

## ABBREVIATIONS

For economy of space, titles of journals and the names of the more frequently occurring authors have been abbreviated.

Accepting Santapau's flora of Khandala on the western ghats of India as a standard piece of systematic research, I have also accepted his abbreviations. This would bring in more uniformity. The abbreviations are as follows:

- ABGC.        - Annals of the Royal Botanic garden, Calcutta.
- Blatt. &    - Blatter, E. & C. McCann: Revision of the flora  
  McC.        of Bombay Presidency; serialised in JBNHS,  
              incomplete.
- C.            - Cooke, Th: The Flora of the Presidency of  
              Bombay (reprinted edition).
- Collett      - Flora simlensis
- D.            - Dalzell, N.
- D. & G.      - Dalzell, N. & A. Gibson: The Bombay Flora.
- FBI          - Flora of British India by J.D. Hooker et al
- F.            - Fischer, C.E.C., Joint author with Gamble  
              of the Flora of the Presidency of Madras  
              (reprinted edition).
- G.            - Gamble, J.S.: The Flora of the presidency of  
              Madras (reprinted edition).
- Gr.           - Graham, K.: A catalogue of the plants growing  
              in Bombay. . . . .
- HK.f.        - Hooker, filius, i.e. Sir. J.D. Hooker.
- JAA.         - Journal of the Arnold Arboretum.
- JASB.        - Journal of the Asiatic Society of Bengal.
- JBNHS.      - Journal of the Bombay Natural History Society.

- JIBS. - Journal of Indian Botany or the Journal of the Indian Botanical Society.
- JLS. - Journal of the Linnean Society of London.
- JMSU. - The Journal of the M.S. University of Baroda.
- Kükenth. - Kükenthal in Das pflazenreich. Cyperae.heft. 101, 1935-36.
- Maheshwari. - Flora of Delhi state by J.K. Maheshwari.
- Merr. - E.D. Merrill.: An enumeration of Phillipine<sup>p</sup> flowering plants.<sub>k</sub>
- Enum.
- N. - Nairne, A.K.: The flowering plants of Western India.
- Pfam. - Engler and Prantl, Die naturlichen pflanzenfamilien.
- Pfreich. - Engler, Das pflazenreich.
- PLS. - Proceedings of the Linnaen society of London.
- RBSI. - Records of the Botanical Survey~~A~~ of India.
- Sant. - Santapau, H.: The flora of Khandala on the Western Ghats of India.
- Saur. - Flora of Saurashtra (Ranunculaceae to Rubiaceae by H. Santapau)
- Saxt. & Sedgw. - Saxton, W.T. & L.J. Sedgwick: The Plants of North Gujarat.
- Sedgw. - Sedgwick L.J.: The Cyperaceae of the Bombay Presidency in JBNHS vol.25(4) & 26(1).
- Talb. - Talbot, W.A.: Forest Flora.
- TLS. - Transactions of the Linnean<sup>n</sup> Society of London.<sub>h</sub>
- Trimen - Trimen, H.: A handbook of the flora of Ceylon (parts I-V), continued by Sir.J.D.Hooker.
- WI. - The Wealth of India. A Dictionary of Indian Raw Materials and Industrial products.

### Enumeration of plants

All the wild and the more important cultivated plants have been enumerated and arranged according to Bentham and Hooker's system of classification. The nomenclature of the plants has been brought up-to-date as far as possible following recent floras and monographs. It is quite certain that with the passage of time, more and more wild or cultivated plants will have to be added to the existing flora, because of the ever-increasing biotic factors.

#### RANUNCULACEAE

##### Clematis Linn.

Clematis gouriana Roxb. ex DC. Syst.1:138, 1818; FBI.1:5; C.1:3; Gr.1; Kapoor in Bull. Nat. Bot. Gard. no.78, p.22.

A much spreading twiner. Petiole coiled, twining. Flowers irregular, white. Fruit an etaerio of achenes with persistent, feathery styles.

Cultivated as an ornamental on an iron cage, near the botanical garden.

Local name: Morvel

Flowers: August-February.

Fruits: September-May.

Sabnis, 623.

North-West Himalayas to Assam; Western Ghats; Hills of Bihar, Orissa and Andhra Pradesh; Niligiris and other hills of Madras, Mysore and Kerala.

Burma and Ceylon.

#### MAGNOLIACEAE

Michelia champaca Linn. Sp. Pl. 536, 1753; Benthall, Trees Calc. 5; Maheshwari, 51.

An evergreen tree. Flowers yellow, sweet-scented. Fruit and <sup>h</sup>etaerio of follicles. Fruiting spikes 8-15 cm. long.

Planted in lawns of private and public parks.

Local name: Champo

Flowers: April-May. Fruits: June-August.

Sabnis, 30.5.57, Univ. Bot. Garden.

Eastern sub-himalayan tracts and lower hills upto 1000 meters; Assam, Western Ghats, South India.

Burma, Malaya.



## ANNONACEAE

Flowers with hooked peduncles... ..Artabotrys

Flowers without hooked peduncles:

Fruit fleshy, composite. . . . . Annona

Fruit an etaerio of berries. . . . . Polyalthia

Artabotrys R.Br,

Artabotrys uncinatus (Lamk.) Merr. in Philipp.Journ.Sc.  
Bot.7:234, 1912 & Trans.Amer.Phil.Soc.24:162, 1935.

Anona uncinata Lamk.Encycl.2:127, 1790.

Artabotrys odoratissimus R.Br. in Bot.Reg.5:t.423,  
1819 (not of Blume).

An evergreen shrub. Flowers green, fragrant. Peduncles  
hooked. Cultivated in a few gardens.

Local name: Lilo champo

Flowers: August-October.

Sabnis 19.10.58, Univ.Bot. Garden,

Not indigenous, but cultivated for its fragrant flowers;  
reported to be wild in S. India, Ceylon, Java, S. China.

Annona Linn.

Fruit tubercled. . . . . squamosa

Fruit smooth. . . . . reticulata

Annona squamosa Linn. Sp. Pl. 537, 1753; FBI. 1:78;  
C.1:15; G.3; D.G. Suppl. p.2; Saur. 1:2.

A shrub or a small tree. Leaves oblong-lanceolate, dark green, distichously arranged. Flowers yellowish green on short peduncles. Fruit rounded or conical syncarp or a composite berry.

Cultivated in gardens for its edible fruit and also in wild state along roadside hedges, supporting a number of climbers like Rhynchosia, Clitoria etc.

Local name: Sitaphal

Flowers and Fruits: April to November.

Sabnis, 605, 1225.

Cultivated and becoming naturalized throughout India.

Trop. America, Africa and Asia

Annona reticulata Linn. Sp. Pl. 537, 1753; FBI. 1:78;  
C.1:15; D.G. Suppl. p.2; Talb. 5; Saur. 1:2.

A small tree. Leaves oblong-lanceolate, membranous. Fruit globose or heart-shaped with lightly marked. pentagonal areoles.

Occasionally cultivated in the gardens.

Local name: Ramphal

Sabnis, 11.9.58. Univ. Bot. Garden.

Tropical America and the West Indies; cultivated but not so extensively as the preceding species.

Polyalthia longifolia (Sonner.) Thw. Enum. 398, 1864;  
 FBI. 1:63; C.1:13; Benthall, Trees Calc.9;  
 Saur. 1:3; Santapau and Wagh in Bull. Bot. Surv.  
 India 5:108.

Uvaria longifolia Sonner. Voy. Ind. 2:233, t.131,  
 1782.

Gutteria longifolia Wall. Cat. 6442 (nom.nud.)  
 Ex. Wt. et. Arn. Prodr. 10, 1834.

A common roadside tree. Leaves lanceolate, wavy.  
 Flowers greenish yellow in clusters. Fruit an etaerio  
 of one-seeded berries.

Local name: Asopalav

Flowers: February-April. Fruits: April-May.

Local uses: 'Toran' prepared from the leaves  
 of this plant are used as decoration at the time of  
 religious ceremonies.

A native of Ceylon, cultivated extensively in India.

The nomenclature of the plant has been a much  
 debated topic. For more information refer to Santapau  
 (1953) in the Indian Forester 79:611-613 and Santapau  
 and Wagh, l.c.

## MENISPERMACEAE

Carpel solitary; stamens connate, anthers in a ring. . . . . Cissampelos

Carpels 3 or more, free; stamens free:

Leaves deeply cordate; seeds oblong or globose. . . . . Tinospora

Leaves acute, obtuse or subcordate; seeds horse-shoe shaped. . . . . Cocculus

Cissampelos Linn.

Cissampelos pareira Linn. Sp. Pl. 1031, 1753; FBI.1:103; C.1:24; Sant. 5.

A weak, tomentose climber. Stems twisted. Leaves ovate, cordate or reniform, peltate, glabrous above and glaucous beneath (especially the older leaves). Flowers small, pale green. Male flowers in axillary branched cymes. Female flowers in the axil of conspicuous bracts, on long pendulous racemes. Fruit red, ovoid drupe.

Common on Lawsonia hedges especially during the monsoon. The plants persist in a dry, fruiting condition even in summer (Sabnis 1.6.60).

Flowers and Fruits: July-November  
Sabnis 661, 2564, 2938.

Tropical and subtropical India from Sind and Punjab to Ceylon and Singapore.

Cosmopolitan in warm regions.

Cocculus DC (nom. cons.)

Cocculus hirsutus (Linn.) Diels in Pfreich. 46:236, 1910; Sant. 5; Chavan & Oza in Fl. Pavagadh, 31.

Menispermum hirsutum Linn. Sp. Pl. 341, 1753.

Cocculus villosus DC. Syst. 1:525, 1818; FBI.1:101; C. 1:22.

A weak, scandent twiner. Leaves ovate, slightly cordate at the base, somewhat variable. Flowers very minute, greenish yellow; male in axillary panicles and female in axillary cymose clusters. Fruit small, black when ripe.

Noted on hedges and on low shrubs of Streblus, Nyctanthes and Vitex.

Local name: Vevadi

Flowers: September to January.

Fruits: December to April.

Fairly common on hedges everywhere.

Sabnis 893, 1332.

Throughout tropical and subtropical India, from the foot of the Himalayas to Malabar.

Burma, Trop. Africa.

Tinospora Miers

Tinospora <sup>c</sup>cordifolia (Willd.) Miers in Ann. & Mag. Nat. Hist. 11, 7:38, 1851; FBI. 1:97; C.1:20.

Menispermum cordifolium Willd. Sp. Pl. 4:826, 1806.

Cocculus <sup>u</sup>cordifolius DC. Syst. 1:518, 1818; Wt. Ic. t. 385 & 486.

A climbing shrub. Leaves large, petiolate, cordate, membranous. Flowers small, yellow; male ones in fascicles, females usually solitary. Drupes 1-3, dorsally convex, ventrally nearly flat, greenish-yellow to red in colour.

Found on low shrubs in the ravines at Bhimpura and also near Bahucharaji Temple, Baroda.

Local name: Galo or Gulvel.

Flowers and Fruits: September-March.

Sabnis 3275, 3276.

Throughout Trop. India from Kumaon to Assam and Burma from Bihar, Konkan to Karnatak and Ceylon.

# NYPHAEACEAE

Leaves floating on the surface of water;  
carpels connate into a many-celled  
ovary. . . . . Nymphaea

Leaves raised above the surface of the  
water; carpels free, sunk into the  
torus. . . . . Nelumbo

## Nymphaea Linn. (nom.cons.)

Leaves glabrous on the both sides. . . . stellata

Leaves densely pubescent on lower  
side. . . . . nouchali

Nymphaea stellata Willd. Sp. Pl. 2:1153, 1758;  
FBI. 1:114; C.1:27; Gr.5; D & G. 6.

A floating hydrophytic herb. Leaves orbicular,  
glabrous on both the sides, margins entire or sinuate.  
Flowers white, blue, rose or violet, sweet-scented.  
Fruits globular.

Abundant; in ponds and puddles in a number of  
localities; wild as well as cultivated.

Local name: Kamal

Flowers and Fruits: July to March.

Local uses: Rhizomes used as a vegetable.

Sabnis, wet preservation, Univ. Botany Museum  
Common throughout the warmer parts of India and  
S. Andamans; Africa.

Depending upon the colour character, a few  
varieties have been proposed. To me, these appear to be  
variations within the range of the species.

Nymphaea nouchali Burm. f. Ind. 120, 1768; Merr. in  
Phil. J. Sci. 19:350, 1921. Saur. 1:8;  
Subramanyam in Aquat. Angios. 6, Pl. I, f.2.

N. pubescens Willd. Sp. Pl. 2:1154, 1799; Blatter  
in JBNHS. 34: 294, Pro Parte; Sant.6; Conard,  
Mon. Gen. Nymphaea 198-99, t.17.

N. Lotus <sup>K.</sup>HK. f and Thoms. FBI. 1:114; C. 1:26  
(non. Linn.)

N. lotus var. pubescens <sup>K.</sup>HK. f. and Thoms. loc.cit.,  
C. loc.cit.

A floating aquatic herb. Leaves peltate, pubescent  
beneath, margins sinuate, toothed. Flowers white, pink  
or red, on long peduncles. Berries globose.

Found monopolising ponds and puddles at Sirsa,  
Varoshia, Harni, Danteshwar and other areas. During  
monsoon, the white flowers in profusion are a treat to  
watch.

Local name: Kamal, Poinu.

Flowers and Fruits: September to March-April.



Local uses: The flowers are sold in the market especially during 'Ganeshotsav'. Rhizome is eaten as a vegetable.

Sabnis, Wet preservation, Botany Museum.

Common all over the warmer parts of India and North Andamans.

Africa, Java, Philippines.

Nelumbo Adans.

Nelumbo nucifera Gaertn. Fruct. 1:73, t. 19, f.2, 1788; Sant. 7; Saur. 1:7.

Melumbium speciosum Willd. Sp. Pl. 2; 1258, 1800; FBI. 1:116; C.1:28.

A large, handsome, aquatic herb with a creeping rootstock. Leaves orbicular, peltate, raised above the surface of water. Flowers pink or rose-coloured, 10-15 cm. across, fragrant, solitary. Carpels distinct, sunk in depressions on the flattened torus. Seeds with spongy seed coats.

Found occupying the central portions of Harni and Amaliyara tanks, probably cultivated.

Local name: Kamal.

Flowers and Fruits: September to May.

Local uses: Considered as a very sacred plant by the local population. The fruits (Kamalkakdi) are eaten as a vegetable by certain sections of the community.

Sabnis, wet preservation, Botany Museum.

Cultivated and often spontaneous in tanks throughout the warmer parts of India.

Persia, Malaya, China, Japan, Trop. Australia.

#### PAPAVERACEAE

##### Argemone Linn.

Argemone mexicana Linn. Sp. Pl. 508, 1753; FBI.1:117;  
C. 1:29; Gr.6; Fedde in Pfreich. 40:273, t.36B;  
N.13; Sant. 7; Saur. 1:10.

An erect, spiny herb with yellow juice. Leaves sessile, pinnatifid, margins spiny. Flowers very pale yellow to golden yellow. Fruit capsular, prickly; seeds numerous, black.

An introduced weed; gregarious. Common along roadsides, elevated river banks and in cultivated fields.

Local name: Darudi

Flowers and Fruits: Almost throughout the year except the monsoon.

Local uses: Oil from the seeds is used in the treatment of skin diseases; Also used as an adulterant of Mustard oil by the unscrupulous. The results are hazardous.

Sabnis 577, 1353.

Trop. America, but naturalized in most warm countries.

#### CRUCIFERAE (BRASSICACEAE)

Plants prostrate or sub-erect, stems less than 30 cm. . . . . Rorippa

Plants erect, stems more than 30 cms:

Flowers white or pinkish, pods orbicular. . . . . Lepidium

Flowers yellow, pods cylindrical, not orbicular. . . . . Brassica

Rorippa scop.

Rorippa indica (Linn.) Hiern, Cat. Afr. Pl. Welw.

Pt.1, 26, Addit. & Corr., 1896; Hochreut. in Candollea 2:370, 1925; Sant. 7.

Sisymbrium indicum Linn. Mant.1:93, 1767.

Nasturtium indicum DC. Prodr. 1:139, 1824; FBII.1:134; C. 1:31.

A prostrate or a sub-erect herb, branching from the base. Leaves pinnatifid, lobes toothed; upper leaves lyrate. Flowers small, yellow in racemes. Pods narrow, cylindrical.

Noted in comparatively wet ditches during the dry months of March and April along with plants like Potentilla supina, Gnaphalium indicum and Polygonum plebeium.

Flowers and Fruits: February to May

Sabnis 2036, 2037.

A very rare plant, apparently confined to panigate area.

From plains to 2000 meters above MSL. from Kashmir, Punjab to hilly districts of South India.

China, Malaya.

#### LEPIDIUM Linn.

Lepidum sativum Linn. Sp. Pl. 644, 1753; FBI. 1:159;  
C. 1:37; Saur. 1:13.

An erect, glabrous annual. Leaves very much dissected or even entire. Flowers small, white, in long racemes. Fruit orbicular, notched, with a narrow wing, 2-seeded.

Not at all cultivated but found as a weed in some of the winter crops like lucerne.

Local name: Ashalio, Ashario.

Flowers and Fruits: October-March.

Sabnis 940, 2321, 2485.

# BRASSICA Linn.

Pods 2-3 cms. long, appressed to the axis. . . . . nigra

Pods over 5 cm. long, spreading or semi-appressed. . . . . junceae

Brassica nigra Koch. in Roehl. Deutsch. Fl. 4:713, 1823-26; FBI. 1:156; C. 1:36; Sant. Saur. 11.

