataka, Kerala, Maharashtra, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal), Native of Tropical America.

Cultivated and naturalized.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, in front of T. N. Khushoo Block, 20.11.08, *L. B. Chaudhary & R. K. Srivastava* 249747.

Caesalpinia gilliesii (Hook.) Dietr., Syn. Pl. 2: 1495. 1840; Sanjappa, Legumes of India 13. 1992. *Poinciana gilleisii* Hook.

Vernacular names: Bird of paradise.

Phenology: Fl. & Fr.: Spring & Early Summer season.

Distribution: India (Punjab, West Bengal), Argentina, Chile, Peru, Uruguay.

Naturalized & cultivated elsewhere.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, in front of T. N. Khushoo Block, 20.11.08, *L. B. Chaudhary & R. K. Srivastava* 249745.



Fig. 16. *Caesalpinia coriaria* (Jacq.) Willd.

Caesalpinia mexicana Gray, Proc. Amer. Acad. Arts 5: 157. 1861

("1862"). *Poincianella mexicana* (Gray) Britton & Rose.

Phenology: Fl.: Nov.

Distribution: India (cultivated), North America.

Cultivated elsewhere.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, in front of T. N. Khushoo Block, 20.11.08, L. B. Chaudhary & R. K. Srivastava 249746.

Caesalpinia pannosa Brandeg., Proc. Calif. Acad. Sci. ser. 2, 2: 150.

1889. *Poinciana pannosa* (Brandege) Rose. *Poincianella pannosa* (Brandege) Britton & Rose.

Vernacular names: Brassletto.

Phenology: Fl. & Fr.: Dec. - Feb.

Distribution: India (cultivated), Central America.

Voucher specimens Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 14.01.09, L. B. Chaudhary, R. K. Srivastava & A. Kumar 250143.

Cassia fistula L., Sp. Pl. 377. 1753; Singh, Monogr. Indian subt.

Cassiinae 25. 2001. *Bactrylobium fistula* (L.) Willd.

Cathartocarpus fistula (L.) Pers.

Fig. 17

Vernacular names: Amaltas, Golden shower tree.

Phenology: Fl.: Apr. - Jul.; Fr.: Oct. - Nov.

Distribution: India (Throughout the country including Andamans), Bhutan, Nepal, S. E. Asia, Sri Lanka.

Widely Naturalized & Cultivated in Tropics.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, K. N. Kaul Block (near right side vehicle parking) 10.11.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh* 249734.

Cassia javanica L. var. **indochinensis** Gagnep. in Lecomte, Fl. Indo - Chine 2:158. 1913; Singh, Monogr. Indian subt. *Cassiinae* 40. 2001. *C. javanica* L. subsp. *agnes* (de Wit) Larsen. *C. javanica* L. subsp. *nodosa* (Buch.-Ham. ex Roxb.) Larsen & Larsen. *C. agnes* (de Wit) Brenan. *C. javanica* L. var. *agnes* de Wit. *C. nodosa* Buch.-Ham. ex Roxb.

Vernacular names: Pink shower tree.

Phenology: *Fl.:* Feb. - Sep.

Distribution: India (Indigenous in the forests of eastern India, Particularly in Andaman Islands, Arunachal Pradesh, Assam, Manipur, Meghalaya, Nagaland, Tripura & West Bengal), Laos, Thailand, Vietnam.

Cultivated elsewhere in Tropics as an ornamental and avenue tree.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Dhanvantari Marg, 29.09.08, *L. B. Chaudhary & R. K. Srivastava* 249680.



Fig. 17. *Cassia fistula* L.

***Cassia roxburghii** DC., Prodr. 2: 489. 1825; Singh, Monogr. Indian subt. *Cassiinae* 47. 2001. *C. marginata* Roxb.

Vernacular names: Red Cassia.

Phenology: Fl. & Fr.: Apr. - Sep.

Distribution: India (Andhra Pradesh, Bihar, Delhi, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Pondicherry, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal), Africa, Bangladesh, Pakistan, Sri Lanka.

Colophospermum mopane (Kirk ex Benth.) Kirk ex J. Leonard in Bull. Jard. Bot. Etat Bruxelles 19: 390. 1949. *Copaiba mopane* (Kirk ex Benth.) Kuntze. *Copaifera mopane* Kirk ex Benth.

Hardwickia mopane (Kirk ex Benth.) Breteler *et al.*

Vernacular names: Butterfly-tree, Turpentine-tree.

Distribution: India (cultivated), Africa, Angola, Botswana, Central African Republic, Congo, Democratic Republic of Congo, Gabon, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia, Zimbabwe.

***Colvillea racemosa** Bojer in Hooker, Bot. Mag. 61: Pl. 3325-6. 1834; Sanjappa, Legumes of India 25. 1992.

Vernacular names: Kilbili.

Phenology: Fl.: Aug. - Oct.

Distribution: India (Bihar, Karnataka, Madhya Pradesh, Punjab, West Bengal), Africa.

Delonix regia (Bojer ex Hook.) Raf., Fl. Tellur. 2: 92. 1837; Sanjappa, Legumes of India 27. 1992. *Poinciana regia* Bojer ex Hook. *Delonix regia* Hook. var. *flavida* Stehle. *D. regia* Hook. var. *genuina* Stehle. **Fig. 18**

Vernacular names: Gulmohar.

Phenology: Fl.: Apr. - Jun.

Distribution: India (cultivated throughout), Native of Madagascar.

Gleditsia sinensis Lam. Encycl. 2: 465. 1788. *G. macracantha* Desf. *G. officinalis* Hemsl.

Vernacular names: Honey locust.

Phenology: Fr.: Oct.

Distribution: India (Arunachal Pradesh, Bihar), China, Mauritius.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 03.10.08, L .B. Chaudhary, R. K. Srivastava & Vartika Singh 249695.

***Gleditsia triacanthos** L., Sp. Pl. 1056. 1753; Sanjappa, Legumes of India 28. 1992.

Vernacular names: Honey locust.

Phenology: Fl.: May - Jun.

Distribution: India (Himachal Pradesh, Punjab, Uttar Pradesh), Afghanistan, Australia, China, Iran, Iraq, Kazakhstan, Kirgizstan, North America, Pakistan, Tadzhikistan, Uzbekistan.



Fig. 18. *Delonix regia* (Bojer ex Hook.) Raf.

Parkinsonia aculeata L., Sp. Pl. 375. 1753; Sanjappa, Legumes of India 33. 1992. *P. thornberi* Jones.

Vernacular names: Vilayati Babul, Vilayti Kikar, Ram babul, Jerusalem Thorn.

Phenology: Fl.: Oct.

Distribution: India (cultivated as well as naturalized throughout arid belts), Native of Tropical America.

Widely cultivated throughout Tropics.

Peltophorum dubium (Spreng.) Taub., Engler & Prantl, Nat. Pflanzenfam. 3 (3): 176. 1892; Sanjappa, Legumes of India 34. 1992. *P. vogelianum* Benth. *Caesalpinia dubia* Spreng. *Baryxylum dubium* (Spreng.) Pierre.

Vernacular names: Yellow Poinciana.

Phenology: Fl.: Apr. - May.

Distribution: India (cultivated), Argentina, Barbados, Brazil, California, Florida, Paraguay, Uruguay, United States, Zimbabwe

Peltophorum pterocarpum (DC.) Backer ex Heyne. Nutt. Pl. Ned.-Ind. ed. 2, 2: 755. 1927; Sanjappa, Legumes of India 33. 1992. *Baryxylum inerme* (Roxb.) Pierre. *Caesalpinia ferruginea* Decne. *C. inermis* Roxb. *Inga pterocarpa* DC. *Peltophorum ferrugineum* (Decne.) Benth. *P. inerme* (Roxb.) Naves ex Fern.-Vill., nom. inval.

Vernacular names: Peela Gulmohar, Copperpod

Phenology: Fl.: May - Sep.

Distribution: India (Wild in Andaman & Nicobar Islands, cultivated throughout), Africa, Australia, Bangladesh, Bhutan, Brunei, Burma, Cambodia, China, Indonesia, Java, Kalimantan, Malaysia, North America, Pakistan, Papua New Guinea, Peninsular Malaysia, Philippines, Sabah, Singapore, South America, Sri Lanka, Sulawesi, Sumatra, Taiwan, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, near Tubewell No. 1, 10.07.08, *L. B. Chaudhary & R. K. Srivastava* 249072.

Saraca asoca (Roxb.) de Wilde, *Blumea* 15: 393. 1968; Sanjappa, *Legumes of India* 35. 1992; Zuji., *Blumea* 15: 422. 1968. *Jonesia asoca* Roxb. *J. confusa* Hassk. *J. pinnata* Willd. *Saraca confusa* (Hassk.) Backer.

Vernacular names: Ashoka, Sita - Ashok.

Phenology: Fl.: Feb. - Apr.

Distribution: India (N. E. India, Western Ghats, Often cultivated throughout), Bangladesh, Bhutan, Indonesia, Java, Malaysia, Mauritius, Myanmar, Nepal, Papua New Guinea, Pakistan, Sri Lanka, Sulawesi, Sumatra.

Saraca declinata (Jack.) Miq. *Fl. Ned. Ind.* 1(1): 84. 1855; Sanjappa, *Legumes of India* 35. 1992. *Jonesia declinata* Jack. *Saraca cauliflora* Baker.

Vernacular names: Red Saraca.

Phenology: Fl.: Jan. - May.

Distribution: India (Karnataka, West Bengal), Cambodia, Indonesia, Laos, Myanmar, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Tubewell No. 1, 10.07.08, *L. B. Chaudhary & R. K. Srivastava* 249066; Lucknow, National Botanical Research Institute, Botanic Garden, Conservatory House 14.11.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh* 249740.

***Senna auriculata** (L.) Roxb., Fl. Ind. ed. 1832, 2: 349. 1832; Singh, Monogr. Indian subt. *Cassiinae* 119. 2001. *Cassia auriculata* L.

Vernacular names: Tarwar, Taroda.

Phenology: Fl. & Fr.: Jul. - May.

Distribution: India (Andhra Pradesh, Bihar, Goa, Gujarat, Haryana, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal), Africa, Australia, Indonesia, Malaysia, Myanmar, Pakistan, Sri Lanka.

Cultivated in some Tropical countries also.

Senna siamea (Lam.) Irwin & Barneby, Mem. New York Bot. Gard.

35 (1): 98. 1982; Singh, Monogr. Indian subt. *Cassiinae* 193. 2001.

Cassia siamea Lam. *C. siamea* var. *puberula* Kurz. *C. sumatrana*

Roxb. ex DC. *C. gigantea* Bertero ex DC. *C. arborea* Macfad.

Senna sumatrana (Roxb. ex DC.) Roxb. *Chamaefistula gigantea*

(Bertero ex DC.) G. Don.

Vernacular names: Kassod, Seemia.

Phenology: Fl. & Fr.: Throughout the year.

Distribution: India (Andaman & Nicobar, Arunachal Pradesh, Madhya Pradesh, Punjab, Sikkim, Tripura, Southwards to Peninsular India from Karnataka and Orissa to Kerala and Tamil Nadu), China, Indonesia, Malaysia, Myanmar, Philippines, Sri Lanka, Taiwan, Thailand.

Widely cultivated in Tropics.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind B. P. Pal Rose Garden, 01.10.08, L. B. Chaudhary & R. K. Srivastava 249683.

***Senna spectabilis** (DC.) Irwin & Barneby, Mem. New York Bot. Gard. 35: 600. 1982; Singh, Monogr. Indian subt. *Cassiinae* 205. 2001. *Senna spectabilis* (DC.) Irwin & Barneby var. *excelsa* (Schrad.) Irwin & Barneby. *Cassia spectabilis* DC. *C. carnaval* Speg.

Phenology: Fl. & Fr.: Aug. - Oct.

Distribution: India (Karnataka, Rajasthan, Sikkim, West Bengal), North & South America.

***Senna surattensis** (Burm. f.) Irwin & Barneby, Mem. New York Bot. Gard. 35: 81. 1982; Singh, Monogr. Indian subt. *Cassiinae* 215. 2001. *Cassia surattensis* Burm. f. *C. suffruticosa* Koenig ex Roth. *C. surattensis* Burm. f. var. *suffruticosa* (Koenig ex Roth) Chatterjee.

Vernacular names: Glaucas Cassia, Golden Senna.

Phenology: Fl. & Fr.: most part of the year.

Distribution: India (Andhra Pradesh, Bihar, Goa, Karnataka, Kerala, Maharashtra, Orissa, Tamil Nadu, West Bengal), Australia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Sri Lanka, Southern China, Thailand, Tropical Australia, Vietnam.
Widely Naturalized.

15. CAPPARIDACEAE

Crateva magna (Lour.) DC., Prodr. 1: 243. 1824. *Capparis magna* Lour. *Crateva nurvala* Buch.-Ham.

Vernacular names: Caper tree, Warna.

Phenology: *Fl.:* Apr. - May; *Fr.:* Jul. - Aug.

Distribution: India (Western Coasts), Bangladesh, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Sri Lanka, Thailand.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind Conservatory House (Imambara side), 03.12.08, L. B. Chaudhary, R. K. Srivastava & A. Kumar 249786.

***Crateva religiosa** Forst., Diss. Pl. esc. 45. 1786; Brandis, Indian Trees 32. 1906. *C. roxburghii* R. Br.

Vernacular names: Barna, Bidasi.

Phenology: *Fl.:* Hot season.

Distribution: India (Subhimalayan tract from the Ravi eastwards, ascending to 2,000 ft. Both Peninsulas), Australia, Indochina, Indonesia, Japan, Malaysia, Myanmar, Papua New Guinea, Philippines, Thailand.

16. CASURINACEAE

Casuarina equisetifolia L., Amoen. Acad. 4: 143.1759; Brandis, Indian Trees 620. 1906. *C. muricata* Roxb. *C. sumatrana* Jungh. *C. littoralis* Salisb. *C. littorea* Oken.

Vernacular names: Saru, Jungli Jhao, Junglisaru.

Phenology: *Fl.:* Mar. - May; *Fr.:* Jun. - Jul.

Distribution: India (Andaman, cultivated throughout), Australia, French Polynesia, Fiji, Indonesia, Malaysia, Myanmar, Philippines, Thailand, Vanuatu, Vietnam.

Voucher Specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg (along Gomti river), 14.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250138.

17. COCHLOSPERMACEAE

***Cochlospermum vitifolium** (Willd.) Spreng., Syst. veg. 2: 596. 1825. *Bombax vitifolium* Willd. *Cochlospermum hibiscoides* Kunth. *Maximiliana hibiscoides* (Kunth) Kuntze. *M. vitifolia* (Willd.) Krug & Urb.

Phenology: *Fl. & Fr.:* Dec. - Feb.

Distribution: India (cultivated), North & South America.

Naturalized elsewhere.

18. COMBRETACEAE

Anogeissus acuminata (Roxb. ex DC.) Wall. ex Guill. & Perr. A. Guillemin *et al.*, Fl. Seneg. tent. 1: 280. 1832; Brandis, Indian

Trees 315. 1906. *A. pendula* Edgew. *Conocarpus acuminatus* Roxb.

Vernacular names: Dhau, Dhoy, Dhaura.

Phenology: *Fl.:* Aug. - Sep.; *Fr.:* Cold season

Distribution: India (Bihar, Deccan Peninsula, Gujarat, Mizoram, N. W. Himalaya, Uttar Pradesh), Bangladesh, Cambodia, Laos, Myanmar, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 02.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249775.

***Anogeissus latifolia** (Roxb. ex DC.) Wall. ex Guill. & Perr., A. Guillemin *et al.*, Fl. Seneg. tent. 1: 280. 1832; Brandis, Indian Trees, 315. 1902. *Conocarpus latifolia* Roxb. ex DC.

Vernacular names: Dhaura, Bakli.

Phenology: *Fl.:* Jan. - Apr.; *Fr.:* Mar. - May.

Distribution: India (Throughout India, in deciduous forests), Nepal, Sri Lanka.

Anogeissus sericea Brandis, Indian For. 25: 287. 1899; & Indian Trees 315. 1906.

Vernacular names: Dhaukra.

Phenology: *Fl.:* Feb. - Apr.

Distribution: India (Madhya Pradesh, Gujarat—endemic).

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind Ram Jharokhe Garden, 05.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250101.

Terminalia arjuna (Roxb. ex DC.) Wight & Arn., Prodr. Fl. Ind. Orient. 314. 1834; Brandis, Indian Trees 311. 1906; Gangopadhyay & Chakrabarty, J. Econ. Tax. Bot. 16: 556. 1992. *T. cuneata* Roth. *Pentaptera arjuna* Roxb. ex DC. *P. glabra* Roxb.

Fig. 19 (A&B)

Vernacular names: Arjuna, Kawa, Koha.

Phenology: *Fl.:* Hot season; *Fr.:* Mar. - Apr.

Distribution: India (Bihar, Madhya Pradesh, Peninsula and Sub-Himalayan tract), Myanmar, Sri Lanka.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, K. N. Kaul Block, Behind Environmental Lab. (near vehicle parking), 18.09.08, *L. B.*

Chaudhary & R. K. Srivastava 249676; Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 13.10.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh* 249706.

Terminalia bellirica (Gaertn.) Roxb. Pl. Coromandel 2: 54, t. 198. 1805 (“1798”); Brandis, Indian Trees 307. 1906. *Myrobalanus bellirica* Gaertn.

Vernacular names: Bahera, Bahuvirya, Bhutvaas, Kalk, Karshphal.

Phenology: *Fl.:* Mar. - May; *Fr.:* Aug. - Sep.



Fig. 19. *Terminalia arjuna* (Roxb. ex DC.) Wight & Arn.

Distribution: India (Throughout), Bangladesh, Bhutan, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand, Vietnam.

Naturalized in Africa.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 05.08.08, *L. B. Chaudhary & R. K. Srivastava* 249639; Lucknow, National Botanical Research Institute, Botanic Garden, in front of Percy Lancaster House, 13.05.09, *L. B. Chaudhary, A. Kumar & G. Kaur* 250361.

