

Flora of India  
Series 2

# FLORA OF MAHARASHTRA STATE

DICOTYLEDONES

VOLUME 2

Editors

N. P. Singh,  
P. Lakshminarasimhan,  
S. Karthikeyan  
&  
P. V. Prasanna



BOTANICAL SURVEY OF INDIA

# **FLORA OF MAHARASHTRA STATE**

## **DICOTYLEDONES**

### **VOLUME 2**

**(Combretaceae to Ceratophyllaceae)**

Flora of India  
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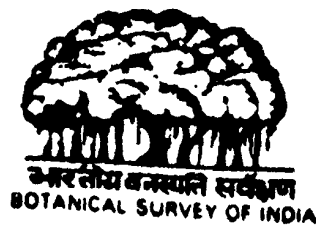
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Front Jacket : **Argyreia cuneata** (Willd.) Ker Gawl.

Back Jacket : **Ceropegia sahyadrica** Ansari & Kulkarni

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## PREFACE

The present publication of Flora of Maharashtra State: Dicotyledones is in continuation of the Volume 1 published in January 2000. In the first volume, 70 families have been treated besides exhaustive introductory chapters. This second and final volume deals with the systematic treatment of 91 families (Combretaceae-Ceratophyllaceae) comprising 1319 species, 13 subspecies, 67 varieties and 4 formae belonging to 527 genera occurring in wild and also 437 cultivated taxa. Line drawings of 143 plants and 32 colour photographs have been rendered. At the end of this volume, additions which were noted later, to those already treated are given. A total of 46 species, 2 subspecies, 17 varieties and 3 formae belonging to 21 families (of which one family viz., Grossulariaceae) are new additions to the Flora. In cultivated category, 91 species, 1 subspecies and 7 varieties have been added.

With the publication of this second volume, the entire Angiosperm Flora of the State is made available to all those interested in knowing the rich floristic wealth of the state.

### FLORA OF MAHARASHTRA STATE : STATISTICS (ANGIOSPERMS)

Group	Wild							Cultivated Taxa
	Families	Genera	Species	Sub-species	Varieties	Sub-varieties	Formae	
DICOTYLEDONES	167	841	2221	25	137	--	07	796
MONOCOTYLEDONES	34	256	913	03	39	01	01	145
<b>TOTAL</b>	<b>201</b>	<b>1097</b>	<b>3134</b>	<b>28</b>	<b>176</b>	<b>01</b>	<b>08</b>	<b>941</b>

**EDITORS**

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★ ★ ★

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**Combretum albidum** G. Don



**Sonneratia caseolaris** (L.) Engl.





***Ixora brachiata* Roxb. - Endemic**



***Pavetta crassicaulis* Bremek.**



**Senecio bombayensis** Balakr.



**Campanula alphonsii** Wall. ex A. DC. - Endemic  
*Courtesy : Dr. S. R. Yadav, S. U. K.*





**Jasminum malabaricum** Wight - Endemic  
*Courtesy : Dr. P. Tetali, N. G. C. P. R.*



**Carissa congesta** Wight



**Brachystelma malwanense** Yadav et al. - Endemic  
*Courtesy : Dr. S. R. Yadav, S. U. K.*



**Ceropegia evansii** McC. - Endemic  
*Courtesy : Dr. P. Tetali, N. G. C. P. R.*





**Ceropegia fantastica** Sedgw. - Endemic  
*Courtesy : Dr. S. R. Yadav, S. U. K.*



**Ceropegia jainii** Ansari & Kulkarni - Endemic  
*Courtesy : Dr. P. Tetali, N. G. C. P. R.*



***Ceropegia noorjahaniae* Ansari - Endemic**



***Ceropegia oculata* Hook. - Endemic**





**Ceropegia sahyadrica** Ansari & Kulkarni - Endemic



**Frerea indica** Dalz. - Endemic  
*Courtesy : Dr. P. Tetali, N. G. C. P. R.*





**Oxystelma esculentum** (L. f.) R. Br.



**Swertia densifolia** (Griseb.) Kashyapa

*Courtesy : Dr. P. Tetali, N. G. C. P. R.*



**Paracaryopsis malabarica** (C. B. Cl.)  
Mill. - Endemic  
*Courtesy : Dr. P. Tetali, N. G. C. P. R.*



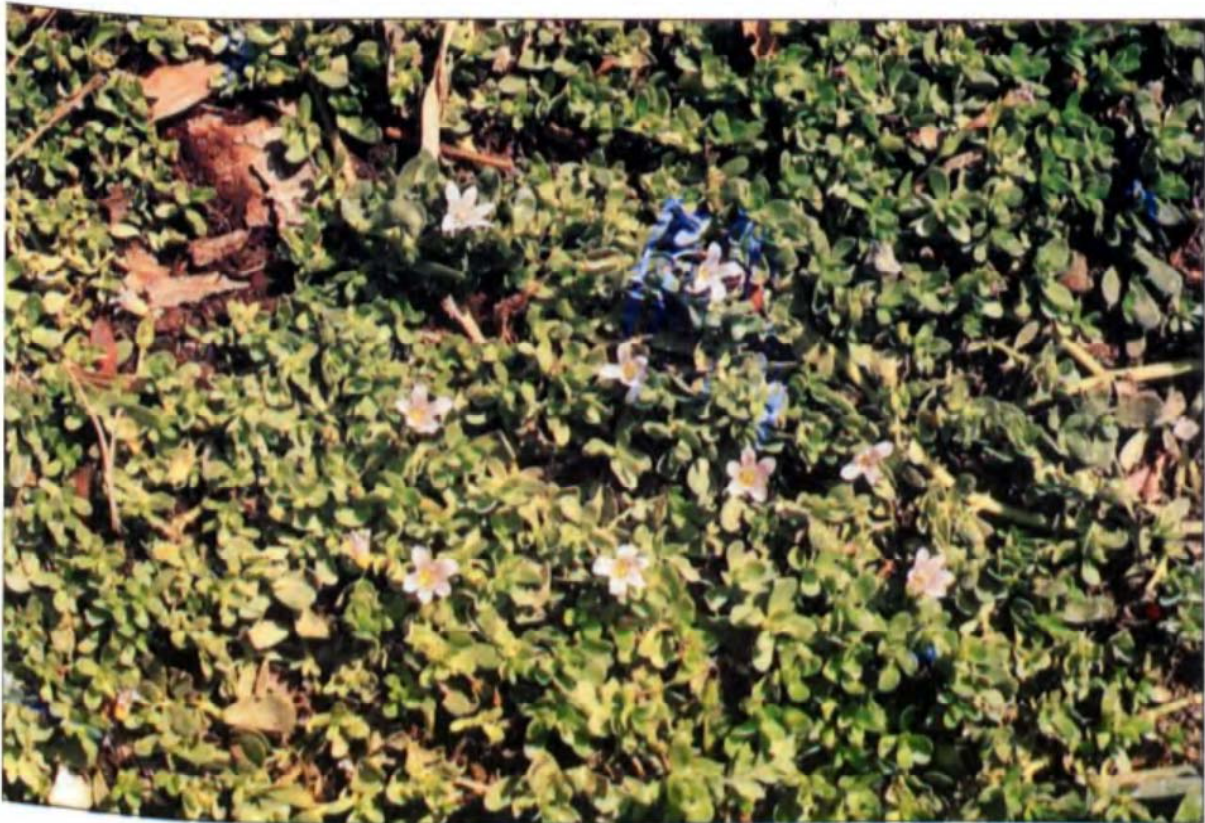
**Argyreia cuneata** (Willd.)  
Ker - Gawl. - Endemic  
*Courtesy : Dr. P. Tetali, N. G. C. P. R.*





**Datura metel L.**

*Courtesy : Dr. P. Tetali, N. G. C. P. R.*



**Bacopa monnieri (L.) Penn.**



**Centranthera indica (L.) Gamble**  
*Courtesy : Dr. P. Tetali, N. G. C. P. R.*



**Martynia annua L.**





**Acanthus ilicifolius L.**

*Courtesy : Dr. P. Tetali, N. G. C. P. R.*



**Barleria gibsonioides Blatt. - Endemic**

*Courtesy : Dr. P. Tetali, N. G. C. P. R.*



**Barleria lawii** T. And.  
*Courtesy : Dr. P. Tetali, N. G. C. P. R.*



**Carvia callosa** (Wall.) Bremek. - Endemic  
*Courtesy : Dr. P. Tetali, N. G. C. P. R.*





**Aerva lanata** (L.) A. L. Juss. ex Schult.



**Beilschmiedia dalzellii** (Meissn.) Kosterm.  
*Courtesy : Dr. P. Tetali, N. G. C. P. R.*



**Euphorbia concanensis** Janarthanam  
& Yadav - Endemic  
*Courtesy : Dr. S. R. Yadav, S. U. K.*



**Euphorbia laeta** Heyne ex Roth



## COMBRETACEAE

(P. G. Diwakar)

- |    |                                       |     |             |
|----|---------------------------------------|-----|-------------|
| 1. | Petals present:                       |     |             |
|    | 2. Straggling shrubs; leaves opposite | ... | COMBRETUM   |
|    | 2. Erect shrubs; leaves alternate     | ... | LUMNITZERA  |
| 1. | Petals absent:                        |     |             |
|    | 3. Trees; leaves alternate:           |     |             |
|    | 4. Inflorescence of spikes or racemes | ... | TERMINALIA  |
|    | 4. Inflorescence of heads             | ... | ANOGEISSUS  |
|    | 3. Straggling shrubs; leaves opposite | ... | CALYOPTERIS |

### ANOGEISSUS (DC.) Guill. & Perr.

- |    |   |     |                     |
|----|---|-----|---------------------|
| 1. | Calyx-stalks curved; wings entire             | ... | <i>A. latifolia</i> |
| 1. | Calyx-stalks not curved; wings jagged at apex | ... | <i>A. acuminata</i> |

**Anogeissus acuminata** (Roxb. ex DC.) Guill. & Perr. Fl. Seneg. Tent. 1: 280. 1832; C.B.Cl. in Hook. f. Fl. Brit. India 2:450. 1878; Scott in Kew Bull. 33: 563. 1979; Gang. & T. Chakrab. in J. Econ. Tax. Bot. 21 : 284. 1997. *Conocarpus acuminatus* Roxb. ex DC. Prodr. 3:17. 1828. *Anogeissus pendula* Edgew. Cat. Pl. Banda 47. 1851 & in J. Asiat. Soc. Bengal 21: 171. 1873; C. B. Cl. in Hook. f. op. cit 451.; Cooke, Fl. Pres. Bombay 1: 513. 1958 (Repr.). 'Dhankra', 'Dhao', 'Kardahi'.