A branching annual cultivated for the seed or as a weed in the winter crops. Leaves petiolate; lower lyrate, upper entire. Flowers bright yellow in racemes. Siliqua subulate, appressed to the axis, torulose.

Local name: Kali Rai, Rai.

Flowers and Fruits: November to March.

Sabnis 20.2.60; L.V. Palace compound. (Linn.) Czern & in Czern. Consp. Pl. Chark., S. no. 5, 1859.

Brassica juncea Coss. in Bull. Soc. Bot. France 6:609, 1859; FBI. 1:157; C. 1:37.

Syn. Sinapis juncea Linn. Sp. Pl. 668, 1753, excl. syn. Heron.

An economically important plant but usually found as weed in a number of winter crops like chilly and lucerne. Flowers yellow. Siliqua long, spreading or somewhat appressed to axis.

Local name: Rai

Flowers and Fruits: November to February

Sabnis 915.

Cultivated species

Raphanus sativus Linn. Sp. Pl. 669, 1753; FBI. 1:166;  
C. 1:37.

Cultivated for its edible roots and young leaves used as vegetable.

R. sativus Linn. var. caudatus; C. 1:37.

The rat-tail radish or Mogri as it is locally known, is cultivated for the long whip-like purple pods, which are eaten either raw or cooked.

Brassica rapa Linn. Sp. Pl. 666, 1753; Bailey,  
Man. Cult. Pl. 436.

The turnip or salgam is cultivated at a few places for the tender roots, which are used as a vegetable.

B. oleracea var. capitata Linn. Sp. Pl. 667;  
Blatter in JBHNS. 34:297, 1930; Saur. 1:2

The vegetative bud of the cabbage or 'kobi' is  
used as a vegetable.

B. oleracea var. botrytis Linn. Sp. Pl. 667, 1753;  
Bailey, Man. Cult. Pl. 436; Saur. 1:12.

The head is formed of condensed and thickened  
inflorescences of abortive flowers.

Local name: Phulavar, Flavar.

English name: Cauliflower

B. oleracea var. caulorapa DC. Prodr. 1:24, 1824.

The thickened stems of 'kohlrabi' are used as a  
vegetable.

Local name: Naulkol, Navalkol

All the plants are cultivated during the winter  
months near Padra, Chhayapuri and in the Baroda Central  
Jail compound.

#### CAPPARIDACEAE (CAPPARACAE)

Herbs. . . . . Cleome

Shrubs or trees:

Fruit moniliform. . . . . Maerua

Fruit globose or ovoid, not moniliiform:

Stamens inserted half way up the  
gynophore. . . . . Cadaba

Stamens inserted at the base of  
the gynophore:

Leaves simple. . . . . Capparis

Leaves 3 - foliolate. . . . . Crataeva

Cleome Linn.

Gynophore absent; flowers yellow. . . . .viscosa

Gynophore present; flowers white. . . . .gynandra

Cleome viscosa Linn. Sp. Pl. 672, 1753, FBI. 1:170;  
C. 1:41; Wt. Ic. t.2; Sant.98; Saur. 1:15.

Cleome icosandra Linn. Sp. Pl. 672, 1753.

Polanisia viscosa DC. Prodr. 1122, 1824.

P. icosandra Wight & Arn. Prodr. 22, 1834; Gr.8.

An erect, viscid, glandular, bad-smelling herb.  
Leaves 3-5 foliolate. Flowers yellow, axillary.  
Capsules long, hairy; seeds many, black.

A monsoon weed of waste places; fairly common,  
sometimes very much stunted forms are met with (Umeta,  
river banks, 2.6.60) as an adaptation to sandy,  
xerophytic environment. In these forms the leaves and



stems are extremely glandular.

Local name: Pili Talavani, Kanfuti.

Flowers and Fruits: July to October.

Sabnis 708, 2141, 2893.

The plains to 2000 meters, throughout India.  
cosmopolitan.

Cleome gynandra Linn. Sp. Pl. 671, 1753; Iltis in  
Brittonia 12(4): 279-294, 1960; Santapau and  
wagh in Bull. Bot. Surv. India. 5:106.

C. Pentaphylla Linn. Sp. Pl. 983, 1762.

Gynandropsis pentaphylla (Linn.) DC. Prodr. 1:238,  
1824; FBI. 1:171; C. 1:42.

Gynandropsis gynandra (Linn.) Briq. in Ann. Cons.  
Jard. Bot. Geneve 17:382, 1914; Sant. 10.

An annual, erect herb with a very offensive smell.  
Stems and petioles glandular, hairy. Leaves  
pentafoliolate. Flowers white, cream, or slightly pink  
in corymbose racemes, subtended by trifid, foliaceous  
bracts. Fruit a capsule, 5-7 cm. long, striate,  
tapering at both the ends.

A typical weed of all waste places especially  
during and after monsoon.

Local name: Tanmani (Safed), Adhiyakaran.

Flowers and Fruits: July to December or even upto March and May.

Common everywhere; abundant along the banks of a nallah full of sewage water.

Sabnis 706, 1786, 2442.

In the plains of warm parts of India and all tropical countries.

Maerua Forsk.

Maerua arenaria (DC.) Hook. f. et Thoms. in FBI. 1:171; 1872; G.42.

Niebuhria arenaria DC. Prodr. 1:244, 1823.

Maerua ovalifolia Cambess in Jacquemont. Voy. Bot. 22, t.24, 1844; C. 1:43.

A heavy climber. Leaves elliptic-oblong, obtuse, retuse or mucronate. Flowers greenish-white in corymbs; calyx lobes with pubescent margins; petals shorter, undulate; stamens many; gynophore bearing a cylindric ovary. Fruit a fleshy, elongate, irregularly beaded or moniform berry.

Noted on hedges at Nizampura, Sundarpura, Tatarpur, Mastapur; not common.

Flowers and Fruits: November to May.

Sabnis 2804, 3096.

Western Himalaya, Central India, Gujarat, Konkan,  
Deccan, S.M. country.

Tropical Africa and Arabia.

Cadaba Forsk.

Cadaba fruticosa (Linn.) Druce in Rep. Bot. Exch. Cl.  
Brit. Isles, 1913(3): 415, 1914; Chavan & Oza  
in Fl. Pavagadh, 35.

Cleome fruticosa Linn. Sp. Pl. 671, 1753.

Cadaba farinosa Forsk. Fl. Aeg.-Arab. 68, 1775,  
FBI. 1:173; C.46.

C. indica Lamk. Encycl. 1:554, 1783; FBI. 1:172;  
C. 1:45; D & G.9.

A straggling much-branched shrub. Leaves simple,  
entire. Flowers white or cream with a greenish tinge  
in one-sided racemes. Fruits dehiscent; seeds striate  
with orange-red aril.

Noted on hedges in abandoned corners and also in  
the crevices of the walls at a number of places.

Flowers and Fruits: November-April.

Sabnis 1357, 3007.

Sind, Punjab, Gujarat, Konkan, Deccan and S.M. country.

Arabia, Trop. and subtropical E. and W. Africa.

Capparis Linn.

Tree. . . . . grandis

Erect or climbing shrubs:

Flowers red or orange. . . . . decidua

Flowers white or pink:

Flowers in umbels. . . . . sepiaria

Flowers supra-axillary,  
solitary, 2-3. . . . . zeylanica

Capparis grandis Linn. f. Suppl. 263, 1781; FBI. 1:176;  
C. 1:50; Saur. 1:19.

A tree about 10 meters tall. Young shoots covered  
with olive-green tomentum. Leaves obovate, mucronate.  
Flowers white in corymbs. Fruits globose.

Very rare tree in the area; not wild but planted.

Flowers and Fruits: Once in September (14.9.57)  
and again in June (16.6.58) at Makarpura.

Sabnis 744, 1604.

Capparis decidua (Forsk.) Edgew. in Journ. Linn.  
Soc. 6: 174, 1862; Sant. Pl. Saur. 21 and  
Saur. 1:18.

Sodada decida Forsk. Fl. Aeg.-Ar. 81, 1775.

Capparis aphylla Roth, Nov. Pl. Sp. 238, 1821;  
FBI. 1:174; C. 1:49.

An erect, armed shrub with greenish zigzag branches. Young leaves small, which soon fall off. Flowers orange-red produced in profusion in lateral corymbs. Berries globose or ovoid, green but red when ripe.

A characteristic plant of depleted soils of the ravines. Also along roadside hedges and on the elevated banks of the rivers.

Fairly common and abundant in the area.

Local name: Kerda, Kaida

Flowers and Fruits: October to May

Local uses: The fruits are edible and are pickled.

Sabnis 848, 2921.

Throughout the drier regions of the Bombay presidency; Sind, Rajputana, Punjab, Gujarat, Deccan, Karnatak.

Arabia, Egypt, N. Trop. Africa

Capparis sepiaria Linn. Syst. ed. 10, 1071, 1759;  
FBI. 1:177; C. 1:51; Gr. 9; D & G. 10;  
Saur. 1:19.

A much-branched, straggling, armed shrub. Leaves small, entire, simple. Flowers white in umbels; ovary on a short, filiform gynophore. Fruit a globose berry.

Along the road in hedges and in abandoned areas.

Local name: Kanthar

Flowers and Fruits: March-May.

Sabnis 1341; J.220.

Sind, Punjab, Gujarat, Deccan, Kanara.

Burma, Pegu, Ceylon, Philippines.

Capparis zeylanica Linn. Sp. Pl. (ed.2) 720, 1762;

Blatter in JBNHS. 31:903 (sub. C. brevispina) & 906 (non. C. zeylanica HK. f. & Thoms. in FBI. 1:174); Sant. 9.

C. horrida Linn. f. Suppl. 264, 1781; Wt. Ic. t.173; FBI. 1:178; C. 1:51.

A large, climbing shrub. Young parts tomentose, prickly. Flowers white with a purplish tinge; stamens many; ovary raised on a gynophore. Fruit a subglobose capsule.

On the cracks of the dilapidated walls of wells and old buildings (Virod, 2.11.58) and along roadside in hedges (Race-course road, 1.8.59).

Flowers and Fruits: September to December.

Sind, Gujarat, Deccan, Konkan, S.M. country; Ceylon.

Crataeva Linn.

Crataeva nurvala Buch. Ham in TLS. 15:121, 1827;  
 Stearn in Blatt. & Millard, Beaut. Ind. Tr.  
 ed. 2, 47, t.9; Saur. 1:17.

C. religiosa Hook. f. & Thoms. in FBI. 1:172, 1872  
 (non Forst.); C.1:44.

A small unarmed tree. Leaves 3-foliolate, leaflets broad and abruptly acuminate. Flowerst white or white-yellow in terminal cymes; petals clawed; gynophore stout. Berry ovoid or globose.

Cultivated at a number of places in the L.V. Palace compound, Nazarbaug and the University campus.

Local name: Vaivarno.

Flowers and Fruits: January to May.

The trees are leafless during the winter.

Sabnis 1281, 1284.

Konkan, Malabar, Kanara; cultivated elsewhere in India.

Trop. Africa.

## RESEDACEAE

Reseda Linn.

Reseda odorata Linn. Syst. ed.10, 1046, 1759; C. 1:53;  
 Bailey, Man. Cult. Pl. 451.

A more or less decumbent annual. Leaves lanceolate to elliptic-oblong, entire, notched or irregularly lobed. Flowers yellow-orange. Fruit a gaping capsule.

Cultivated in the botanical gardens and some part of the University campus.

English name: Common Mignonette.

Flowers and Fruits: March-April.

Sabnis 3190.

#### VIOLACEAE

##### Hybanthus Jacq. (nom. cons.)

Hybanthus enneaspermus (Linn.) F. Muell. Fragm. 10:81, 1876 var. enneaspermus; Tennant in Kew Bull. 16(3): 431, 1963.

Viola enneasperma Linn. Sp. Pl. 937, 1753.

V. suffruticosa Linn. Sp. Pl. 937, 1753.

Ionidium enneaspermum (Linn.) Vent, Jard. Malm.

Sub. t.27, 1803; D. & G.12, 1861.

I. heterophyllum Vent, Jard. Malm. in addn. sub. t.27, 1803; C.1:55.

I. suffruticosum (Linn.) Roem. & Schultes, Syst. Veg. 5:394, 1819; Ging. in DC. Prodr. 1:311, 1824; FBI. 1:185; Gr. 11.



A small, erect or decumbent herb, branching from the base, 15-20 cm. high. Leaves alternate, linear - lanceolate. Flowers pink-purple, solitary, axillary, irregular; petals variable, one with a long claw and an expanded limb. Fruit a subglobose capsule. Seeds striate.

An early flowering species appearing with first showers of rain among grasses of the lawns in the University campus, L.V. Palace compound and many other localities.

Flowers and Fruits: July-February.

Sabnis 681, 713, 2624.

More or less throughout India to Ceylon.

Trop. Asia, Africa and Australia.

The colour of the flower is red as mentioned in a number of floras. I have observed only pink or purple coloured flowers.

Viola odorata Linn. Sp. Pl. 934, 1753.

The cultivated violet, seen in the botanical garden as well as a number of private and public gardens in Baroda. Valued more because of the flower colours rather than the scent.

## BIXACEAE

Bixa Linn.

Bixa orellana Linn. Sp. Pl. 512, 1753; Bailey, Man.  
Cult. Pl. 682.

A small, evergreen tree. Leaves large, ovate, glabrous. Flowers pink or rose in terminal panicles. Capules brown ovoid, loculicidally dehiscent, covered with soft spines; seeds red.

Grown as an ornamental in the Botanical garden.

Flowers: August-September.

Fruits: Upto April.

A native of America. The seeds yield a dye which is used for colouring silk as well as edibles.

## POLYGALACEAE

Polygala Linn.

Polygala erioptera DC. Prodr. 1:326, 1824; FBI. 1:203;  
C. 1:63; Sant. 12; Saur. 1:22.

An erect or decumbent annual herb. Leaves narrow-linear to obovate. Flowers pink or rose or rarely yellow, apparently papilionaceous; sepals expanded into a broad wing with green midrib. Fruit a 2-seeded capsule.



*Polygala erioptera* DC.

A common weed of lawns during monsoon: rarely in the cultivated fields or roadsides.

A much variable plant as far as the habit and shape of leaf are concerned. Absolutely stunted specimens have been collected from fallow fields.

Plate No. 9

Flowers: July to October.

Fruits: October to February.

Sabnis 636, 937, 1625, 3198.

Throughout the presidency especially in the drier regions; Sind, Punjab, Bihar, W. Peninsula.

Arabia, Trop. Asia, Africa, Burma.

There has been lot of discussion about the flower colour of this plant. In this area the pink or rose-coloured flowers are very common as compared to the yellow ones. Santapau in his flora of Saurashtra (pt. I, p.23) remarks "De Candolle does not mention the colour of his plant; Cooke states that it is yellow; my plants from Saurashtra are always pink or purplish, never yellow-flowered. There is no doubt about the identity of my plants".

## CARYOPHYLLACEAE

- Calyx gamosepalous, flowers showy. . . . . Vaccaria
- Calyx polysepalous, flowers inconspicuous:
- Styles free. . . . . Spergula
- Styles connate:
- Sepals keeled. . . . . Polycarpon
- Sepals not keeled. . . . . Polycarpaea

Vaccaria Medik.

Vaccaria pyramidata Medik. Phil. Bot. 1:96, 1789;  
 Cufodontis in Bull. Jard. Bot. Brux. Suppl.  
 23:104, 1953; Maheshwari, 68.

Saponaria vaccaria Linn. Sp. Pl. 409, 1753;  
 FBI. 1:217; C.1:66; Bamber, Pl. Punjab, 143;  
 Sant. 13; Saur. 1:24.

An erect, glabrous annual. Leaves linear-oblong.  
 Flowers pink. Calyx gamosepalous, tubular with five,  
 green nerves, swollen in fruit. Capsule ovoid; seeds  
 black.

A weed of winter crops like lucerne.

Flowers and Fruits: January to March.

Sabnis 3450, 3451.

A weed of cultivation throughout India.

A weed of cultivation throughout temperate and subtropical countries.

Spargula Linn.

Spargula arvensis Linn. Sp. Pl. 440, 1753; FBI. 1:243;  
C. 1:69.

A glabrous, diffuse, annual herb. Leaves acicular, linear, whorled. Flowers white in terminal cymes; pedicels slender; sepals ovate with membranous margins. Capsule subglobose; seeds tubercled, narrowly winged.

A weed of winter crops growing abundantly along irrigation channels in Makarpura area.

Not common in the area; rare.

Flowers and Fruits: January to March.

Sabnis 3164...3170.

A weed of cultivation throughout India on the plains to a height of 2000 meters.

Cosmopolitan in all temperature regions.

Polycarpon Linn.

Polycarpon prostratum. (Forsk.) Aschers. & Schweinf. in Oesterr. Bot. Zeitschr. 39:128, 1889 in Observ.; Sant. 12.

Alsine prostrata Forsk. Fl. Aegypt.-Arab. 207, 1775.

Pharnaceum depressum Linn. Mant. 2:562, 1771.

Loeflingia indica Retz. Obs. 4:38, 1785.

Hapalosia loeflingiae wall. ex Wt. & Arn. Prodr.  
358, 1834.

Polycarpon loeflingiae Benth. & Hook. Gen. Fl.  
1:153, 1862; FBI. 1:245; C. 1:69.

Polycarpon depressum Rohrb. in Mart. Fl. Bras.  
14(2): 257, 1872 (non Nutt. 1838).