Terminalia catappa L. Syst. Nat. ed. 12, 2: 674. 1767; Brandis, Indian Trees 307. 1906. *T. procera* Roxb. *Phytolacca javanica* Osbeck.

Vernacular names: Jangli badam, Indian Almond

Phenology: *Fl. & Fr.:* Feb. - May.

Distribution: India (Andamans, cultivated throughout), Australia, Cambodia, China, Fiji, Indo-China, Madagascar, Malaysia, Myanmar, New Caledonia, Papua New Guinea, Philippines, Solomon Islands, Taiwan, Vanuatu, Vietnam.

Widely naturalized & cultivated throughout Tropics.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Floriculture & Medicinal Garden, 13.10.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh* 249708.

Terminalia chebula Retz. Observ. bot. 5: 31. 1788 ("1789");
Brandis, Indian Trees 308. 1906. *T. tomentella* Kurz.

Vernacular names: Harra, Haritaki.

Phenology: *Fl.*: Apr. - Aug.; *Fr.*: Oct. - Jan.

Distribution: India (Throughout), Bangladesh, Bhutan, Cambodia, China, Laos, Myanmar, Nepal, Sri Lanka, Vietnam.

Terminalia muelleri Benth, Fl. Austral. 2: 500. 1864. *Myrobalanus muelleri* (Benth.)Kuntze.

Vernacular names: Australian almond.

Phenology: *Fl. & Fr.*: Nov. - Jan.

Distribution: India (cultivated), Australia.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near tubewell No. 1, 10.07.08, *L. B. Chaudhary & R. K. Srivastava* 249065; Lucknow, National Botanical Research Institute, Botanic Garden, near the gate of *Bougainvillea* Germplasm Collection, 31.07.08, *L. B. Chaudhary & R. K. Srivastava* 249632.

Terminalia myriocarpa Heurck & Müll. Arg., Obs. Bot. 215. 1871;
Brandis, Indian Trees 312. 1906.

Vernacular names: Hollock

Phenology: *Fl.*: Oct. - Nov.

Distribution: India (Assam, Manipur, Sikkim), Bhutan, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Thailand, Vietnam.

19. CUPRESSACEAE

Platycladus orientalis (L.) Franco, Portugaliae Acta Biol., Ser. B, Sist. vol. Julio Henriques, 33. 1949. *Thuja orientalis* L. *T. orientalis* L. var. *aurea* (Carriere) Rehder. *T. orientalis* L. forma *juniperoides* (Carriere) Asch. & Graebn. *Retinispora juniperoides* Carriere.

Vernacular names: Morpankhi, Mayurpankhi.

Distribution: India (naturalized throughout), China, Europe, Japan, Korea.

Native to northwestern China and widely naturalized elsewhere in Asia.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 16.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250156.

20. DIPTEROCARPACEAE

Shorea robusta Gaertn. f., Suppl. Carp. 1: 48, t. 186, f. 1. 1805; Brandis, Indian Trees 69. 1906.

Vernacular names: Sal, Sakhu, Sakhua.

Phenology: *Fl.:* Mar. - Apr.; *Fr.:* Jun. - Jul.

Distribution: India (Throughout), Bangladesh, Myanmar, Nepal.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Ram Jharokhe Garden, 08.09.08, *L. B. Chaudhary & R. K. Srivastava* 249670.

21.EBENACEAE

Diospyros blancoi DC., Prodr. 8: 237. 1844. *D. discolor* Willd. *D.*

philippensis (Desr.) Gurke. *Cavanillea philippensis* Desr.

Vernacular names: Velvet-apple.

Phenology: Fr.: Jul.

Distribution: India (cultivated), Indonesia, Philippines, Taiwan.

Widely cultivated in Tropics.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, in front of Plant Nursery, 11.07.08, *L. B. Chaudhary & R. K. Srivastava* 249080.

***Diospyros kaki** Thunb., Nova Acta Regiae Soc. Sci. Upsal. 3: 208.

1780. *D. chinensis* Blume, nom. nud.

Vernacular names: Kaki, Chinese Persimmon.

Phenology: Fl.: Mar.

Distribution: India (cultivated), China.

Cultivated & naturalized elsewhere in Asia.

***Diospyros melanoxylon** Roxb., Pl. Coromandel 1: 36, t. 46. 1795.

D. tupru Buch.-Ham.

Vernacular names: Tendu.

Phenology: Fl. & Fr.: Jan. - Aug.

Distribution: India (Southern), Sri Lanka.

Diospyros montana Roxb., Pl. Corom. 1: 37. t. 48. 1795; Brandis, Indian Trees 431. 1906. *D. cordifolia* Roxb. *D. montana* Roxb. var. *cordifolia* (Roxb.) Hiern.

Vernacular names: Tendu, Bistendu.

Phenology: *Fl.:* Mar. - Apr.; *Fr.:* May

Distribution: India (Throughout), Australia, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Nepal, Philippines, Sri Lanka, Taiwan, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Floriculture & Medicinal Garden, 16.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250116.

Diospyros peregrina (Gaertn.) Gurke in Engler & Prantl, Nat. Pflanzenfam. 4 (1): 164. 1891. *Embryopteris peregrina* Gaertn. *Diospyros malabarica* (Desr.) Kostel. *Garcinia malabarica* Desr.

Vernacular names: Gaub.

Fig. 20 (A & B)

Phenology: *Fl.:* Apr. - May; *Fr.:* Oct. - Jan.

Distribution: India (Western Ghats), Indomalaysia.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind Ram Jharokhe Garden, 08.09.08, *L. B. Chaudhary & R. K. Srivastava* 249665.

22.EHRETIACEAE

Cordia dichotoma Forst., Fl. Ins. Austr. 18, no. 110. 1786.

Vernacular names: Lasora.



Fig. 20. *Diospyros peregrina* (Gaertn.) Gurke

Phenology: Fl.: Mar. - Apr.; *Fr.:* May - Jul.

Distribution: India (Throughout), Australia, Cambodia, China, Indonesia, Japan, Laos, Malaysia, Myanmar, Pakistan, Papua New Guinea, Sri Lanka, Taiwan, Thailand, Vietnam.

Ehretia laevis Roxb., Pl. corom. 1: 42. t. 56. 1796; Brandis, Indian Trees 481. 1906.

Vernacular names: Chamror, Chamroth

Phenology: Fl.: Feb. - Mar.; *Fr.:* Apr. - Jun.

Distribution: India (Throughout), Australia, Bhutan, China, Iran, Pakistan, Laos, Myanmar, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind Conservatory House (Imambara side), 03.12.08, L. B. Chaudhary, R. K. Srivastava & A. Kumar 249787; Lucknow, National Botanical Research Institute, Botanic Garden, Behind Moss House, 16.12.08, L. B. Chaudhary, R.K.Srivastava & A. Kumar 250118.

23. EUPHORBIACEAE

***Antidesma bunius** (L.) Spreng., Syst. Veg. 1: 826. 1824. *Stilago bunius* L. *Antidesma dallachyanum* Baill.

Vernacular names: Himalcheri.

Phenology: Fl.: Sep. - Oct; *Fr.:* Feb. - Mar.

Distribution: India (Andaman & Nicobar Islands, Andhra Pradesh, Assam, Kerala, Meghalaya, Mizoram, Nagaland, Orissa, Sikkim, Uttar Pradesh, West Bengal), Australia, Bhutan, Cambodia, China,

Indonesia, Laos, Malaysia, Myanmar, Nepal, Papua New Guinea, Philippines, Sri Lanka, Thailand, Vietnam.

***Bridelia montana** (Roxb.) Willd., Sp. Pl. 4 (2): 978. 1806; Brandis, Indian Trees 560. 1906. *Clutia montana* Roxb.

Vernacular names: Gondni.

Phenology: Fl. & Fr.: Aug. - Nov.

Distribution: India (Andhra Pradesh, Assam, Bihar, Orissa, Sikkim), Bhutan, China, Nepal.

***Bridelia retusa** (L.) Juss., Euphorb. Gen. 109. 1824; Brandis, Indian Trees 560. 1906. *Clutia retusa* L. **Fig. 21 (A & B)**

Vernacular names: Kaji, Khaja, Kassi.

Phenology: Fl.: Aug. - Oct.; Fr.: Nov. - Jan.

Distribution: India (Distributed throughout, in hotter parts along the base of the Himalayas from Kashmir to Mishni), China, Indonesia, Laos, Malaysia, Myanmar, Sri Lanka, Thailand, Vietnam.

Cleistanthus collinus (Roxb.) Benth. ex. Hook. f., Fl. Brit. India 5: 274. 1887; Brandis, Indian Trees 561. 1906. *Clutia collina* Roxb.

Vernacular names: Garari, Garrar.

Phenology: Fl.: Apr. - May; Fr.: Mar. - Apr.

Distribution: India (Andhra Pradesh, Bihar, Kerala, Madhya Pradesh, Orissa, Tamil Nadu, West Bengal), Bangladesh, Pakistan, Sri Lanka.



Fig. 21. *Bridelia retusa* (L.) Juss.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Besides *Bougainvillea* Germplasm Collection, 15.01.09, L. B. Chaudhary, R. K. Srivastava & A. Kumar 250152.

***Hura crepitans** L., Sp. Pl. 1008. 1753.

Vernacular names: Sandbox Tree.

Phenology: Fl.: Spring season.

Distribution: India (cultivated), South America.

Naturalized elsewhere.

Joannesia princeps Vell., Alograf. 199. 1798.

Vernacular names: Anda Assu.

Distribution: India (cultivated), Brazil – endemic.

Cultivated elsewhere.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg (in front of B. P. Pal Rose Garden), 02.12.08, L. B. Chaudhary, R. K. Srivastava & A. Kumar 249779.

Mallotus nudiflorus (L.) Kulju & Welzen, Blumea 52: 124. 2007.

Trewia nudiflora L.

Fig. 22

Phenology: Fl.: Feb. - Apr.; *Fr.:* Oct. - Dec.

Distribution: India (Throughout), Bangladesh, Bhutan, China, Indonesia, Myanmar, Nepal, Philippines, Sri Lanka, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research

Institute, Botanic Garden, Inside Plant Nursery for sale, 10.07.08,
L. B. Chaudhary & R. K. Srivastava 249074.

***Phyllanthus acidus** (L.) Skeels. in Bull. Bur. Pl. Industr. U.S.D.A.
148: 17. 1909. *Averrhoa acida* L. *Cicca disticha* L. *C. nodiflora*
Lam. *Phyllanthus distichus* (L.) Mull. Arg.

Vernacular names: Harfarauri.

Phenology: *Fl.:* Jan. - May.

Distribution: India (South India), Indonesia, Laos, Malaya,
Philippines, Southern America, Vietnam.

Naturalized elsewhere.

Phyllanthus emblica L., Sp. Pl. 982. 1753. *Emblica officinalis*
Gaertn. *Cicca emblica* Kurz. *Mirobalanus embilica* Burm.

Fig. 23 (A & B)

Vernacular names: Amla, Aonla.

Phenology: *Fl.:* Feb. - May; *Fr.:* Nov. - Dec.

Distribution: India (Throughout), Bangladesh, Bhutan, China,
Cambodia, Indonesia, Laos, Malaysia, Myanmar, Nepal, Pakistan,
Sri Lanka, Taiwan, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research
Institute, Botanic Garden, Besides Plant Molecular Biology Lab.
24.10.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh*
249731.



Fig. 22. *Mallotus nudiflorus* (L.) Kulju & Welzen

Putranjiva roxburghii Wall., Tent. Fl. Nepal. 2: 61. 1826; Brandis, Indian Trees 566. 1906. *Drypetes roxburghii* (Wall.) Hurus. *Nageia putranjiva* Roxb.

Vernacular names: Putija.

Phenology: *Fl.:* Mar. - May; *Fr.:* Jan. - Feb.

Distribution: India (Andhra Pradesh, Bihar, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Orissa, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal), Myanmar, Sri Lanka.

Often planted.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Introduction Plot, 03.07.08, *L. B. Chaudhary & R. K. Srivastava* 249052.

Suregada multiflora (Juss.) Baill., Etude Euphorb. 396. 1858.

Gelonium multiflorum A. Juss.

Vernacular names: Ban Naranga.

Phenology: *Fl. & Fr.:* Jan. - Mar.

Distribution: India (Andaman & Nicobar Islands, Andhra Pradesh, Assam, Sikkim, West Bengal), Bangladesh, China, Indonesia, Malaysia, Laos, Myanmar, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 16.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250163; Lucknow, National Botanical Research Institute, Botanic Garden, Ram Jharokhe Garden, 18.03.09, *L. B. Chaudhary & A. Kumar* 250280.



Fig. 23. *Phyllanthus emblica* L.

24. FABACEAE

***Bolusanthus speciosus** (Bolus) Harms, Repert. Spec. Nov. Regni Veg. 2: 15. 1906; Sanjappa, Legumes of India 98. 1992.
Lonchocarpus speciosus Bolus.
Phenology: Fl.: Aug. - Jan.
Distribution: India (Delhi, Karnataka), Africa.

Butea monosperma (Lamk.) Taub. in Engler & Prantl., Nat. Pflanzenfam. 3 (3): 366. 1894; Sanjappa, Legumes of India 99. 1992. *Erythrina monosperma* Lam. *Butea frondosa* Roxb. ex Willd. *Plaso monosperma* (Lamk.) Kuntze.
Vernacular names: Palas, Dhak, Flame of the forest.
Phenology: Fl.: Mar. - Apr.; *Fr.:* May - Jun.
Distribution: India (Throughout), Bangladesh, Cambodia, Laos, Malaysia, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand, Vietnam and Western Indonesia.
Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Herbal garden (in front of Mini Pilot Plant), 28.11.08, L. B. Chaudhary, R. K. Srivastava & A. Kumar 249762.

Castanospermum australe Cunn. & Fraser ex Hook., Bot. Misc. 1: 241. 1830; Sanjappa, Legumes of India 110. 1992.
Vernacular names: Black bean.
Distribution: India (Karnataka, Kerala, Punjab, Tamil Nadu, West Bengal), A native of Australia.
Phenology: Fl.: Feb. - Mar.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg (in front of B. P. Pal Rose Garden), 31.08.09, *L. B. Chaudhary, A. Kumar, G. Kaur & O. Bajpai* 250373.

Dalbergia lanceolaria L.f., Suppl. Pl. 316. 1781; Thothathri, Tax. Rev. Trib. *Dalbergieae* Indian subcont. 135. 1987. *Amerimnon lanceolarium* (L.f.) Kuntze. *Dalbergia assamica* Benth. *D. paniculata* Roxb. *D. szemaoensis* Prain.

Vernacular names: Takoli.

Phenology: *Fl.:* Mar. - Jul.; *Fr.:* Sep. - Jan.

Distribution: India (Throughout), Bangladesh, Bhutan, Cambodia, Laos, Myanmar, Nepal, Pakistan, SriLanka, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Tuberose & Plant Nursery, 11.07.08, *L. B. Chaudhary & R. K. Srivastava* 249089; Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 31.07.08, *L. B. Chaudhary & R. K. Srivastava* 249635.

Dalbergia latifolia Roxb., Pl. Corom. 2: 7. t. 113. 1799; Thothathri, Tax. Rev. Trib. *Dalbergieae* Indian subcont. 46. 1987. *Amerimnon latifolium* (Roxb.) Kuntze. *Dalbergia emarginata* Roxb.

Vernacular names: Kala-Shisham, Vilayati Shisham.

Phenology: *Fl.:* Aug. - Sep.; *Fr.:* Oct. - Apr.

Distribution: India (Andaman & Nicobar Islands, Andhra Pradesh, Bihar, Dadra & Nagar-Haveli, Goa, Gujarat, Himachal Pradesh,

Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Pondicherry, Punjab, Rajasthan, Sikkim, Tamil Nadu, Uttar Pradesh, West Bengal), Malaysia, Nepal.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 27.11.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249754.

***Dalbergia melanoxyton** Guill. & Perr. in A. Guillemin *et al.*, Fl. Seneg. tent. 1: 227, t. 53. 1832; Thothathri, Tax. Rev. Trib. *Dalbergieae* Indian subcont. 129. 1987; Sanjappa, Legumes of India 138. 1992. *Amerimnon melanoxyton* (Guill. & Perr.) Kuntze. *A. stocksii* (Benth.) Kuntze. *Dalbergia stocksii* Benth.

Vernacular names: African blackwood.

Phenology: *Fl.:* Apr. - May; *Fr.:* Jul. - Sep.

Distribution: India (Karnataka, Kerala, Maharashtra, Tamil Nadu, Uttar Pradesh, West Bengal), Africa.

Dalbergia sissoo Roxb. ex DC. Prodr. 2: 416. 1825; Thothathri, Tax. Rev. Trib. *Dalbergieae* Indian subcont. 37. 1987. *Amerimnon sissoo* (Roxb. ex DC.) Kuntze.

Vernacular names: Shisham.

Phenology: *Fl.:* Mar. - Jun.; *Fr.:* Nov. - Feb.

Distribution: India (Throughout), Afghanistan, Bangladesh, Bhutan, Iran, Iraq, Java, Malaysia, Myanmar, Nepal, Oman, Pakistan.

Widely cultivated elsewhere.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 14.01.09, *L. B. Chaudhary, R.K.Srivastava & A. Kumar* 250131.

Derris ovalifolia (Wight & Arn.) Benth. in Miq., Pl. Jungh. 252. 1852 & J. Linn. Soc. Bot. 4: Suppl. 115. 1860; Baker in Hook.f., Fl. Brit. India 2: 247. 1878; Thothathri, Fasc. Fl. India 8: 25. 1982; Sanjappa, Legumes of India 147. 1992. *Pongamia ovalifolia* Wight & Arn. *Millettia ovalifolia* (Wight & Arn.) Kurz.

Vernacular names: Moulminein Rosewood.

Phenology: Fl. & Fr.: Aug. - Sep.

Distribution: India (Pondicherry, Tamil Nadu – endemic).