Large deciduous trees, 12–15 m high. Leaves 3–7 x 1.5–3.5 cm, elliptic or elliptic-lanceolate, apex acute, pubescent. Drupes c 0.25 x 0.5 cm, broadly trapezoidal, laterally winged.

*Fls. & Frts.* : February–July.

*Illus.* : Bedd. Fl. Sylv. t. 16. 1869.

*Distrib.* : Bombay, Chandrapur (Scott, op. cit.), Thane.

**A. latifolia** (Roxb. ex DC.) Wall. ex Guill. & Perr. Fl. Seneg. Tent. 1:280. 1832; C.B.Cl. in Hook. f. Fl. Brit. India 2:450. 1878; Cooke, Fl. Pres. Bombay 1:512. 1958 (Repr.); Scott in Kew Bull. 33:560. 1979; Gang. & T. Chakrab. in J. Econ. Tax. Bot. 21. 288. 1997. *Conocarpus latifolia* Roxb. ex DC. Prodr. 3:17. 1828. 'Dabria', 'Dhawda', 'Dhawra'.

Deciduous trees, 9–18 m high. Leaves 3–10 x 1.5 x 4.5 cm, ovate to oblong-elliptic, apex obtuse. Flowers sessile, in dense heads; calyx pubescent, teeth triangular. Fruits with persistent calyx stalk, wings entire, beaked, clustered.

*Fls. & Frts.* : March–September.

*Illus.* : Wight, Ic. t. 994. 1845 (*Conocarpus latifolia*); Talb. For. Fl. Bombay Pres. & Sind 2: 23, f. 301. 1911; Matthew, Illus. Fl. Tamilnadu Carnatic, 2: t. 261. 1982.

*Distrib.* : Common throughout in dry deciduous forests.

#### CALYCOPTERIS Lam.

**Calycopteris floribunda** (Roxb.) Poir. in Lam. Encycl. Suppl. 2:41. 1811; C.B.Cl. in Hook. f. Fl. Brit. India 2:449. 1878; Cooke, Fl. Pres. Bombay 1:512. 1958 (Repr.); Gang. & T. Chakrab. in J. Econ. Tax. Bot. 21 : 294. 1997. *Getonia floribunda* Roxb. Pl. Cor. t. 87. 1798. 'Baguli', 'Ukshi'.

Shrubs; young parts rusty puberulous. Leaves 3.5–9.0 x 1.5 cm, elliptic–oblong or ovate–lanceolate, tomentose on both sides. Flowers yellowish–green, in terminal panicles. Fruits 0.8–1.0 cm long, samaroid, 5–ribbed, pubescent, with a crown of calyx lobes.

*Fls. & Frts.* : February–July.

*Illus.* : Talb. For. Fl. Bombay Pres. & Sind 2:21, f. 300. 1911.

*Distrib.* : Frequent in deciduous forests. Chandrapur, Kolhapur, Nasik, Pune, Raigad, Ratnagiri, Satara, Sindhudurg.

#### COMBRETUM Loefl. (nom. cons.)

- |   |     |                      |
|---|-----|----------------------|
| 1. Flowers with 5–calyx lobes; fruits 5–winged    | ... | <i>C. album</i>      |
| 1. Flowers with 4–calyx lobes; fruits 4–winged:   |     |                      |
| 2. Calyx tube funnel shaped and longer than ovary | ... | <i>C. latifolium</i> |
| 2. Calyx tube campanulate, equalling ovary        | ... | <i>C. albidum</i>    |

**Combretum albidum** G. Don in Trans. Linn. Soc. London 15:429. 1824; Gang. & T. Chakrab. in J. Econ. Tax. Bot. 21 : 301. 1997. *C. ovalifolium* Roxb. Fl. Ind. 2:226. 1832; C.B.Cl. in Hook. f. Fl. Brit. India 2:458. 1878; Cooke, Fl. Pres. Bombay 1:515. 1958 (Repr.). 'Madbel'.

Lianas; branches divaricate. Leaves 4–10 x 3.5–5.5 cm, elliptic or ovate. Flowers greenish–white in large panicles. Fruits indehiscent, ovoid, 4–winged, 2.5 x 1.5 cm, including papery wings.

*Fls. & Frts.* : January–May.

*Illus.* : Talb. For. Fl. Bombay Pres. & Sind 2:26, f. 303. 1911; Ic. Roxb. Fasc. 7, t. 5. 1976 (Repr. ed.); Matthew, *Illus. Fl. Tamilnadu Carnatic* 2: t. 263. 1982.

*Distrib.* : Frequent in deciduous forests. Ahmednagar, Akola, Buldhana, Chandrapur, Nasik, Osmanabad, Pune, Raigad, Ratnagiri, Satara, Sindhudurg, Thane, Yavatmal.

**C. album** Pers. Syn. Pl. 1 : 411. 1805; Gang. & T. Chakrab. in J. Econ. Tax. Bot. 14 : 23. 1990 & *ibid.* 21 : 304, f. 8 B.1997. *C. roxburghii* Spr. Syst. 2 : 331. 1825; Sant. & Wagh in Bull. Bot. Surv. India 5 : 106. (1963) 1964. *C. decandrum* Roxb. Pl. Cor. 1 : 43, t. 59. 1796 non Jacq. 1760; C. B. Cl. in Hook. f. Fl. Brit. India 2 : 452. 1878.

Shrubs; bark grayish-white, corky. Leaves oblong. Flowers white, in terminal panicles with large conspicuous bracts turning creamy-white. Fruits indehiscent, oblong, 5-winged.

*Fls. & Frts.* : January-May.

*Distrib.* : Occasional in deciduous forests. Buldhana, Chandrapur.

**C. latifolium** Bl. Bijdr. 641. 1825; Gang. & T. Chakrab. in J. Econ. Tax. Bot. 21: 311. 1997. *C. extensum* Roxb. ex G. Don in Trans. Linn. Soc. London 15:414. 1827; C.B.Cl. in Hook. Fl. Brit. India 2:458. 1878; Cooke, Fl. Pres. Bombay 1:515. 1958 (Repr.). *C. macrophyllum* Roxb. Fl. Ind. 2: 231. 1832; Almeida, Fl. Mah. 2: 250. 1998. '*Piluki*'.

Lianas, 15-20 m long. Leaves 5-15 x 4-8 cm, ovate-elliptic or elliptic. Flowers greenish-white, in panicles of dense spikes. Fruits 4 x 3 cm, indehiscent, suborbicular, yellowish.

*Fls. & Frts.* : January-May.

*Illus.* : Wight, Ic. t. 227. 1839 (*C. wightianum* Wall. ex. Wight & Arn. Prodr. 317. 1834).

*Distrib.* : Infrequent in moist deciduous forests. Dhule, Pune, Ratnagiri, Satara, Sindhudurg, Thane. Also cultivated in Bombay gardens (Almeida, op. cit.).

#### LUMNITZERA Willd.

**Lumnitzera racemosa** Willd. in Ges. Naturf. Fr. Berlin Neue Schr. 4:187. 1803; C.B.Cl. in Hook. f. Fl. Brit. India 2:452. 1878; Cooke, Fl. Pres. Bombay 1: 514; 1958 (Repr.); Exell in Steenis, Fl. Males. 1, 4:588. 1954; Gang. & T. Chakrab. in J. Econ. Tax. Bot. 21 : 326. 1997.

Small trees or shrubs, upto 2 m high. Leaves 3–5 x 1.2 cm, oblanceolate to elliptic. Flowers whitish–green, in 0.8–1.0 cm long spikes. Drupes c 1 cm long, ovoid, angled, crowned by persistent calyx.

*Fls. & Frts.* : February–March.

*Illus.* : Talb. For. Fl. Bombay Pres. & Sind 2: 24, f. 302. 1911.

*Distrib.* : Occasional along coasts in mangrove swamps. Ratnagiri, Sindhudurg.

#### TERMINALIA L. (nom. cons.)

1. Drupes winged; spikes panicled:
  2. Drupes equally 3-winged, rusty puberulous ... *T. paniculata*
  2. Drupes equally 5-winged, glabrous:
    3. Wings of fruits hard, lines on wings curved upwards ... *T. cuneata*
    3. Wings of fruits papery, lines on wings straight ... *T. elliptica*
1. Drupes not winged; spikes simple or sparsely branched:
  4. Leaves clustered at apices of branches, eglandular ... *T. bellirica*
  4. Leaves not clustered at apices of branches, frequently glandular on petiole or at base of midrib ... *T. chebula*

**Terminalia bellirica** (Gaertn.) Roxb. Pl. Cor. 2:54, t. 198. 1805 ('*bellerica*'); C.B.Cl. in Hook. f. Fl. Brit. India 2:445. 1878; Cooke, Fl. Pres. Bombay 1: 508. 1958 (Repr.); Gang. & T. Chakrab. in J. Econ. Tax. Bot. 21: 338. 1997. *Myrobalanus bellirica* Gaertn. Fruct. 2:90, t. 97. 1791. *Terminalia bellirica* var. *laurinoides* C.B.Cl. in Hook. f. op. cit. '*Behda*', '*Bellirina*', '*Hela*'.