Polycarpon indicum Merrill in Phil. Journ. Sci.  
Bot. 10:30, 1905; Blatter in JBNHS. 34:304.

An apparently dichotomously branched, prostrate herb. Leaves small, opposite. Flowers greenish-yellow to white in dichotomous cymes. Fruit a capsule with many seeds.

Noted on grassy slopes of banks of Harni-Amaliyara ponds. Open flowers normally not observed.

Plate No. 10

Flowers and Fruits: February to July.

Sabnis 590, 2058.

Throughout the hotter parts of India.

Tropical Asia and Africa.





*Polycarpon prostratum* (Forsk.) Asch. & Schw.



The plant is similar to Polygonum plebeium R. Br. in general appearance and habit and from the herbarium specimens one may find difficulty in separating the two. In the field, however, a critical observer need not be confused as pointed out by Santapau.

Polycarpaea Lamk. (nom. cons.)

Polycarpaea corymbosa (Linn.) Lamk. Tabl. Encycl.

2:129, 1791; FBI. 1:245; C. 1:70; Saur. 1:24.

Achyranthes corymbosa Linn. Sp. Pl. 205, 1753.

Erect herb, 15-45 cm. high. Leaves narrow, linear clustered or crowded. Flowers shining, silvery white-pinkish arranged in compound dichasia or polychasia; sepals chaffy. Fruit a small capsule.

Noted among grasses during monsoon; also on dry, sandy banks of rivers and in cultivated fields as a weed.

Flowers: September to December.

Fruits: November to March. Dry, fruiting specimens observed on the mahi banks in the month of June.

Sabnis 658, 2274, 2886.

Western Himalaya, N.W. India, Sind, Central India,  
Gujarat, Deccan, Konkan, S.M. country, W. Peninsula.

Ceylon, Burma, Trop. Asia, Africa, Australia and  
America.

### PORTULACACEAE

#### Portulaca Linn.

Flowers more than 2 cms. across, showy,  
bright red or pink. . . . . grandiflora

Flowers less than 1.5 cms. across,  
yellow:

Nodes with a ring of hairs. . . . . quadrifida

Nodes without hairs. . . . . oleracea

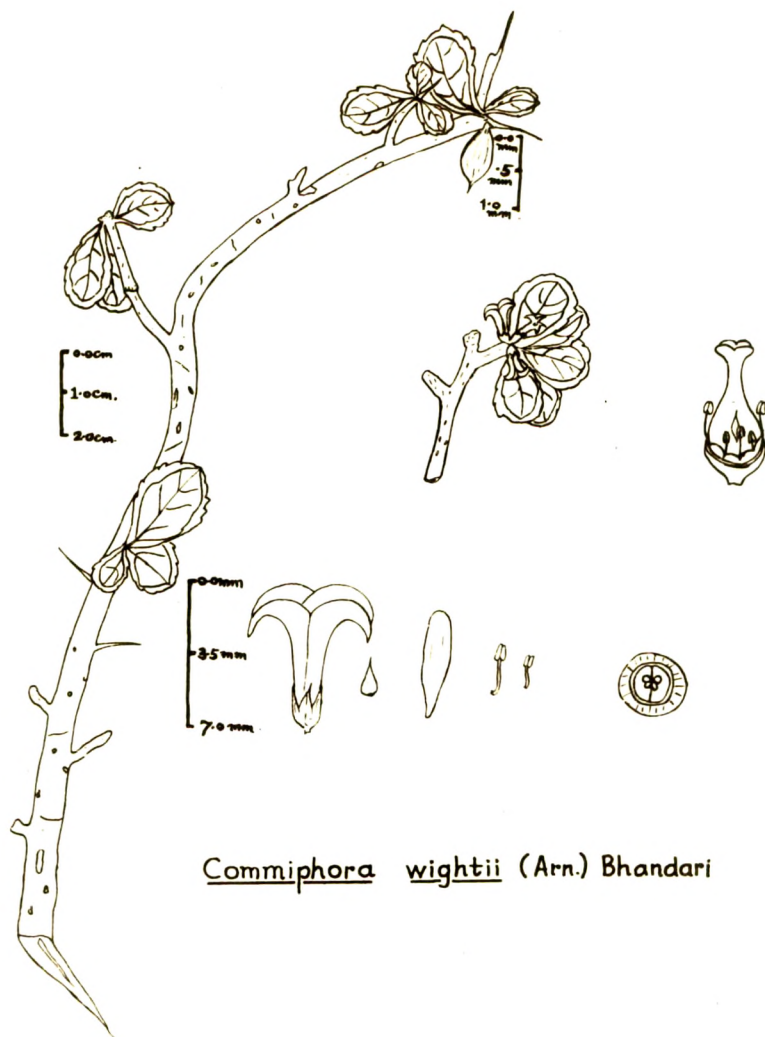
Portulaca grandiflora Hook. Bot. Mag. t.2885, 1829;  
Bailey, Man. Cult. Pl. 365; Sant. Pl. Saur.43,  
and Saur. 1:26.

A prostrate or ascending, succulent herb, grown in  
gardens everywhere for its deep pink or purple coloured  
flowers in terminal, sessile clusters.

Not noted in a wild condition; always cultivated.

Flowers and Fruits: More or less throughout  
the year.

Sabnis 1568, 1569.



Commiphora wightii (Arn.) Bhandari

Portulaca quadrifida Linn. Mant. 1:73, 1767; FBI.1:247;  
C. 1:72; Sant. 13; Saur. 1:26; Maheshwari, 70.

Prostrate, succulent herbs rooting at the nodes.  
Nodes hairy. Leaves succulent, ovate to ovate-lanceolate  
much smaller than those of P. oleracea Linn. Flowers  
small yellow, solitary, terminal. Fruit a capsule;  
seeds tubercled.

A weed forming carpets on wet grounds of the  
Univ. Bot. Garden and banana plantations at Chhani.

Local name: Luni, Zini Luni.

Flowers and Fruits: September - December.

Sabnis 2995.

N.W. and Western India, or more or less every-  
where.

Tropical Asia and Africa.

Portulaca oleracea Linn. Sp. Pl. 445, 1753; FBI. 1:246;  
C. 1:72; N.23; Sant. 13 and Saur.1:26.  
Maheshwari, 71.

A succulent, prostrate herb. Leaves fleshy, obovate  
or spatulate. Flowers yellow, few together, terminal,  
surrounded by a whorl of leaves. Fruit a pyxidium.

A common weed of a number of winter crops.  
Abundantly found along irrigation channels or near  
any water source.

Local name: Moti Luni

Flowers and Fruits: October to May.

Local uses: The plant is used as a vegetable.

Sabnis 1469, 2014.

Throughout India. All warm climates.

#### TAMARICACEAE

#### Tamarix Linn.

Stamens 10. . . . . ericoides

Stamens 5. . . . . troupii

Tamarix ericoides Rottl. in Gesel. Naturf. Fr. Berl..  
Neue. Schr. 4, 214, 1803; FBI. 1:249; C.1:76;  
Saur. 1:28.

Trichaurus ericoides Wt. & Arn. Prodr. 40;  
D & G. 14.

A tall, bushy shrub. Leaves scale-like, close,  
Flowers bisexual, pink or rose in long, terminal racemes.

Forming pure associations on the sandy banks of  
rivers at Vasad, Singharot and Umeta.

Flowers and Fruits: November to early June.

Sabnis 2906, 2907.

Sind, Gujarat, Deccan, Konkan, N. Kanara.

Tamarix troupii Hole in Ind. for 45:248; 1919;  
Troup, Silv. Ind. Trees 1:16; Blatter in  
JBNHS. 34:305, 1930.

T. gallica Dyer in FBI. 1:248, 1874 (non Linn.)

A bushy shrub or a tree. Leaves alternate, sessile,  
adpressed to the stem. Flowers pink in terminal  
panicles.

Cultivated in the University Botanical garden and  
a few private gardens.

Flowers and Fruits: January to May.

Sabnis 1231.

#### ELATINACEAE

#### Bergia Linn.

Stems prostrate or ascending, woody; stamens 10. . .

. . . . . odorata

Stems erect, not woody; stamens 5 or less. . . .

. . . . . ammannioides

Bergia odorata Edgew. in JASB. 7:765, 1838; FBI.1:251;  
C. 1:77; Saur. 1:29.

A prostrate, decumbent or an erect plant. Stems woody, bark easily peeling off. Leaves subsessile, variable in size. Flowers axillary, solitary or in fascicles, white with a pinkish tinge; stamens 10. Fruit a capsule; seeds minute, many.

A common lawn weed during monsoon; also noted as a weed in cultivated crops.

Local name: Davariyun, Runvad.

Flowers and Fruits: August to May.

Sabnis 565, 949, 3045.

In the hotter regions of Punjab, Sind, Gujarat.

Trop. Africa, Persia, Egypt.

Bergia ammannioides Heyne ex Roth, Nov. Pl. Sp. 219,  
402, 1821; FBI. 1:251; C.1:77; Sant. 13; N.24.

Elatine ammannioides Wt. & Arn. Prodr. 41, 1834;  
Gr.12.

An erect, glandular-hairy herb. Leaves sessile, linear-lanceolate, sharply serrate to entire. Flowers red in dense, axillary clusters. Capsule 5-celled, seed ovoid.

Found as a weed of the winter crops seven after the harvest as well as in marshy or moist ditches. The plant resembles Ammania baccifera Linn. in habit and general appearance but for a critical observer, there should be no difficulty in separating the two.

Flowers and Fruits: October to March.

Sabnis 3442, 3444.

More or less throughout India on the plains.

Ceylon, Afghanistan, Persia, Tropical Asia, Africa, Australia.

# GUTTIFERAE (Clusiaceae)

Garcinia xanthochymus Hook. f. in FBI. 1:269, 1872.

A small tree. Leaves thick, coriaceous, shining. Flowers in fascicles. Fruit rounded or subglobose.

Flowers and Fruits: February to June.

Only a single tree planted in the Univ. Bot. garden.

In the evergreen forests of N. Kanara.

Penang and the Andamans.

Garcinia mangostana Linn. Sp. Pl. 443, 1753; Bailey, Encycl. Hort. 1989, f.2321.



A small tree with a thick crown of coriaceous leaves.

Only one tree observed in the Univ. Bot. garden in leaf only.

English name: Mangosteen

Native of Malay region; cultivated in Ceylon and S. India.

#### MALVACEAE

1. Ripe carpels separating from the axis (Fruits schizocarpic):
  2. Bracteoles 0:
    3. Carpels 5-10, 1-seeded. . . . . Sida
    3. Carpels 5-many, 2-seeded. . . . . Abutilon
  2. Bracteoles 3. . . . . Malvastrum
  2. Bracteoles 4, large, leafy. . . . . Malachra
  2. Bracteoles 5 or more:
    4. Flowers more than 5 cm. across. . . . . Althaea
    4. Flowers less than 5 cm. across:
      5. Ripe carpels glochidiate. . . . . Urena
      5. Ripe carpels not glochidiate, but aristate or naked. . . . . Pavonia

1. Ripe carpels not separating from the axis  
(Fruits capsular):
  6. Calyx cupular, truncate. . . . . Thespesia
  6. Calyx not cupular or truncate:
    7. Bracteoles 5 or more or 0:
      8. Calyx persistent. . . . . Hibiscus
      8. Calyx deciduous in the ripe  
fruit. . . . . Abelmoschus
    7. Bracteoles 3, large,  
persistent. . . . . Gossypium
1. Ripe carpels connate into a berry-like  
body, but later separating; flowers  
opening slightly. . . . . Malvaviscus

Sida Linn.

(Key to the species of Sida adapted from Cooke)

- Prostrate, spreading herbs. . . . . veronicifolia<sup>a</sup>
- Erect or suberect herbs or undershrubs:
  - Petioles spiny at the base. . . . . alba
  - Petioles not spiny at the base:
    - Awns hardly 1/3 the length of the  
carpels:
      - Flowers white; leaves downy  
on both sides. . . . . ovata

Flowers yellow:

Leaves glabrous on the upper  
side, obovate - cuneate. . . rhombifolia  
var. retusa

Leaves glabrous on both  
sides, lanceolate; awns  
long. . . . . acuta

Awns nearly as long as the  
carpels. . . . . cordifolia

Sida veronicifolia Lamk. Encycl. 1:5, 1783; C. 1:97;  
Blatter in JBNHS. 34:627; Saur. 1:37;  
Santapau and Wagh in Bull. Bot. Surv. India.  
5:108.

A prostrate or straggling herb. Younger parts  
covered with straight, spreading hairs. Leaves ovate-  
cordate with dentate-crenate margins. Flowers yellow-  
orange; carpels 5.

Noted in the shade of hedges and thickets; also  
on footpaths under the thick canopy of Banyan as well  
as on the steps of Navlakhi vav.

Fairly common; growing in Association with other  
species of Sida.

Local name: Bhonyabala

Flowers: August to January.

Fruits: November to May.

Sabnis 641, 1845, 2860.

Common throughout the presidency.

In tropical and subtropical regions of the world.

Sida alba Linn. Sp. Pl. (ed.2) 960, 1762; Saur. 1:36.

S. spinosa Linn. Sp. Pl. 683, 1753; DC. Prodr.  
1:460; FBI. 1:323; C. 1:98; Chavan & Oza,  
Fl. Pavagadh, 43.

An erect, rigid herb. Leaves petiolate, elliptic, obtuse provided with small 'spines' at the base of the petiole. Flowers white with yellowish tinge or white or yellow; carpels 3-5.

A fairly common weed during monsoon in close association with Sida acuta Burm. It was also noted on the elevated banks of ponds as also on the side of stony pathways in Navlakhi area.

Local name: Kantalobala

Flowers and Fruits: August to March.

Sabnis 693, 1008, 2686.

Throughout the hotter parts of India from N.W. Provinces to Ceylon.

Tropical and subtropical regions of both the hemispheres. Native of Trop. America.

Sida ovata Forsk. Fl. Aeg.-Ar. 116 & 124, 1775;

Saur. 1:36.

S. <sup>9</sup>Grewioides Guill. & Perr. Fl. Senegamb. 1:71,  
1831; FBI. 1:323; C. 1:98.

An undershrub. Leaves elliptic-oblong or obovate, crenate. Flowers white; carpels 7-8. Seeds brown.

A rare weed of waste places in and after monsoon in the University area.

Flowers and Fruits: August to November.

Sabnis, 10.8.63; Joshi 990.

N.W. provinces, Sind, Gujarat.

Arabia, Trop. Africa.

Sida acuta Burm. F.Fl.Ind. 147, 1768; C.1:98; Saur.1:34;  
Chavan & Oza, Fl. Pavagadh, 44.

S. carpinifolia Masters in FBI. 1:323, 1874  
(non Linn. 1781).

A rigid herb, upto 50 cm. high. Leaves lanceolate, serrate, glabrous. Flowers yellow, axillary, 1 or rarely 2 in each axil; carpels 6.

Very common and abundant during monsoon along roadsides and almost everywhere. The plants flourish under the canopy of trees on less frequented pebbled roads in the L.V. Palace compound, associated with S. alba. Flowers of the above plant, fully open in the morning and close at noon.

Local name: Bala

Flowers: September to January.

Fruits: January to May.

Sabnis 638, 1491, 2207.

Gujarat, Konkan, Deccan, S.M. country to Ceylon, Malaya, Philippines; Timor and other pacific Islands; Formosa and China.

Sida rhombifolia Linn. var. retusa Masters in FBI.1:324, 1874; C.1:99; Sant.16; Saur.1:35; Chavan & Oza. Fl. Pavagadh, 43.

S. retusa Linn. Sp. Pl. (ed.2) 961, 1762; Gr.16; D. & G.17.

S. rhombifolia Linn. forma retusa Blatt. in JBNHS.34:629, 1930.

A much-branched undershrub. Leaves very variable, elliptic-oblong to obovate, crenate, cuneate at the base; stipules long, subulate. Flowers yellow; carpels with 2 short awns.

A rare weed of waste places.

Flowers and Fruits: September to February.

Sabnis 2332, 2558, 2704; Oza, September-December, University campus; Satakopan, Harni pond.

Gujarat, Deccan, S.M. country, Konkan; More or less throughout India.

Tropics of both the hemispheres.

Taking into consideration, the variability of the leaf characters, on which a number of varieties are based, one can not but agree with Blatter and Santapau. However, the final word may be said about it only after an extensive and critical study of the whole complex.

Sida cordifolia Linn. Sp. Pl. 684, 1753; FBI.1:324;  
C.1:99; Saur.1:38; Chavan and Oza, Fl.  
Pavagadh, 44.

An erect undershrub, hairy with soft, stellate hairs all over. Leaves ovate-cordate. Fls. pale yellow or rarely white, axillary, few together or solitary. Carpels 10; each carpel with 2 awns produced much above the calyx.

A weed of waste places in a few localities.

Local name: Mahabala

Flowers: August-September.

Fruits: October.

Sabnis 2069, 2253, 2648.

Gujarat, Konkan, S.M. country and the tropical and subtropical parts of India.

Tropical and subtropical regions of both the hemispheres.

Abutilon Linn.

Carpels not more than 10.. . . . . ramosum

Carpels more than 10: . . . . .

Carpels obtuse without a mucro. . . . glaucum

Carpels pointed or mucronate. . . . indicum

Abutilon ramosum Guill. Perr. & Rich. Fl. Seneg.1:68,  
1830; FBI.1:328; C.1:103; Saur.1:39.