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Tuberoses & Plant Nursery, 11.07.08, *L. B. Chaudhary & R. K. Srivastava* 249086.

***Erythrina adansonii** Hort ex. colla Herb. Pedem. 2: 249. 1834.

***Erythrina blakei** Parker, For. Fl. Punj. 159. 1918; Sanjappa, Legumes of India 175. 1992.

Vernacular names: Pangar.

Distribution: India (cultivated)

Erythrina stricta Roxb. Fl. Ind. ed. 1832, 3: 251. 1832; Brandis, Indian Trees 227.1906; Sanjappa, Legumes of India 173. 1992.

Vernacular names: Dhaul dhak.

Phenology: Fl.: Feb. - May.

Distribution: India (Andhra Pradesh, Arunachal Pradesh, Assam, Daman, Diu, Goa, Gujarat, Jammu - Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Orissa, Rajasthan, Sikkim, Tamil Nadu, West Bengal), Bangladesh, Bhutan, Cambodia, China, Laos, Myanmar, Nepal, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Herbal Garden (in front of Mini Pilot Plant), 28.11.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249763.

Erythrina suberosa Roxb., Fl. Ind.3: 253. 1832; Sanjappa, Legumes of India 173. 1992. *E. stricta* Roxb. var. *suberosa* (Roxb.) Niyomdham. *E. sublobata* Roxb.

Vernacular names: Dauldhak, Madar.

Phenology: Fl.: Mar.; *Fr.:* Jun.

Distribution: India (Andhra Pradesh, Bihar, Delhi, Goa, Gujarat, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Pondicherry, Punjab, Rajasthan, Sikkim, Tamil Nadu, Uttar Pradesh, West Bengal), Bhutan, Cambodia, Malaysia, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Herbal Garden (in front of Mini Pilot Plant), 28.11.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249760.

Erythrina subumbrans (Hassk.) Merr. Philipp. J. Sci. C 5: 113.

1910; Sanjappa, Legumes of India 173. 1992. *Hypaphorus subumbrans* Hassk. *Erythrina lithosperma* Miq.

Phenology: Fl.: Jan. - Feb.

Distribution: India (Andhara Pradesh, Goa, Karnataka, Kerala, Maharashtra, Rajasthan, Tamil nadu, Tripura), East Timor, Indonesia, Laos, Malaysia, Myanmar, Philippines, Sri Lanka, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Herbal Garden (in front of Mini Pilot Plant), 28.11.08, L. B. Chaudhary, R. K.Srivastava & A. Kumar 249757.

Erythrina variegata L., Herb. Amb. 10. 1754; Sanjappa, Legumes of

India 173. 1992. *E. variegata* L. var. *orientalis* (L.) Merr. *E. indica* Lam. *E. corallodendrum* L. var. *orientalis* L. *E. orientalis* (L.) Merr. *E. parcellii* W. Bull. *Tetradapa javanorum* Osbeck..

Vernacular names: Pangara.

Phenology: Fl.: Feb. - Mar.

Distribution: India (Throughout from foot hills of Himalayas southwards), Africa, America (Central, North & South), Australia, Bangladesh, Brunei, Burma, Cambodia, China, East Timor, Hong Kong, Indonesia, Irian Jaya, Java, Kalimantan, Laos, Malaysia, Maldives, Mauritius, Moluccas, Myanmar, Nepal, Philippines, Singapore, Sri Lanka, Taiwan, Thailand, Vietnam.

Erythrina velutina Willd., Ges. Naturf. Freunde Berlin Neue Schriften 3: 426. 1801. *E. aurantica* Ridl.

Phenology: Fl.: During cold season.

Distribution: India (cultivated), Africa, Caribbean, South America, Sri Lanka.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Herbal Garden (in front of Mini Pilot Plant), 28.11.08, L. B. Chaudhary, R. K. Srivastava & A. Kumar 249759.

Erythrina vespertilio Benth. in Mitch., J. Trop. Austr. 218. 1848; Sanjappa, Legumes of India 283. 1992 *E. biloba* F. Muell. *E. vespertilio* Benth. var. *biloba* Domin. *E. vespertilio* Benth. var. *typica* Domin. *Coralloidendron vespertilio* (Benth.) Kuntze.

Phenology: Fl.: Aug. - Sep.

Distribution: India (introduced in N. India), Australia

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Herbal Garden (in front of Mini Pilot Plant), 28.11.08, L. B. Chaudhary, R.K.Srivastava & A. Kumar 249764.

Gliricidia sepium (Jacq.) Kunth., ex Walp., Rep. Bot. Syst. 1: 679. 1842; Sanjappa, Legumes of India 181. 1992. *Robinia sepium* Jacq. *Gliricidia maculata* (Kunth.)Walp.

Vernacular names: Quick stick.

Phenology: Fl.: Feb. - Apr.

Distribution: India (cultivated in gardens and as green manure plant) – Native of S. America.

Millettia peguensis Ali, Kew Bull. 21: 489. 1968; Sanjappa, Legumes of India 214. 1992. *M. ovalifolia* sensu Kurz.

Fig. 24 (A & B)

Vernacular names: Gonj.

Phenology: Fl. & Fr.: Mar. - May.

Distribution: India (Andhra Pradesh, Assam, Bihar, Delhi, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Mizoram, Nagaland, Orissa, Pondicherry, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal), Bangladesh, Cambodia, Mauritius, Myanmar, Pakistan, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Hargobind Khurana Marg, 20.11.08, L. B. Chaudhary & R. K. Srivastava 249748.

***Millettia thonningii** (Schum. & Thonn.) Baker in Oliver, Fl. Trop. Afr. 2: 128. 1871; Sanjappa, Legumes of India 215. 1992. *Robinia thonningii* Schumach.

Phenology: Fl.: Nov. & Mar.

Distribution: India (West Bengal – cultivated), Tropical Africa.



Fig. 24. *Millettia peguensis* Ali

Mucuna pruriens (L.) DC., Prodr. 2: 405. 1825; Sanjappa, Legumes of India 217. 1992. *M. minima* Haines.

Vernacular names: Kiwanch, Konch.

Phenology: *Fl.:* Rainy season; *Fr.:* Nov. - Jan.

Distribution: India (Throughout plains and Assam, Meghalaya), Pantropical.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Herbal Garden (in front of Mini Pilot Plant), 28.11.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249761.

Pongamia pinnata (L.) Pierre., For. Fl. Cochinch. T. 385. 1899; Sanjappa, Legumes of India 230. 1992. *Cytisus pinnatus* L. *Millettia pinnata* (L.) Panigrahi. *Derris indica* (Lam.) Bennet. *Galedupa indica* Lam. *G. pinnata* (L.) Taub. *Pongamia glabra* Vent. *P. mitis* Kurz.

Vernacular names: Karanj.

Phenology: *Fl.:* May - Jun.; *Fr.:* Dec. - Jan.

Distribution: India (Throughout), Africa, Australia, Bangladesh, China, Fiji, Indonesia, Japan, Malaysia, Micronesia, Myanmar, Pakistan, Papua New Guinea, Philippines, Singapore, Sri Lanka, Taiwan, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 14.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250139; Lucknow, National Botanical Research Institute, Botanic Garden, Besides *Bougainvillea* Germplasm Collection, 15.01.09, *L. B. Chaudhary,*

R. K. Srivastava & A. Kumar 250149; Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 16.01.09, L. B. Chaudhary, R. K. Srivastava & A. Kumar 250164.

***Pterocarpus indicus** Willd., Sp. Pl. 3 (2): 904. 1802; Sanjappa, Legumes of India 232. 1992. *Lingoum indicum* (Willd.) Kuntze.

Phenology: Fl.: Feb. - May.

Distribution: India (Andaman Is., Maharashtra, Tamil Nadu, West Bengal), Brunei, Cambodia, China, Indonesia, Japan, Malaysia, Micronesia, Myanmar, Palau, Papua New Guinea, Philippines, Solomon Islands, Taiwan, Thailand, Vanuatu, Vietnam.

Pterocarpus marsupium Roxb., Pl. Coromandel 2: 9, t. 116. 1799; Sanjappa, Legumes of India 232. 1992.

Vernacular names: Indian kino, Bijasal.

Phenology: Fl.: Jul. - Oct.

Distribution: India (Andhra Pradesh, Bihar, Goa, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal), Madagascar, Nepal, Sri Lanka, Taiwan.

***Sesbania sesban** (L.) Merr., Philipp. J. Sci., C 7: 235. 1912; Sanjappa, Legumes of India 243. 1992. *Aeschynomene sesban* L.

Sesban aegyptiacus Poir. *Sesbania aegyptiaca* (Poir.) Pers.

Vernacular names: Jayanti, Dhaicha.

Phenology: Fl.: Apr. - May.

Distribution: India (Andaman and Nicobar, Assam, Bihar, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Mizoram, Nagaland, Orissa, Pondicherry, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal), Afghanistan, Africa, Australia, Bahrain, Bangladesh, Cambodia, China, Indonesia, Iran, Iraq, Laos, Malaysia, Nepal, Oman, Pakistan, Saudi Arabia, Sri Lanka, Thailand, Vietnam, Yemen.

Cultivated & naturalized throughout Tropics.

25. FLACOURTIACEAE

Casearia bourdillonii Mukh., Bull. Bot. Soc. Bengal 19 (2): 109.

1967. *C. varians* Bedd. *C. esculenta* Roxb.

Vernacular names: Mori, Mar.

Phenology: Fl.: Jul. - Sep.

Distribution: India (Western Ghats), Sri Lanka, Malay Peninsula.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Floriculture & Medicinal Garden, 16.12.08, L. B. Chaudhary, R. K. Srivastava & A. Kumar 250117.

Casearia tomentosa Roxb, Fl. Ind. 2: 421. 1832; Brandis, Indian Trees 343. 1906.

Vernacular names: Maun, Chilla, Bheri.

Phenology: Fl.: Feb. - Apr.; Fr.: May - Jun.

Distribution: India (almost throughout, common in the deciduous forest), Malaysia, North Australia, Pakistan, Sri Lanka.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind Conservatory House (Imambara side), 03.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249791.

***Oncoba spinosa** Forssk., Fl. Aegypt.-Arab. 113: 103. 1775.

Vernacular names: Arbi dulhan, Fried Egg Tree.

Phenology: *Fl.:* Mar. - Apr.

Distribution: India (cultivated), Arabia southwards through Tropical Africa to S Africa.

26. LAURACEAE

***Cinnamomum camphora** (L.) Presl. in Berchtold & Presl, Prir. rostlin 2: 36, 47 - 56, t. 8. 1825; Brandis, Indian Trees 534. 1906.

Laurus camphora L.

Vernacular names: Kapoor.

Phenology: *Fl.:* Apr. - May; *Fr.:* Fruit ripens Oct. - Nov.

Distribution: India (cultivated), Africa, Australia, China, Europe, Japan, Korea, North America, Taiwan, Vietnam.

Litsea glutinosa (Lour.) Rob., Philipp. J. Sci. Bot. C 6: 321. 1911.

Sebifera glutinosa Lour. *Litsea laurifolia* (Jacq.) Bailey.

Tetranthera laurifolia Jacq. **Fig. 25 (A & B)**

Vernacular names: Maidalakdi, Medh, Chandna.

Phenology: *Fl.:* Apr. - Jul.; *Fr.:* Oct. - Nov.

Distribution: India (Assam, Kashmir, South India), Australia, Bangladesh, Bhutan, China, Indonesia, Malaysia, Mauritius, Myanmar, Nepal, Philippines, Sri Lanka, Thailand, Vietnam, Reunion Africa.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Introduction Plot, 14.08.08, *L. B. Chaudhary & R. K. Srivastava* 249647; Lucknow, National Botanical Research Institute, Botanic Garden, Conservatory House, 27.08.08, *L. B. Chaudhary & R. K. Srivastava* 249652; Lucknow, National Botanical Research Institute, Botanic Garden, Dhanvantari Marg, 01.10.08, *L. B. Chaudhary & R.K. Srivastava* 249686.

27.LORANTHACEAE

Loranthus longiflorus Desr. in Lamk., Encyc. Meth. 3: 598. 1789.

Brandis, Indian Trees 549. 1906. *L. lineatus* Edgew.

Vernacular names: Parand, Pagacha.

Phenology: *Fl.:* Nov. - Jan.; *Fr.:* Jan. - Apr.

Distribution: India (almost throughout), Papua New Guinea, Sri Lanka, Sumatra.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Guldaudi Plot, 02.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250127.



Fig. 25. *Litsea glutinosa* (Lour.) Rob.

28. LYTHERACEAE

Lagerstroemia duperreana Pierre ex. Gagnep., Notul. Syst. (Paris)

3: 358. 1918. *L. thorellii* Gagnep.

Phenology: Fl.: Jul. - Sep.; *Fr.:* Oct. - Dec.

Distribution: India (cultivated), Cambodia, Laos, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic garden, Inside Plant Introduction Plot, 03.07.08. *L. B. Chaudhary & R. K. Srivastava* 249064.

Lagerstroemia hirsuta (Lam.) Willd., Sp. Pl. 2 (2): 1178. 1799.

Adamboe hirsuta Lam. *Lagerstroemia reginae* Roxb.

Phenology: Fl.: May - Jun.; *Fr.:* Cold season

Distribution: India (Assam), Bangladesh, Malaysia, Myanmar, Sri Lanka, Thailand.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Hargobind Khurana Marg, 20.11.08, *L. B. Chaudhary & R. K. Srivastava* 249751.

Lagerstroemia loudonii Teijsm. & Binn., Natuurk. Tijdschr. Ned.-Indie 25: 425. 1863.

Phenology: Fl.: Summer season.

Distribution: India (cultivated), Cambodia, Laos, Thailand.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 16.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250158.

***Lagerstroemia siamica** Gagnep., Notul. Syst. (Paris) 3: 361. 1918.

Distribution: India (cultivated), Malaysia, Myanmar, Thailand.

Lagerstroemia speciosa (L.) Pers., Syn. Pl. 2: 72. 1806. *Munchausia speciosa* L. *Lagerstroemia flos - reginae* Retz. **Fig. 26**

Vernacular names: Jarul, Banaba, Pride of India.

Phenology: *Fl.:* May. - Aug.; *Fr.:* Oct. - Nov.

Distribution: India (Assam), Cambodia, China, Indonesia, Malaysia, Myanmar, Philippines, Thailand, Vietnam.

Widely cultivated.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Conservatory House, 27.08.08, *L. B. Chaudhary & R. K. Srivastava* 249654.

Woodfordia fruticosa (L.) Kurz., J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 40 (2): 56. 1871. *Lythrum fruticosum* L. *Woodfordia tomentosa* Bedd. *W. floribunda* Salisb. *W. fruticosa* (L.) Kurz var. *punctata* (Buch. - Ham. ex Sm.) Koehne. *Grislea punctata* Buch.-Ham. ex Sm.

Vernacular names: Dhawai, Fire Flame Bush.

Phenology: *Fl. & Fr.:* Mar. - May.

Distribution: India (Throughout), Africa, Bangladesh, Bhutan, Indonesia, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand.



Fig. 26. *Lagerstroemia speciosa* (L.) Pers.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Introduction Plot, 03.07.08, *L. B. Chaudhary & R. K. Srivastava* 249059.

29. MAGNOLIACEAE

Magnolia champaca (L.) Baill. ex Pierre, Fl. Forest. Cochin. t. 3. 1880. *Michelia champaca* L. *M. rheedii* Wight.

Vernacular names: Champa

Phenology: Fl.: Mar. - Jul.

Distribution: India (cultivated, wild in Western Ghats & Sikkim), Bangladesh, China, Indonesia, Malaysia, Myanmar, Thailand, Vietnam.

Cultivated elsewhere as an ornamental tree.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, in front of Percy Lancaster House, 13.05.09, *L. B. Chaudhary, A. Kumar & G. Kaur* 250355.

30. MALPHIGIACEAE

***Malpighia glabra** L., Sp. Pl. 425. 1753. *M. biflora* Poir. *M. puniceifolia* L.

Phenology: Fl.: Apr. - Oct.

Distribution: India (cultivated), North & South America.

31. MALVACEAE

Abroma angusta (L.) L.f., Suppl. 341. 1781. *Theobroma angusta* L.

Fig. 27 (A & B)

Vernacular names: Devil's cotton.

Phenology: *Fl.:* Jun. - Aug.; *Fr.:* Aug. - Oct.

Distribution: India (Himalayas & N.E. India), Africa, Malaysia, Micronesia, Nepal.

Dombeya burgessiae Gerrard ex Harv. in Harvey & Sonder, Fl. Cap. 2: 590. 1862. *D. mastersii* Hook. f. **Fig. 28 (A & B)**

Phenology: *Fl.:* Jan.

Distribution: India (cultivated), Africa.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Birbal Sahni Marg, 13.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250136.

***Hibiscus platanifolius** (Willd.) Sweet, Hortus britannicus 51. 1826;.

Pavonia platanifolia Willd. *Hibiscus eriocarpus* DC. *H. collinus* Roxb. ex G. Don.

Phenology: *Fl.:* Oct. - Nov.; *Fr.:* throughout the year.

Distribution: India (Andhra Pradesh, Karnataka, Kerala, Maharashtra, Orissa, Tamil Nadu, West Bengal), Nepal, Sri Lanka.

Hibiscus rosa - sinensis L., Sp. Pl. 694. 1753; Brandis, Indian Trees 75. 1906.

Vernacular names: Gudhal, China rose.



Fig. 27. *Abroma angusta* (L.) L.f.



Fig. 28. *Dombeya burgesiae* Gerrard ex Harv.

Phenology: Fl. & Fr.: throughout the year.

Distribution: India (cultivated throughout India), Native to Asia.

It is most extensively cultivated as an ornamental plant and occurs in many forms.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Conservatory House, 27.08.08, *L. B. Chaudhary & R.K. Srivastava* 249653.

***Talipariti elatum** (Sw.) Fryxell, Contr. Univ. Michigan Herb. 23:

241. 2001. *Hibiscus elatus* Sw.

Vernacular names: Blue Mahoe.

Distribution: India (cultivated), Cuba, Jamaica.