Large trees, 15–20 m tall; young parts rufous pubescent. Leaves 8–15 x 6–10 cm, obovate or broadly elliptic, tomentose on both sides. Flowers yellowish–brown, in axillary spikes, foetid. Drupes subglobose, 3 x 2 cm, softly tomentose.

*Fls. & Frts.* : March–November.

*Illus.* : Wight, Ic. t. 91. 1838; Bedd. Fl. Sylv. 19. 1869; Talb. For. Fl. Bombay & Sind 2:13, f. 294. 1911.

*Distrib.* : Common throughout.

**T. chebula** Retz. Obs. Bot. 5:31. 1788; C.B.Cl. in Hook. f. Fl. Brit. India 2:446. 1878; Cooke, Fl. Pres. Bombay 1: 509. 1958 (Repr.); Gang. & T. Chakrab. in J. Econ. Tax. Bot. 21: 345, f. 19B. 1997. *T. chebula* var. *tomentella* (Kurz) C.B.Cl. in Hook. f. op. cit.; Almeida, Fl. Mah. 2: 254. 1998. '*Hirad*', '*Hirda*'.

Trees, 5–10 m high. Leaves 6–13 x 3–7 cm, elliptic–ovate or elliptic–oblong. Flowers yellow, in simple or sparsely branched spikes. Drupes 3 x 2 cm, ellipsoid or ovoid, 5–ribbed when dry.

*Fls. & Frts.* : February–May.

*Illus.* : Talb. For. Fl. Bombay Pres. & Sind 2:15, f. 295. 1911; Gang. & T. Chakrab. op. cit.

*Distrib.* : Frequent in moist deciduous or dry deciduous forests. Ahmednagar, Chandrapur, Dhule, Kolhapur, Nasik, Pune, Raigad, Ratnagiri, Satara, Sindhudurg, Thane.

**T. cuneata** Roth, Nov. Pl. Sp. 379. 1821; Gang. & T. Chakrab. in J. Econ. Tax. Bot. 16 : 556. 1922 & Ibid. 21 : 349, f. 20 B. 1997. *T. arjuna* (Roxb. ex DC.) Wight & Arn. Prodr. 314. 1834; C. B. Cl. in Hook. f. Fl. Brit. India 2 : 447. 1878; Cooke, Fl. Pres. Bombay 1 : 1958 (Repr.). *T. arjuna* var. *angustifolia* (Roxb.) C. B. Cl. in Hook. f. op. cit.; Cooke, op. cit. 'Arjun sadada', 'Kahu', 'Sadada'.

Trees, 10–15 m tall. Leaves 5–10 x 3–8 cm, elliptic–oblong, apex obtuse or subacute, base rounded or cordate. Flowers yellowish in short and terminal panicles. Drupes 3.0–4.5 x 2.0–2.5 cm, ovoid or obovoid.

*Fls. & Frts.* : February–November.

*Illus.* : Bedd. Fl. Sylv. t. 28. 1869; Talb. For. Fl. Bombay Pres. & Sind 2:17, f. 296. 1911 (*T. arjuna*); Gang. & T. Chakrab. op. cit.

*Distrib.* : Common throughout.

**T. elliptica** Willd. Sp. Pl. 4 : 969. 1806; Gang. & T. Chakrab. in J. Econ. Tax. Bot. 16 : 601. 1922 & Ibid. 21 : 351, f. 21 A. 1997. *T. alata* Roth, Nov. Sp. Pl. 379. 1821. *T. crenulata* Roth, Nov. Sp. Pl. 380. 1821. *T. coriacea* (Roxb.) Wight & Arn. Prodr. 315. 1834 non Rottl. ex Spr. 1807. *T. tomentosa* (Roxb. ex DC.) Wight & Arn. Prodr. 314. 1834 non Mart. 1829; C. B. Cl. in Hook. f. Fl. Brit. India 2 : 447. 1878; Cooke, Fl. Pres. Bombay 1 : 510. 1958 (Repr.). *T. tomentosa* var. *crenulata* (Roth) C. B. Cl. in Hook. f. op. cit. 448. *T. tomentosa* var. *coriacea* (Roxb.) C. B. Cl. in Hook. f. op. cit.

Trees, 3–20 m tall; bark rough, deeply cracked. Leaves 5–17 x 2.5–8.0 cm, elliptic to elliptic–lanceolate or elliptic–oblong, ovate or obovate. Flowers yellowish–brown or greenish–yellow, in pubescent panicles. Drupes 2.4–4.0 cm across, obovoid–oblong or globose, dark brown or reddish.

*Fls. & Frts.* : April–November.

*Illus.* : Wight Ic. t. 195. 1839; Bedd. Fl. Sylv. t. 17. 1869 & Talb. For. Fl. Bombay Pres. & Sind 2 : 18, f. 297. 1911 (*T. tomentosa*); Gang. & T. Chakrab. op. cit.

*Distrib.* : Frequent in deciduous forests.

**T. paniculata** Roth, Nov. Pl. Sp. 383. 1821; C.B.Cl. in Hook. f. Fl. Brit. India 2: 448. 1878; Cooke, Fl. Pres. Bombay 1: 510. 1958 (Repr.); Gang. & T. Chakrab. in J. Econ. Tax. Bot 21: 357, f. 22 B. 1997. '*Honal*', '*Kindal*', '*Kinjal*'.

Trees, 10–15 m tall; young parts rusty pubescent. Leaves 7–15 x 3.0–6.5 cm, oblong–elliptic, with 2–sessile glands at base. Flowers greenish–white, in paniced–spikes. Drupes brownish–red, with unequal wings.

*Fls. & Frts.* : April–August.

*Illus.* : Talb. For. Fl. Bombay Pres. & Sind 2:20, f. 229. 1911; Gang. & T. Chakrab. op. cit.

*Distrib.* : Frequent in moist deciduous forests. Raigad, Ratnagiri, Satara, Sindhudurg, Thane.

#### CULTIVATED SPECIES :

**Combretum coccineum** Lam. Encycl. 1 : 734. 1784; Cooke, Fl. Pres. Bombay 1 : 516. 1958 (Repr.); Gang. & T. Chakrab. in J. Econ. Tax. Bot. 21 : 362. 1997.

Extensive climbers. Foliage dark green. Flowers brilliant scarlet coloured and in dense elegant racemes.

*Distrib.* : Bombay, Pune, Thane.

*Notes* : It is a native of Madagascar.

**Quisqualis indica** L. Sp. Pl. ed. 2 : 556. 1762; C. B. Cl. in Hook. f. Fl. Brit. India 2 : 459. 1878; Cooke, Pres. Bombay 1 : 517. 1958 (Repr.); Gang. & Chakrab. in J. Econ. Tax. Bot 21 : 357, f. 22 B. 1997. '*Baramasi*', '*Lalchameli*', '*Rangoonvel*'.

Large, straggling shrubs. Leaves 5–18 x 2.5–9.0 cm, elliptic–oblong, acuminate at apex, rounded or subcordate at base. Flowers in terminal, corymbose spikes; petals white, turning pink to deep red. Fruits c 3 x 1 cm, ovoid or ovoid–ellipsoid, chocolate brown, wings 5.

*Fls.* : Almost throughout the year & *Frts.* : Very rare.

*Illus.* : Gang. & T. Chakrab. op. cit.

*Distrib.* : It is a native of Tropical Asia, grown in gardens.

**Terminalia catappa** L. Syst. Nat. ed. 2 : 674. 1767; C.B.Cl. in Hook. f. Fl. Brit. India 2: 444. 1878; Cooke, Fl. Pres. Bombay 1: 511. 1958 (Repr.); Gang. & T. Chakrab. in J. Econ. Tax. Bot. 21: 343, f. 18 B. 1997. '*Badam*', '*Deshi-badam*', '*Hirani-badam*', '*Jangli-badam*'.

Trees, 8–12 m tall; branches in horizontal whorls. Leaves crowded at ends of branches, 15–20 x 8–12 cm, obovate, rounded or shortly acuminate at apex, glabrous above, pubescent on nerves beneath; petioles with 1–2 glands at tip on lower surface. Flowers sessile, in axillary spikes, white or yellowish–green. Fruits 3–7 x 2–5 cm, ovoid or ellipsoid, usually reddish–green.

*Fls. & Frts.* : April–October.

*Illus.* : Wight Ic. t. 172. 1839; Gang. & T. Chakrab. op. cit.

*Distrib.* : It is a native of Tropical Asia, planted in gardens and along roadsides.