A small shrub with hairy stem. Leaves long-petiolate, cordate, toothed. Flowers yellow. Fruit a carcerule of less than 10 carpels.

Not common, though abundant in certain localities; always under the shade of trees in association with Peristrophe bicalyculata and Barleria prionitis.

Flowers and Fruits: October to January.

Sabnis 1931, 2348, 2605.

Sind, Gujarat; in drier parts of India.

Arabia, Tropical Africa.

Abutilon glaucum (Cav.) Sweet, Hort. Brit.54, 1827;  
G.Don, Gen.Syst.1:504, 1831; Saur.1:40;  
Maheshwari,76; Chavan & Oza, Fl.Pavagadh,45.

Sida glauca Cav. Ic.1:8, t.11, 1791.

Abutilon muticum Sweet, Hort, Brit.(ed.2) 65, 1830;  
FBI.1:327; C.1:102.



An erect shrub, about 1 meter high; all parts hairy pubescent. Leaves ovate, cordate, acute. Flowers yellow-orange.

A rare plant of waste places along the roadside at Sundarpura, Tatarpur and Mastupur.

Local name: Kansaki - Makhmali.

Flowers and Fruits: November-December.

Sabnis 2948, 2949.

N. W. Provinces, Sind, Gujarat, Deccan, Konkan, W. Peninsula to Ceylon.

Afghanistan, Egypt, Trop. Africa.

Abutilon indicum (Linn.) Sweet, Hort. Brit. 54, 1827;

FBI.1:326; C.1:102; Blatter in JBHNS.34:629;

Saur.1:40; Maheshwari, 75; Chavan & Oza, Fl.

Pavagadh, 45.

Sida indica Linn. Cent. Pl. 2:26, 1756 & Sp. Pl. (ed. 2) 964, 1763.

S. asiatica Linn. Cent. Pl. 2:26, 1756 & Sp. Pl. (ed. 2) 964, 1763.

Abutilon asiaticum (Linn.) Sweet, Hort. Brit. 53, 1826; FBI.1:326; C.1:102.

A tall undershrub, upto 2 meters high or even more. Leaves ovate, acute, cordate. Flowers yellowish-orange. Fruit a carcerule consisting of many hairy, carpels; seeds brown.

Very common and abundant almost everywhere. Noted on waste places along roadsides and also on the crevices of walls of dilapidated structures.

Local name: Kansaki

Flowers: August to December.

Fruits: December to May.

Sabnis 630, 2386.

Throughout tropical and subtropical India.

Ceylon. Tropics generally.

Malvastrum A. Gray (nom.cons)

Malvastrum coromandelianum (Linn.) Garcke in Bonplandia

5:297, 1857; Blatter in JBNHS.34:627;

Maheshwari,77; Chavan & Oza, Fl. Pavagadh.41.

Malva coromandeliana Linn. Sp.Pl.687, 1753.

Malvastrum tricuspidatum A. Gray, Pl. Wright.1:16, 1852; FBI.1:321.

An erect or ascending herb. Leaves ovate to ovate-lanceolate, crenate-serrate. Flowers yellow; bracteoles 3; calyx lobes triangular. Ripe carpels provided with 3 spiny projections.

Noted as weed of waste places and fields, very often in cool and shaded places.

Flowers: August to November.

Fruits: November to February.

Sabnis 1990, 2818; J.882.

A native of America, now naturalized in almost all the parts of India on plains.

Tropics of Both the hemispheres and Australia.

Chavan & Oza (l.c.) mention the colour of the flower as reddish. I have yet to see a reddish flower of the plant. The plant is not listed in the "Cooke's flora of the presidency of Bombay".

### Malachra Linn.

Malachra capitata Linn. Syst. ed.12, 2:458, 1767;

FBI.1:329; C.1:105; Saur.1:33.

A coarsely hispid, erect, annual herb. Leaves large, variable, entire, lobed or angled, ovate, cordate, crenate; petiole 2-5 cm. long, jointed below the blade. Pedicels stout, supporting 4-6 flowers within an involucre of bracts. Flowers yellow; calyx membranous, each lobe produced into a long bristle. Carpels 5, white when ripe, with a network of brown veins; seeds smooth.

A weed of waste places, forming isolated clumps only at a few places.

Flowers and Fruits: October-December.

Rare; on the banks of Harni Pond, Bhukhi Nallah and on the outskirts of Bhayali village.

Introduced into Bombay from Brazil as a fiber plant; now naturalized in and around Bombay and certain other parts of the Bombay State.

Althaea Linn.

Althaea rosea (Linn.) Cav. Diss.2:91, t.28, f.1, 1786;  
C.1:95; Santapau in Fl. Purandhar,23; Saur.1:55.

An erect undershrub. Flowers axillary, solitary, beautiful, ornamental, of a variety of colours i.e. white, pink or red.

The common Hollyhock, cultivated in a number of public and private gardens in the city of Baroda.

Flowers: December to April.

Sabnis 1203.

A native of crete and greece; now extensively cultivated in gardens throughout India.

Urena Linn.

Urena lobata Linn. Sp.Pl.692, 1753; FBI.1:329 (excl. syn. U. palmata); C.1:106; N.29; Sant.17; Saur.1:54; Maheshwari,77; Chavan & Oza, Fl. Pavagadh, 46.

U. sinuata Linn. Sp. Pl.692, 1753; FBI.1:329, C.1:106; Blatter in JBNHS. 34:631.

An erect herb or undershrub reaching a height of 1 meter or more. Stem and branches woolly. Leaves entire or lobed, dark above and pale beneath. Flowers pink or rose, axillary, solitary. Fruits covered with hooked bristles.

A weed of waste places, usually under the shade of trees.

Local name: Vagdo bhindi.

Flowers and Fruits: August to March.

Sabnis 2162, 3148.

Common, though not abundant; on the elevated banks of small stream, Navlakhi area; Bhimpura and Singharot, waste places along roadside.

A common weed, widely distributed throughout the presidency.

Tropics of both the hemispheres.

The leaf character being very variable, the two species namely U. lobata and U. sinuata of Linne have been merged (and rightly too) under U. lobata by Santapau in his Flora of Khandala.

Pavonia Cav. (nom.cons.)

Pavonia zeylanica Cav. Diss.3:134, t.48, f.2, 1787;  
FBI.1:331; C.1:108; D & G.21; Blatter in  
JBNHS. 34:631; Saur. 1:52; Maheshwari,77;  
Chavan and Oza, Fl. Pavagadh, 46.

An erect, glandular herb reaching a height of about 2 meters or more. Leaves small, entire or 3-lobed, long-petioled. Flowers pink, attractive, on long pedicels; bracteoles (epicalyx) linear, ciliolate. Ripe carpels pale brown.

Noted on open, waste land; prefers direct sunlight to shade; also on abandoned lawns and cobbled roads in isolated clumps.

Not common, not abundant.

Flowers: August to December.

Fruits: November to May.

Sabnis 1383, 2222, 3079.

N.W. Provinces, Sind, Gujarat, Deccan, W. Peninsula  
to Ceylon.

Tropical Africa, Mauritius.

Thespesia soland.

Thespesia populnea (Linn.) soland. ex corr. in Ann.

Mus. Hist.Nat.Paris9:290, 1807; FBI.1:345;

C.1:121; Blatt & Mill. Beaut. Ind. Trees (ed.2)

141, t.31; Saur.1:32; Maheshwari, 82.

Hibiscus populneus Linn. Sp.Pl.694, 1753.

A small tree. Leaves broadly ovate, cordate at the  
base. Flowers large, yellow-pinkish red with a purple  
throat. Fruit a globose capsule.

Cultivated in gardens and along roadside in Baroda  
and the outskirts.

Local name: Parasbhindi, Paraspiplo (because  
of the leaves, which resemble those of Pipal)

Flowers and Fruits: August to March.

Sabnis 2221.

Wild along the sea-shores of the districts south  
of Bombay; often planted as a roadside tree.

Coastal forests in India and Burma; Tropical Asia,  
Africa and the Pacific Islands.

Hibiscus Linn.

1. Calyx of distinct sepals, not truncate:
  2. Plants cultivated:
    3. Calyx red, fleshy, edible. . . . . sabdariffa
    3. Calyx not as above:
      4. Petals fringed and much recurved. . . . . schizopetalus
      4. Petals not fringed or recureved:
        5. Staminal tube much exserted. . . . . rosa-sinensis
        5. Staminal tube not exserted... syriacus
  2. Plants truly wild or escapes from cultivation:
    6. Involucral bracts absent. . . . . lobatus
    6. Involucral bracts present:
      7. Seeds cottony. . . . . micranthus
      7. Seeds smooth or hairy but not cottony:
        8. Upper leaves characteristic, deeply divided into narrow, long lobes. . . . . cannabinus
        8. Leaves entire or irregularly lobed, but not as above:
          9. Flowers whitish pink-rose.. punctatus
          9. Flowers bright yellow with a purple center. . . . . panduraeformis



1. Calyx cupular, truncate. . . . . lampas

Hibiscus sabdariffa Linn. Sp.Pl.695, 1753; FBI.1:340;  
C.1:117; Watt. Dict. Econ. Prod. 4:243;  
Saur.1:45; Maheshwari, 79.

An erect shrub. Stems reddish. Leaves entire and lobed. Flowers yellow; calyx succulent, red, edible. Capsule ovoid shorter than the calyx.

Cultivated at Chhayapuri and Sama for the fleshy calyx and fruit which are pickled or made into jam. The stem yields good fiber.

Local name: Ambadi (Lal)

Flowers and Fruits: October to December.

Sabnis, Wet preservation in Botany Museum  
herb no. 3048.

The Red sorrel of the West Indies, cultivated throughout the presidency, especially in Gujarat.

Hibiscus schizopetalus (Mast.) Hook. f. in Bot. Mag.  
t.6524, 1880; Bailay, Man. Cult. Pl. 665; Bor &  
Raizada 236, f.136 & t.87; Saur. 1:48;  
Maheshwari, 80.

H. rosa-sinensis Linn. var. schizopetalus Mast. in  
Card. Chron. 282, 1879.

A shrub. Flowers pink-red, pendant; petals fringed and very much recurved; staminal tube much exserted, long, drooping.

Cultivated in gardens for beautiful flowers.

Flowers: October-April.

Sabnis 1131.

A native of Trop. Africa; common in gardens throughout the country.

Hibiscus rosa-sinensis Linn. Sp.Pl.694, 1753; FBI.1:344; C.1:120; Bailey, Man.Cult.Pl.665; Bor & Raizada 237, f.137 & t.88; Saur.1:47; Maheshwari, 80.

A shrub. Leaves glabrous; stipules linear. Flowers red or scarlet; bracts 7-9, linear; staminal tube red, exserted.

Grown in gardens for the beautiful flowers.

Local name: Jasund, Jasundi, Jaswand.

Flowers: Almost throughout the year.

Sabnis 1265.

Probably a native of China, now commonly cultivated in all warm countries.

Hibiscus syriacus Linn. Sp.Pl.695, 1753; FBI.1:344; C.1:121; Bailey, Man.Cult.Pl.666; Bor & Raizada 238, f.138, t.90-91.

An erect, glabrous, bushy shrub. Leaves cuneate (wedge-shaped); stipules linear-lanceolate. Flowers rose or purple, often double.

Grown in the L.V. Palace garden, University Botanical garden, Public Park etc. for the attractive flowers.

Flowers: January-November.

Sabnis 20.10.62 (L.V. Palace compound)

"Native country uncertain, but probably not Syria as Linnaeus supposed". Commonly cultivated in the plains and hills throughout India.

Hibiscus lobatus (Murr.) O. Kuntze, Rev.Gen.3:519, 1898; Santapau in Fl.Saur.68 & Saur.1:43; Maheshwari,80; Chavan & Oza in Fl. Pavagadh,46.

Solandra lobata Murr. in Comm. Gotting. 6:21, t.1, 1785.

Hibiscus solandra L' H'erit. stirp. 1:103, t.49, 1786; FBI.1:336; C.1:114.

An herbaceous annual, 15-25 cm. high. Leaves very variable, entire or variously lobed. Flowers white without the involucre bracts.

A typical monsoon weed under the shade of trees or bushes.

Not at all common or abundant.

Flowers: September-November.

Fruits: October-January.

Sabnis 3149.

From plains to a height of 1500 meters in the hotter parts of India.

Burma, Ceylon, Trop. Africa.

Hibiscus micranthus Linn. f. Suppl. 308, 1781; FBI.1:335;  
C.1:113; Saur.1:44; Maheshwari, 80.

A stiff, slender shrub; branched or unbranched.  
Flowers white or pale pink. Fruit a globose, loculicidal capsule; seeds cottony, comose.

Noted along roadside hedges (coming above the level of the hedges everywhere); prefers direct sunlight to shade; characteristic plants of the depleted soils of ravines forming at times pure associations.

Flowers and Fruits: September to January.

Sabnis 2717, 3263.

Throughout the hotter plains of India; Ceylon, Trop. Africa.

Hibiscus cannabinus Linn. Syst. ed. 10, 1149, 1759;  
FBI.1:339; C.1:116; Santapau, Pl. Saur. 65 &  
Saur.1:46; Maheshwari, 79.

An erect shrub or undershrub. Stems sometimes prickly. Lower leaves undivided, upper deeply divided into narrow, long lobes. Flowers yellow with a purple center, large, showy. Capsule hairy, beaked.

Not noted under cultivation in the area; as an escape.

Local name: Jangli Bhindi, Ambadi.

Flowers and Fruits: September-October.

Sabnis 3460, Fazalpur, in roadside ditches; Undhera, near the banks of a pond.

Cultivated in most tropical countries for the fiber.

Hibiscus punctatus Dalz. in Dalz & Gibs. Bombay Fl.20, 1861; FBI.1:340; C.1:116; Santapau, Pl.Saur.70 & Saur.1:47; Chavan & Oza, Fl. Pavagadh, 47.

An erect herb or undershrub. Leaves pellucid-punctate; unequally lobed, usually 3-lobed, the middle lobe much larger than the lateral ones. Flowers white with a pinkish tinge or rose-coloured. Seeds not cottony.

Flowers and Fruits: October to January.

Sabnis 2775, Timbi, very rare along roadside; (18.10.60) Sundarpura, 26.1.62.

In the drier parts of N.W. and W. India; Sind, Gujarat; Multan.

Hibiscus panduraeformis Burm. f. Fl. Ind. 151, 1768;  
 FBI.1:338; C.1:115; Taduling. & Narayana,  
 Handbook South. Ind. Weeds, 113, t.44.

An erect herb or undershrub, clothed with hairs.  
 Leaves ovate-cordate, irregularly toothed, covered with  
 silky pubescence on both surfaces. Flowers bright  
 yellow with a purple center; involucral bracts linear,  
 dilated upwards, ciliate. Capsule ovoid, hairy; seeds  
 shaggy.

A rare plant; in hedges along roadsides at Bapod  
 and Sundarpura.

Flowers and Fruits: October to January.  
 Sabnis 3403, 3414.

Gujarat, Deccan, Konkan, S.M. country and W.  
 Peninsula to Ceylon.

Tropical Africa, Australia.

Hibiscus Lampas Cav. Diss. 3:154, t.56, f.2, 1787; Wight,  
 Icon. t.5; Saur. 1:47; Shah In Ind. For. 89(4):286.

Thespesia lampas Dalz. & Gibs. Bombay. Fl. 19, 1861;  
 Sant. 19; Santapau in Fl. Purandhar, 26.

An erect shrub or undershrub with usually unbrached  
 stem. Leaves large, entire or 3-lobed. Flowers yellow  
 with a deep purple center. Capsule ovoid, hairy.

Noted once under cultivation in the Univ. Bot. garden. Shah, Loc.cit. records its occurrence in a wild state in Baroda. Hence the inclusion of this plant here is on the authority of Shah.

Common along Western Ghats.

Trop. Africa, Java.

Modern authors place the present species under Hibiscus rather than Thespesia. A.W. Exell in Fl. Zamb. 1(2): 434, 1961 places it under Azanza lampas (cav.) Alef.

Abelmoschus Medic.

(For a discussion on the validity of the genus Abelmoschus and the reasons to separate it from Hibiscus, please refer to Santapau's Fl. Saurashtra 1:48, 1962).

Involucral bracts 5, (rarely 4 or 6)

broad, leafy. . . . . manihot

Involucral bracts more than 5, linear:

Involucral bracts shorter than the  
calyx. . . . . moschatus

Involucral bracts equalling the  
calyx. . . . . esculentus

Abelmoschus manihot (Linn.) Medic. Malv. Far.46, 1787;  
Sant.18; Saur.1:50.

Hibiscus manihot Linn. Sp.Pl.696, 1753.

H. tetraphyllus Roxb. Hort. Beng.52, 1814, nom.nud.  
and Fl.Ind.3:211, 1832; FBI.1:341; C.1:118.

Tall, perennial shrub. Leaves variable, entire or sometimes deeply lobed. Flowers yellow or yellowish white with a dark purple or crimson throat; calyx united, splitting down on one side; involucral bracts commonly 5, broad, ovate-lanceolate, free. Capsule with stiff hairs.

Noted in waste places in L.V. Palace compound and on the outskirts of Undhera village.

Local name: Ranbhindi, Janglibhindo.

Flowers and Fruits: October to March

Sabnis 1488.

Konkan, Kanara, Gujarat, Bengal.

Tropical regions of both the hemispheres.

Abelmoschus moschatus Medic. Malv. Fam.46, 1787;  
Santapau, Pl. Saur. 54 & Saur. 1:49.