Naturalized elsewhere.

***Talipariti tiliaceum** (L.) Fryxell, Contr. Univ. Michigan Herb. 23:

258. 2001. *Hibiscus tiliaceus* L.

Vernacular names: Bola, Mahoe.

Phenology: Fl.: anytime of the year.

Distribution: India (cultivated), Africa, Australia, China, Fiji, French Polynesia, Guam, Indonesia, Maldives, Marshall Islands, Micronesia, New Caledonia, Niue, Northern Mariana Islands, North & South America, Palau Cook Islands, Papua New Guinea, Philippines, Samoa, Singapore, Solomon Islands, Tonga, Vanuatu.

***Kydia calycina** Roxb., Pl. Coromandel 3:11, 12, t. 215. 1811 ("1819"); Brandis, Indian Trees 78. 1902.

Vernacular Names: Bharanga, Bhoti, Potari, Pula, Pulia.

Phenology: *Fl.:* Jul. - Oct.; *Fr.:* Nov. - Feb.

Distribution: India (Subhimalayan tract from the Indus eastward, common in the deciduous forests of both Peninsulas), Myanmar.

Thespesia populnea (L) Sol. ex Correa, Ann. Mus. Hist. Nat. 9: 290. 1807; Brandis, Indian Trees 75. 1906; Paul in Fl. India 3: 352. 1993. *Hibiscus populneus* L. *H. populneoides* Roxb. *Thespesia macrophylla* Blume. *T. populneoides* (Roxb.) Kostel. **Fig. 29**

Vernacular names: Paras papal.

Phenology: *Fl. & Fr.:* Aug. - Jan.

Distribution: India (Throughout in coastal regions), Africa, Australia, Cambodia, China, Fiji, French Polynesia, Indonesia, Japan, Malaysia, Maldives, Mexico, Micronesia, Myanmar, Papua New Guinea, Philippines, South America, Sri Lanka, Taiwan, Thailand, Vanuatu, Vietnam.

Widely cultivated in Tropics.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Dhanvantri Marg, 29.09.08, *L. B. Chaudhary & R. K.Srivastava* 249679.

32.MELIACEAE

***Aglaia elaeagnoidea** (Juss.) Benth., Fl. Austral. 1: 383. 1863.
Nemadra elaeagnoidea Juss. *Milnea roxburghiana* Wight & Arn.
Aglaia roxburghiana (Wight & Arn.) Miq.

Vernacular names: Priyangu.



Fig. 29. *Thespesia populnea* (L) Sol. ex Correa

Phenology: Fl.: Sep. - Dec.

Distribution: India (Western Ghats, South & Central Sahyadris), Australia, Cambodia, China, Indonesia, Malaysia, New Caledonia, Papua New Guinea, Philippines, Samoa, Sri Lanka, Taiwan, Thailand, Vanuatu, Vietnam.

Aphanamixis polystachya (Wall.) Parker, Indian For. 57: 486. 1931; Jain & Bennet in Hajra *et al.*, Fl. India 4: 477. 1997. *Aglaia polystachya* Wall. *A. aphanamixis* Pellegrin. *A. grandifolia* (Blume) Walpers. *Amoora rohituka* Roxb. *A. elmeri* Merrill. *Andersonia rohituka* Roxb. *Aphanamixis elmeri* (Merrill) Merrill. *A. grandifolia* Blume. *A. rohituka* (Roxb.) Pierre. *A. sinensis* How & Chen. *A. tripetala* (Blanco) Merrill.

Fig. 30 (A&B)

Chuni dendron spicatum Hu. *C. yunnanense* Hu. *Trichilia tripetala* Blanco.

Vernacular names: Sohaga, Bandriphal, Harin harra.

Phenology: Fl.: Jan. - Jun.

Distribution: India (Andaman & Nicobar Islands, Jharkhand, Madhya Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Peninsula, Sub Himalayan Tract, Tripura, West Bengal), Bangladesh, Bhutan, China, Indochina, Indonesia, Malaysia, Pakistan, Nepal, Papua New Guinea, Philippines, Sri Lanka, Thailand, Myanmar.



Fig. 30. *Aphanamixis polystachya* (Wall.) Parker

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Hargobind Khurana Marg, 29.09.08, *L. B. Chaudhary & R. K. Srivastava* 249681.

Azadirachta indica Juss., Mus. Hist. Nat. 19: 221. t. 13. f. 5. 1830; Brandis, Indian Trees 139. 1906; Jain & Bennet in Hajra *et al.*, Fl. India 4: 478. 1997. *Melia azadirachta* L. *Antelaea azadirachta* (L.) Adelb.

Vernacular names: Neem.

Phenology: *Fl.:* Mar. - May; *Fr.:* May - Jul.

Distribution: India (Throughout), Bangladesh, Myanmar.

Widely cultivated & naturalized throughout India.

Voucher specimens: Lucknow, National Botanical Research Institute, National Botanic Garden, Inside Plant Introduction Plot, 03.07.08, *L. B. Chaudhary & R. K. Srivastava* 249062; Lucknow, National Botanical Research Institute, Botanic Garden, Medicinal & Floriculture Garden, 13.10.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh* 249707.

Chukrassia tabularis Juss., Bull. Sci. Nat. Geol. 23: 241. 1830; Brandis, Indian Trees 144. 1906; Jain & Bennet in Hajra *et al.*, Fl. India 4: 481. 1997. *Chukrassia tabularis* var. *velutina* (Roem.) Theob. *C. velutina* Roem.

Vernacular names: Chikrasi.

Phenology: *Fl.:* Hot season; *Fr.:* May - Mar.

Distribution: India (Andaman & Nicobar Islands, Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Karnataka, Kerala, Meghalaya,

Maharashtra, Sikkim, Tripura, Tamil Nadu, W. Bengal.),
Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Nepal,
SriLanka, Thailand, Vietnam.

Also cultivated elsewhere.

Voucher specimens: Lucknow, National Botanical Research
Institute, Botanic Garden, Hargovind Khurana Marg 01.12.08, *L.*
B. Chaudhary, R. K. Srivastava & A. Kumar 249766.

Khaya senegalensis (Desr.) A. Juss. Mem. Mus. Hist. Nat. 19: 250, t.
21. 1832. *Swietenia senegalensis* Desr.

Vernacular names: African Mahogany.

Phenology: *Fl.:* rainy season; *Fr.:* dry season.

Distribution: India (cultivated), Africa.

Voucher specimens: Lucknow, National Botanical Research
Institute, Botanic Garden, Hargobind Khurana Marg, 02.01.09,
L.B. Chaudhary, R.K. Srivastava & A. Kumar 250119.

Melia azedarach L., Sp. Pl. 384. 1753; Brandis, Indian Trees 140.
1906; Jain & Bennet in Hajra *et al*, Fl. India 4: 494. 1997.
M. azedarach L. var. *japonica* (G. Don) Makino. *M. azedarach* L.
var. *sempervirens* L. *M. candollei* A. Juss. *M. floribunda* Carriere.
M. toosendan Siebold & Zucc.

Vernacular names: Bakain.

Phenology: *Fl.:* Mar. - Apr.; *Fr.:* Nov. - Dec.

Distribution: India (cultivated & naturalized), Australia, Bhutan, China, Indonesia, Laos, Nepal, Papua New Guinea, Philippines, Solomon Islands, Sri Lanka, Thailand, Vietnam.

Cultivated almost throughout.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, in front of Floriculture & Medicinal Garden, 28.08.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249664.

Melia birmanica Kurz., J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 43 (3): 183. 1874.

Distribution: India (Uttarakhand: N.W. Himalaya), Myanmar.

***Soymida febrifuga** (Roxb.) Juss., Mem. Mus. Hist. Nat. 19: 251, t. 22, f. 26. 1832; Brandis, Indian Trees 144. 1906. *Swietenia febrifuga* Roxb.

Vernacular names: Rohan.

Phenology: Fl.: Apr. - May.

Distribution: India (Andhra Pradesh, Bihar, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh), Sri Lanka.

Swietenia macrophylla King, Hooker's Icon. Pl. 16, t. 1550. 1886; Brandis, Indian Trees 144. 1906; Jain & Bennet in Hajra *et al.*, Fl. India 4: 526. 1997. *S. candollei* Pittier.

Vernacular names: Bara Mahogani.

Phenology: Fl. & Fr.: Apr. - Mar.

Distribution: India (cultivated), America, Brazil, Mexico.

Cultivated & naturalized in some parts.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Hargovind Khurana Marg, 02.01.09, L. B. Chaudhary, R. K. Srivastava & A. Kumar 250122.

Swietenia mahogani (L.) Jacq., Enum. Syst. Pl. 20. 1760; Brandis, Indian Trees 144. 1906; Jain & Bennet in Hajra *et al.*, Fl. India 4: 525. 1997. *Cedrela mahagoni* L.

Vernacular names: Abnus, Mahogani

Phenology: Fl. & Fr.: May - Jun.

Distribution: India (Bihar, Maharashtra, Karnataka, Kerala, Sikkim, Tamil Nadu, West Bengal), Native of South America, United States &. Naturalized in West Indies.

Cultivated in garden avenues and also some forest localities.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg (in front of B.P. Pal Rose Garden), 02.12.08, L. B. Chaudhary, R. K. Srivastava & A. Kumar 249774.

***Toona hexandra** (Wall. ex Roxb.) Roem., Syn. Hesp. 139. 1849; Pullaiah, Biodiversity in India 4: 160. 2006. *Cedrela hexandra* Wall. ex Roxb. *Toona ciliata* Roem.

Vernacular names: Toona, Tuni.

Phenology: Fl. & Fr.: Jun. - Aug.

Distribution: India (common in moist deciduous forests), Afghanistan, Australia, Bangladesh, Bhutan, Cambodia, China, Laos, Malesia, Myanmar, Nepal, Pakistan, Thailand.

Also cultivated.

33. MEMECYLACEAE

Memecylon edule Roxb., Pl. Coromandel 1: 59, t. 82. 1795; Brandis, Indian Trees 335. 1906. *M. umbellatum* Burm. *M. tinctorium* Koenig. *M. ramiflorum* Lam.

Vernacular names: Anjan.

Phenology: *Fl.:* cold season; *Fr.:* hot season.

Distribution: India (Assam, Orissa, Peninsular India), Malaysia, Myanmar, Sri Lanka, Thailand.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Lesser Known Edible Fruit Garden, 28.05.09, L. B. Chaudhary & G. Kaur 250369.

34. MIMOSACEAE

Acacia auriculiformis A.Cunn. ex Benth. in Hook., Lond. J. Bot. 1: 377.1842; Sanjappa, Legumes of India 45. 1992. *Racosperma auriculiforme* (A. Cunn. ex Benth) Pedley. *Acacia auriculaeformis* Benth. *A. moniliformis* Griseb. **Fig. 31 (A & B)**

Vernacular names: Bilayati Babul.

Phenology: *Fl.:* Sep. - Nov.; *Fr.:* Feb. - Mar.

Distribution: India (cultivated throughout), Native of Australia.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, near Tube Well No. 1, 10.07.08 *L. B. Chaudhary & R. K. Srivastava* 249067; Lucknow, National Botanical Research Institute, Botanic Garden, Near Botanic Garden Office, 03.10.08, *L. B. Chaudhary, R. K. Srivastava & Vartika Singh* 249690.

***Acacia catechu** (L.f.) Willd., Sp. Pl. 4 (2): 1079. 1806; Brandis, Indian Trees 267. 1902; Sanjappa, Legumes of India 38. 1992. *Mimosa catechu* L.f. *Acacia wallichiana* DC.

Vernacular names: Khair, Katha.

Phenology: *Fl.:* May - Aug.; *Fr.:* Nov. - Dec.

Distribution: India (Throughout), Bangladesh, Bhutan, China, Myanmar, Nepal, Pakistan, Sri Lanka, Taiwan, Thailand.

***Acacia coriacea** DC., Prodr. 2: 451. 1825. *A. coriacea* DC. subsp. *coriacea*. *Racosperma coriaceum* (DC.) Pedley.

Vernacular names: Desert oak.

Phenology: *Fl.:* spring season.

Distribution: India (cultivated), Australia.

Acacia lenticularis Buch.-Ham. ex Benth. in Hook., Lond. J. Bot. 1: 508. 1842; Brandis, Indian Trees 266. 1906; Sanjappa, Legumes of India 40. 1992.

Vernacular names: Khin.



Fig. 31. *Acacia auriculiformis* A.Cunn. ex Benth.

Phenology: Fl.: Apr. - Jun.; *Fr.:* cold season

Distribution: India (Bihar, Madhya Pradesh, Orissa, W. to E. Himalaya), Nepal, Pakistan.

Voucher specimens: Lucknow, National Botanical Research Institute Botanic Garden, P. N. Mehra Marg, 27.08.08, *L. B. Chaudhary & R. K. Srivastava* 249660.

Acacia modesta Wall., Pl. Asiat. Rar. 2: 27. t. 130. 1831; Brandis, Indian Trees 266. 1906; Sanjappa, Legumes of India 41. 1992.

Mimosa dumosa Roxb. *M. obovata* Roxb.

Vernacular names: Amritsar-gum, Phulai, Phulahi.

Phenology: Fl.: Mar. - May.

Distribution: India (Delhi, Punjab, Rajasthan, Terai Himalayas), Afghanistan, Pakistan.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 31.07.08, *L. B. Chaudhary & R. K. Srivastava* 249634.

***Acacia nilotica** (L.) Delile, Descr. Egypte, Hist. nat. 79. 1813 ("1812"). *Mimosa nilotica* L. *M. arabica* Lam. *M. scorpioides* L. *Acacia arabica* (Lam.) Willd. *A. vera* Willd. *A. nilotica* (L.) Delile subsp. *indica* (Benth.) Brenan. *A. arabica* (Lam.) Willd. var. *indica* Benth.

Vernacular names: Babul.

Phenology: Fl.: Aug. - Oct.; *Fr.:* Jan. - Apr.

Distribution: India (Andhra Pradesh, Bihar, Dadra & Nagar - Haveli, Delhi, Gujarat, Himachal Pradesh, Jammu & Kashmir,

Karnataka, Kerala, Madhya Pradesh, Maharashtra, Nagaland, Orissa, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal), Africa, Australia, Bangladesh, China, Hainan, Israel, Iran, Iraq, Nepal, Oman, Pakistan, Saudi Arabia, South America, Sri Lanka, Syria, Yemen.

***Acacia salicina** Lindl. in Mitchell, Three exped. Australia 2: 20. 1838; Sanjappa, Legumes of India 52. 1992. *Racosperma salicinum* (Lindl.) Pedley.

Phenology: Fl.: Oct. - Jan.; *Fr.:* Apr. - Jul.

Distribution: India (Karnataka - cultivated), Australia.

***Acacia welwitschii** Oliv. in Fl. Trop. Afr. 2: 341. 1871.

Distribution: India (cultivated), Africa.

Adenanthera pavonina L., Sp. Pl. 384. 1753; Brandis, Indian Trees 262. 1906; Sanjappa, Legumes of India 54. 1992. *A.gersanii* Scheff. *A. polita* Miq. *Corallaria parvifolia* Rumph.

Vernacular names: Red Sandalwood tree, Sandalwood tree

Phenology: Fl.: Mar. - May; *Fr.:* Aug. - Oct.

Distribution: India (Andaman & Nicobar Island, Assam, Bihar, Eastern Himalaya, Tripura, Uttar Pradesh, often cultivated), Tropical Asia – cultivated throughout Tropics.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 02.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249776.

Albizia amara (Roxb.) Boivin, *Encycl.*19, Siecle 2: 34. 1834; Brandis, *Indian Trees* 272. 1906; Sanjappa, *Legumes of India* 54. 1992. *A. sericocephala* Benth. *A. amara* Willd. *A. nellyrenza* Wight & Arn. *A. wightii* Wight & Arn. *Mimosa amara* Roxb. *M. pulchella* Roxb.

Vernacular names: Kaunthia, Seljhari.

Phenology: Fl.: Apr. - Jun.

Distribution: India (Andhra Pradesh, Delhi, Goa, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Tamil Nadu, Uttar Pradesh), Tropical E. Africa.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 01.10.08, *L. B. Chaudhary & R. K. Srivastava* 249684; Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 02.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249780.

Albizia lucidior (Steud.) Nielson in *Adnansonia* 2, 19: 222. 1979; Sanjappa, *Legumes of India* 56. 1992. *Inga lucidior* Steud. *Albizia lucida* (Roxb.) Benth. *A. gamblei* Prain. *A. meyeri* Ricker. *Mimosa lucida* Roxb.

Vernacular names: Sil korai, Potka siris.

Phenology: Fl.: Jun. - Jul.

Distribution: India (Assam, Bihar, Himalayas, Maharashtra, Manipur, Meghalaya, Nagaland, Punjab, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal), Bangladesh, Bhutan, Cambodia, China, Indonesia, Java, Laos, Myanmar, Nepal, Pakistan, Peninsular Malaysia, Taiwan, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, in front of Percy-Lancaster House, 13.01.09, *L. B. Chaudhary, R.K.Srivastava & A. Kumar* 250129.

Albizia niopoides (Spruce ex Benth.) Burkart, *Las leguminosas Argentinas* ed. 2: 542. 1952. *A. richardiana* King & Prain. *A. caribaea* (Urb.) Britton & Rose. *Pithecellobium caribaeum* Urb. *P. niopoides* Spruce ex Benth.

Phenology: *Fl.:* Mar. - Apr.; *Fr.:* Aug. - Sep.

Distribution: India (cultivated in gardens), Native of Madagascar.

Archidendron bigeminum (L.) Nielsen *et al.*, *Opera Bot.* 76: 73. 1984. *Mimosa bigemina* L. *M. monadelphpha* Roxb. *Archidendron monadelpham* (Roxb.) Nielsen. *Abarema bigemina* (L.) Kosterm. *Inga bigemina* (L.) Willd. *Pithecellobium bigeminum* (L.) Mart. *Vernacular names:* Kachlora.

Phenology: *Fl.:* Feb. - May. *Fr.:* Nov.