## MYRTACEAE

(B. G. Kulkarni)

- |  |     |          |
|--|-----|----------|
| 1. Calyx closed entirely in buds, bursting irregularly; fruits many-seeded | ... | PSIDIUM  |
| 1. Calyx open in buds; fruits 1–2-seeded:                                  |     |          |
| 2. Calyx tube produced beyond ovary, lobes shorter than petals             | ... | SYZYGIUM |
| 2. Calyx tube not as above, lobes longer than petals                       | ... | EUGENIA  |

## EUGENIA L.

- |                        |     |                       |
|------------------------|-----|-----------------------|
| 1. Flowers pedicellate | ... | <i>E. vartakii</i>    |
| 1. Flowers sessile     | ... | <i>E. macrosepala</i> |

**Eugenia macrosepala** Duthie in Hook. f. Fl. Brit. India 2:501. 1879; Cooke, Fl. Pres. Bombay 1:524. 1958 (Repr.).

Shrubs or trees, 3–10 m high; young leaves and branchlets tomentose. Leaves 4–12 x 3–6 cm, elliptic or elliptic-oblong, drying

brown, hairy on nerves beneath, apex acuminate, base acute. Flowers sessile, 1.2–2.0 cm across, white, fragrant, in axillary clusters, 2–5; calyx hairy; petals ovate. Berries 1.5–2.0 cm across, globose. Seeds 2–3, irregularly angled.

*Fls. & Frts.* : February–May.

*Distrib.* : Occasional in semi-evergreen forests. Ahmednagar (Cooke, op. cit.).

*Notes.* : Though common in Karnataka, Cooke's report from Maharashtra indicates northern extension of species.

**E. vartakii** S. M. Almeida, Fl. Savantwadi 1: 170. 1990. *Eugenia bracteata* (Willd) Roxb. ex DC. Prodr. 3: 264. 1828 non Rich, 1792; Cooke, Fl. Pres. Bombay 1: 526. 1958 (Repr.). *E. bracteata* var. *roxburghii* (DC.) Duthie in Hook f. Fl. Brit. India 2: 502. 1879. *E. heynei* (Spr.) Rathakr. & N.C. Nair in J. Econ. Tax. Bot. 5: 232. 1984.

Shrubs or small trees, 5–8 m tall. Leaves ovate-oblong, shortly petioled, glabrous, chartaceous, margins recurved. Flowers white, in axillary cymes; peduncles rusty-villous. Berries globose, red.

*Fls. & Frts.* : March–May.

*Distrib.* : Cooke (op. cit.) mentions it as native of South India, planted in Pune. S. M. Almeida (op. cit.) reports it in forest areas, rare. Sindhudurg.

#### PSIDIUM L.

**Psidium guajava** L. Sp. Pl. 470. 1753; Duthie in Hook. f. Fl. Brit. India 2:468. 1878; Cooke, Fl. Pres. Bombay 1:529. 1958 (Repr.). '*Jamb*', '*Peru*'.

Shrubs, 3–5 m high; bark smooth, peeling off. Leaves 4–10 x 3–6 cm, oblong-elliptic, pubescent on both sides, apex acute, obtuse or rounded, base rounded. Flowers 1.5–2.5 cm across, white, axillary, solitary; calyx and petals pubescent. Berries 3–4 cm across, ovoid, pulpy.

*Fls. & Frts.* : November–June.

*Distrib.* : Native of Tropical America, cultivated and naturalized along streams near villages. Ahmednagar, Chandrapur, Nasik, Osmanabad, Pune, Ratnagiri, Satara, Sindhudurg.



## SYZYGIIUM Gaertn. (nom. cons.)

1. Flowers solitary or in pairs, rarely in fascicles ... *S. phillyraeoides*
1. Flowers usually more than 2 in cymes or racemes:
  2. Calyx tube with thickened, staminal disc at mouth:
    3. Calyx tube slenderly funnel-shaped; stamens red ... *S. laetum*
    3. Calyx tube shortly and stoutly hemispheric; stamens white ... *S. hemisphericum*
  2. Calyx tube not as above:
    4. Branchlets tetragonous; calyx tube turbinate:
      5. Leaves upto 5 cm broad, leaf-nerves close, parallel ... *S. rubicundum*
      5. Leaves more than 5 cm broad, leaf-nerves distant, scarcely parallel:
        6. Leaves coriaceous, dots pellucid; inflorescence branches stout ... *S. tamilnadensis*
        6. Leaves membranous, dots not as above; inflorescence branches slender ... *S. stocksii*
    4. Branchlets terete; calyx tube not as above:
      7. Calyx tube longer than broad:
        8. Calyx with white incrustation; petals 5 or less ... *S. zeylanicum*
        8. Calyx without white incrustation; petals upto 12 ... *S. lanceolatum*
      7. Calyx tube broader than long:
        9. Leaves gland-dotted; inflorescence terminal; calyx campanulate ... *S. caryophyllum*
        9. Leaves pellucid-dotted; inflorescence axillary, lateral or from branches below leaves; calyx not as above:
          10. Leaves upto 2.5 cm broad; calyx funnel-shaped ... *S. heyneanum*
          10. Leaves more than 3 cm broad; calyx turbinate ... *S. cumini*

**Syzygium caryophyllum** (L.) Alst. in Trim. Handb. Fl. Ceylon 6:116. 1931; Gandhi in Sald. & Nicols. Fl. Hassan Dt. 280. 1976. *Myrtus caryophyllum* L. Sp. Pl. 472. 1753. *Eugenia corymbosa* Lam. Encycl. 3:199. 1789; Cooke, Fl. Pres. Bombay 1:522. 1958 (Repr.). *E. caryophyllaea* Wight, Ill. 2: 15. 1850; Duthie in Hook. f. Fl. Brit. India 2:490. 1878. 'Bhedas', 'Nimbuli', 'Ranlavang'.

Shrubs or small trees, 2–5 m high. Leaves 4–10 x 2–5 cm, obovate or elliptic, subcoriaceous, apex acute, obtuse or abruptly bluntly acuminate, base tapering. Flowers 0.5–0.6 cm across, white, in laxly, trichotomous panicles of umbellules; calyx 0.3 cm long; corolla calyptrate. Berries 0.8–1.0 x 0.6–0.8 cm, globose, dark purple turning black.

*Fls. & Frts.* : March–October.

*Illus.* : Wight, Ic. t. 540. 1842 (*Eugenia caryophyllaea*).

*Distrib.* : Frequent in deciduous forests along Western ghats and coastal areas. Pune (Sant. 1967), Raigad, Ratnagiri, Satara, Sindhurg.

**S. cumini** (L.) Skeels in U. S. Dept. Agric. Bur. Pl. Industr. Bull. 248:25. 1912. *Myrtus cumini* L. Sp. Pl. 471. 1753. *Eugenia jambolana* Lam. Encycl. 3:198. 1789; Duthie in Hook. f. Fl. Brit. India 2:499. 1879; Cooke, Fl. Pres. Bombay 1:523. 1958 (Repr.). '*Jambhal*'.

Trees, 8–15 m high; bark thick, rough. Leaves 6–18 x 3–8 cm, elliptic-oblong or elliptic or ovate, subcoriaceous, close veined, apex acute to acuminate or subobtuse, base narrowed. Flowers white, sessile or shortly pedicelled, crowded in heads on ends of laxly paniced-cymes; calyx cupular; corolla calyptrate. Berries 1.5–2.2 x 1.0–1.5 cm, oblong or ovoid, purple, fleshy.

*Fls. & Frts.* : March–June.

*Illus.* : Wight, Ic. t. 535. 1842; Talb. For. Fl. Bombay Pres. & Sind 2:42, f. 313. 1911 (*Eugenia jambolana*); Matthew, Illus. Fl. Tamilnadu Carnatic 2: t 271. 1982.

*Distrib.* : In deciduous and semi-evergreen forests. Common throughout.

**S. hemisphericum** (Wight) Alst. in Trim. Handb. Fl. Ceylon 6:115. 1931; Ashton in Dassan. & Fosb. Rev. Handb. Fl. Ceylon 2: 430. 1981. *Eugenia hemispherica* Wight, Ic. t. 525. 1842; Duthie in Hook. f. Fl. Brit. India 2:477. 1878; Cooke, Fl. Pres. Bombay 1:519. 1958 (Repr.).

Trees, 10–15 m high; bark smooth, blackish. Leaves 7–12 x 3–6 cm, elliptic-oblong, ovate-lanceolate or oblanceolate, coriaceous, apex subacuminate, base tapering. Flowers 2.5–3.0 cm across, white, in axillary and terminal paniculate-cymes; calyx 0.6–1.0 cm long; petals ovate, 0.8 cm long. Berries 1.5–2.0 cm across, hemispheric, purple, crowned with persistent calyx segments.

*Fls. & Frts.* : December–June.

*Illus.* : Wight, op. cit.; Talb. For. Fl. Bombay Pres. & Sind 2: 33, f. 306. 1911.

*Distrib.* : Infrequent in moist deciduous and semi-evergreen forests along Western ghats. Kolhapur, Ratnagiri, Sindhudurg.

**S. heyneanum** (Duthie) Wall. ex Gamble, Fl. Pres. Madras 482. 1919 [1:341. 1967 (Repr.)]. *Eugenia heyneana* Duthie in Hook. f. Fl. Brit. India 2:500. 1879; Cooke, Fl. Pres. Bombay 1:524. 1958 (Repr.). 'Bhedas', 'Par-jambhal'.

- |                   |     |                       |
|-------------------|-----|-----------------------|
| 1. Cymes lateral  | ... | var. <i>heyneanum</i> |
| 1. Cymes axillary | ... | var. <i>alternans</i> |

**var. heyneanum.**

Shrubs or small trees, 3–5 m high. Leaves 6–11 x 2.0–3.2 cm, elliptic-lanceolate or oblanceolate, subcoriaceous, apex acute, base tapering. Flowers white, in small heads, in trichotomous cymes on old stem or in axils of fallen leaves, subsessile; calyx obscurely lobed; petals orbicular, calyptrate. Berries c 2.5 x 1.6 cm, ovoid to ellipsoid, reddish-brown when ripe.