Hibiscus abelmoschus Linn. Sp.Pl.696, 1753;  
FBI.1:342; C.1:118.

An erect undershrub. Leaves variable, entire or deeply lobed. Flowers yellow; calyx spathaceous, splitting down on one side. Capsule densely hairy.



As a weed of waste places near Fazalpur village.

Local name: Janglibhindo

Flowers: 25.9.62.

Sabnis 3458.

Generally cultivated in most tropical countries for the excellent fiber, the stems yield.

Abelmoschus esculentus (Linn.) Moench. Method. 617, 1794; Merr. Enum. 3:40; Sant.18; Saur.1:40; Maheshwari,81.

Hibiscus esculentus Linn. Sp.Pl.696, 1753; FBI.1:343; C.1:119.

An erect shrub or undershrub. Leaves variable. Flowers creamy yellow with purple centre. Fruit ribbed, hairy at first and glabrous later.

The famous fruit vegetable; cultivated on a large scale; on smaller scales in gardens around private bungalows.

Local name: Bhinda, Bhindo.

Flowers and Fruits: Almost throughout the year.

Sabnis; flowering and fruiting specimens preserved in the Botany Museum.

Naturalized or cultivated in most tropical countries.

Gossypium Linn.

Gossypium herbaceum Linn. Sp.Pl.693, 1753; FBI.1:346;  
Pro parte; C.1:123.

An erect, hairy plant. Stems woody. Leaves 5 to 7-lobed. Flowers large, yellow with purple center. Bracteoles 3, large, entire or toothed. Capsule ovate.

Extensively cultivated in the area for the surface fibers obtained from the seeds.

Local name: Kapas.

Flowers and Fruits: September - October.

Sabnis 1493, 2436.

Malvaviscus Dill.

Malvaviscus arboreus Cav. Diss. 3:131, t.48, f.1, 1787;  
Bailey, Man. Cult. Pl.661.

A shrub about 2 meters high. Flowers bright red, opening slightly, through which a part of the staminal tube and stigmas come out "like the handle of an umbrella" (santapau in Fl. Saur.1:55). What an apt simile! Commonly grown in the gardens for the sheer beauty of the flowers.

English name: Chinese lantern

Local name: Jasundi

Flowers: December to May.

Sabnis 1295.

#### BOMBACACEAE

Bombax ceiba Linn. Sp.Pl.511, 1753, p.p. quoad plantas asiaticas, Excl. syn. Bauhin; id., Sp.Pl. (ed.2) 959, 1763, p.p. quoad plantas asiaticas, Excl. Syn. Jacquin, Bauhin, sloane; Robyns in Taxon 10:160, 1961; Chavan & Oza, Fl. Pavagadh, 48.

B. malabaricum DC. Prodr. 1:479, 1824; FBI.1:349; C.1:127.

Salmalia malabarica (DC.) Schott & Endl. Melet. Bot.35, 1832; Sant.19; Blatt. & Mill. Beaut. Ind. Trees 22, t.26; Maheshwari, 83; Saur.1:59.

A large tree, trunk covered with conical prickles. Leaves palmately compound; leaflets lanceolate. Flowers large, red, very attractive; stamens many, polyadelphous. Capsule 10-15 cm. long, 5-valved; seeds covered with white, silky hairs.

Planted; Noted in Botanical gardens; near University Press; Chhayapuri; Pratapnagar etc.

English name: Silk cotton tree.

Local name: Shimlo

Flowers and Fruits: March-April (when the tree is leafless).

Sabnis; photographed and the flowering specimens preserved in the Museum.

Throughout the hot, forest regions of India, Burma, Ceylon, Java, Sumatra, Malaya.

Adansonia digitata Linn. Sp.Pl.1190, 1753; FBI.1:348; C. 1:126; Saur. 1:58.

The baobab or the Monkey bread tree is planted near Faculty of Law. I have been observing the tree for a number of years in leaf only.

#### STERCULIACEAE

##### Herbs or undershrubs:

Flowers yellow. . . . . Waltheria

Flowers rose-pink or purplish. . . . . Melochia

##### Trees:

Capsule woody, 5-angled; flowers white or creamy. . . . . Pterospermum

##### Capsules not woody:

Capsule membranous, inflated; flowers pink. . . . . Kleinhovia

Capsule tubercled; flowers  
yellow. . . . . Guzuma

Waltheria Linn.

Waltheria indica Linn. Sp.Pl.673, 1753; FBI.1:374;  
C.1:144; Gr.246; D. & G.23; Saur. 1:64;  
Chavan & Oza, Fl. Pavagadh, 49.

W. Americana Linn. Sp. Pl. 673, 1753.

An erect herb about 1 meter tall. Leaves elliplic-  
ovate with crisped margins, softly pubescent on both  
the surfaces. Flowers yellow in dense, axillary heads,  
pedunculate or not. Fruit a 1-seeded capsule.

A weed of waste places and roadsides.

Flowers and Fruits: September to December.

Sabnis 831, 2299, 2822.

More or less throughout the hotter parts of India.

Ceylon and warmer regions of the world.

For notes on nomenclature of this plant, please  
refer to Santapau's Fl. Saurashtra 1:65, 1962.

Melochia Linn.

Melochia corchorifolia Linn. Sp.Pl. 675, 1753;  
FBI.1:374; C.1:142; Saur.1:63; Maheshwari,86;  
Chavan & Oza. Fl. Pavagadh,50.

A much branched herb or undershrub. Leaves ovate-oblong, serrate. Flowers pink in usually terminal clusters. Capsule globose; seeds many.

A marsh-loving plant; noted on the banks of ponds and puddles, sometimes entering water; also as a weed in rice fields.

Common and abundant almost everywhere.

Flowers and Fruits: September to December.

Sabnis 671.

Throughout the hotter parts of India, Gujarat, Kanara; from Kumaon to Sikkim, Malacca, Ceylon. Tropics generally.

Santapau, loc.cit. says that very often the said plant is confused with Waltheria indica Linn. and proceeds to give characters to separate the two. Personally I have not experienced any difficulty in separating the two either in the field or in the herbarium.

### Kleinhovia Linn.

Kleinhovia hospita Linn. Sp.Pl. (ed.2) 1365, 1763;  
C. 1:35.

A small deciduous tree. Leaves broad, ovate, cordate, acuminate. Flowers pink in large terminal panicles. Capsules membranous, inflated.

P/Th  
3103

151

Grown on the University campus at a number of places as an ornamental tree.

Flowers: August to September.

Fruits: December.

Not indigenous, though introduced in many parts of the Bombay presidency.

Guzuma

Guzuma tomentosa H.B. & K. Nov.Gen.Pl.5:320, 1821;  
FBI.1:375; C.1:144.

A middle-sized tree. Leaves ovate-oblong, serrate, tomentose beneath. Flowers yellow in axillary panicles. Fruit a tubercled capsule.

Planted and also spontaneous at a number of places especially on the University campus, Bhukhi Nallah and L.V. Palace compound.

Local name: Rudraksha

Flowers and Fruits: September to May.

Sabnis 1078, 2083.

A native of Trop. America and W. Indies; is widely planted as an ornamental tree throughout the presidency.

Pterospermum schreb.

Pterospermum acerifolium Willd. Sp. Pl. 3:729, 1801;  
FBI.1:468; C.1:137; Sant.22.

A middle-sized tree. Leaves large, cordate.  
Flowers fairly large, yellowish cream-white, fragrant;  
calyx covered with ferrugineous indumentum; Fruit a  
5-angled, woody capsule; seeds with membranous wings.

Planted and not wild; in public and private gardens.

Local name: Muchkund

Flowers and Fruits: March to May.

Sabnis 1302.

Helicteres isora Linn. Sp.Pl.963, 1753.

A bushy shrub. Flowers red turning to orange.  
Fruit characteristic; of 5 spirally-twisted follicles.

Grown in the University Botanical garden.

Flowers and Fruits: July to October.

Pterygota alata (Roxb.) R.Br. in Benn. Pl.Jav. Rar.234,  
1844.

A large tree. Leaves large, ovate, cordate.  
Flowers small in racemes.

Grown in the University Botanical garden.

Flowers and Fruits: March - June.



Bombeya spectabilis Bojer: Bailey, Man.Cult.Pl.669.

A large shrub. Flowers pink-rose in cymes.

Grown as an ornamental shrub in the University  
Botanical garden.

#### TILIACEAE

Herbs or undershrubs:

Fruits smooth, not spiny. . . . . Corchorus

Fruits beset with spines. . . . . Triumfetta

Trees. . . . . Grewia

#### Corchorus Linn.

Capsule globose, beak zero. . . . . capsularis

Capsule cyclindric, elongate:

Beak trifid . . . . . aestuans

Beak entire:

Capsule less than 3 cm. long. . . fascicularis

Capsule more than 3 cm. long:

Capsule glabrous, stout. . . olitorius

Capsule scabrous, slender. . . trilocularis

Corchorus capsularis Linn. Sp.Pl.529, 1753; FBI.1:397;  
C.1:157; Gr.24; D. & G. 25; Sant.25; Saur. 1:70;  
Maheshwari,89; Chavan & Oza, Fl.Pavagadh,54.

A tall, erect herb or undershrub. Leaves lanceolate, serrate with filiform appendages on each side near the base; stipules long, filiform. Flowers yellow. Capsules globose, muricate.

Noted along the banks of ponds, puddles or any water-logged situation; not common.

Flowers and Fruits: September to November.

Local uses: The famous jute plant is not locally used for the extraction of the fiber.

Sabnis 1787, 1790, 2560.

"Probably introduced from China or Cochin-China"; now under cultivation in E. India, and as escape in other parts on the plains to 1300 meters.

Corchorus aestuans Linn. Syst. (ed.10) 1079, 1759

(non. forsk.); Blatter in JBNHS. 34:892;

Sant.25; Saur.1:72; Maheshwari,89; Chavan & Oza, Fl. Pavagadh, 53.

Corchorus acutangulus Lamk. Encycl. 2:104, 1786;

FBI.1:398; C.1:160; D & G. 25; Gr.20.

An erect or ascending herb. Leaves ovate, serrate, hairy. Flowers yellow in few flowered cymes. Capsules 6-angled with 3 bifid beaks.

Common and abundant especially during the monsoon; in waste places and also in cultivated or fallow fields.

Local name: Jitali

Flowers and Fruits: September to November.

Sabnis 815, 2153, 3000.

More or less throughout the hotter parts of India.

Ceylon, Australia, Trop. Africa, West Indies.

Corchorus fascicularis Lamk. Encycl. 2:104, 1786;

FBI.1:398; D & G. 24; C.1:159; Sant. 25;

Saur.1:71.

A small, hardy herb; branches ascending from the base. Leaves serrate without filiform appendages at the base of the lamina. Flowers small, yellow, in cymose clusters. Fruits short, straight, beaked capsules, in fascicles.

Noted as a weed of cultivation in the rice-fields during monsoon; also in fallow or cultivated fields after monsoon.

Local name: Bahuphalli

Flowers: September to beginning of October.

Fruits: October-November, Dehiscent fruits observed in December.

Sabnis 1818, 3129, 3587.

On the hotter plains of India.

Ceylon, Tropical Africa, Australia.

,1753

Corchorus olitorius Linn. Sp.Pl.529; FBI.1:397;  
 FBI.1:158; D & G.25; Sant.25; Saur.1:71.  
 Maheshwari,88; Chavan & Oza, Fl.Pavagadh,54.

An erect herb or undershrub. Stem stiff, strong, fibrous. Leaves ovate, lanceolate, serrate. Flowers yellow. Capsule glabrous, 2.5-5 cm. long, ribbed and beaked.

As a weed in fallow and cultivated fields; on the borders of the rice-fields; in moist roadside ditches.

Flowers and Fruits: September to December.

Local uses: The source of Jute, not locally used.

Sabnis 2391, 2393.

Konkan, Deccan, S.M. country, Gujarat, Sind.

All tropical regions.

Corchorus brilocularis. Linn. Mant.77, 1767; FBI.1:397;  
 C.1:158; Maheshwari, 89.

A diffuse undershrub, branching from the base. Leaves ovate or elliptic. Flowers yellow in short cymes. Capsule 5-8 cm. long, scabrous, straight with a short beak; seeds black.

Noted in a few isolated patches along roadsides at Vasad; rare.

Flowers and Fruits: October to February.

Sabnis 3452, 3454.

On the hotter plains of India.

Tropical Africa, Afghanistan.

Triumfetta Linn

Lower leaves more or less lobed; spines of the capsule glabrous... . . . . rhomboidea

Leaves orbicular; spines of the capsule pubescent. . . . . rotundifolia

Triumfetta rhomboidea Jacq. Enum. Pl. Carib.22, 1760; FBI.1:395; C.1:156; Saur.1:73.

Bartramia indica Linn. Sp.Pl.389, 1753 (non Triumfetta indica Lamk. 1791).

Triumfetta bartramia Linn. Syst. (ed.10) 1044, 1759 (nomen illegit.); Roxb. Fl.Ind.2:463; Sant.24.

A stout herb or undershrub. Leaves variable, the lower lobed, the upper entire. Flowers yellow. Fruits globose, beset with glabrous, spiny bristles.

Noted as a common weed of roadside waste places especially during monsoon in association with Xanthium strumarium Linn. and Crotalaria medicaginea Lamk.

Common and abundant everywhere.

Local name: Jipati

Flowers: September-October.

Fruits: November-December.

Sabnis 718, 825, 2682.

Tropical and subtropical India, ascending to Himalaya.

Ceylon, Malay Islands, China, Trop. Africa, America.

Triumfetta rotundifolia Lamk. Encycl. 3:421, 1789.

FBI.1:395; C.1:157; Saur.1:73; Chavan & Oza,

Fl. Pavagadh, 53.

A stiff, erect herb. Leaves rounded, irregularly toothed, stellate hairy above and grey tomentose beneath. Flowers yellow and fruits globose, spiny, on a long whip-like axis.

On waste places along roadside; on the dry sandy soils of the ravines; stunted forms observed on the sandy banks of river at Umeta.

Local name: Jipto

Flowers and Fruits: August to February.

Sabnis 845, 2074, 3284.

Bundelkhand to Central India, Gujarat and the entire Peninsula; Pegu.

Grewia Linn.

Grewia asiatica Linn. Mant. 1:122, 1767; FBI.1:386;  
C.1:150; Parker, For. Fl.55; Maheshwari, 87.

A shrub or a small tree; young parts hairy. Flowers yellow in umbellate cymes. Drupes fleshy, globose, dark purple.

Grown as an ornamental or for the edible fruits in the University Botanical garden, the L.V. Palace compound, Model farm area etc.

Local name: Falsa

Flowers and Fruits: March to June.

Local uses: The ripe pulp of the fruit is used for making sherbat.

Sabnis 1069, 2001.

Extensively cultivated throughout the presidency, largely in Gujarat; Trop. East Africa.

## LINACEAE

Linum Linn.

Linum usitatissimum Linn. Sp.Pl.277, 1753; FBI.1:410;  
C.1:164; Sant.26; Saur.1:74; Bailey, Man. Cult.  
Pl.604; Maheshwari, 90.

Erect, annual herb. Leaves linear or lanceolate.  
Flowers blue, attractive; styles free. Fruit a  
5-celled, spherical capsule.

Found as an escape in cultivated fields of Alfalfa  
(Lucerne); not noted under cultivation in the area.

English name: Flax or Linseed.

Local name: Alsi

Flowers and Fruits: January to March.

Sabnis 3448.

The well-known 'flax' plant, supposed to have been  
introduced from Egypt and cultivated in India on the  
plains to a height of nearly 1700 meters for its seeds,  
which yield linseed oil and not for the fiber.

## MALPIGHIACEAE

## Climbers:

Flowers pale yellowish-white. . . . . Hiptage

Flowers perfectly yellow. . . . . Stigmaphyllon



Erect herbs or shrubs:

Flowers yellow. . . . . Thryallis

Flowers white or pink. . . . . Malpighia

Hiptage Gaertn.

Hiptage benghalensis (Linn.) Kurz in JASB. 14:36, 1879;  
Sant.27.

Banisteria Benghalensis Linn. Sp. Pl.427, 1753.

Hiptage madablota Gaertn. Fruct. 2:169, t.116, 1791;  
FBI.1:418; C.1:167.

An evergreen, climbing shrub. Flowers pale  
yellowish white, fragrant. Fruits samaroid, 3-winged;  
one wing larger than the other two.

Planted in gardens; rare.

Local Name: Madhavalata

Flowers and Fruits: March-April.

Sabnis 10.3.58, University Botanical garden;  
J.250-251.

A native of India and Malaya, cultivated in gardens  
in the plains throughout the country; grows abundantly  
on the Western Ghats - Konkan, Kanara, Deccan.

China, Java, Ceylon.

Stigmaphyllon Juss.

Stigmaphyllon ciliatum (Lamk.) A. Juss. in A.St.Hil.Fl.

Bras. Mer. 3:49, 1832; Bor & Raizada 185, f.113,  
Pl.68; Bailey, Stand. Encycl. Hort. 3:3242, 1950.

Banisteria ciliata Lamk. Encycl. 1:369, 1785.

A slender twiner. Leaves opposite, ovate, deeply cordate at the base. Flowers yellow in umbel-like corymbs; petals clawed, limb rounded and fringed.

Rare; cultivated for the attractive flowers.

Flowers: September.

Sabnis. 20.9.60, University campus.

A native of Trop. America, now widely cultivated throughout the tropical and subtropical parts of the globe.

Thryallis Linn.