Distribution: India (Andaman & Nicobar Is., E. Himalaya, Meghalaya, Mizoram, S. W. India, Tripura, West Bengal), Bangladesh, Bhutan, Myanmar, Nepal, Sri Lanka.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Hargobind Khurana Marg, 20.11.08, *L. B. Chaudhary & R. K. Srivastava* 249749.

Falcataria moluccana (Miq.) Barneby & Grimes, *Mem. New York Bot. Gard.* 74 (1): 255. 1996. *Albizia moluccana* Miq. *A. falcataria*

(L.) Fosberg. *A. falcata* auct. *Adenanthera falcataria* L.
Paraserianthes falcataria (L.) I. C. Nielsen.

Phenology: Fl.: Apr. - Jul.; *Fr.:* Sep. - Dec.

Distribution: India (cultivated), Indonesia, Papua New Guinea,
Soloman Islands.

***Lysiloma latisiliquum** (L.) Benth., Trans. Linn. Soc. London 30:
534. 1875 "*latisiliqua*". *Mimosa latisiliqua* L. *Leucaena latisiliqua*
(L.) Gillis. *Acacia latisiliqua* (L.) Willd. *A. bahamensis* (Benth.)
Griseb. *Lysiloma bahamense* Benth.

Vernacular names: Wild tamarind, False tamarind.

Phenology: Fl.: Mar. - Aug.

Distribution: India (cultivated), America (Central & North).

Parkia biglandulosa Wight & Arn., Prodr. Fl. Ind. Orient. 279. 1834.

Sanjappa, Legumes of India 70. 1992. *P. pedunculata* Macbr.

Vernacular names: Chendul ka Jhar.

Phenology: Fl.: Jan. - Mar.

Distribution: India (almost throughout), Throughout S. E. Asia.

Voucher specimens: Lucknow, National Botanical Research
Institute, Botanic Garden, Guldaudi Plot, 02.01.09, L. B.
Chaudhary, R. K. Srivastava & A. Kumar 250121.

Pithecolobium dulce (Roxb.) Benth. in Hook., Lond. J. Bot. 3: 199.

1844; Brandis, Indian Trees 273. 1906; Sanjappa, Legumes of
India 71. 1992. *Mimosa dulcis* Roxb. *Inga dulcis* Willd.

Vernacular names: Jangal-jalebi, Ganga-imli.

Phenology: Fl.: Jan. - Mar.; *Fr.:* Apr. - Jun.

Distribution: India (cultivated & naturalized throughout), Native of Tropical America.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Right side garden of P. N. Mehra Marg, 14.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250144.

Prosopis cineraria (L.) Druce, Rep. Bot. Exch. Club Soc. Brit. Isles 3: 422. 1914; Sanjappa, Legumes of India 71. 1992. *Adenantha aculeata* Roxb. *Mimosa cineraria* L. *Prosopis spicata* Burm. *P. spicigera* L

Vernacular names: Jhand.

Phenology: Fl.: Feb. - Apr.

Distribution: India (Bihar, Delhi, Gujarat, Haryana, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, S. India, Tripura, Uttar Pradesh, West Bengal), Afghanistan, Arabia, Indonesia, Iran, Pakistan.

Prosopis juliflora (Sw.) DC., Prodr. 2: 447. 1825; Sanjappa, Legumes of India 72. 1992. *Mimosa juliflora* Sw. *Prosopis vidaliana* Naves.

Vernacular names: Vilayati Babul, Vilayati Kikar, Junglee kikar.

Phenology: Fl. & Fr.: Mar. - May.

Distribution: India (Andhra Pradesh, Assam, Bihar, Delhi, Goa, Gujarat, Haryana, Jammu-Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Pondicherry, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal), Australia, China, Iran,

Iraq, Java, Middle East, Myanmar, Nepal, North, Central & South America, Pakistan, Philippines, Sri Lanka, Taiwan, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Right side garden of P. N. Mehra Marg, 14.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250141.

35.MORACEAE

Artocarpus heterophyllus Lam., Encycl. 3: 209. 1789.

Vernacular names: Katahal, Kathal, Jack fruit.

Phenology: *Fl. & Fr.:* Mar. - Jul.

Distribution: India (wild in Western Ghats, cultivated throughout), Native to India and cultivated throughout Tropics.

Artocarpus lacucha Buch.-Ham., Mem. Wern. Nat. Hist. Soc. 5: 333. 1826. *A. lakoocha* Roxb. *A. filicifolius* Wang.

Fig. 32 (A & B)

Vernacular names: Barhal, Dahu, Dahua.

Phenology: *Fl.:* Mar. - Jun.; *Fr.:* Oct. - Nov.

Distribution: India (Andaman and Nicobar, Andhra Pradesh, Assam, Bihar, Himachal Pradesh, Manipur, Orissa, Punjab, Sikkim, Uttar Pradesh, West Bengal), China, Laos, Myanmar, Thailand, Vietnam.

Ficus amplissima Sm., A. Rees, Cycl. 14: *Ficus* no. 1. 1810. *F. tsiela* Roxb. *F. indica* Willd.

Vernacular names: Jari, Pakri, Pipar.



Fig. 32. *Artocarpus lacucha* Buch.-Ham.

Phenology: Fl. & Fr.: Nov. - Jun.

Distribution: India (Central & South India), Sri Lanka and Maldives.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Botanic Garden Office, 15.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250147.

Ficus benghalensis L., Sp. Pl. 1059. 1753; Brandis, Indian Trees 600.

1906. *F. indica* L. *F. umbrosa* Salisb. **Fig. 33 (A & B)**

Vernacular names: Banyan, Bargad.

Phenology: Fl.: Apr. - May; *Fr.:* May - Jul.

Distribution: India (indigenous in the Sub Himalayan tract and Western Peninsula, cultivated throughout), Pakistan.

Cultivated elsewhere.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 03.10.08, *L. B. Chaudhary, R. K. Srivastava & Vartika Singh* 249697.

Ficus benghalensis L. var. **krishnae** C. DC., Bull. Herb. Boissier ser.

2, 2: 760. 1902. *F. krishnae* C. DC.

Vernacular names: Krishna Badh, Makhan Katori.

Phenology: Fl. & Fr.: May - Oct.

Distribution: Only cultivated.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 07.10.08, *L. B.*



Fig. 33. *Ficus benghalensis* L.

Chaudhary, R. K. Srivastava & U. M. Singh 249704; Lucknow, National Botanical Research Institute, Botanic Garden, Near Tuberose & Plant Nursery, 11.07.08, L. B. Chaudhary & R. K. Srivastava 249079.

Ficus benjamina var. **benjamina** L., Gard. Bull. Singapore 17. 1960.

Phenology: Fl. & Fr.: Apr. - Jul.

Distribution: India (Andamans), Australia, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Papua New Guinea, Philippines, Solomon Islands, Taiwan, Thailand, Vietnam.

Widely cultivated as hedge & avenue plant in gardens.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, near Tube Well No. 1, 10.07.08, *L. B. Chaudhary & R. K. Srivastava 249069*; Lucknow, National Botanical Research Institute, Botanical Garden, Near the gate of *Bougainvillea* Germplasm Collection, 31.07.08, *L. B. Chaudhary & R. K. Srivastava 249631*.

Ficus benjamina var. **nuda** (Miq.) Barrett, Amer. Midl. Naturalist. 45: 127. 1951. *F. benjamina* L. var. *comosa* (Roxb.) Kurz. *F. comosa* Roxb. *F. nuda* (Miq.) Miq. *Urostigma nudum* Miq.

Fig. 34 (A & B)

Phenology: Fl.: Mar. - May.

Distribution: India (Andaman, Andhara Pradesh, Assam, Eastern Himalaya, Jharkhand, Kerala, Orissa, Tamil Nadu), Bangladesh, Bhutan, China, Indonesia, Malaysia, Myanmar, Nepal, Papua New

Guinea, Philippines, Thailand, Vietnam.
Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 07.10.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh* 249699.

Ficus drupacea Thunb., *Ficus* 6, 11. 1786. *F. mysorensis* Roth. *F. mysorensis* Roth var. *pubescens* Roem. & Schult. *F. drupacea* Thunb. var. *pubescens* (Roem. & Schult.) Corner. *F. mysorensis* Roth var. *subrepanda* Wall. ex King. *F. payapa* Blanco.

Vernacular names: Mysore fig.

Phenology: *Fl. & Fr.:* Apr. - Jun.

Distribution: India (Sub-Himalayan tract and lower hills, from Sikkim eastwards, ascending to 3000 ft., Assam, Khasi hills), Australia, Bangladesh, Bhutan, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Papua New Guinea, Philippines, Solomon Islands, Sri Lanka, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 13.10.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh* 249711.

Ficus elastica Roxb. ex Hornem., Hort. Bot. Hafn. Suppl. 7. 1819; Brandis, Indian Trees 603. 1906. *F. decora* Hort.

Vernacular names: Atta bor, Indian Rubber tree.

Phenology: *Fl.:* throughout the year.

Distribution: India (Assam, Himalaya eastwards, in damp forests at the base of the Sikkim, Meghalaya), Bhutan, Indonesia,



Fig. 34. *Ficus benjamina* var. *nuda* (Miq.) Barrett

Myanmar, Malaysia, Nepal.

Introduced and widely cultivated as an ornamental and yield for India rubber in many countries.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, in front of Percy Lancaster House, 19.03.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250281.

Ficus hispida L.f., Suppl. Pl. 442. 1782 ("1781"); Brandis, Indian Trees 606. 1906. *F. oppositifolia* Roxb. *F. compressa* Chang. *F. heterostyla* Merrill. *F. hispida* var. *badiostrigosa* Corner. *F. hispida* var. *rubra* Corner. *F. letaqui* Leveille & Vaniot. *F. sambucixylon* Leveille. *Covellia hispida* (L.f.) Miq.

Vernacular names: Kathgular, Kala Umbar, Gobla, Kagsha, Phalgu.

Phenology: Fl. & Fr.: almost throughout the year.

Distribution: India (Throughout), Australia, Bhutan, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Papua New Guinea, Sri Lanka, Thailand, Vietnam.

Introduced and cultivated in U.S.A.

Ficus lyrata Warb., Bot. Jahrb. 20: 172. 1894.

Fig. 35

Vernacular names: Fiddle leaf fig.

Phenology: Fl. & Fr.: Apr. - Aug.

Distribution: India (cultivated), Native of Tropical Africa.

Introduced and cultivated in most European Botanic Gardens and elsewhere.



Fig. 35. *Ficus lyrata* Warb.

Voucher specimens: Lucknow, National Botanical research Institute, Botanic Garden, Conservatory House, 27.08.08, *L. B. Chaudhary, R. K. Srivastava* 249656; Lucknow, National Botanical Research Institute, Botanic Garden, in front of Percy Lancaster House, 13.05.09, *L. B. Chaudhary, A. Kumar & G. Kaur* 250360.

Ficus microcarpa L.f., Suppl. Pl. 442. 1782. *F. microcarpa* L.f. var. *latifolia* (Miq.) Corner. *Urostigma accedens* Miq. var. *latifolia* Miq.

Vernacular names: Chilkan, Kamarup.

Phenology: *Fl. & Fr.:* Feb. - Jul.

Distribution: India (Throughout), Australia, Bhutan, Cambodia, China, Cocos Islands, Indonesia, Japan, Laos, Malaysia, Myanmar, Nepal, Pacific, Papua New Guinea, Philippines, Sri Lanka, Taiwan, Thailand, Vietnam.

Naturalized in America, cultivated elsewhere.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind Conservatory House (Imambara side), 02.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249784.

Ficus palmata Forssk., Fl. Aegypt.-Arab. 179. 1775; Brandis, Indian Trees 607. 1906. *F. pseudocarica* Miq.

Vernacular names: Anjiri, Jangli-Anjir, Khemri.

Phenology: *Fl. & Fr.:* Mar. - Nov.

Distribution: India (almost throughout), Afghanistan, Egypt, Eritrea, Ethiopia, Israel, Iran, Jordan, Nepal, Oman, Pakistan, Saudi Arabia, Somalia, Sudan.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind Floriculture Division, 05.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249800.

****Ficus pellucidopunctata*** Griff., Not. Pl. Asiat. 4: 394. 1854 "*pellucido - punctata*"; King., Ann. Bot. Gard. Cal. 1(1): 39. 1888. *F. gelderi* Miq. *F. indica* L. var. *gelderi* (Miq.) King.

Distribution: India (Assam), Indonesia, Malaysia, Myanmar, Philippines, Thailand.

Ficus racemosa L., Sp. Pl. 1060. 1753; Brandis, Indian Trees 609. 1906. *F. glomerata* Roxb. *F. glomerata* Roxb. var. *elongata* King. *F. lucescens* Blume. *F. racemosa* L. var. *elongata* (King) Barrett.

Vernacular names: Gular.

Phenology: Fl. & Fr.: Apr. - Jul.

Distribution: India (almost throughout), Australia, China, Indonesia, Malaysia, Myanmar, Nepal, Papua New Guinea, Pakistan, Sri Lanka, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, K. N. Kaul Block, 23.07.08, *L. B. Chaudhary & R. K. Srivastava* 249630; Lucknow, National Botanical Research Institute, Botanic Garden, Floriculture & Medicinal Garden, 13.10.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh* 249709.

Ficus religiosa L., Sp. Pl. 1059. 1753; Brandis, Indian Trees 601. 1906.

Vernacular names: Peepal.

Phenology: *Fl.:* Feb. - Apr.; *Fr.:* Apr. - May.

Distribution: India (indigenous in the Sub Himalayan tract, cultivated throughout), Bangladesh, Myanmar, Nepal, Pakistan, Southwest China, Sri Lanka, Thailand, Vietnam.

Cultivated elsewhere.

Voucher specimens: Lucknow, National Botanical Research Institute, K. N. Kaul Block, 13.10.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh* 249705.

Ficus retusa var. **nitida** (Thunb.) Miq., Ann. Mus. Bot. Lugd. Bat. 3: 267. 1867; Brandis, Indian Trees 603. 1906. *F. nitida* Thunb.

Vernacular names: Indian laural fig.

Phenology: *Fl. & Fr.:* Apr. onwards.

Distribution: India (almost throughout), Malaya, South China, and the islands of the south - western Pacific Ocean.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 07.10.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh* 249701.

Ficus rumphii Blume, Bijdr. 437. 1825; Brandis, Indian Trees 601. 1906. *F. cordifolia* Roxb. *Urostigma cordifolium* (Roxb.) Miq.

Vernacular names: Pakar.

Phenology: *Fl.:* Apr. - Jul.

Distribution: India (Sub-Himalayan tract and outer hills, Rajasthan, Andaman & Nicobar, Assam, Bengal, Jharkhand, Peninsulas), Bhutan, China, Indonesia, Malaysia, Myanmar, Nepal, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, outside Plant Nursery, 05.08.08, *L. B. Chaudhary & R. K. Srivastava* 249637; Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, Bargad Chauraha, 24.10.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh* 249732; Lucknow, National Botanical Research Institute, Botanic Garden, in front of Percy Lancaster House, 13.05.09, *L. B. Chaudhary, A. Kumar & G. Kaur* 250357.

Ficus squamosa Roxb., Fl. Ind. ed. 1832, 3: 531. 1832. *F. saemocarpa* Miq. *F. pyrrohocarpa* Kurz.

Phenology: Fl. & Fr.: Mar. - Nov.

Distribution: India (Assam, Meghalaya, Sikkim, Subhimalayan tract), Bhutan, China, Myanmar, Nepal, Thailand.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind Moss House, 05.12.08, *L. B. Chaudhary & R. K. Srivastava* 249798.

Ficus trigona L.f., Suppl. Pl. 441. 1782. *F. fagifolia* (Miq.) Miq. *F. ernstiana* Pittier. *Urostigma fagifolium* Miq. *U. trigonum* (L.f.) Miq.

Distribution: India (cultivated), S. America.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 07.10.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh* 249700; Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg (in front of Canna Garden), 24.10.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh* 249733.

Ficus virens Aiton, Hort. Kew. 3: 451. 1789. *F. carolinensis* Warb. *F. glabella* Blume. *F. lacor* Buch.-Ham. *F. mariannensis* Merr. *F. prolixa* G. Forst. var. *carolinensis* (Warb.) Fosberg. *F. saxophila* Blume var. *sublanceolata* Miq. *F. virens* Aiton var. *glabella* (Blume) Corner. *F. virens* Aiton var. *sublanceolata* (Miq.) Corner. *F. virens* Aiton var. *wightiana* (Miq.) Chithra. *F. wightiana* (Miq.) Wall. ex Benth. *Urostigma wightianum* Miq. **Fig. 36**

Vernacular names: Pilkhan, Pakhad, White fig.

Phenology: *Fl. & Fr.:* Sep. - Feb.

Distribution: India (Andamans, Bundelkhand, Bhopal, Bihar, Chhattisgarh, Haryana, Himachal Pradesh, Indore, Jammu & Kashmir, Jharkhand, Madhya Pradesh, Maharashtra, Meghalaya, Punjab, Rajasthan, Uttar Pradesh, Uttarakhand, West Bengal, Western Peninsula), Australia, Bhutan, Cambodia, China, Indonesia, Japan, Laos, Malaysia, Myanmar, Nepal, Papua New Guinea, Philippines, Solomon Islands, SriLanka, Taiwan, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg (along Gomti river),



Fig. 36. *Ficus virens* Aiton

02.03.09, L. B. Chaudhary & R. K. Srivastava 250277.

Morus alba L., Sp. Pl. 986. 1753; Brandis, Indian Trees 612. 1906.

Morus alba L. var. *constantinopolitana* Loudon. *M. alba* L. var. *multicaulis* (Perr.) Loudon. *M. alba* L. forma *tatarica* Ser. *M. indica* L. *M. multicaulis* Perr.

Vernacular names: Tut, Shahtut, Tutri.

Phenology: *Fl:* Mar. - Apr.; *Fr.:* Apr. - Jun.

Distribution: India (Punjab, Kashmir and the North West Himalaya), Afghanistan, Africa, China, Iran, North & South America.