*Fls. & Frts.* : February–June.

*Illus.* : Wight, Ic. t. 539. 1842 (*E. salicifolia* Grah.).

*Distrib.* : Frequent in deciduous forests along rivers and streams. Akola, Chandrapur, Dhule, Nanded, Nasik, Pune, Ratnagiri, Satara, Sindhudurg, Thane.

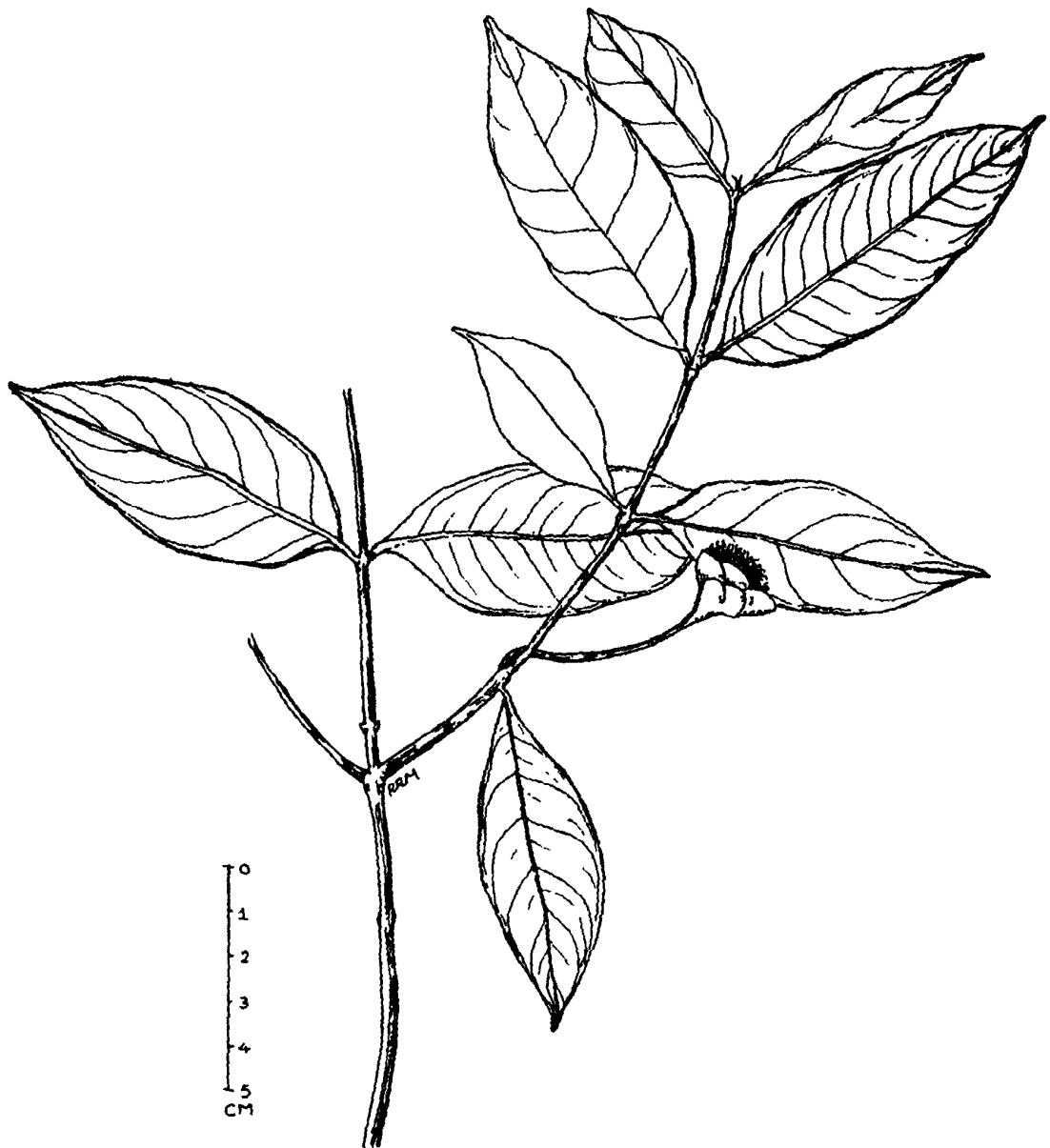
**var. alternans** (Duthie) B. G. Kulkarni & Lakshmi., comb. nov.

*Eugenia heyneana* var. *alternans* Duthie in Hook. f. Fl. Brit. India. 2:500. 1879; Cooke, Fl. Pres. Bombay 1:524. 1958 (Repr.).

All the characters like the species but it differs from the species in having cymes in the axils of upper leaves.

*Notes* : This variety is reported from deciduous forests of 'Konkan' (Duthie in Hook. f. op. cit. & Cooke, op. cit.).

**S. laetum** (Buch.–Ham.) Gandhi in Sald. & Nicols. Fl. Hassan Dt. 282. 1976. *Eugenia laeta* Buch.–Ham. in Wern. Trans. Soc. 5:338. 1824; Duthie in Hook. f. Fl. Brit. India 2:479. 1878; Cooke, Fl. Pres. Bombay 1:519. 1958 (Repr.).



***Syzygium laetum* (Buch.-Ham.) Gandhi**

Trees, 8–10 m high; branches slender, terete. Leaves 5–8 x 2–4 cm, oblong–lanceolate to elliptic–lanceolate, subcoriaceous, punctate, apex acuminate, base narrowed. Flowers 1.5–2.5 cm across, white, solitary or in few-flowered axillary cymes; calyx conical; petals orbicular. Berries c 2.5 x 1.6 cm, ovoid to ellipsoid, reddish–brown.

*Fls. & Frts.* : January–May.

*Illus.* : Wight, Ic. t. 526. 1842; Talb. For. Fl. Bombay Pres. & Sind 2:35, f. 307. 1911 (*Eugenia pauciflora* Wight).

*Distrib.* : Infrequent in semi–evergreen forests along ghats. Sindhudurg ('Phundaghat', Cooke, op. cit.).

**S. lanceolatum** (Lam.) Wight & Arn. Prodr. 330. 1834; Gandhi in Sald. & Nicols. Fl. Hassan Dt. 282. 1978 (II Repr.). *Eugenia lanceolata* Lam. Encycl. 3:200. 1789; Cooke, Fl. Pres. Bombay 1: 520. 1958 (Repr.). *E. wightiana* Wight, Ic. t. 529. 1842; Duthie in Hook. f. Fl. Brit. India 2:485. 1878.

Small trees, 5–8 m high; branches slender. Leaves 6–12 x 3–4 cm, elliptic–lanceolate, coriaceous, punctate, apex caudate–acuminate, base tapering. Flowers white, in subsessile, few-flowered, axillary cymes or on leafless branches; calyx tube clavate, elongate; petals calyptrate. Berries 1.8–2.5 cm long, ellipsoid, dark brown.

*Fls. & Frts.* : February–May.

*Illus.* : Wight, op. cit.

*Distrib.* : Occasional in moist deciduous / semi–evergreen forests. 'Konkan' (Cooke, op. cit.).

**S. phillyraeoides** (Trim.) Sant. in Kew Bull. 1948:276. 1948 & in Rec. Bot. Surv. India 16(1):92. 1967 (3rd Rev. ed.). *Eugenia phillyrioides* Trim. in J. Bot. 23:207. 1885. *E. mooniana* Wight, Ic. t. 551. 1842; Duthie in Hook. f. Fl. Brit. India 2:505. 1879; Cooke, Fl. Pres. Bombay 1:525. 1958 (Repr.).

Undershrubs or shrubs, 1.5–2.0 m high. Leaves 3–6 x 1.5–2.2 cm, elliptic or elliptic–lanceolate, coriaceous, apex acuminate or subobtuse, base narrowed. Flowers c 0.6 cm across, white, pedicels filiform, 1.8 cm long; calyx hairy; petals 4, ovate, glandular. Berries c 0.8 cm across, globose, scarlet.

*Fls. & Frts.* : October–February.



***Syzygium phillyraeoides* (Trim.) Sant.**

*Illus.* : Wight, op. cit.

*Distrib.* : Infrequent in moist deciduous and semi-evergreen forests along Western ghats. Kolhapur, Pune, Ratnagiri, Satara, Sindhudurg.

*Notes* : Sometimes this taxon is placed under *Eugenia* L. as *E. thwaitesii* Duthie, reference : Rathakrishnan & Nair in J. Econ. Tax. Bot. 5: 232. 1984 and also as *E. cotinifolia* Jacq. ssp. *phyllyraeoides* Ashton in Dassanayake & Fosberg, Rev. Handb. Fl. Ceylon 2: 413. 1981.

**S. rubicundum** Wight & Arn. Prodr. 330. 1834; Gamble, Fl. Pres. Madras 1:339. 1967 (Repr.). *Eugenia rubicunda* Wight, Ic. t. 538. 1842; Duthie in Hook. f. Fl. Brit. India 2: 495. 1878; Cooke, Fl. Pres. Bombay 1: 521. 1958 (Repr.). *E. lissophylla* (Thw.) Duthie in Hook. f. op. cit. 488. 'Lendi Jambhal'.

Trees, 8–12 m high. Leaves 3–7 cm long, variable, ovate or elliptic-lanceolate, shining above, pale beneath, pellucid dotted, apex acuminate, base narrowed. Flowers 0.4–0.6 cm across, pinkish-white, in terminal or axillary cymes; petals calyptrate. Berries globose, black.

*Fls. & Frts.* : March–June.

*Illus.* : Wight, op. cit.