Thryallis glauca Kuntze, Rev.Gen.89, 1891; Bailey,

Man. Cult. Pl.614.

Erect shrub. Stem reddish. Leaves opposite, ovate-lanceolate. Flowers yellow in terminal racemes; petals clawed, limb ovate or cordate, minutely fimbriate on the margins.

Commonly grown as an ornamental hedge plant.

Flowers: All the year round.

Sabnis 619, 620.

A native of Trop. America, now extensively cultivated throughout the plains of India.

Malpighia Linn.

Malpighia coccigera Linn. Sp.Pl.426, 1753; Woodrow, Gard. Trop.210; Bailey, Man. Cult. Pl.614 and Stand. Encycl. Hort. 2:1973, 1950.

A bushy shrub. Leaves oval-obovate, margins spiny-toothed, shining above and dull beneath. Flowers pink or white. Drupes red, globose.

Flowers and Fruits: September-December.

Sabnis 10.10.59, Univ. Bot. Gardens.

Trop. America and West Indies; occasionally planted in gardens for dwarf hedging.

ZYGOPHYLLACEAE

Tribulus Linn.

Tribulus terrestris Linn. Sp.Pl.387, 1753; FBI.1:423; C.1:170; Saur.1:76; Maheshwari, 91; Chavan and Oza, Fl.Pavagadh, 55.

A prostrate or ascending, hairy herb. Leaves paripinnate. Flowers yellow. Fruit schizocarpic; each coccus or mericarp with 2 sharp, hard spines.

Very common and abundant on a variety of habitats; on lawns, open grounds, waste places during monsoon, in cultivated fields of various crops especially Tobacco and Lucerne.

Local name: Gokhru

Flowers: September-October.

Fruits: November-March.

Sabnis 764, 1003, 2342; J.86.

Throughout the dry, hotter parts of India.

Warmer regions of the globe.

#### Guaiacum Linn.

Guaiacum officinale Linn. Sp.Pl.381, 1753.

A small tree with spreading branches. Flowers lavender blue.

Only a few trees observed in local gardens.

Local name: Bhootpala.

Flowers and Fruits: December-April.

Sabnis 898.

The West Indian tree, valued for its timber, is cultivated in many tropical countries.

## BALSAMINACEAE

### Impatiens Linn.

Impatiens balsamina Linn. Sp.Pl.938, 1753; FBI.1:453;  
C.1:184; Saur. 1:77.

Annual herb. Leaves lanceolate, serrate, with glands on the petiole. Flowers white, rose, pink, clustered on the stem axis.

A seasonal garden plant of monsoon and post-monsoon periods found in public and private gardens.

Sabnis 1717.

Tropical and subtropical India, Malaya and China.

## OXALIDACEAE

Erect or prostrate herbs:

Leaves palmately trifoliolate. . . . . Oxalis

Leaves pinnate. . . . . Biophytum

Trees. . . . . Averrhoa

### Oxalis Linn.

Oxalis corniculata Linn. Sp.Pl.435, 1753; FBI.1:436;  
C.1:177; Sant.27; Saur.1:79; Maheshwari,93;  
Chavan & Oza, Fl. Pavagadh,56.

A tiny, procumbent or suberect herb, rooting at the nodes. Leaves trifoliate; leaflets often obcordate, petioles long. Flowers pale yellow, on long peduncles. Capsule elongate, hairy.

Common weed of lawns found spreading there; in moist, shaded places, near water.

Local name: Amalati

Flowers and Fruits: September to December but flowering and fruiting specimens were collected in April-May under favourable conditions.

Sabnis 1074...1077; J.83.

Common throughout India from the plains to a height of 2500 meters.

Cosmopolitan in distribution.

### Biophytum DC.

Biophytum sensitivum (Linn.) DC. Prodr. 1:690, 1824;  
FBI.1:436; C.1:177; Saur.1:79; Chavan & Oza,  
Fl. Pavagadh, 56.

Oxalis sensitiva Linn. Sp.Pl.434, 1753.

An annual erect herb (10-25 cm. high) resembling a miniature palm. Leaves pinnately compound, crowded at the top, sensitive. Flowers yellow in umbel like inflorescence.

Locally abundant in certain wet localities during monsoon; not found in drier places; in the shade of low bushes near water.

Flowers and Fruits: September-October.

Sabnis 701, 2327, 3348; J.964, 1045.

Throughout the hotter parts of India.

Tropical Asia, Africa, America.

Averrhoa Linn.

Averrhoa carambola Linn. Sp.Pl.428, 1753; FBI.1:439;  
C.1:178; Bailey, Man. Cult. Pl.601; Maheshwari, 92.

A small tree. Leaves imparipinnate. Flowers pink or purple in axillary cymes or sometimes directly on the trunk & branches (cauliflory). Fruits green, turning yellow, ovoid, acutely angled, acidic.

Planted in the gardens for the edible fruits, which are eaten raw or pickled.

Local name: Kamrakh.

Flowers and Fruits: September-April.

Sabnis 751, 1409; J.841.

Native of Tropical Asia, now cultivated in many parts of India and China.

## RUTACEAE . . . . .

Armed shrubs or trees: . . . . .

Leaves unifoliolate; pericarp  
leathery. . . . . Citrus

Leaves multifoliolate; pericarp woody:

Leaflets 3, stamens many. . . . . Aegle

Leaflets more than 3; rachis  
winged; stamens 10-12. . . . . Limonia

Unarmed herbs, shrubs or trees:

Fruits drupaceous or baccate, indehiscent:

Style short, persistent. . . . . Glycosmis

Style jointed on the top of the  
ovary, not persistent. . . . . Murraya

Fruits capsular; dehiscent. . . . . Ruta

Citrus Linn.(Key to the species of Citrus adapted from Bailey)

Fruits large-sized, over 10 cm. broad. . . . . grandis

Fruits under 10 cm. broad:

Rind loose. . . . . reticulata

Rind tight:

Pulp acid, sour. . . . . limon

Pulp sweet. . . . . limettioides



Citrus grandis Osbeck, Dagbok Ostind. Res.98, 1757;  
Bailey, loc.cit.610.

C. maxima (Burm.) Merr. Interpret. Herb.Amb.296,  
1917 & Sp.Blancoanae 204; Maheshwari,94.

English name: Shaddock, Pummelo.

Local name: Papanas

Planted in the Model farm area.

Citrus reticulata Blanco, Fl.Filip.610, 1837; Bailey,  
Man. Cult. Pl.610; Saur.1:83.

C. aurantium Linn. var. aurantium Hook. f. in  
FBI.1:515, 1874.

The Mandarin Orange or loose-skinned orange as it  
is popularly known is cultivated, though not extensively  
in the model farm and a few private gardens.

Local name: Santara

Citrus Limon (Linn.) Burm. f. Fl.Ind.173, 1768; Bailey,  
Man. Cult. Pl.609.

C. media var. limon Linn. Sp.Pl.2:782, 1753.

The commonest species amongst the cirtuses cultivated  
in Baroda; noted in a number of public and private  
gardens.

English name: Lemon

Local name: Limbu.

Citrus limettioides Tanaka in JIBS.16:236, 1937;  
Saur.1:82; Maheshwari, 95.

Planted in the Model farm area and few private gardens.

English name: Sweet lime

Local name: Mitha limbu

A few other citrus fruits do find an entry, into the local market; But as I have not seen them under cultivation anywhere in the area, I do not mention them here. All of them are natives of Tropical and subtropical Asia and the Malayan Archipelago.

Aegle Correa (nom.cons.)

Aegle marmelos (Linn.) Correa in TLS. 5:223, 1800;  
FBI.1:516; C.1:204; Saur.1:81; Maheshwari, 95;  
Chavan & Oza in Fl.Pavagadh, 57.

A small tree armed with stout, axillary thorns.  
Leaves trifoliolate. Flowers greenish-white in panicles,  
scented. Fruit a globose amphisarca.

Common on the upper storey of Vishwamitri banks;  
also in the L.V. Palace compound.

Local name: Bili, Bel.

Flowers & Fruits: April to June.

Local uses: Fruits are used medicinally.

Sabnis 1207.

More often planted than wild.

Throughout India: Konkan, Deccan, S.M. country.  
Assam, Travancore, W. Himalaya.

Limonia Linn.

Limonia acidissima Linn. Sp.Pl. (ed.2) 554, 1762;  
Airy-shaw in Kew Bulletin 293, 1939; Chavan &  
Oza, Fl. Pavagadh, 58.

Schinus limonia Linn. Sp.Pl. 389, 1753.

Feronia elephantum Corr. in TLS. 225, 1800;  
FBI.1:516; 6.1:203; Wight, Icon. t.15.

F. limonia (Linn.) Swingle in Journ. Wash. Acad.  
Sc. 4:328, 1914; Blatter in JBNHS. 36:320;  
Saur. 1:81; Maheshwari, 96.

A large tree armed with spines. Leaves imparipinnate,  
rachis flat. Flowers small, red or red-yellow, in  
panicles. Fruit a woody, globose amphisarca.

Noted at a number of places on the Vishwamitri and  
Mahi river banks; planted in gardens or on the village  
outskirts.

English name: Woodapple.

Local name: Kothi, Kothun, Kavath.

Flowers and Fruits: April to August.

Sabnis 1205, 1206.

Throughout India from the plains to 500 meters.

Ceylon, Java.

Glycosmis Corr.

Glycosmis pentaphylla (Retz.) Corr. in Ann.Mus.Hist.

Nat.6:386, 1805; FBI.1:499; C.1:192; Sant.30.

Limonia pentaphylla Retz. Obs.5:24, 1789.

An erect shrub. Leaves variable. Flowers small, white. Fruit a globose berry.

Noted at a few places on the University campus.

Local name: Kirmira.

Flowers and Fruits: October-March.

Sabnis 10.3.58, Univ. Bot. Garden.

Common throughout the moist evergreen forests of Konkan and N. Kanara; elsewhere planted.

Malaya, China, Borneo, Australia, Ceylon, Philippines.

Glycosmis arborea (Roxb.) Corr. var. linearifoliolata

Narayanaswami in RBSI. 14(2): 1941.

A bushy shrub. Leaflets linear, dentate-serrate, wavy. Flowers white, in axillary panicles.

Noted near Arts Faculty, main gate. "Possibly a domesticated natural freak". (Tanaka in JIBS.16(4): 230, 1937).

Flowers and Fruits: October-March.

Sabnis 2313.

Murraya Linn.

Leaves aromatic; berries black. . . . . koenigii

Leaves not aromatic; berries red. . . . . paniculata

Murraya koenigii (Linn.) Spreng. Syst. 2:315, 1825;  
FBI.1:503; C.1:193; Sant.30; Saur.1:80;  
Maheshwari, 97.

Bergera koenigii Linn. Mant. 1:565, 1767.

A large shrub. Leaves imparipinnate, highly scented. Flowers white in corymbose umbels. Berries shining, pale yellow when young and later becoming black on ripening.

Noted on the University campus as well as in a number of private gardens in the city.

Local name: Mitho Limdo, Kadhiniim.

Flowers and Fruits: Summer season.

Local uses: The leaves are used for flavouring curries.

Sabnis 10.3.58, College compound; J.145.

Common all along the ghats; elsewhere it is cultivated.

Ceylon, Siam, Java, Madagascar.

Murraya paniculata (Linn.) Jack. in Malay. Misc. 1(5):31, 1820; Sant.31; Saur. 1:80; Maheshwari,97.

Chalcas paniculata Linn. Mant. 1:68, 1767.

Murraya exotica Linn. Mant. 2:563, 1771 (Murraea); FBI.1:512; C.1:193.

A large shrub or tree. Leaves imparipinnate, glabrous and shining. Flowers bell-shaped, white, fragrant. Berries red.

Cultivated in private and public gardens as an ornamental shrub for its fragrant, white flowers.

Local name: Kunti

Flowers & Fruits: July to November.

Sabnis 793; J.114.

Common on the Ghats; planted elsewhere.

China, Australia and the Pacific Islands, Ceylon.

Ruta graveolens Linn. Sp.Pl.383, 1753; Bailey Man.  
Cult. Pl.605.

Strong-smelling herbs. Leaves much divided; segments  
cuneate-spathulate or linear-oblong. Flowers yellowish  
in corymbs. Capsule obtuse; seeds angled.

Cultivated in the gardens for its medicinal properties,

English name: Common Rue

Local name: Satab

Flowers and Fruits: January to April.

Sabnis

Plant of the Medit. region.

#### SIMAROUBACEAE

Large trees; leaves large, pinnate. . . . . Ailanthus

Spiny shrubs or small trees; leaves  
bifoliolate. . . . . Balanites

Ailanthus Desf. (nom. cons.)

Ailanthus excelsa Roxb. Pl. Cor. 1:t.23, 1795;

FBI.1:518; C.1:205; Saur.1:83; Maheshwari, 97;

Chavan & Oza, Fl. Pavagadh, 58.

A large, magnificent tree. Leaves imparipinnate;  
leaflets alternate or subopposite, irregularly serrate,

dentate. Flowers yellowish-white in large panicles.  
Fruits samaroid.

Planted at number of places in the L.V. Palace compound and the University campus; probably spontaneous at a few places along the banks of Vishwamitri at Baroda and Mahi at Vasad.

Local name: Arduso, Maharukh.

Flowers and Fruits: February to July.

Sabnis 1020.

N.W. India, Gujarat, Deccan, Konkan, Bihar and W. Peninsula.

India; can be grown in tropical regions.

Balanites Delile (nom.cons.)

Balanites aegyptiaca (Linn.) Del. Ill. Fl. d'Eg. 263, t.28, f.1, 1813; Blatter in JBNHS. 34:895; Saur.1:84.

Ximenia aegyptica Linn. Sp.Pl.1194, 1753.

Balanites roxburghii Planch. in Ann.Sc.Nat.(Ser.4) 4:258, 1854; FBI.1:522; C.1:207.

A bushy shrub or tree. Stems and leaves covered with white-grey tomentum; branches ending in thorns. Leaves bifoliolate. Flowers dull white or cream, in



close cymes. Fruits woody, ovoid.

Common along roadside hedges; also typical of the eroded lands of ravines at Bhimpura.

Local name: Ingora, Hingoda.

Flowers and Fruits: April-June.

Local uses: The fruits are picked up by local 'vaidyas' for the treatment of skin diseases.

Sabnis 2499.

Throughout the drier parts of India.

Arabia, Egypt, Burma, Trop. Africa.

Quassia amara Linn. Sp.Pl.553, 1762.

A small shrub, cultivated in the Univ. Bot. Garden for its morphological peculiarities and for the attractive, dark red flowers, which appear during monsoon.

Sabnis 616; J.18, 839.

#### OCHNACEAE

Ochna Linn.

Ochna squarrosa Linn. Sp.Pl.732, 1762; FBI.1:523;  
C.1:208; Maheshwari, 98.

A small tree, upto 5 meters high leaves elliptic to elliptic - lanceolate, parallel - nerved. Flowers fragrant, yellow in corymbose racemes on short, leafless

branches. Drupes red, turning black, seated in a red persistent calyx.

Planted in the University Botanical garden and L.V. Palace compound; rare.

Flowers and Fruits: March-May.

Sabnis 563, 1303; J.845.

Possibly indigenous to S. Konkan; often planted in gardens throughout India.

Burma, Ceylon.

#### BURSERACEAE

##### Commiphora Jacq. (non. cons.)

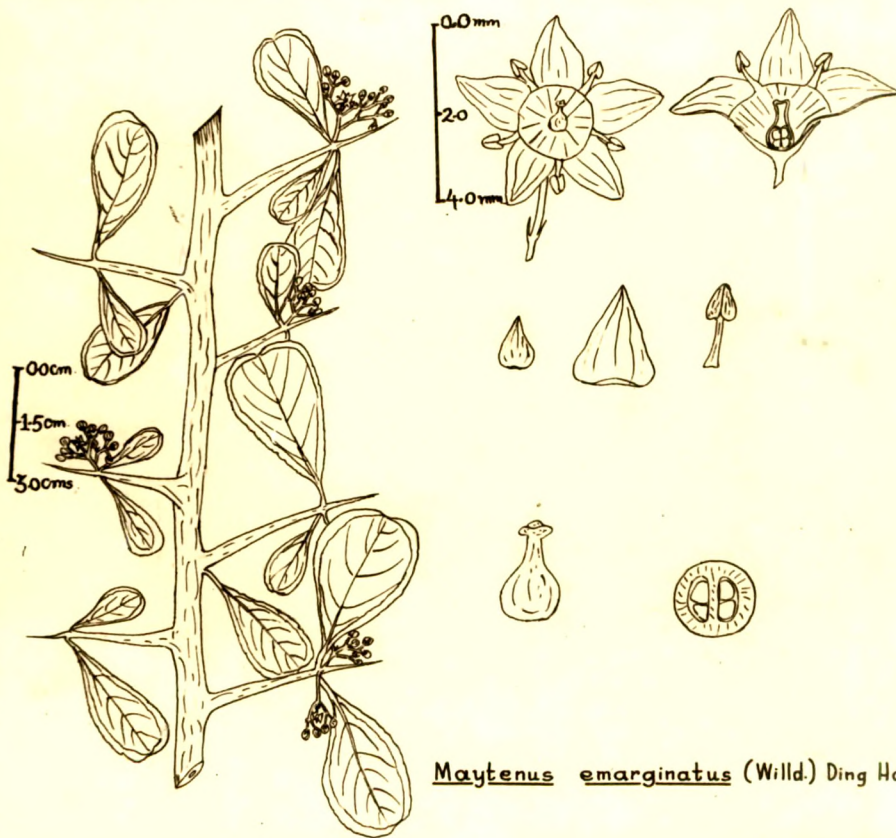
Commiphora wightii (Arn.) Bhandari in Bull.Bot.Surv.Ind. 6(2-4): 327, 1964.