Cultivated elsewhere.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Introduction Plot, 03.07.08, L. B. Chaudhary & R. K. Srivastava 249057.

***Morus australis** Poir., J. B. A. P. M. de Lamarck, Encycl. 4: 380. 1797. *M. acidosa* Griff.

Vernacular names: Chinese Mulberry.

Phenology: *Fl.:* Mar. - Apr.; *Fr.:* Apr. - May.

Distribution: India (Northern region), Bhutan, China, Japan, Myanmar, Nepal, Korea, Taiwan.

Morus nigra L., Sp. Pl. 986. 1753.

Vernacular names: Shahtut, Black Mulberry.

Phenology: *Fl.:* Mar. - Jul.

Distribution: India (Northern region), Afghanistan, China, Iran, Pakistan, Ukraine.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 16.01.09, L. B. Chaudhary, R. K. Srivastava & A. Kumar 250161.

***Streblus asper** Lour., Fl. cochinch. 2: 615. 1790; Brandis, Indian Trees 615. 1902. *Epicarpurus orientalis* Blume. *Diplothorax tonkinensis* Gagnep.

Vernacular names: Daheya, Dahia, Karchanna, Rusa, Sahora, Sihora.

Phenology: Fl.: Jan. - Mar.

Distribution: India (Throughout, in dry areas upto 600 m.), Bhutan, Cambodia, China, Indonesia, Laos, Malaysia, Nepal, Philippines, Sri Lanka, Thailand, Vietnam.

36.MORINGACEAE

Moringa oleifera Lam., Encycl. 1: 398. 1785; Brandis, Indian Trees 209. 1906. *M. pterygosperma* Gaertn. *M. moringa* (L.) Small. *Guilandina moringa* L. **Fig. 37 (A & B)**

Vernacular names: Sahjan, Drumstick tree.

Phenology: Fl.: Jan. - Apr.; Fr.: May - Jun.

Distribution: India (cultivated throughout), Myanmar, Pakistan.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, J. C. Bose Marg, Besides Floriculture



A



B

Fig. 37. *Moringa oleifera* Lam.

Lab 14.11.08, L. B. Chaudhary, R. K.Srivastava & U. M.Singh
249739.

37.MYRTACEAE

Callistemon citrinus (Curtis) Skeels, Bull. Bur. Pl. Industr. U.S.D.A.
282: 49. 1913. *Metrosideros citrina* Curtis. **Fig. 38 (A & B)**

Vernacular names: Crimson bottle brush.

Phenology: major parts of the year.

Distribution: India (cultivated), Australia.

Voucher specimens: Lucknow, National Botanical Research
Institute, Botanic Garden, Near Botanic Garden Office, 15.01.09,
L. B. Chaudhary, R. K. Srivastava & A. Kumar 250146.

Callistemon lanceolatus (Sm.) Sweet, Hort. Brit. Ed. 1: 155. 1826.

Metrosideros lanceolata Sm.

Phenology: *Fl.:* Feb. - Nov.

Distribution: India (cultivated), Australia.

Callistemon polandii Bailey, Queensland Fl. 6: 2003, Pl. 88. 1902.

Vernacular names: Gold-tipped bottle brush.

Phenology: *Fl.:* Mar. - May; *Fr.:* May - Oct.

Distribution: India (cultivated), Australia, Mexico, United States.

Voucher specimens: Lucknow, National Botanical Research
Institute, Botanic Garden, Near Tube Well No. 1, 10.07.08, L. B.
Chaudhary & R. K. Srivastava 249068.



A



B

Fig. 38. *Callistemon citrinus* (Curtis) Skeels

Callistemon salignus (Sm.) Colvill ex Sweet, Hort. Brit. Ed. 1: 155.

1826. *Melaleuca salicina* Craven. *Metrosideros saligna* Sm.

Vernacular names: White bottle brush, Willow bottle brush.

Phenology: Fl.: during spring.

Distribution: India (cultivated), Australia.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Botanic Garden Office, 15.01.09, L. B. Chaudhary, R. K. Srivastava & A. Kumar 250150.

Callistemon viminalis (Sol. ex Gaertn.) G. Don. in Loudon, Hort.

Brit. Ed. 1: 197. 1830. *Metrosideros viminalis* Sol. ex. Gaertn.

Vernacular names: Cheel, Weeping bottle brush.

Phenology: Fl.: Nov.

Distribution: India (cultivated), Australia.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 27.11.08, L. B. Chaudhary, R. K. Srivastava & A. Kumar 249752.

***Corymbia citriodora** (Hook.) Hill & Johnson, Telopea 6: 388.

1995. *Eucalyptus citriodora* Hook.

Vernacular names: Lemon scented gum.

Phenology: Fl.: throughout the year.

Distribution: India (cultivated), Australia.

***Corymbia torelliana** (Muell.) Hill & Johnson, Telopea 6: 385.

1995. *Eucalyptus torelliana* Muell.

Phenology: Fl.: spring season.

Distribution: India (cultivated), Australia.

Eucalyptus alba Reinw. ex Blume in Bijdr. 17: 1101. Oct 1826 - Nov 1827. *E. leucadendron* Reinw.

Vernacular names: White eucalyptus.

Distribution: India (cultivated), Australia.

Cultivated elsewhere.

***Eucalyptus botryoides** Sm., Trans. Linn. Soc. London 3: 286. 1797;
Brandis, Indian Trees 328. 1906.

Phenology: Fl.: Dec. - Mar.

Distribution: India (cultivated), America.

***Eucalyptus camaldulensis** Dehnh., Cat. Horti Camald. ed. 2: 6, 20.
1832, nom. cons. Prop. *E. camaldulensis* Dehnh. var. *obtusata*
Blakely. *E. longirostris* F. Muell. ex Miq. *E. rostrata* Schldl.

Vernacular names: Red gum.

Phenology: Fl.: early summer.

Distribution: India (cultivated), Australia.

Eucalyptus crebra Muell., J. Proc. Linn. Soc., Bot. 3: 87. 1859.

Metrosideros salicifolia Sol. ex Gaertn.

Phenology: Fl.: late autumn - spring season.

Distribution: India (cultivated), Australia.

***Eucalyptus deglupta** Blume, Mus. Bot. 1: 83. 1850. *E. multiflora*
Rich. ex A. Gray.

Vernacular names: Rainbow eucalyptus.

Phenology: Fl.: Oct. - Dec.

Distribution: India (Uttarakhand: N. W. Himalaya), Indonesia, Papua New Guinea, Philippines.

***Eucalyptus diversicolor** Muell., *Fragm.* 3: 131. 1863.

Phenology: Fl.: spring & summer season.

Distribution: India (cultivated), Native of Australia.

Naturalized in Africa.

***Eucalyptus gardneri** Maiden, *Crit. revis. Eucalyptus* 7: 53. 1924.

Phenology: Fl.: Feb. - Sep/Dec.

Distribution: India (cultivated), Australia.

***Eucalyptus microtheca** Muell., *J. Proc. Linn. Soc., Bot.* 3: 87. 1859.

Vernacular names: Flooded box.

Phenology: Fl.: Dec. - Feb.

Distribution: India (cultivated), Australia.

Eucalyptus moluccana Roxb., *Fl. Ind.* 2: 2. 1832. *E. hemiphloia*

Muell. ex Benth.

Phenology: Fl.: mid summer - mid autumn.

Distribution: India (cultivated), Australia.

Eucalyptus paniculata Sm., *Trans. Linn. Soc. London* 3: 287. 1797.

Vernacular names: Grey Ironbark.

Phenology: Fl.: May - Aug.

Distribution: India (cultivated), Australia.

***Eucalyptus robusta** Sm., Spec. Bot. New Holland 39. 1795;

Brandis, Indian Trees 328. 1902. *E. multiflora* Poir.

Vernacular names: Swamp mahogany.

Phenology: *Fl.:* late winter.

Distribution: India (Nilgiris), Australia.

***Eucalyptus rudis** Endl. in Endlicher *et al.*, Enum. Pl. 49. 1837.

Vernacular names: Flooded gum.

Phenology: *Fl.:* winter to late spring.

Distribution: India (cultivated), Australia.

***Eucalyptus saligna** Sm., Trans. Linn. Soc. London 3: 285. 1797;

Brandis, Indian Trees 328. 1902.

Vernacular names: Sydney blue gum.

Phenology: *Fl.:* early spring.

Distribution: India (Kulu), Australia.

***Eucalyptus salmonophloia** Muell., Fragm. 11: 11. 1878.

Vernacular names: Salmon Gum.

Phenology: *Fl.:* Apr. & Dec.

Distribution: India (cultivated), West Australia.

Eucalyptus tereticornis Sm., Spec. Bot. New Holland 41. 1795;

Brandis, Indian Trees 327. 1906. *E. populifolia* Desf. *E. umbellata*

(Gaertn.) Domin. *Leptospermum umbellatum* Gaertn.

Vernacular names: Safeda, Mysore gum.

Phenology: Fl.: Nov.

Distribution: India (cultivated in Lucknow, Khasi hills), Native of Australia.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, in front of T. N. Khushoo Block, 20.11.08, *L. B. Chaudhary & R.K.Srivastava* 249744.

***Eucalyptus woodwardii** Maiden, J. Nat. Hist. Sci. Soc. Western Australia 3: 42. 1910.

Vernacular names: Lemon - flower gum.

Phenology: Fl.: early summer - late summer.

Distribution: India (cultivated), Western Australia.

Melaleuca decora (Salisb.) Britten, J. Bot. 54: 62. 1916.

Metrosideros decora Salisb. *Melaleuca genistifolia* Sm.

Phenology: Fl.: summer season.

Distribution: India (cultivated), Australia.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Introduction Plot, 03.07.08, *L. B. Chaudhary & R. K. Srivastava* 249061.

Melaleuca leucadendra (L.) L., Mant. Pl. 1: 105. 1767. *Myrtus*



Fig. 39. *Melaleuca leucadendra* (L.) L.

leucadendra L. *Kajuputi leucadendra* (L.) Rusby. **Fig. 39**

Vernacular names: Shitanshu, Vishaha, Kajuput tree.

Phenology: Fl.: Aug. - Oct.

Distribution: India (cultivated), Australia Indonesia, Papua New Guinea.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Percy Lancaster House, 08.09.08, *L. B. Chaudhary & R. K. Srivastava* 249667.

Psidium guajava L., Sp. Pl. 470. 1753; Brandis, Indian Trees 326. 1902. *P. cujavillus* Burm. f. *P. pomiferum* L. *P. pumilum* Vahl. *P. pyriferum* L.

Vernacular names: Amrood.

Phenology: Fl. & Fr.: almost throughout the year.

Distribution: India (Throughout), Native to Mexico, The Carribean, Central, & South America.

Widely cultivated and naturalized elsewhere.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Between Moss House & Ram Jharokhe Campus (Behind Bargad Chauraha), 05.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250107.

***Syzygium cumini** (L.) Skeels, Bull. Bur. Pl. Industr. U.S.D.A. 248: 25. 1912. *Myrtus cumini* L. *Eugenia cumini* (L.) Druce. *E. jambolana* Lam. *Syzygium jambolanum* (Lam.) DC. *Caryophyllus jambos* Stokes.

Vernacular names: Jamun.

Phenology: Fl.: Mar. - May; *Fr.:* May - Aug.

Distribution: India (Throughout India, in forests upto 1,800 m usually along river banks and moist localities), Africa, Australia, Bhutan, China, Indonesia, Malaysia, Nepal, Sri Lanka.

Syzygium jambos (L.) Alston in Trimen, Handb. Fl. Ceylon 6: 115.1931. *Eugenia jambos* L. *Jambosa vulgaris* DC.

Vernacular names: Gulab Jamun.

Phenology: Fl.: Feb. - Apr.; *Fr.:* Jun. - Jul.

Distribution: India (cultivated throughout and wild also), Africa, America.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Tube Well No. 1, 15.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250153.

38. NYCTANTHACEAE

Nyctanthus arbor - tristis L., Sp. Pl. 6. 1753; Brandis, Indian Trees 442. 1906.

Vernacular names: Harsingar, Night Jasmine.

Phenology: Fl.: Aug. - Oct.; *Fr.:* Feb. - Mar.

Distribution: India (Andhra Pradesh, Assam, Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Punjab, Rajasthan, Uttar Pradesh, West Bengal), Nepal, Pakistan, Thailand. Cultivated throughout India.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Introduction Plot, 03.07.08.

L. B. Chaudhary & R. K. Srivastava 249058; Lucknow, National Botanical Research Institute, Botanic Garden, Behind Ram Jharokhe Campus, 27.11.08 *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249753.

39.OCHNACEAE

Ochna jabotapita L., Sp. Pl. 513. 1753. *Ochna squarosa* L.

Vernacular names: Champa - Baha.

Phenology: *Fl.:* Feb. - Mar.

Distribution: India (Assam, Bihar, Deccan Peninsula, Orissa), Myanmar, Sri Lanka.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Between Moss House & Ram Jharokhe Campus, 05.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250102.

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

Vernacular names: Ramdhan Champa.

Phenology: *Fl.:* Mar. - May; *Fr.:* Jun. - Aug.

Distribution: India (Andhra Pradesh, Assam, Bihar, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal), Bangladesh, Nepal, Sri Lanka.

40. OLEACEAE

Olea europaea L. subsp. **cuspidata** (Wall. ex G. Don) Cif., L'Olivicoltura 19: 96. 1942 . *O. ferruginea* Royle. *O. africana* Mill. *O. chrysophylla* Lam. *O. cuspidata* Wall. ex G. Don. *O. europaea* subsp. *africana* (Mill.) Green. *O. sativa* var. *verrucosa* (Willd.) Roem. & Schult. *O. verrucosa* (Willd.) Link.

Vernacular names: Jaitoon, Indian Olive.

Phenology: Fl.: Apr. - Jun.

Distribution: India (N. W. Himalaya), Africa, Afghanistan, China, Iran, Nepal, Oman, Pakistan, Saudi Arabia, Yemen.

41. POACEAE

***Bambusa bambos** (L.) Voss, Vilm. Blumengartn. ed. 3, 1: 1189. 1895. *Arundo bambos* L. *Bambos arundinacea* Retz. *Bambusa arundinacea* (Retz.) Willd.

Vernacular names: Baans.

Distribution: India (Nilgiris and hills of Southern India, cultivated in North India, Western Peninsula throughout the Konkan), Bangladesh, Cambodia, China, Laos, Myanmar, Pakistan, Sri Lanka, Thailand, Vietnam.

42. POLYGONACEAE

***Coccoloba diversifolia** Jacq., Enum. Syst. Pl. 19. 1760. *C. floridana* Meisn.

Phenology: Fl.: spring season.

Distribution: India (cultivated), North & South America.

Cocoloba uvifera (L.) L., Syst. Nat. ed. 10, 2: 1007. 1759.

Polygonum uvifera L.

Fig. 40

Vernacular names: Sea grape.

Phenology: Fl. & Fr.: Mar. - May.

Distribution: India (cultivated), North & South America.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 02.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249778; Lucknow, National Botanical Research Institute, Botanic Garden, Ram Jharokhe Campus, 18.03.09, *L. B. Chaudhary & A. Kumar* 250279.

43. PROTEACEAE

Grevillea robusta A. Cunn. ex R. Br., Suppl. Prodr. Fl. Nov. Holl. 24. 1830; Brandis, Indian Trees 544. 1906.

Vernacular names: Silver oak.

Phenology: Fl.: Mar. - Apr.; Fr: May - Jul.

Distribution: India (cultivated), Australia.



Fig. 40. *Cocoloba uvifera* (L.) L.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Hargovind Khurana Marg, 01.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249770.

44. RHAMNACEAE

Ziziphus mauritiana Lam., *Encycl.* 3: 319.1789. *Z. jujuba* (L.) Gaertn. *Rhamnus jujuba* L.

Vernacular names: Ber, Indian plum.

Phenology: *Fl. & Fr.:* Sep. - Dec.

Distribution: India (Throughout), Afghanistan, Africa, Australia, China, Fiji, Malaysia, Myanmar, Pacific regions.

Wild and also extensively cultivated.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 14.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250145.

45. ROSACEAE

Prunus avium (L.) L., *Fl. Suec.* ed. 2, 165. 1755. *P. cerasus* L. var. *avium* L. *P. macrophylla* Poir. **Fig. 41**

Vernacular names: Cherry.

Phenology: *Fl.:* Apr. - May.

Distribution: India (cultivated in the North West Himalaya upto 8000 ft. and almost naturalized), Indigenous to Europe, Afghanistan, Armenia, Azerbaijan, Georgia, Iran, Russian Federation, Turkey.



Fig. 41. *Prunus avium* (L.) L.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Lesser Known Edible Fruit Garden, 28.08.08, *L. B. Chaudhary & R. K. Srivastava* 249661.

46. RUBIACEAE

Catunaregam spinosa (Thumb.) Tirveng., Bull. Mus. Nation. Hist. Nat. 3e Ser, no. 521, Bot. 35: 13. 1978 & in Taxon 27 (5 - 6): 515. 1979. *Gardenia dumetorum* Retz. *G. spinosa* Thunb. *Randia dumetorum* (Retz.) Poir. *R. spinosa* (Thunb.) Poir.

Vernacular names: Mainphal.

Phenology: *Fl. & Fr.:* Mar. - Dec.

Distribution: India (Assam, Meghalaya, Subtropical Himalayas, Western Peninsula), Africa, Bangladesh, Pakistan, Sri Lanka.

Voucher Specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Besides *Bougainvillea* Germplasm collection, 15.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250151.

Gardenia resinifera Roth., Nov. Pl. Sp. 150. 1821. Brandis, Indian Trees 379. 1902. *G. lucida* Roxb.

Vernacular names: Dikamali.

Phenology: *Fl.:* Mar. - Jun.

Distribution: India (Western Peninsula), Bangladesh.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Tuberoses & Plant Nursery,

11.07.08, *L. B. Chaudhary & R. K. Srivastava* 249087; Lucknow, National Botanical Research Institute, Botanic Garden, Behind Moss House, 05.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249796.