*Distrib.* : Reported to occur in moist deciduous / semi-evergreen forests along Western ghats. 'Konkan' & Pune (Cooke, op. cit.), Satara.

**S. stocksii** (Duthie) Gamble, Fl. Pres. Madras 481. 1919 [1:340. 1957 (Repr.)]. *Eugenia stocksii* Duthie in Hook. f. Fl. Brit. India 2:498. 1879; Cooke, Fl. Pres. Bombay 1:522. 1958 (Repr.).

Trees, 10–15 m high, evergreen; branchlets compressed. Leaves 8–15 x 3.5–6.5 cm, elliptic-ovate or lanceolate-oblong, obscurely dotted, apex rounded or shortly acuminate, base narrowed. Flowers c 0.4 cm across, white, in axillary cymes; calyx funnel-shaped, rugose outside; petals calyptrate, gland-dotted.

*Fls. & Frts.* : January–February.

*Distrib.* : Rare plant in evergreen forests. 'Konkan' (Cooke, op. cit.).

**S. tamilnadensis** Radhakr. & Chithra in Nair & Henry, Tamilnadu St. Fl. Anal. 1: 158. 1983. *S. montanum* (Wight) Gamble, Fl. Pres. Madras 479. 1919 [1: 339. 1957 (Repr.)] non Thw. 1859. *Eugenia montana* Wight, Ic. t. 1060. 1846 non Aubl. 1775; Duthie in Hook. f. Fl. Brit. India 2: 488. 1878.

Trees, 8–10 m high; bark brown, peeling off. Leaves 6–12 x 3–6 cm, elliptic-oblong, or elliptic, nerves prominent, apex acuminate or emarginate, base acute. Flowers 0.35–0.4 cm across, white, in terminal corymbose-cymes; calyx funnel-shaped; petals calyptrate. Berries globose, purplish.

*Fls. & Frts.* : February–June.

*Illus.* : Wight, op. cit.

*Distrib.* : Occasional in moist deciduous forests and in sacred groves. Sindhudurg.

**S. zeylanicum** (L.) DC. Prodr. 3:260. 1828; Henry et al. in Manilal, Bot. & Hist. Hort. Malab. 160. 1980. *Myrtus zeylanica* L. Sp. Pl. 675 1753. *Eugenia zeylanica* (L.) Wight, Illus. 2:15. 1850; Duthie in Hook. f. Fl. Brit. India 2:485. 1878 p.p. *E. spicata* Lam. Encycl. 3:201. 1789; Cooke, Fl. Pres. Bombay 1:521. 1958 (Repr.). 'Pitkuli'.

Shrubs or small trees, 5–8 m high; branches slender. Leaves 3–8 x 1–3 cm, ovate-elliptic or lanceolate, coriaceous, shining above, pale beneath, apex acuminate, base narrowed. Flowers 0.4–0.5 cm across, white, in axillary or terminal paniced-cymes; calyx 0.6 cm long, glandular, lobes ovate; petals orbicular, free. Berries 0.5 cm across, globose, white.

*Fls. & Frts.* : February–June.

*Illus.* : Wight, Ic. t. 73. 1838 (*Eugenia zeylanica*); Talb. For. Fl. Bombay Pres. & Sind 2:36, f. 308. 1911.

*Distrib.* : Infrequent in semi-evergreen forests along Western ghats. Ratnagiri, Sindhudurg.

#### CULTIVATED SPECIES:

**Callistemon citrinus** (Curtis) Skeels in U.S. Dept. Agric. Bur. Pl. Ind. Bull. 282: 49. 1913; Raiz. Suppl. Fl. Upper Gang. Plains 72. 1976. *Metrosideros citrina* Curtis, Bot. Mag. t. 260. 1794. *Callistemon lanceolatus* (Sm.) Sweet, Fl. Aust. Sub. t. 29. 1827; Bailey, Man. Cult. Pl. 725. 1949 (2nd ed.). *C. linearis* DC. Prodr. 3: 323. 1828.



Small trees or shrubs; bark fissured, branches drooping. Leaves linear-lanceolate, 4–7 x 0.4–0.6 cm, rigid, glandular-punctate. Flowers crimson-red, in terminal spikes; sepals deciduous; petals free, greenish-white. Capsules ovoid, truncate at apex.

*Fls. & Frts.* : October–February (Throughout the year).

*Distrib.* : Usually grown in gardens as an ornamental tree. Bombay, Pune.

**Eucalyptus alba** Reinw. Fl. Ned. Indie 1101. 1826; Ashton in Dassan. & Fosb. Rev. Handb. Fl. Ceylon 2 : 463. 1981.

Large trees; bark white, smooth. Leaves variable, deltoid-ovate, 5–7 x 3–5 cm; petioles 3–4 cm long. Flowers white, in axillary umbels below leaf bearing shoots. Fruits turbinate-hemispheric, convex at top.

*Fls. & Frts.* : April–July.

*Distrib.* Usually grown in gardens as an avenue tree Thane.

**E. botryoides** Sm. in Trans. Linn. Soc. London 3: 286. 1791; Walters in Tutin et al. Fl. Europaea 2: 304. 1968; Ashton in Dassan. & Fosb. Rev. Handb. Fl. Ceylon 2 : 460. 1981.

Trees, upto 20 m tall; bark subfibrous. Leaves broadly lanceolate-acuminate. Flowers yellowish-white, in 6–10-flowered umbels. Fruits cylindrical, sessile.

*Fls. & Frts.* : April–May.

*Distrib.* : Planted in gardens. Pune.

**E. camaldulensis** Dehnh. Cat. Pl.Hort. Camald. 20. 1832; Mahesh. Fl. Delhi 159 1963; Ashton in Dassan. & Fosb. Rev. Handb. Fl. Ceylon 2 : 460. 1981.

Tall trees, 15–20 m tall; bark dark grey to white. Leaves elliptic or elliptic-lanceolate. Flowers white, in lateral or supra-axillary umbels, few-flowered. Fruits ovoid, truncate at tip.

*Fls. & Frts.* : November–May.

*Distrib.* : Planted trees. Jalgaon, Pune.

**E. citriodora** Hook. in Mitch. J. Trop. Australia 235. 1848; Mahesh. Fl. Delhi 159. 1963; Ashton in Dassan. & Fosb. Rev. Handb. Fl. Ceylon 2 : 460. 1981.

Tall, handsome trees; bark shining, whitish or reddish–grey. Leaves linear–lanceolate, greyish–green, acute at base, acuminate at apex. Flowers white, in short, axillary panicles. Fruits ovoid, flattened at tip.

*Fls. & Frts.* : April–August.

*Illus.* : Anon. Wealth of India 3: 211, f. 133. 1952.

*Distrib.* : Planted in gardens, as an avenue tree. Pune.

**E. globulus** Labill. Rel. Voy. Rech. Perouse 1: 153, t. 13. 1799; Bailey, Man. Cult. Pl. 727. 1949 (2nd ed.); Ashton in Dassan. & Fosb. Rev. Handb. Fl. Ceylon 2 : 460. 1981.

Trees, 25–40 m tall; bark bluish, smooth. Leaves lanceolate, falcate, 10–30 x 3–4 cm, coriaceous. Flowers axillary, solitary, rarely 2–3–flowered. Fruits globular to conical, 4–ribbed.

*Fls. & Frts.* : October–May.

*Distrib.* : Planted in gardens and on hill slopes. Sindhudurg.

**E. paniculata** Sm. in Trans. Linn. Soc. London 3: 287. 1797; Mahesh. Fl. Delhi 159. 1963; Ashton in Dassan. & Fosb. Rev. Handb. Fl. Ceylon 2 : 460. 1981.

Tall to medium sized trees; bark hard, persistent, deeply fissured. Leaves lanceolate, acute at base, acuminate at apex. Flowers white, in panicles; calyx absent; petals fused into a calyptra. Fruits ovoid, truncate at tip.

*Fls. & Frts.* : November–February.

*Distrib.* : Cultivated in gardens. Pune.

**E. pilularis** Sm. in Tras. Linn. Soc. London 3: 284. 1797; Ashton in Dassan. & Fosb. Rev. Handb. Fl. Ceylon 2: 468. 1981.

Tall, columnar trees; bark rough, greenish–white. Leaves 10–12 x 2–4 cm, lanceolate, thinly chartaceous, puberulous along margins. Flowers white, in axillary, 6–12–flowered umbels. Fruits ovoid or subglobose.

*Fls. & Frts.* : September–March.

*Distrib.* : Grown in gardens. Pune.

**E. resinifera** Sm. in White, J. Voy, N.S. Wales 231. 1790; Walters in Tutin et al. Fl. Europaea 2: 304. 1968.

Trees, upto 40 m tall; bark reddish, rough, fibrous. Leaves 10–16 x 2–3 cm, lanceolate. Flowers white, in 5–10-flowered umbels. Fruits ovoid, hemispherical.

*Fls. & Frts.* : March–May.

*Distrib.* : Grown in gardens. Pune.

**E. robusta** Sm. in Bot. N. Holl. 39. 1793; Parker, For. Fl. Punjab (with Hazara & Delhi) 249. 1956 (3rd ed); Ashton in Dassan. & Fosb. Rev. Handb. Fl. Ceylon 2 : 460. 1981.

Medium sized trees; bark rough but not hard, flaky. Leaves ovate–lanceolate, 8–15 x 2–5 cm, placed horizontally, dark green above, paler beneath, acute at base, acuminate at apex. Flowers white, in axillary umbels, 3–10-flowered. Fruits ovoid, 1.5 cm long, truncate at tip.

*Fls. & Frts.* : November–July.

*Distrib.* : Cultivated in gardens Pune.