Balsamodendron wightii Arnott in Arn.Nat.His.Soc.3:86, 1839.

B. roxburghii Stocks in Journ.As.Soc.Bom. 2:391, 1848.

Commiphora roxburghii (Stocks) Engler in Pfam. (ed.2) 19A: 436, 1931; Saur.1:86.

A shrub or small resiniferous tree. Leaves 1-3-foliolate, entire-serrate. Flowers in few-flowered clusters, brownish red. Drupe red when ripe.



Maytenus emarginatus (Willd.) Ding Hou

A few isolated trees noted in the ravines of Mahi  
at Vasad.

Plate No. 11 (after page 115)

Local name: Gugal

Flowers and Fruits: September to March.

Local uses: The 'Myrrh' is obtained from the  
resin exuding from the tree trunk.

Sabnis 3472, 3473.

In the dry districts of N.W. and W. India.

Baluchistan, Arabia.

#### MELIACEAE

Fruit drupaceous:

Leaves once pinnate. . . . . Azadirachta

Leaves bipinnate. . . . . Melia

Fruit capsular. . . . . Swietenia

Azadirachta A. Juss.

Azadirachta indica A. Juss. in Mem.Mus.Par.19:221, 1830;  
Parker, For. Fl.71; G.177; C.1:220; Saur.1:87.

A large tree. Leaves pinnate; leaflets subopposite,  
lanceolate, acuminate, serrate, oblique at the base.  
Flowers white, fragrant, in axillary panicles. Drupes  
1-seeded, ellipsoid or subovoid.

A very common tree planted at many places for the cool shade it provides; small saplings observed on dilapidated walls.

Local name: Limdo

Flowers and Fruits: April to July.

The 'Nim' or 'Margosa' tree is cultivated throughout India but nowhere really wild.

Melia Linn.

Melia azedarach Linn. Sp.Pl.384, 1753; FBI.1:544;  
C.1:218; Parker, For. Fl.72; Saur.1:88;  
Maheshwari,99.

A small to medium-sized tree. Leaves bipinnate.  
Flowers lilac-blue. Drupes globose.

Occasionally planted along roadside for the beautiful flowers and shade.

English name: "Pride of India" or Persian Lilac.

Local name: Bakan limdo.

Flowers and Fruits: March to May.

Local uses: All plant parts are medicinally important.

Sabnis 18.10.60, Baroda-Nimetta Road.

A native of Asia, cultivated throughout the presidency and India.

Persia, China.

Swietenia Jacq.

Swietenia mahogani Jacq. Enum. Pl. Carib. 20, 1760;

G. 187; Maheshwari, 100; Bailey, Man. Cult. Pl. 613.

A large, evergreen tree. Leaves paripinnate; leaflets oblique, lanceolate. Flowers small, greenish yellow in axillary panicles.

Planted as an avenue tree in L.V. Palace compound.

English name: Mahagani

Flowers: January-May.

Local uses: An important timber tree.

Sabnis 1374; J. 832.

Indigenous to Tropical North and South America and West Indies; planted in India as a roadside tree.

CELASTRACEAE

Maytenus Molina

Maytenus emarginatus (Willd.) Ding Hou in Fl. Males.  
(Ser. I) 6(2):241, 1962.

Celastrus emarginatus Willd. Sp.Pl.1:1128, 1798.

Gymnosporia montana Benth. Fl. Austr.1:400, 1863;  
FBI.1:621; C.1:247.

A large shrub; young branches reddish brown, ending in sharp thorns, bearing leaves or flowers. Leaves deep green, with either the margin or petiole reddish purple; margins crenate. Flowers small, white in cymes. Capsule globose or ovoid, purple or black when ripe.

Commonly noted on the eroded soils of ravines at Bhimpura and Vasad; also along hedges forming thickets at Sundarpura, Shahapura, Timbi, Harni, Sama, etc.

Plate No. 12 (After page 178.)

Local name: Vikalo

Flowers and Fruits: November to May.

Sabnis 3033, 3088, 3107.

Throughout the drier parts of India.

Afghanistan, Malay Archipelago, Australia, Central Africa.

The name Maytenus senegalensis (Lamk.) Exell adopted in some recent Indian floras is based on Celastrus senegalensis Lamk., which is a different African plant.

## RHAMNACEAE

Zizyphus Mill.

(On the subject of the spelling of the generic name,  
please refer to Santapau in JBNHS. 51:801).

(Key to the species of Zizyphus adapted from  
Santapau's Fl.Saur. & Cooke's Flora)

- 1. Fruit hard, woody. . . . . xylopyra
- 1. Fruit a drupe with a single stone  
surrounded by fleshy pulp:
  - 2. Leaves glabrous on both sides;  
small, unarmed tree. . . . . glabrata
  - 2. Leaves tomentose beneath:
    - 3. Fruit exceeding 13 mm. in diam. .. mauritiana
    - 3. Fruit under 13 mm. in diam:
      - 4. Leaves tomentose on both  
sides. . . . . nummularia
      - 4. Leaves clothed with silky  
hairs beneath. . . . . oenoplia

Zizyphus xylopyra (Retz.) Willd. Sp.Pl. 1:1104, 1797;  
FBI. 1:634; C. 1:258; Gr. 39; D. & G. 49;  
N.60; Saur. 1:94; Chavan & Oza, Fl. Pavagadh,  
62-63.

Rhamnus xylopyrus Retz. Obs. 2:11, 1781.



A small tree; armed or unarmed. Leaves large, oblique and often cordate at the base, margins crenate - serrate. Flowers greenish in cymes. Fruits hard, woody, inedible.

Rare, not common; noted in the ravines at Bhimpura and Singharot.

Local name: Boradi

Flowers and Fruits: February to May.

Sabnis 1326 a.

Konkan, Deccan, S.M. country, Kanara, N.W. India, Rajputana, Nepal, Bihar, W. Peninsula. Ceylon.

For a discussion on its identity and nomenclature, please refer to Chavan and Oza, loc.cit.

Zizyphus glabrata Heyne ex Roth, Nov. Pl.Sp.159,1821; FBI.1:633; Saur. 1:92.

Z. trinervia Roxb. Hort-Beng.17, 1814 (nom.nud) & Fl.Ind. 1:606, 1832 (non.Poir.1813); C.1:256.

A small, erect, unarmed tree. Leaves elliptic, subobtuse, glabrous on both the sides, rounded at the base, margins serrate, 3-nerved from the base.

Rare; in Bhimpura ravines.

Flowers and Fruits: December-March.

Sabnis 3269 a.

India: E. Bengal, Bhutan, W. Peninsula.

Zizyphus mauritiana Lamk. Encycl. 3:319, 1789; Sant.39;  
Saur. 1:92; Maheshwari, 101.

Z. jujuba Lamk. Encycl. 3:318, 1789 (non. Z. jujuba  
Miller, Gard. Dict. (ed.8) no.1, 1768);  
FBI.1:632; C.1:256; Gr.39; D & G.49.

A bushy, armed shrub or tree. Leaves ovate to elliptic. Flowers greenish-yellow in short, axillary clusters. Drupes more than 13 mm. in diam, edible.

Cultivated at a number of places on the outskirts of Baroda; also wild in the ravines of Bhimpura and Vasad; also along roadside hedges.

Local name: Bor

Flowers: September to December.

Fruits: December to April.

Local uses: The fruits are edible and are sold in the local market.

Sabnis 1326.

Throughout India; Afghanistan, Ceylon, China, Australia, Africa.

Zizyphus nummularia (Burm.f.) Wt.et Arn.Prodr.162, 1834;  
FBI.1:633; Gr.247, D. & G.49. Saur. 1:93.

Rhamnus nummularia Burm.f.Fl.Ind.61, 1768.

Zizyphus rotundifolia Lamk.. Encycl. 3:319, 1789.  
C.1:257.

An armed, bushy shrub; branches zigzag. Leaves orbicular, serrate, tomentose; stipular spines 2, one straight and the other hooked. Flowers pale yellow in axillary cymes. Drupes small, globose, red or black.

Noted as a weed of cultivated crops especially tobacco at Dashrath and Ranoli; along roadside hedges at Timbi and Sundarpura; in the Mahi ravines near Vasad.

Local name: Chanibor

Flowers and Fruits: October to February.

Local uses: The fruits are edible.

Sabnis 966, 3269.

Konkan, Deccan, S.M. country, Gujarat, W.Peninsula.

Persia.

Zizyphus oenoplia Mill.Gard.Dict. (ed.8) no.3, 1768;  
FBI.1:634; C.1:257; Gr.39; D. & G.48; Sant.40;  
Saur.1:93; Maheshwari,102; Chavan & Oza, Fl.  
Pavagadh, 62.

A straggling shrub, branching from the base. Leaves ovate, oblique, clothed with silky hairs beneath. Flowers greenish yellow in short, axillary cymes. Drupes small, globose, black.

On waste land and also on the depleted soils of ravines.

Not common but locally abundant.

Local name: Bordi.

Flowers and Fruits: September to January.

Sabnis 2606, 3147.

Throughout the hotter parts of India, from Punjab and N.W. Himalayas to Assam and W. India.

Ceylon, Tropical Asia and Australia.

#### AMPELIDACEAE OR VITACEAE

Leaves trifoliolate. . . . . Cayratia

Leaves simple:

Stems quadraugular. . . . . Cissus

Stems not quadrangular. . . . . Vitis

Cayratia Juss. (nom.cons.)

Cayratia carnosa (Lamk.) Gagnep. Lecomte. Not. Syst. t.347, 1911; G.237.

Cissus carnosa Lamk. Encycl. 1:31, 1783.

Vitis carnosa Wall. ex Wt. & Arn. Prodr. 1:27, 1834.

V. trifolia auct.non. Linn.; C.1:271.

An herbaceous climber. Leaves trifoliolate; tendrils branched, leaf-opposed. Flowers greenish-white in cymes. Berries globose, black.

Common; climbing on walls of old or new buildings with the help of branched tendrils; also along hedges and on trees.

Local name: Khatkhatumbo

Flowers and Fruits: July to December.

Sabnis 650, 2105.

Throughout the hotter parts of India.

Malacca, Burma, Ceylon.

Cissus quadrangularis Linn. Mant.39, 1767; Saur.1:97.

Vitis quandraugularis Wall. ex Wt. & Arn. Prodr.

125, 1834; FBI.1:645; C.1:266.

A climber. Stems deep green, fleshy, quadrangular. Tendrils long, simple. Leaves deciduous, ovate. Flowers in short cymes. Berry red.

Cultivated in the L.V. Palace compound and a few private gardens; not wild.

Flowers and Fruits: June to August.

Sabnis 10.5.58.

Throughout the driest districts of the  
Presidency.

India, Java, E. Africa, Malaya, Ceylon.

Vitis vinifera Linn. Sp.Pl.202, 1753; FBI.1:652;  
C.1:275.

A climber with bifid tendrils. Leaves 3 to 5-lobed.  
Flowers in cymes.

Rarely cultivated at a few places; observed at  
Chhani Road.

English name: Grape

Local name: Darakh

The grape vine is cultivated in various dry  
parts of the Presidency and India.

#### SAPINDACEAE

- |  |                      |
|--|----------------------|
| Slender, climbing herbs; fruits capsular,<br>inflated. . . . . | <u>Cardiospermum</u> |
| Climbing or suberect shrubs; fruits<br>winged. . . . .         | <u>Dodonaea</u>      |
| Trees. . . . .   | <u>Sapindus</u>      |

Cardiospermum Linn.

Cardiospermum halicacabum Linn. Sp.Pl.366, 1753;  
 FBI.1:670; C.1:280; Saur.1:100.

A slender herb, climbing by tendrils. Leaves  
 biternate. Flowers white in few-flowered umbellate  
 cymes. Fruits trigonous, membranous, winged at the  
 angles, inflated, capsular.

Noted as a climber on hedges; common.

Local name: Kagdoliyan.

English name: Heart-pea or Balloon-vine.

Flowers: September to October.

Sabnis 2236, 2319, 3538; J.6.

Throughout India.

Malacca, Ceylon, Tropical and subtropical  
 countries.

Dodonaea Linn.

Dodonaea viscosa<sup>a</sup> (Linn.) Jacq. Enum. Pl. carib.19, 1760;  
 FBI.1:697; C.1:287; Sant.45; Saur.1:100;  
 Maheshwari, 104.

Ptelea viscosa Linn. Sp.Pl.118, 1753.

A shrub. Leaves shining. Flowers greenish-yellow, capsules thin, winged; seeds black.

Cultivated as hedge or border plants; mostly observed in leaf only.

Local name: Jakhami

Flowers: October.

Fruits: February.

In dry, open situations throughout the Presidency.

India, Ceylon and in most warm countries.

Sapindus Linn.

Sapindus emarginatus Vahl. Symb.3:54, 1794, Saur.1:102.

S. laurifolius var. emarginatus. C.1:284.

S. trifoliatus Hiern. in FBI.1:682, pro parte(non.Linn.)

A middle sized tree. Leaves compound, paripinnate; leaflets obovate with an emarginate apex. Flowers in terminal panicles.

Planted at a few places in the L.V. Palace compound and also near Mohmedwadi Tank.

Local name: Rithan, Aritha,

Flowers and Fruits: January to April.

Sabnis 1391.



Indigenous to the evergreen forests of N. Kanara, fairly common at low elevations in S. India; cultivated in Bengal and S.W. India for its fruits, which contain saponin, which makes it useful for cleaning purposes.

#### ANACARDIACEAE

Leaves simple:

Fruit a fleshy drupe. . . . .	<u>Mangifera</u>
Fruit a reniform nut. . . . .	<u>Anacardium</u>

Leaves compound; imparipinnate. . . . .	<u>Lannea</u>
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#### Mangifera Linn.

Mangifera indica Linn. Sp.Pl.200, 1753; FBI.2:13;  
C.1:291; Gr.41; D. & G.51; Sant.46.

An evergreen tree. Leaves simple, lanceolate, slightly wavy, shining. Flowers yellowish, polygamous in large panicles. Drupes large, fleshy with stony endocarp containing a single seed.

Planted in gardens for the edible fruit; also along roadsides for shade.

Local name: Ambo

Flowers and Fruits: January to May

The well-known 'Mango' tree, cultivated throughout India and in the Tropics generally.

Anacardium Linn.

Anacardium occidentale Linn. Sp.Pl.383, 1753; FBI.2:20;  
C.1:292; Bailey, Man. Cult. Pl.625.

A small, evergreen tree. Leaves coriaceous, obovate or elliptic, rounded at the apex. Flowers yellowish pink in 15-25 cm. long panicles. Fruit a reniform nut, borne on a fleshy, yellow or red, thalamus.

Occasionally planted in gardens; few trees noted in the L.V. Palace compound.

Local name: Kaju.

Flowers and Fruits: January to April.

Local uses: Kernel and the fleshy thalamus both edible.

Sabnis 10.4.58, L.V. Palace compound.

The 'cashew-nut' tree is a native of Tropical America, naturalized and cultivated in India, especially along the Western coast.

Lannea A. Rich. (nom.cons.)

Lannea coromandelica (Houtt.) Merr. in JAA.19:353, 1939;  
Sant.47; Saur. 1:103.

Dialium coromandelicum Houtt. Nat.Hist.II, 2:39,  
t.5, f.2, 1774.

Odina woodier Roxb. Hort. Beng.29, 1814 (nom.nud.) &  
Fl.Ind.2:293, 1832; FBI.2:29; C.1:296; Wt.Ic.t.60.

A large tree. Leaves imparipinnate, deciduous.  
Flowers purplish appearing at the end of branches, when  
the tree is leafless; monoecious or dioecious in panicles.  
Drupe reniform, red.

Not wild, but planted in gardens; rare.

Local name: Mavadi

Flowers and Fruits: February-April.

Sabnis 899.

Common throughout the Presidency in deciduous  
forests; often planted as a roadside tree, for which  
it is not suitable.

Ceylon.

## MORINGACEAE

Moringa Adans.

Moringa oleifera Lamk. Encycl. 1:398, 1785; Bailey,  
Man. Cult. Pl.451; Maheshwari, 106.

Guilandina moringa Linn. Sp.Pl.1:381, 1753.

Moringa pterygosperma Gaertn. Fruct.2:314, 1791;  
FBI.2:45; C.1:301.

A small tree. Leaves usually tripinnate. Flowers white, fragrant, in large panicles. Capsule elongated upto 40 cm., 9-ribbed. Seeds angled and winged.

Planted on roadside, in private gardens for the fruit used as a vegetable.

English name: Drumstick tree.

Local name: Sargavo

Flowers and Fruits: December to May.

Sabnis 1486.

Indigenous to the Western Himalayas and Oudh. It is cultivated throughout India and other Tropical countries.

## PAPILIONACEAE

(For the keys to the genera and species of Papilionaceae, refer to Cooke's Flora of the Presidency of Bombay or any regional flora. Here I have omitted the routine keys to reduce bulk, instead I have incorporated an artificial key which leads directly to the species. I hope, the readers will find it useful.)

Group A. Plants having a leaf modified into tendril.