Haldina cordifolia (Roxb.) Risdale, *Blumea* 24: 361. 1978. *Adina cordifolia* (Roxb.) Hook. f. ex Brandis. *Nauclea cordifolia* Roxb.
Vernacular names: Haldu, Kadami, Karam.
Phenology: *Fl.:* Jun. - Sep.; *Fr.:* Oct. - Dec.
Distribution: India (Throughout), Bangladesh, Cambodia, China, Laos, Myanmar, Nepal, Sri Lanka, Thailand, Vietnam.
Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind Conservatory House (Imambara side), 03.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249788.

***Hamelia patens** Jacq., *Enum. Syst. Pl.* 16. 1760. *H. erecta* Jacq.
Vernacular names: Fire-bush, Redhead.
Phenology: *Fl.:* throughout the year.
Distribution: India (cultivated), North & South America.

Hymenodictyon orixense (Roxb.) Mabb., *Taxon* 31: 66. 1982.
Cinchona excelsa Roxb. *Hymenpodictyon excelsum* (Roxb.) Wall.
Vernacular names: Bhurkur, Bhurkul, Kurkurkat.
Phenology: *Fl.:* May - Aug; *Fr.:* Sep. - Dec.

Distribution: India (Sub Himalayan tract, Bihar, M.P., U.P., Peninsula), Bangladesh, Malaya, Myanmar, Nepal, Pakistan SriLanka, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 07.10.08, *L. B. Chaudhary, R. K. Srivastava & U. M. Singh* 249703; Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 31.07.08, *L. B. Chaudhary & R. K. Srivastava* 249636.

****Ixora alba*** L., Sp. Pl. 110. 1753. *I. loureiri* G. Don.

Phenology: *Fl.:* Jul. - Aug.; *Fr.:* Nov. - Feb.

Distribution: India

Ixora barbata Roxb., Hort. Bengal. 10. 1814; Brandis, Indian Trees 389. 1906.

Distribution: India (Andaman and Nicobar)

Cultivated elsewhere.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 16.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250162.

Ixora pavetta Andr. in Bot. Repos. 2: t. 78. 1799. *I. arborea* Roxb. ex Sm. *I. parviflora* Vahl.

Vernacular names: Jilpai, Kotagandhal, Lohajangin, Mashal-Ka-Jhar, Rangan.

Phenology: *Fl.:* Feb. - May; *Fr.:* May - Jun.

Distribution: India (Bihar, West Bengal, Western, Central & South India), Bangladesh, Pakistan, Sri Lanka.

Cultivated in the gardens.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Birbal Sahni Marg, 13.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250134.

Mitragyna parvifolia (Roxb.) Korth., Obs. Naocl. Ind. 19.1839.

Nauclea parvifolia Roxb. *Stephegyne parvifolia* (Roxb.) Korth.

Fig. 42 (A & B)

Vern.: Kaim, Kalmi, Karam, Faldu, Tikui.

Phenology: *Fl.:* Jul. - Aug.; *Fr.:* Oct. - Dec.

Distribution: India (almost throughout), Bangladesh, Myanmar, Nepal, Sri Lanka.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Introduction Plot, 14.04.08, *L. B. Chaudhary & R. K. Srivastava* 249648.

Mitriostigma axillare Hochst. Flora 25 (1): 236. 1842. *Gardenia citriodora* Hook.

Phenology: *Fl.:* Aug. - Nov.

Distribution: India (cultivated), America, South Africa.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Between Moss House & Ram Jharokhe



Fig. 42. *Mitragyna parvifolia* (Roxb.) Korth.

Campus, 05.12.08, *L. B. Chaudhary, R.K.Srivastava & A. Kumar*
250103.

Morinda pubescens Sm. in Rees, Cycl. 24. n. 3. 1813. *M. tomentosa*
Heyne ex Roth. *M. tinctoria* Roxb.

Vernacular names: Aal, Achchi, Indian mulberry.

Phenology: *Fl. & Fr.:* Apr. - Jun.

Distribution: India (Bihar, Bengal, Central Provinces & South
India), Myanmar.

Frequently cultivated.

Voucher specimens: Lucknow, National Botanical Research
Institute, Botanic Garden, Behind Conservatory House (Imambara
side), 03.12.08, *L. B. Chaudhary, R.K. Srivastava & A. Kumar*
249793.

Neolamarckia cadamba (Roxb.) Bosser in Bull. Mus. Natl. Hist.
Nat., B, Adansonia 6: 247. 1984. *Anthocephalus cadamba* (Roxb.)
Miq. *A. indicus* A. Rich. *A. morindifolius* Korth. *Nauclea cadamba*
Roxb. *N. megaphylla* S. Moore. *Neonauclea megaphylla* S. Moore.
Samama cadamba (Roxb.) Kuntze.

Vernacular names: Kadam, Kadamb.

Phenology: *Fl.:* May - Jul.; *Fr.:* Aug. - Oct.

Distribution: India (North & West), Cambodia, China, Indonesia,
Laos, Malaysia, Myanmar, Nepal, Papua New Guinea, SriLanka,
Thailand, Vietnam.

Commonly planted.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Tube Well No. 1, 10.07.08, *L. B. Chaudhary & R. K. Srivastava* 249073; Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 31.07.08, *L. B. Chaudhary & R. K. Srivastava* 249633.

47. RUTACEAE

Aegle marmelos (L.) Correa, Trans. Linn. Soc. London 5: 223. 1800; Nair & Nayar in Hajra *et al.*, Fl. India 4: 264. 1997. *Crataeva marmelos* L. *Belou marmelos* (L.) A. Lyons. *Feronia pellucida* Roth.

Vernacular names: Bel, Sripthal, Wood apple.

Phenology: *Fl.:* Mar. - Apr.; *Fr.:* Sep. - Dec.

Distribution: India (Throughout), Myanmar, Sri Lanka.

Widely cultivated elsewhere.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind Guldaudi Plot, 02.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250128.

Atalantia monophylla (L.) DC., Prodr. 1: 535. 1824; Nair & Nayar in Hajra *et al.*, Fl. India 4: 266. f. 67a. 1997. *Limonia monophylla* L. *Atlantia floribunda* Wight. *A. malabarica* (Raf.) Tanaka

Vernacular names: Makur limbu, The Wild lime.

Phenology: *Fl.:* Aug. - Feb.; *Fr.:* Feb. - Mar.

Distribution: India (Andaman and Nicobar, Maharashtra, Orissa, Peninsular India), Cambodia, Laos, Malaysia, Myanmar, Sri Lanka, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Besides Canna Garden, 03.10.08, *L. B. Chaudhary, R.K. Srivastava & Vartika Singh* 249694.

Casimiroa edulis La Llave in La Llave & Lex., Nov. Veg. Descr. Fasc. 2: 2. 1825; Nair & Nayar in Hajra *et al.*, Fl. India 4 : 406 . 1997.

Phenology: Fl.: Nov.

Distribution: India (cultivated in N. India), a native of Central America.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 27.11.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249755.

Chloroxylon swietenia DC., Prodr. 1:625. 1824; Nair & Nayar in Hajra *et al.*, Fl. India 4: 355. 1997. *Swietenia chloroxylon* Roxb.

Vernacular names: Bhen, Bhirra, Bhivia, Dhoura, Girya.

Phenology: Fl.: Mar. - Apr.; Fr.: Jul. - Oct.

Distribution: India (Andhra Pradesh, Karnataka, Kerala, Madhya Pradesh, Orissa, Tamil Nadu), Malagasy, Sri Lanka.

***Citrus aurantiifolia** (Christm.) Swingle in Washington Acad. Sci. 3: 465. 1913 "*aurantifolia*". Nair & Nayar in Hajra *et al.*, Fl. India 4: 278. 1997. *Limonia aurantiifolia* Christm. *Citrus acida* Roxb. *C. medica* L. var. *acida* (Roxb.) Hook. f. *C. hystrix* DC. subsp. *acida*

(Roxb.) Engl. *C. lima* Lunan *C. limetta* Risso var. *aromatica* Wester.

Vernacular names: Kagzi-nimbu, Khatta.

Phenology: *Fl.:* Mar. - Jun.; *Fr.:* Jun. - Jan.

Distribution: India (Throughout South India, cultivated), Probable origin Tropical Asia.

Widely cultivated in Tropics & Subtropics.

***Citrus limon** (L.) Burm. f., Fl. Indica 173. 1768; Nair & Nayar in Hajra *et al.*, Fl. India 4: 282. 1997. *C. medica* L. var. *limon* L. *C. limonum* Risso.

Vernacular names: Nimbu, Lemon.

Phenology: *Fl. & Fr.:* Jan. - Dec.

Distribution: India (cultivated throughout), Native to Asia.

Widely cultivated in Tropics & Subtropics.

Glycosmis pentaphylla (Retz.) DC., Prodr. 1: 538. 1824; Nair & Nayar in Hajra *et al.*, Fl. India 4: 343. 1997. *Limonia pentaphylla* Retz.

Vernacular names: Ban-Nimbu.

Phenology: *Fl. & Fr.:* almost throughout the year.

Distribution: India (Andaman & Nicobar Islands, Evergreen or semievergreen forests and also frequently in open places), Bhutan, Cambodia, China, Indonesia, Malaysia, Myanmar, Nepal, Phillipines, Sri Lanka, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Birbal Sahni Marg (in front of Guldaudi Plot), 08.09.08, *L. B. Chaudhary & R. K. Srivastava* 249666.

***Murraya koenigii** (L.) Spreng. Syst. Veg. 2: 315. 1825; Nair & Nayar in Hajra *et al.*, Fl. India 4: 351. 1997. *Bergera koenigii* L. *Chalcas koenigii* (L.) Kurz.

Vernacular names: Kathneem, Meethi Neem, Kadhi-patta.

Phenology: *Fl.:* Mar. - Apr.; *Fr.:* May - Jul.

Distribution: India (Andaman & Nicobar, Andhra Pradesh, Assam, Bihar, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Meghalaya, Orissa, Sikkim, Tamil Nadu, Uttar Pradesh, West Bengal), Bhutan, China, Laos, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand, Vietnam.

Naturalized elsewhere in Tropics.

Murraya paniculata (L.) Jack., Malay. Misc. 1: 31. 1820; Nair & Nayar in Hajra *et al.*, Fl. India 4: 352. 1997. *Chalcas paniculata* L. *C. exotica* (L.) Millsp. *Murraya exotica* L.

Vernacular names: Kamini.

Phenology: *Fl.:* Feb. - Apr.; *Fr.:* Jun. - Jul.

Distribution: India (Evergreen or moist deciduous forests at an altitude upto 2100 m.), Australia, Bhutan, Cambodia, China, Laos, Madagascar, Mauritius, Melanesian Islands, Myanmar, Nepal, New Caledonia, Pakistan, Philippines, Sri Lanka, Taiwan, Thailand, Vietnam.

Also cultivated frequently in gardens throughout the country

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Herbal Garden (Mini Pilot Plant), 01.10.08, *L. B. Chaudhary & R. K. Srivastava* 249688.

48. SALICACEAE

***Populus deltoides** Bartr. ex Marsh., *Arbust. Amer.* 106. 1785. *P. angulata* Aiton. *P. deltoides* Bartr. ex Marsh. var. *missouriensis* (Henry) Henry. *P. deltoides* Bartr. ex Marsh. var. *virginiana* (Foug.) Sudw.

Vernacular names: Eastern cottonwood.

Phenology: *Fl.:* Feb. - May; *Fr.:* Apr. - Jun.

Distribution: India (cultivated), North America.

Naturalized elsewhere.

49. SANTALACEAE

Santalum album L., *Sp. Pl.* 349. 1753; Brandis, *Indian Trees* 552. 1906. **Fig. 43**

Vernacular names: Chandan, Sandalwood.

Phenology: *Fl.:* Feb. - Jul.; *Fr.:* Apr. - May.

Distribution: India (Indigenous in the Western Peninsula also cultivated in gardens), Australia, China, Hawaii, Indonesia, Philippines, Sri Lanka.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Tube Well No. 1, 10.07.08, *L. B. Chaudhary & R. K. Srivastava* 249071.



Fig. 43. *Santalum album* L.

50.SAPINDACEAE

Blighia sapida Koenig in Koenig & Sims in Ann. Bot. 2: 571. 1806.

Cupania sapida (Koenig) Oken.

Fig. 44 (A & B)

Phenology: Fl. & Fr.: Apr. - Sep.

Distribution: India (cultivated in gardens), Native to tropical West Africa.

Cultivated elsewhere in Tropics.

Voucher specimens: Lucknow, National Botanical Research Institute Botanic Garden, P. N. Mehra Marg, 05.08.08, *L. B. Chaudhary & R. K. Srivastava* 249642; Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 27.8.08, *L. B. Chaudhary & R. K. Srivastava* 249659.

***Erioglossum rubiginosum** (Roxb.) Blume, Rumphia 3: 118. 1849;

Brandis, Indian Trees 192. 1906. *Sapindus rubiginosa* Roxb.

Erioglossum edule Blume. *Lepisanthes rubiginosa* (Roxb.) Leenh.

Vernacular names: Aukchinsa.

Phenology: Fl.: Feb. - Apr.

Distribution: India (Andaman & Nicobar, Andhra Pradesh, Assam, Karnataka, Orissa, Oudh forests, Sikkim terai), Australia, Bangladesh, Malaysia, Myanmar.



A



B

Fig. 44. *Blighia sapida* Koenig

Koelreuteria paniculata Laxm., Novi Comment. Acad. Sci. Imp. Pet.

16: 561, t. 18. 1772. *K. apiculata* Rehder & Wilson. **Fig. 45**

Vernacular names: Varnish tree.

Phenology: *Fl. & Fr.:* Sep. - May.

Distribution: India (cultivated), China.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Introduction Plot, 03.07.08, *L. B. Chaudhary & R. K. Srivastava* 249053; Lucknow, National Botanical Research Institute, Botanic Garden, Near Tuberose Garden, 11.07.08, *L. B. Chaudhary & R. K. Srivastava* 249083; Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 27.08.08, *L. B. Chaudhary & R. K. Srivastava* 249657.

Lepisanthes tetraphylla (Vahl.) Radlk., Sitzungsber. Math-Phys. Cl.

Konigl. Bayer. Akad. Wiss. Munchen 8: 276.1878; Brandis, Indian Trees 189. 1906. *Sapindus tetraphylla* Vahl. *Lepisanthes eriolepis* Radlk. *Otophora spectabilis* Blume. *Hemigyrosa canescens* (Roxb.)Blume. *Molinaea canescens* Roxb. **Fig. 46**

Phenology: *Fl.:* Feb. - May; *Fr.:* Dec.

Distribution: India (South India), Indonesia, Malaysia, Myanmar, Papua New Guinea, Sri Lanka, Thailand.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Between Moss House & Ram Jharokhe Campus, 05.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250106.



Fig. 45. *Koelreuteria paniculata* Laxm.



Fig. 46. *Lepisanthes tetraphylla* (Vahl.) Radlk.

Litchi chinensis Sonn., Voy Indes Orient. 3: 255. 1782. *Nephelium litchi* Cambess.

Vernacular names: Litchi.

Phenology: *Fl.:* Apr. - May; *Fr.:* May - Jun.

Distribution: India (Meghalaya), Bangladesh, Cambodia, China, Laos, Pakistan, Philippines, Thailand, Vietnam.

Cultivated elsewhere.

Voucher specimens: Lucknow, National Botanic Research Institute, Botanic Garden, Besides Floriculture Division, 05.12.08
L. B. Chaudhary, R. K. Srivastava & A. Kumar 249799.

Sapindus trifoliatus L., Sp. Pl. 367. 1753; Brandis, Indian Trees 191. 1906. *S. laurifolius* Vahl. *S. emarginatus* Vahl.

Vernacular names: Ritha, Phenil, Risht.

Phenology: *Fl.:* Oct. - Dec.

Distribution: India (common on the Aravalli hills, and in the Western Peninsula, on the coast (Sriharikota) and inland, cultivated in Bengal & in North India), Myanmar, Pakistan, Sri Lanka.

***Sapindus mukorossi** Gaertn., Fruct. Sem. Pl. 1: 342, t. 70, fig. 3. 1788; Brandis, Indian Trees 191. 1906. *S. utilis* Trab.

Vernacular names: Ritha, Phenil, Risht.

Phenology: *Fl.:* May, Jun.

Distribution: India (Assam, Sikkim), Bhutan, Cambodia, China, Japan, Korea, Myanmar, Nepal, Taiwan, Thailand, Vietnam.

Schleichera oleosa (Lowr.) Oken. in Allg. Naturgesch. 3 (2): 1341. 1841; Brandis, Indian Trees 189. 1906. *S. trijuga* Willd.

Vernacular names: Kusum.

Phenology: *Fl.:* Mar. - Apr.; *Fr.:* rainy season

Distribution: India (Throughout India, in semievergreen & deciduous forests upto 900 m.), Indonesia, Malaysia, Myanmar, Nepal, Sri Lanka, Thailand.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanical Garden, Dhanvantari Marg, 01.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249768.

51. SAPOTACEAE

***Chrysophyllum oliviforme** L., Syst. Nat. ed. 10, 2: 937. 1759. *C. monopyrenum* Sw.

Vernacular names: Satin-leaf.

Phenology: *Fl.:* almost throughout the year.

Distribution: India (cultivated), North & South America.

Diploknema butyracea (Roxb.) Lam. in Bull. Jard. Bot. Butzg. ser. 3, 7: 186. 1925. *Bassia butyracea* Roxb. *Aesandra butyracea* (Roxb.) Baehni. *Madhuca butyracea* (Roxb.) Macbr.

Vernacular names: Indian butter tree, Phulwara.

Phenology: *Fl.:* Oct.

Distribution: India (Andaman and Nicobar, Sikkim, Uttar Pradesh), Bhutan, Nepal.

Voucher specimens: Lucknow, National Botanical Research

Institute, Botanic Garden, Hargobind Khurana Marg, 24.10.08, *L. B. Chaudhary, R.K. Srivastava & U. M. Singh* 249730.