**E. terreticornis** Sm. Bot. N. Holl. 41. 1793 et in Trans. Linn. Soc. London 3: 284. 1797; Parker, For. Fl. Punjab (with Hazara & Delhi) 251. 1956 (3rd ed); Matthew & Britto in Matthew, Fl. Tamilnadu Carnatic 3(1) : 591. 1983.

Trees, 15–20 m tall; bark smooth, branches apically angular, often glaucous. Leaves lanceolate to elliptic–ovate, 5–12 x 1.5–6.0 cm, dull bluish–green to shining green, obliquely acute at base, acute or acuminate at apex. Flowers white, in simple umbels. Fruits globular, 0.6–0.8 cm long, protruding at apex.

*Fls. & Frts.* : October–May.

*Distrib.* : Usually planted in gardens. Pune.

**E. torelliana** F. Muell. Fragm. 10: 106. 1876; Matthew & Britto in Matthew, Fl. Tamilnadu Carnatic 3(1): 591. 1983.

Trees, 10–15 m tall; bark blackish–grey, scaly and subtessellated at base, smooth above, branchlets hirsute. Leaves broadly ovate, 5–12 x 3–8 cm, greenish, shining above. Flowers white, in corymbose–panicles. Fruits ovoid, 0.6 cm long, sessile, truncate at tip.

*Fls. & Frts.* : November–April.

*Distrib.* : Planted in gardens. Thane.

**E. umbellata** Dum. Cours. Bot. Cult. ed. 2, 7: 279. 1874; Anon. Wealth of India 3: 216. 1952; Mukherjee in Verma et al. Fl. Madhya Pradesh 1: 464. 1993.

Trees with smooth, ashy–grey or white bark and slender branches. Leaves lanceolate–falcate. Flowers white, in lateral or supra–axillary umbels; calyx tube semiglobose. Fruits subglobose.

*Fls. & Frts.* : Almost throughout the year.

*Distrib.* : Planted as an avenue tree and in gardens. Pune.

**E. viminalis** Labill. Nov. Holl. Pl. Spec. 2: 12, t. 151. 1806; Gamble, Man. Ind. Timb. (ed. 2) 352. 1902; Bailey, Man. Cul. Pl. 728. 1949 (2nd ed.); Ashton in Dassan. & Fosb. Rev. Handb. Fl. Ceylon 2 : 463. 1981.

Trees, 30–45 m tall; bark rough, persistent, 2–3 m from base, decorticating in long ribbons above. Leaves lanceolate–falcate, 10–20 x 1.2–3.0 cm. Inflorescence of axillary, 3–flowered umbels; flowers white, subsessile. Fruits spherical to turbinate, disc convex.

*Fls. & Frts.* : April–November.

*Distrib.* : Usually grown in gardens, as an avenue tree. Pune.

**Eugenia uniflora** L. Sp. Pl. 470. 1753; Duthie in Hook. f. Fl. Brit. India 2: 505. 1879; Bailey, Man. Cult. Pl. 730. 1949 (2nd ed.); Ashton in Dassan. & Fosb. Rev. Handb. Fl. Ceylon 2 : 409. 1981.

Shrubs or small trees, 5–8 m tall; branches glabrous, compact. Leaves sessile, ovate or ovate–lanceolate, dark green, shining above, pale beneath, rounded at base, acuminate at apex. Flowers white, solitary, axillary, 1.2 cm across, fragrant. Fruits globose, 1.5–2.5 cm across, obscurely 8–ribbed, deep crimson when ripe, edible.

*Fls. & Frts.* : February–May.

*Distrib.* : Native of Brazil, occasionally grown in gardens. Pune.

**Melaleuca leucodendron** (L.) L. Mant. 105. 1767; Bailey, Man. Cult. Pl. 726. 1949 (2nd ed.); Duthie in Hook. f. Fl. Brit. India 2 : 465. 1878. *Myrtus leucodendron* L. Mant. 105. 1771. ‘Cajuput tree’, ‘Kayaputi’, ‘Punk tree’.

Large trees; bark thick, spongy; branches drooping. Leaves elliptic or oblong, 4–10 x 1.2–1.9 cm, tapering at both the ends. Flowers creamy–white, in terminal spikes. Capsules hemispheric, c 0.6 cm across.

*Fls. & Frts.* : February–April.

*Distrib.* : Ornamental trees, grown in gardens. Bombay.

**Myrtus communis** L. Sp. Pl. 471. 1753; Cooke, Fl. Pres. Bombay 1: 529. 1958 (Repr.); Bailey, Man. Cult. Pl. 730. 1949 (2nd ed.).

Evergreen shrubs upto 3 m tall; branches glabrous. Leaves ovate to lanceolate, 2–4 x 1.5 cm, bright green, apex acuminate. Flowers white tinged with rose, axillary, solitary; calyx turbinate; petals spreading. Fruits ovoid, surrounded by persistent calyx–lobes.

*Fls. & Frts.* : Almost throughout the year.

*Distrib.* : Sweet scented shrubs planted in gardens. Pune, Sindhudurg (S. M. Almeida, Fl. Savantwadi 1: 170. 1990 states that shrub grows along forest margins); native of Western Asia, Mediterranean Region.

**Syzygium aromaticum** (L.) Merr. & Perry in Mem Amer. Acad. Arts. 18: 196. 1939; Bennet, Name Changes Flower. Pl. India & Adj. Reg. 549. 1987. *Caryophyllus aromaticus* L. Sp. Pl. 515. 1753.

Trees, 10–15 m tall. Leaves ovate–oblong, 5–15 x 2–8 cm, tapering at base, acute at apex. Flowers pale purple, 0.6 cm across, in terminal cymes; flower–buds when dried in the sun, furnish clove of commerce.

*Fls. & Frts.* : February–April.

*Distrib.* : Planted in the gardens. Bombay, Sindhudurg.

**S. jambos** (L.) Alst. in Trim. Handb. Fl. Ceylon 6 (Suppl.): 116. 1931; Sant. in Rec. Bot. Surv. India 16(1): 93. 1967 (3rd ed.). *Eugenia jambos* L. Sp. Pl. 470. 1753; Cooke. Fl. Pres. Bombay 1: 526. 1958 (Repr.). *Jambosa vulgaris* DC. Prodr. 3: 286. 1828; Duthie in Hook. f. Fl. Brit. India 2: 474. 1878. 'Gulab–jamb'.

Trees, 8–10 m tall. Leaves ovate–lanceolate, 15–20 x 3–4 cm, base attenuate, acuminate at apex. Flowers 3–5 cm across, greenish–white, in trichotomous cymes; calyx funnel–shaped; petals obovate. Fruits 2–4 cm long, globose, pinkish–white.

*Fls. & Frts.* : October–January.

*Illus.* : Wight, Ic. t. 435. 1841 (*Jambosa vulgaris*).

*Distrib.* : Usually cultivated in gardens. Kolhapur, Pune, Satara, Sindhudurg.

**S. malaccensis** (L.) Merr. & Perry in J. Arnold Arbor. 19: 215. 1938; Bennet, Name Changes in Flower. Pl. India & Adj. Reg. 551. 1987. *Eugenia malaccensis* L. Sp. Pl. 470. 1753; Duthie in Hook. f. Fl. Brit. India 2: 471. 1878; Cooke, Fl. Pres. Bombay 1: 526. 1958 (Repr.). 'Malaka Jamb'.

Small trees, 8–10 m tall, elegant in shape. Leaves elliptic–lanceolate, shining green, thinly coriaceous, acute at base, acuminate at apex. Flowers crimson, showy, in axillary cymes. Fruits of fleshy berries with persistent incurved calyx lobes.

*Fls. & Frts.* : February–April.

*Distrib.* : Usually grown in gardens for bright crimson flowers and edible fruits. Bombay.

**S. samarangense** (Bl.) Merr. & Perry in J. Arnold Arbor. 19: 115. 1938; Varma, Fl. Bhagalpur–Dicotyledons 158. 1981. *Myrtus samarangensis* Bl. Bijdr. 1084. 1826. *Eugenia javanica* Lam. Encycl. 3: 200. 1789; Duthie in Hook. f. Fl. Brit. India 2: 474. 1878.

Small trees; bark smooth, grey. Leaves elliptic or elliptic–oblong, upto 25 x 10 cm. Flowers white, showy, 4–5 cm across, in axillary or terminal cymes. Fruits white or pinkish–white, fleshy, top–shaped.

*Fls. & Frts.* : March–May.

*Distrib.* : Planted in gardens. Bombay.

## LECYTHIDACEAE

(S. G. Pradhan)

### CAREYA Roxb. (nom. cons.)

**Careya arborea** Roxb. Pl. Cor. 3:14, t. 218. 1819; C.B.Cl. in Hook. f. Fl. Brit. India 2: 511. 1879; Cooke, Fl. Pres. Bombay 1:528. 1958 (Repr.); Manna & D. C. S. Raju in Bull. Bot. Surv. India 36:225. (1994) 1997. 'Kumbhi', 'Kumbohya'.

Trees, 12–28 m tall. Leaves 15–30 x 7–16 cm, broadly obovate, oblong–obovate, rounded to shortly acuminate at apex, tapering at base, margins crenate–denticulate. Flowers yellowish–white, 6–8 cm across, in terminal spikes. Fruits 6.0–7.5 cm across, globose.

*Fls. & Frts.* : March–April.

*Illus.* : Bedd. Fl. Sylv. t. 205. 1872; Talb. For. Fl. Bombay Pres. & Sind 2:49, f. 316. 1911; Matthew, *Illus. Fl. Tamilnadu Carnatic* 2: t. 274. 1982.