Isonandra villosa Wight Icon., Pl. Ind. Orient. t. 360. 1843. *I. lanceolata* Wight.

Phenology: Fl. & Fr.: Mar. - Aug.

Distribution: India (Western Ghats – endemic & endangered).

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Canna Garden, 11.07.08, *L. B. Chaudhary & R. K. Srivastava* 249078; Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 05.08.08, *L. B. Chaudhary & R. K. Srivastava* 249640.

Madhuca longifolia (L.) Macbr., Contr. Gray Herb. 53: 17. 1918.

Bassia longifolia L. *B. latifolia* Roxb. *Illipe latifolia* (Roxb.) Muell. *Madhuca indica* Gmel. *M. latifolia* (Roxb.) Macbr.

Vernacular names: Mahua, Mahwa.

Phenology: Fl.: Mar. - Apr.; *Fr.:* Jun. - Jul.

Distribution: India (Jharkhand, Uttar Pradesh, Bihar, Madhya Pradesh, Kerala, Gujarat and Orissa), Myanmar, Nepal, Sri Lanka.

Manilkara hexandra (Roxb.) Dubard in Ann. Mus. Col. Marseille (ser. 3) 23: 9. f. 2. 1915. *Mimusops hexandra* Roxb.

Vernacular names: Khirni, Rayan.

Phenology: Fl. & Fr.: Dec. - May

Distribution: India (Throughout India), Bangladesh, Cambodia, China, Myanmar, Sri Lanka, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind Ram Jharokhe Campus, 05.12.08, *R. K. Srivastava & A. Kumar* 250108.

Manilkara zapota (L.) Royen, *Blumea* 7: 410. 1953. *Achras zapota* L. *Manilkara achras* (Mill.) Fosberg.

Vernacular names: Chikoo, Sapota.

Phenology: *Fl. & Fr.:* throughout the year.

Distribution: India (cultivated throughout), Native to North & South America.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 05.08.08, *L. B. Chaudhary & R. K. Srivastava* 249638; Lucknow, National Botanical Research Institute, Botanic Garden, Between Moss House & Ram Jharokhe Campus, 05.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250104.

Mimusops elengi L., *Sp. Pl.* 349. 1753. Brandis, *Indian Trees* 425. 1906.

Vernacular names: Maulsari, Mansari.

Phenology: *Fl.:* Nov. - Dec.; *Fr.:* Apr.

Distribution: India (Andaman Is, South India), Australia, Indonesia, Malaysia, Myanmar, New Caledonia, Papua New Guinea, Philippines, Sri Lanka, Thailand, Vanuatu, Vietnam.

Cultivated & naturalized elsewhere in Tropics.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Between Ram Jharokhe Campus &

Moss House, 05.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250105.

51. SIMAROUBACEAE

***Ailanthus excelsa** Roxb., Pl. Coromandel 1: t. 23. 1795; Brandis, Indian Trees 125. 1906.

Vernacular names: Mahanimb, Maharukh.

Phenology: Fl.: Apr. - May

Distribution: India (Andaman and Nicobar, Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal), Sri Lanka.

52. STERCULIACEAE

Brachychiton populneus (Schott & Endl.) R. Br. in Benn. Pl. Jav. Rar. 234. 1844. *Poecilodermis populnea* Schott & Endl. *Sterculia diversifolia* G. Don

Vernacular names: Mad tree, Pagal patta.

Phenology: Fl.: Mar. - May.

Distribution: India (cultivated), Australia.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 03.10.08, *L. B. Chaudhary, R. K. Srivastava & Vartika Singh* 249698.

Firmiana colorata (Roxb.) R. Br. in Benn. Pl. Jav. Rar. 235. 1844 nov.). *Sterculia colorata* Roxb. *Erythropsis colorata* (Roxb.) Burk. *Firmiana rubriflora* Kosterm. *E. roxburghiana* Schott. & Endl.

Vernacular names: Kodaya Gum.

Phenology: *Fl.:* Mar. - May; *Fr.:* May - Jun.

Distribution: India (Andaman and Nicobar, Eastern Peninsula and Western Himalaya), Bangladesh, Bhutan, China, Indonesia, Malaysia, Myanmar, Nepal, Sri Lanka, Thailand, Vietnam. Cultivated elsewhere.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Conservatory House (Imambara side), 18.03.09, *L. B. Chaudhary & A. Kumar* 250278.

Guazuma ulmifolia Lamk., Encycl. 3: 52. 1789. *Theobroma guazuma* L.

Vernacular names: Rudrakshi.

Phenology: *Fl.:* Apr. - Jul.; *Fr.:* Feb. - Jun.

Distribution: India (Frequently cultivated in the warmer parts), Sri Lanka, North & South America.

Naturalized & cultivated elsewhere.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind Moss House, 05.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249795.

***Pterospermum acerifolium** (L.) Willd., Sp. Pl. 3 (1): 729. 1800.

Pentapetes acerifolia L.

Vernacular names: Kanak-champa, Muchkund.

Phenology: Fl.: hot season.

Distribution: India (North-east region), Bangladesh, Myanmar, Nepal, Thailand.

Cultivated in Pakistan.

Pterospermum lanceaefolium Roxb., Fl. Ind 3: 163. 1832; Brandis,

Indian Trees 92. 1906.

Vernacular names: Mayung.

Phenology: Fl.: hot season.

Distribution: India (N.W.Himalaya, Meghalaya, Manipur), Bangladesh.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Tuberose Garden, 11.07.08, *L. B. Chaudhary & R. K. Srivastava* 249084; Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg road side, 27.11.08, *L. B. Chaudhary, R.K.Srivastava & A. Kumar* 249756.

Pterygota alata (Roxb.) R. Br. in Benn., Pl. Jav. Rar. 234. 1844.

Sterculia alata Roxb.

Phenology: Fl. & Fr.: Mar. - Aug.

Distribution: India (South India), Bangladesh, Bhutan, China, Myanmar.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Tuberose Garden, 11.07.08, *L. B. Chaudhary & R. K. Srivastava* 249081.

****Pterygota alata*** (Roxb.) R. Br. var. ***irregularis*** (Sm.) Deb & Basu, *Bull. Bot. Surv. India* 24 (1–4): 203 (1982 publ. 1983).

Sterculia foetida L., *Sp. Pl.* 1008. 1753; Brandis, *Indian Trees* 80. 1906. **Fig. 47**

Vernacular names: Jangli badam.

Phenology: *Fl.:* Apr. - May.

Distribution: India (Western Peninsula), Bangladesh, Indonesia, Malaysia, Myanmar, North Australia, Sri Lanka.

Cultivated elsewhere in Tropics.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic garden, Near Tuberose Garden, 11.07.08, *L. B. Chaudhary & R. K. Srivastava* 249085.

Sterculia urens Roxb., *Pl. Coromandel* 1: 25, t. 24. 1795; Brandis, *Indian Trees* 80. 1906.

Vernacular names: Kulu, Kadayam gum.

Phenology: *Fl.:* cold season; *Fr.:* Apr. - Jun.



Fig. 47. *Sterculia foetida* L.

Distribution: India (N. W. India, Assam, Bihar, M. P. Rajasthan, Eastern and Western Peninsulas), Myanmar & Sri Lanka.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Tuberoses Garden, 11.07.08, L. B. Chaudhary & R. K. Srivastava 249090.

53.STRYCHNACEAE

Strychnos nux - vomica L., Sp. Pl. 189. 1753; Brandis, Indian Trees 473. 1906. *S. nux - vomica* var. *oligosperma* Dop. *S. spireana* Dop.

Fig. 48

Vernacular names: Nux vomica, Kuchla, Kajra.

Phenology: *Fl.:* Feb. - Apr.; *Fr.:* cold season

Distribution: India (Throughout), Cambodia, Laos, Malaysia, Sri Lanka, Thailand, Vietnam.

Cultivated throughout Tropical Asia.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Behind Plant Molecular Biology Lab., Hargobind Khurana Marg, 01.10.08, L. B. Chaudhary & R. K. Srivastava 249687.

Strychnos potatorum L. f., Suppl. Pl. 148. 1782. Brandis, Indian Trees 474. 1906. *S. heterodoxa* Gilg; *S. stuhlmannii* Gilg.

Vernacular names: Clearing nut tree, Nirmali

Phenology: *Fl.:* Apr. - May; *Fr.:* cold season



Fig. 48. *Strychnos nux – vomica* L.

Distribution: India (Bihar, Madhya Pradesh, Western Peninsula), Africa, Madagascar, Myanmar, Sri Lanka.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Introduction Plot, 03.07.08. *L. B. Chaudhary & R. K. Srivastava* 249060; Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Introduction Plot, 28.08.08, *L. B. Chaudhary & R. K. Srivastava* 249663.

54. TELIACEAE

Berrya cordifolia (Willd.) Burret in Notizbl. Bot. Gart. Berl.-Dahl. 9: 606. 1926. *Espera cordifolia* Willd. *Berrya ammonilla* Roxb.

Fig. 49 (A & B)

Phenology: *Fl.:* cold season.

Distribution: India (Andaman & Nicobar, South India), Australia, Cambodia, Indonesia, Malaysia, Myanmar, Philippines, Sri Lanka, Thailand, Vietnam

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg, 01.10.08, *L. B. Chaudhary & R. K. Srivastava* 249682.



Fig. 49. *Berrya cordifolia* (Willd.) Burret

Grewia optiva Drumm. ex Burret in Notizbl. Bot. Gart. Berlin-Dahlem 9: 692. 1926. *G. oppositifolia* Buch.-Ham. ex D. Don

Vernacular names: Bhimal, Dhaman.

Phenology: *Fl.:* Mar. - Jun.

Distribution: India (Himachal Pradesh, Jammu and Kashmir, Punjab, Sikkim, Uttar Pradesh), Bhutan, Nepal, Pakistan.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Tuberose Garden, 11.07.08, *L. B. Chaudhary & R. K. Srivastava* 249082.

55. THEOPHRASTACEAE

Jacquinia aculeata (L.) Mez., I. Urban, Symb. Antill. 2: 445.1901.

Medeola aculeata L.

Distribution: India (cultivated), South America.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanical Garden, Floriculture & Medicinal Garden, 16.12.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250114.

56. ULMACEAE

Celtis australis L., Sp. Pl. 1043. 1753; Brandis, Indian Trees 595. 1906. *C. caucasica* Willd.

Vernacular names: Kharik, Kharak, Khirk.

Phenology: *Fl.:* Mar. - May; *Fr.:* Sep. - Nov.

Distribution: India (N. W. Himalaya, also in the plains of Punjab), Africa, Albania, Bulgaria, Former Yugoslavia, France, Greece, Italy, Portugal, Romania, Spain, Turkey.

Often cultivated & also Naturalized elsewhere.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, P. N. Mehra Marg (in front of B. P. Pal Rose Garden), 03.10.08, *L. B. Chaudhary, R. K. Srivastava & Vartika Singh* 249693.

***Holoptelea integrifolia** (Roxb.) Planch., Ann. Sci. Nat., Bot. ser. 3, 10: 259, 266. 1848; Brandis, Indian Trees 595. 1906. *Ulmus integrifolia* Roxb.

Vernacular names: Chilbil, Kanju, Papri.

Phenology: Fl.: Feb. - Mar.

Distribution: India (Throughout, in deciduous forests), Cambodia, Laos, Myanmar, Nepal, Sri Lanka, Vietnam.

57. VERBENACEAE

***Clerodendrum phlomidis** L.f., Suppl. Pl. 292. 1782 ("1781").

Vernacular names: Arni, Urni.

Phenology: Fl.: Nov. - Dec.

Distribution: India (Andhra Pradesh, Bihar, Daman and Diu, Delhi, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal), Myanmar, Pakistan, Sri Lanka.

Gmelina arborea Roxb., Hort. Bengal. 46. 1814; Brandis, Indian Trees 509. 1906.

Vernacular names: Gamhar, Khamara.

Phenology: *Fl.:* Feb. - Apr.; *Fr.:* May - Jun.

Distribution: India (Throughout), Bangladesh, Bhutan, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Vietnam.

Naturalized elsewhere in Tropics.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Near Canna Garden, 11.07.08, *L. B. Chaudhary & R. K. Srivastava* 249075.

***Gmelina asiatica** L., Sp. Pl. 626. 1753; Brandis, Indian Trees 509. 1906.

Vernacular names: Badhara.

Phenology: *Fl.:* Mar. - May; *Fr.:* Apr.

Distribution: India (Andhra Pradesh, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Tamil Nadu [incl. Rameswaram Island], West Bengal), Bangladesh, Cambodia, China, Indonesia, Malaysia, Myanmar, Sri Lanka, Thailand, Vietnam.

Gmelina philippensis Cham. in Linnea 7: 109.1832. *G. hystrix* Schult. ex Kurz.

Vernacular names: Badhara.

Phenology: *Fl. & Fr.:* Apr. - Sep.

Distribution: India (Kerala, Tamil Nadu), Indonesia, Malaysia, Myanmar, Philippines, Thailand, Vietnam.

Naturalized elsewhere in Tropics.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Besides *Bougainvillea* Germplasm Collection, 15.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250148.

***Premna latifolia** Roxb., Fl. Ind. ed. 1832, 3: 76. 1832; Brandis, Indian Trees 511. 1906. *P. mucronata* Roxb.

Vernacular names: Bakar.

Phenology: *Fl. & Fr.:* most part of the year.

Distribution: India (Andhra Pradesh, Assam, Bihar, Haryana, Karnataka, Kerala, Madhya Pradesh, Orissa, Punjab, Sikkim, Tamil Nadu, Uttar Pradesh, West Bengal), Bhutan, Cambodia, China, Laos, Indonesia, Malaysia, Myanmar, Nepal, Philippines, Sri Lanka, Thailand, Vietnam.

Tectona grandis L.f., Suppl. Pl. 151. 1782. Brandis, Indian Trees 505.1906.

Vernacular names: Teak, Sagun, Sagon, Sagaun, Sagwan.

Phenology: *Fl.:* Jul. - Aug.; *Fr.:* Nov. - Jan.

Distribution: India (almost throughout), Africa, Fiji, Guam, Indonesia, Malaysia, Myanmar, Philippines, Sri Lanka, Thailand, Vietnam.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Birbal Sahni Marg, 08.09.08, *L. B. Chaudhary & R. K. Srivastava* 249671.

Vitex negundo L., Sp. Pl. 638. 1753; Brandis, Indian Trees 503.1906.

Vernacular names: Nirgundi, Ningori, Nisinda, Shiwali, Sindvar.

Phenology: *Fl.:* May - Dec.; *Fr.:* cold season.

Distribution: India (common in the plains and lower hills), Afghanistan, Africa, Bangladesh, Bhutan, Cambodia, China, Indonesia, Japan, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Taiwan, Vietnam.

Widely cultivated & naturalized.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Herbal Garden (in front of Mini Pilot Plant), 28.11.08, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 249758.

***Vitex negundo** L. var. **cannabifolia** (Siebold & Zucc.) Hand.-Mazz.

Acti Horti Gothob. 9: 67. 1934. *V. cannabifolia* Siebold & Zucc.

Phenology: *Fl.:* Apr. - Aug.

Distribution: India (Gujarat, Haryana, Karnataka, Maharashtra, Punjab, Tamil Nadu), China, Hong-Kong, Malaysia, Nepal, Thailand.

Vitex pinnata L., Sp. Pl. 638. 1753. *V. pubescens* Vahl. *V. arborea*

Roxb.

Phenology: *Fl.:* Jan. - Mar.

Distribution: India (Andhra Pradesh, Assam, Gujarat, Karnataka, West Bengal), Bangladesh, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand, Vietnam.

Cultivated & naturalized elsewhere in Tropics.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 01.06.09, *L. B. Chaudhary, A. Kumar, G. Kaur & P. Dubey* 250372.

GYMNOSPERM

1. ARAUCARIACEAE

Agathis robusta (Muell.) Bailey, Syn. Queensl. Fl. 498. 1883.

Dammara robusta Moore ex Muell. *D. palmerstonii* Muell.
Agathis palmerstonii (Muell.) Bailey. *A. robusta* var. *palmerstonii* (Muell.) Silba.

Distribution: India (cultivated), Australia, Papua New Guinea.

Voucher specimens: Lucknow, National Botanical Research Institute, Botanic Garden, Inside Plant Nursery, 15.01.09, *L. B. Chaudhary, R. K. Srivastava & A. Kumar* 250155.

2. CYCADACEAE

***Cycas revoluta** Thunb., Verh. Holl. Maatsch. Weetensch. Haarlem 20(2): 424, 426 - 427. 1782; Brandis, Indian Trees 698. 1906.

Vernacular names: Sago cycas.

Phenology: *Fl.:* May - Jul.; *Fr.:* Oct. - Nov.

Distribution: India (cultivated), China, Japan.

Commonly cultivated in gardens.

***Cycas rumphii** Miq., Bull. Sci. Phys. Nat. Neerl. 2:45. 1839;
Brandis, Indian Trees 698. 1906.

Vernacular names: Ceylon sago palm.

Distribution: India (Andaman & Nicobar Islands), China, Fiji,
Guam, Indonesia, Malaysia, New Caledonia, Papua New Guinea,
Soloman Islands, Sri Lanka.

3. PINACEAE

Pinus roxburghii Sarg., Silva 11: 9. 1897. *P. longifolia* Roxb. ex
Lamb.

Vernacular names: Chir, Pine.

Phenology: Fl.: Apr. - Jun.

Distribution: India (Himalaya), Afghanistan, Bhutan, China,
Myanmar, Nepal.

Cultivated in plains also.

4. PODOCARPACEAE

Afrocarpus gracilior (Pilg.) Page in Notes Roy. Bot. Gard.
Edinburgh 45: 383. 1989 ("1988"). *Podocarpus gracilior* Pilg.

Decussocarpus gracilior (Pilg.) de Laub.

Vernacular names: East African yellowwood.

Phenology: Fl.: spring season.

Distribution: India (cultivated), Ethiopia, Kenya, Tanzania,
Uganda.