*Distrib.* : Usually found in moist forests. Ahmednagar, Akola, Bombay, Chandrapur, Dhule, Nanded, Nasik, Pune, Raigad, Ratnagiri, Satara, Sindhudurg, Thane, Yavatmal.

### CULTIVATED SPECIES :

**Couroupita guianensis** Abul. Pl. Gui. 2 : 708, t. 282. 1775; Bailey, *Man. Cult. Pl.* 722. 1949. 'Cannon ball tree'.

Evergreen trees, upto 15 m tall. Leaves 20–25 cm long, oblong, Flowers cauliflorous, i.e. borne on trunk and larger branches in racemes upto 1.5 m long, yellow to red outside, crimson lilac inside, c 10 cm across, with numerous stamens on the lower and upper wall. Fruits almost globose, upto 20 cm across.

*Fls. & Frts.* : September–November.

*Illus.* : Bailey, *op. cit.* fig. 145.

*Distrib.* : Native of Trinidad and S. E. America, grown in the gardens for its attractive flowers and fruits. Bombay, Pune.

## BARRINGTONIACEAE

(S. G. Pradhan)

### BARRINGTONIA J. R. & G. Forst. (nom. cons.)

- |    |   |                      |
|----|---|----------------------|
| 1. | Leaves c 15 cm long; flowers 0.8–1.2 cm across; sepals obtuse ... | <i>B. acutangula</i> |
| 1. | Leaves c 30 cm long; flowers 3.5–5.0 cm across; sepals acute ...  | <i>B. racemosa</i>   |

**Barringtonia acutangula** (L.) Gaertn. *Fruct.* 2: 97, t. 101. 1791; C.B.Cl. in Hook. f. *Fl. Brit. India* 2:508. 1879; Cooke, *Fl. Pres. Bombay* 1:528. 1958 (Repr.); Payens in *Blumea* 15: 226. 1967. *Eugenia acutangula* L. *Sp. Pl.* 421. 1753. 'Ingli', 'Tivar'.

Trees, c 15 m tall. Leaves 6–15 x 3–8 cm, elliptic, obovate–oblong, rounded or subacute at apex, cuneate at base, margins minutely dentate. Flowers scarlet, in pendulous, many-flowered racemes. Fruits 3.0–3.5 x 1.2–1.8 cm, obtusely quadrangular, broadest in the middle with truncate ends and persistent calyx crown.

*Fls. & Frts.* : September–October.

*Illus.* : Bedd. Fl. Sylv. t. 204. 1872; Matthew, Illus. Fl. Tamilnadu Carnatic 2:t. 273. 1982.

*Distrib.* : Common near the coast but also occurs along banks of streams and rivers. Chandrapur, Nanded, Pune, Raigad, Ratnagiri, Sindhudurg, Thane, Yavatmal.

**B. racemosa** (L.) Spr. Syst. Veg. 3:127. 1826; C.B.Cl. in Hook. f. Fl. Brit. India 2:507. 1879; Cooke, Fl. Pres. Bombay 1:527. 1958 (Repr.); Payens in Blumea 15:192. 1967. *Eugenia racemosa* L. Sp. Pl. 471. 1753. 'Nivar', 'Samudra-phal'.

Trees, 10–15 m tall. Leaves 10–30 x 5–12 cm, oblanceolate to obovate–oblong, shortly acuminate at apex, cuneate at base, margins slightly crenate–denticulate. Flowers distant, in pendulous, many-flowered racemes. Fruits 5–7 x 3.5–5.0 cm, bluntly 4-lobed, crowned with persistent calyx.

*Fls. & Frts.* : April–May.

*Illus.* : Wight, Ic. t. 152. 1839.

*Distrib.* : Rare. A coastal plant. Ratnagiri, Sindhudurg.

## MELASTOMATACEAE

(S. G. Pradhan)

- |   |     |           |
|---|-----|-----------|
| 1. Petals 3   | ... | SONERILA  |
| 1. Petals 4–5:  |     |           |
| 2. Flowers in umbellate–cymes; ovary glabrous, ovules 6–12                | ... | MEMECYLON |
| 2. Flowers not in umbellate–cymes; ovary setose at apex, ovules numerous: |     |           |
| 3. Stamens equal or subequal  | ... | OSBECKIA  |
| 3. Stamens markedly unequal   | ... | MELASTOMA |



## MELASTOMA L.

**Melastoma malabathricum** L. Sp. Pl. 390. 1753; C.B.Cl. in Hook. f. Fl. Brit. India 2: 523. 1879; Cooke, Fl. Pres. Bombay 1: 532. 1958 (Repr.). 'Palore'.

Shrubs; young parts densely pubescent. Leaves 5–10 x 1.5–4.0 cm, ovate-oblong or oblong-lanceolate, rounded at base. Flowers in terminal, corymbose-panicles; anthers red and yellow, alternating with yellow filaments. Fruits c 1.2 cm long, ovoid, truncate. Seeds many.

*Fls. & Frts.* : October–March.

*Illus.* : Talb. For. Fl. Bombay Pres. & Sind 2: 51, f. 317. 1911.

*Distrib.* : Usually found in moist and semi-evergreen to evergreen forests. Chandrapur, Ratnagiri, Satara, Sindhudurg.

## MEMECYLON L.

- |  |     |                       |
|--|-----|-----------------------|
| 1. Leaves sessile                        | ... | <i>M. randeriana</i>  |
| 1. Leaves petiolate:                     |     |                       |
| 2. Flowers sessile                       | ... | <i>M. talbotianum</i> |
| 2. Flowers pedicelled:                   |     |                       |
| 3. Leaves lanceolate, nerves prominent   | ... | <i>M. heyneanum</i>   |
| 3. Leaves ovate-elliptic, nerves obscure | ... | <i>M. umbellatum</i>  |

**Memecylon heyneanum** Bth. ex Wight & Arn. Prodr. 319. 1834; C.B.Cl. in Hook. f. Fl. Brit. India 2:560. 1879; Gamble, Fl. Pres. Madras 1:355. 1957 (Repr.); S. M. Almeida, Fl. Savantwadi 1:175. 1990.

Shrubs or small trees, 5–8 m high. Leaves c 20 x 8 cm, leathery, dark green, intra-marginal nerves connected by 10–16 straight nerves. Flowers blue, in 1.2 cm broad fascicles; calyx tube campanulate, disk-rays prominent. Berries spherical.

*Fls. & Frts.* : September–November.

*Illus.* : Wight, Ic. t. 277. 1840 (*Memecylon jambosoides*).

*Distrib.* : Occasional in semi-evergreen forests. Sindhudurg (S. M. Almeida, op. cit.).

**M. randeriana** S. M. Almeida, Fl. Savantwadi 1:175. 1990. *M. malabaricum* Cogn. in DC. Monogr. Phan. 7:148. 1891 non Kostel. 1834; Cooke, Fl. Pres. Bombay 1: 535. 1958 (Repr.). 'Limba', 'Limtoli'.

Small trees, 5–8 m tall; branches terete. Leaves 6–10 x 2.5–5.0 cm, ovate–oblong, shining above, nerves obscure, apex obtusely acute, base cordate to rounded. Flowers bright blue, in clusters on old wood; calyx 2 mm long, red; corolla 2 mm long, suborbicular. Berries spherical, black when ripe, crowned by persistent calyx limbs.

*Fls. & Frts.* : March–May.

*Distrib.* : Occasional in semi–evergreen forests. Sindhudurg (S. M. Almeida, op. cit.).

**M. talbotianum** Brandis in Talb. Trees, Bombay ed. 2.1902 (Append.); Cooke, Fl. Pres. Bombay 1:536. 1958 (Repr.).

Large shrubs or small trees, 2–3 m tall. Leaves 5–10 x 2.5–5.0 cm, elliptic or elliptic–oblong, coriaceous, glossy, shortly obtusely acuminate at apex, acute at base. Flowers purplish–blue, in clusters. Berries globose, c 0.6 cm across, yellow when ripe.

*Fls. & Frts.* : March–April.

*Illus.* : Talb. For. Fl. Bombay Pres. & Sind 2: 54, f. 320. 1911.

*Distrib.* : Found in semi–evergreen forests. Ahmednagar, Kolhapur, Pune, Raigad, Ratnagiri, Satara, Sindhudurg.

**M. umbellatum** Burm. f. Fl. Ind. 87. 1768; Cooke, Fl. Pres. Bombay 1:535. 1958 (Repr.). *M. edule* Roxb. Pl. Cor. 1: 59, t. 82. 1798; C.B.Cl. in Hook. f. Fl. Brit. India 2: 563. 1879 p.p.

- |                              |                             |
|------------------------------|-----------------------------|
| 1. Peduncles 0.3–1.0 cm long | ... var. <i>umbellatum</i>  |
| 1. Peduncles c 2.5 cm long   | ... var. <i>capitellata</i> |

var. **umbellatum**. 'Anjan', 'Karap'.

Small trees, 4–5 m tall. Leaves 3.5–7.5 x 1.5–3.5 cm, subacute or shortly acuminate at apex, attenuate or rounded at base. Flowers bluish, many, in umbellate cymes from axils of fallen leaves on old branches. Berries c 0.6 cm across, globose, blackish when ripe.

*Fls. & Frts.* : January–April.

*Illus.* : Talb. For. Fl. Bombay Pres. & Sind 2:52 & 53, f. 318 & f. 319. 1911 (*M. edule*).

*Distrib.* : Found in moist and semi–evergreen forests. Ahmednagar, Bombay, Chandrapur, Kolhapur, Nasik, Pune, Raigad, Ratnagiri, Satara, Sindhudurg, Thane.