B. Plants having a leaf with 1 leaf or a leaflet.

C. Plants having a leaf with 2 leaflets.

D. Plants having a leaf with 3 leaflets.

E. Plants having a leaf with more than 3 leaflets.

A. Leaves 0, modified into tendrils; stipules  
leaf-like. . . . . Lathyrus aphaca

B. Plants having a leaf with 1 leaf or a leaflet:

1. Plants armed with hard spines...Alhagi pseudalhagi

1. Plants unarmed:

2. Pods 1-2-seeded:

3. Flowers yellow; plants prostrate. . . . .  
. . . . . Heylandia laterbrosa

3. Flowers purple-blue; plants erect. . . . .  
. . . . . Psoralea corylifolia

- 3. Flowers bright red:
  - 4. Leaves linear. . . . . Indigofera linifolia
  - 4. Leaves ovate-cordate. . . . . Indigofera cordifolia
- 2. Pods many seeded:
  - 5. Pods jointed:
    - 6. Pods perfectly or imperfectly moniliform:
      - 7. Pods not veined:
        - 8. Leaflets oblong to rounded. . . . .  
     . . . . . Alysicarpus  
   monilifer
        - 8. Leaflets linear-lanceolate. . . . .  
     . . . . . Alysicarpus  
   bupleurifolius
      - 7. Pods reticulately veined.... Alysicarpus  
   longifolius
    - 7. Pods transversely ribbed:
      - 9. Pods not 4-gonous, concealed in  
     the calyx. . . . . Alysicarpus  
   glumaceus
      - 9. Pods 4-gonous, exserted...Alysicarpus  
   tetragonolobus
  - 6. Pods not moniliform, veined:
    - 10. Calyx shorter than the first joint  
     of the pod. . . . . Alysicarpus  
   procumbens
    - 10. Calyx equalling or longer than the  
     first joint of the pod..... Alysicarpus  
   vaginalis

- 6. Pods straight on the upper suture and deeply indented on the lower:
  - 11. Leaflets ovate-oblong, rounded at the base. . . . . Desmodium gangeticum
  - 11. Leaflets orbicular, cordate at the base. . . . . Desmodium gangeticum  
var. maculatum
- 5. Pods not jointed:
  - 12. Pods flattened, leaf like. . . . Tephrosia strigosa
  - 12. Pods turgid, cylindrical or rounded, not flattened:
    - 13. Pods silky or velvety:
      - 14. Corolla blue or white; stipules foliaceous. . . . . Crotalaria verrucosa
      - 14. Corolla yellow, stipules 0 or minute. . . . . Crotalaria juncea
    - 13. Pods glabrous or hairy; not silky or velvety: Lh
      - 15. Pods 1-2 cm. or even longer:
        - 16. Plants glabrous or slightly pubescent. . . . . Crotalaria retusa
        - 16. Plants covered with brownish yellow, spreading hairs. . . . Crotalaria mysorensis
      - 15. Pods smaller, equal to calyx or slightly exceeding:
        - 17. Leaves inconspicuous, deciduous. . . . . Crotalaria burhia

17. Leaves present, not deciduous. . . .

. . . . . Crotalaria linifolia

C. Plants having a leaf with 2 leaflets. . . . .

. . . . . Zornia gibbosa

D. Plants having a leaf with 3 leaflets:

1. Twining shrubs or herbs:

2. Pods covered with irritant bristles. . . . .

. . . . . Mucuna prurita

2. Pods without such bristles:

3. Stamens 10, monadelphous:

4. All stamens perfect....Canavalia gladiata

4. Alternate stamens perfect, the rest  
small and sterile..... Teramnus labialis

3. Stamens 10, dialadelphous:

5. Pods usually 2-seeded:

6. Flowers in capitate racemes. . . . .

. . . . . Rhynchosia capitata

6. Flowers in long, not capitate,  
racemes:

7. Stems slender, leaves almost  
glabrous. . . . . Rhynchosia minima

7. Stems woody, leaves softly  
pubescent on both surfaces. . . .

. . . . . Rhynchosia rothii



5. Pods more than 2-seeded. . . . Phaseolus radiatus

1. Prostrate (rarely trailing) herbs:

8. Leaflets toothed; stipules deeply laciniate. . .  
 . . . . . Trigonella occulta

8. Leaflets obovate, emarginate;  
 stipules lanceolate. . . . . Desmodium triflorum

8. Leaflets 3-lobed:

9. Lobes broad, rounded. .A. . . Phaseolus trilobus

9. Lobes narrow, long and  
 acute. . . . . Phaseolus  
aconitifolius

1. Erect herbs or shrubs:

10. Pods indented on one or both the sutures,  
 jointed:

11. Stipules foliaceous, auricled. . . . .  
 . . . . . Desmodium diffusum

11. Stipules not foliaceous or  
 auricled. . . . . Desmodium tortuosum

10. Pods not as above:

12. Flowers yellow or greenish yellow:

13. Inflorescence a dense, globose or  
 ovate-oblong head. . . . Trifolium  
alexandrinum

- 13. Inflorescence a long raceme:
  - 14. Leaflets entire; pods usually  
2-seeded. . . . . Crotalaria  
medicaginea
  - 14. Leaflets toothed; pods  
usually 1-seeded. . . . Melilotus indica
- 12. Flowers white; pods often  
2-seeded. . . . . Melilotua alba
- 12. Flowers red, purplish red or  
dark pink:
  - 15. Pods 1-2-seeded, sutures  
with dentate wings. . . . Indigofera  
glandulosa
  - 15. Pods 6-10-seeded:
    - 16. Pods torulose. . . . Indigofera oblongifolia
    - 16. Pods not torulose,  
straight, 4-gonous or  
nearly so:
      - 17. Terminal leaflet  
sessile. . . . . Indigofera trifoliata
      - 17. Terminal leaflet  
stalked. . . . . Indigofera trita
- 1. Trees:
  - 18. Trunk armed with numerous prickles;  
flowers bright scarlet coloured. . . . .  
. . . . . Erythrina variegata  
var. orientalis

## 18. Trunk unarmed:

19. Flowers red or orange  
coloured. . . . . Butea monosperma
19. Flowers yellowish-white,  
much smaller. . . . . Dalbergia sissoo

## E. Plants having a leaf with more than 3 leaflets:

## 1. Herbaceous twiners:

2. Leaflets 5-7; flowers axillary,  
solitary, bright blue, rarely  
white . . . . . Glitoria ternatea
2. Leaflets many; flowers pale  
blue pinkish . . . . . Abrus precatorius

## 1. Herbs or shrubs (rarely small trees):

3. Prostrate, procumbent or  
decumbent herbs:
4. Pods 2-seeded. . . . . Indigofera linnaei
4. Pods 3-4-seeded. . . . . Indigofera sessiliflora
4. Pods 6-9-seeded:
5. Pods flat and papery. . . .  
. . . . . Indigofera hochstetteri
5. Pods not as above:
6. Flowers in  
racemes. . . . . Tephrosia pumila
6. Flowers 1-3 in  
the axil. . . . . Tephrosia senticosa

## 3. Erect:

## 7. Leaflets 5:

8. Flowers red in many-flowered  
raceme. . . . . Indigofera oblongifolia

8. Flowers blue, 2 in the  
axil. . . . . Clitoria biflora

## 7. Leaflets more than 5:

## 9. Flowers in leaf-opposed racemes:

10. Pods densely villous.. Tephrosia hirta

10. Pods glabrescent..... Tephrosia hamiltonii

## 9. Flowers in axillary racemes:

## 11. Flowers pink or red:

12. Pods densely silky  
hairy. . . . . Indigofera astragalina

12. Pods glabrous,  
brown. . . . . Indigofera tinctoria

11. Flowers dark purple outside. . . . .  
. . . . . Sesbania sesban  
var. bicolor

## 11. Flowers yellow:

13. Pods 2-4 cm. long,  
compressed, indented  
on the lower suture. . . .  
. . . . . Aeschynomene indica

13. Pods 15-25 cm. long, narrow:
- 14. Unarmed; pods twisted,  
torulose. . . . . Sesbania sesban  
var. picta
  - 14. Armed; pods not twisted  
or torulose. . . . . Sesbania bispinosa
1. Trees:
- 15. Flowers 2 cm. long, pink or white. . . . .  
. . . . . Gliricidia sepium
  - 15. Flowers much more than 2 cm.  
long, white or cream. . . . . Sesbania grandiflora
  - 15. Flowers less than 2 cm. long:
    - 16. Leaflets acuminate. . . . . Dalbergia sissoo
    - 16. Leaflets not acuminate:
      - 17. Stamens diadelphous (5+5);  
leaflets smaller. . . . Dalbergia lanceolaria
      - 17. Stamens monadelphous:
        - 18. Flowers greenish or  
yellowish white.... Dalbergia latifolia
        - 18. Flowers pink, purple,  
blue or lilac:
          - 19. Leaflets glaucous;  
pod 2-3-seeded.. Milletia ovalifolia
          - 19. Leaflets not  
glaucous; pod  
1-seeded. . . . Pongamia pinnata

(The sequence of genera is according to Cooke's Flora)

Heylandia DC.

Heylandia latebrosa DC.Mem.Leg.201, 1825; FBI.2:65; C.1:310;  
G.280; Saur.1:111; Maheshwari, 112; Chavan & Oza,  
Fl. Pavagadh, 85.

A prostrate, hairy herb; apparently dichotomously branched. Leaves simple, ovate, cordate, hairy on both sides. Flowers axillary, solitary, yellow; Pods oblong, first, silky.

Spreading among grasses on the lawns in monsoon, also on old walls and stony pathways where it survives inspite of trampling by human agency and vehicles; along roadsides.

Common and abundant.

Flowers and Fruits: September to March or even May.

Sabnis 611, 971, 2301.

Throughout Tropical India and Ceylon.

Crotalaria Linn.

(For an excellent key to Crotalaria of Bombay. Please refer to Santapau, JBNHS. 51:960-62, 1954)

Crotalaria burhia Buch Ham. ex Bentham in Hook Lond  
Journ. Bot. 2:474, 1843; FBI. 2:66; C.1:311;  
Maheshwari, 113; Chavan & Oza, Fl. Pavagadh, 84.

A much branched herb or undershrub. Leaves small, oblong or lanceolate. Flowers yellow. Pods oblong, villous. Seeds 3-4.

In drier parts of the area; rare.

Noted at Panigate area.

Flowers and Fruits: December-March

Sabnis 3120, 3121

A member of the desert flora, confined to the dry districts of N.W. and W. India.

Afghanistan, Baluchistan.

Crotalaria mysorensis Roth, Nov. Pl.Sp.338, 1821;

FBI.2:70; C.1:314; G.295; Sant.48.

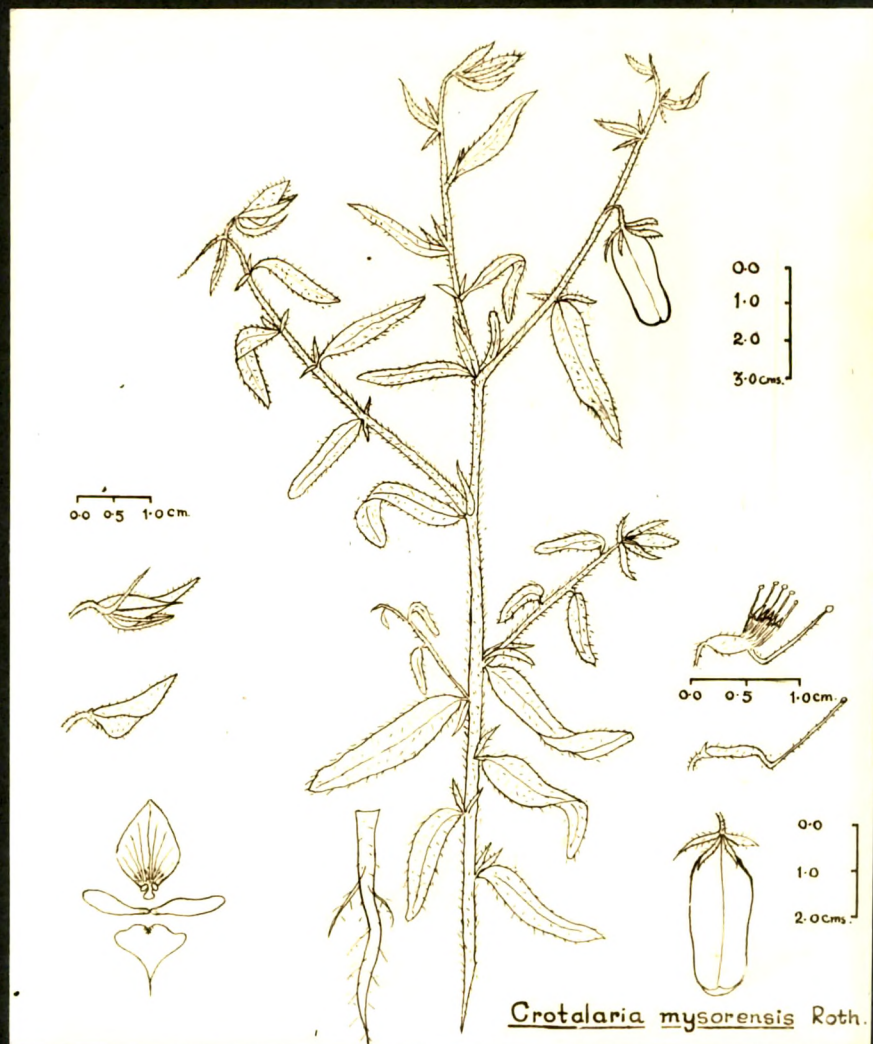
A much-branched, erect herb with brownish hairs all over. Leaves sessile, linear, oblong, apiculate clothed with long, spreading silky hairs especially on the lower surface. Flowers yellow in lax racemes. Pods glabrous, pale brown, 1-2 cm. long.

A weed of abandoned or waste places in the L.V. Palace compound or nearabout Harni village.

Neither common nor abundant.

Plate No. 13

Flowers and Fruits: August to November.





Sabnis 2151, 2356.

Throughout India and Ceylon.

Crotalaria linifolia Linn. f. Suppl.322, 1781; FBI.2:72;  
C.1:317; G.294; Sant.49; Saur. 1:114. Chavan &  
Oza, Fl. Pavagadh, 83.

An erect, rigid herb. Stems clothed with tomentum.  
Leaves oblong-lanceolate. Flowers yellow in racemes.  
Pod avoid-oblong, obliquely truncate at the apex, black  
when ripe.

In the ravines at Vasad and other waste places  
near Panigate.

Not common, not abundant.

Flowers and Fruits: September-October.

Sabnis 3305, 3400.

Kokan, Deccan, Gujarat, W. Peninsula, Sikkim.

Burma, Ceylon, Pegu, Malay Isles, China,  
Philippines, N. Australia.

Crotalaria retusa Linn. Sp.Pl.715, 1753; FBI.2:75  
(excl. Syn. Dalz & Gibs.); C.1:318; Sant.49;  
Saur.1:115; Chavan & Oza, Fl. Pavagadh, 83.

A sturdy undershrub; branches angled, striate.  
Leaves oblanceolate-oblong, obtuse or retuse, glabrous  
above and silky pubescent beneath. Flowers yellow with  
a purple tinge on long, terminal racemes. Pods 3-4 cm.

long, narrowed at the base, oblong above, turgid, glabrous with a long remnant of the style. Seeds 15-20, black, shining.

A weed of roadside waste places, rarely in cultivated fields.

Flowers and Fruits: September to December.

Sabnis 1791, 2637, 3053.

Konkan, Deccan, S.M. Country.

India generally, ceylon, China, Malaya,  
N. Australia, Trop. Africa.

Crotalaria verrucosa Linn. Sp.Pl.715, 1753; FBI.2:77;  
C.1:319.

A much-branched glabrous herb. Leaves ovate-rhomboid; stipules large, foliaceous, semilunate. Flowers white or bluish-<sup>u</sup>purple in terminal or lateral racemes. Pods stalked, cylindric; seeds 10-15.

A weed of waste corners in the L.V. Palace compound; also on the dry sandy banks of river Mahi at Vasad.

Neither common nor abundant.

Flowers and Fruits: September to December.

Sabnis 2279, 3058.

Trop. India; Ceylon, China, Trop.Africa,  
Mauritius, Trop. America.

Crotalaria juncea Linn. Sp.Pl.714, 1753; FBI.2:79;

C.1:320; Saur.1:118; Maheshwari, 113; Chavan & Oza, Fl. Pavagadh, 84.

A tall, erect, annual herb or undershrub. Leaves variable in size, linear, silky pubescent on both sides. Flowers yellow in long, lax racemes; calyx brown-hairy. Pods 2.5-3 cm. long, silky hairy and not glabrous.

Probably under cultivation sometime in the past; now as a weed of cultivation or as an escape from cultivation along the borders of fields.

Not common, though locally abundant in the L.V. Palace compound.

Local name: Shan

Flowers & Fruits: August to October.

Sabnis 2110, 2715, 3251.

Cultivated throughout India for the 'Sunn Hemp' fiber.

Malay Islands, Australia.

Crotalaria medicaginea Lamk. Encycl. Method. 2:201, 1786;

FBI. 2:81; C.1:322; G.299; Saur.1:119; Chavan & Oza, Fl. Pavagadh, 84.

An herbaceous annual, very variable in height and shape and size of the leaflets. Leaves trifoliolate. Flowers yellow in racemes. Pods subglobose; seeds 2.

A very common monsoon weed occupying a variety of habitats. Along roadsides with common associates like Xanthium strumarium, Tephrosia purpurea etc.; abundant along the margins of ponds and Talaos; Stunted forms of sandy river banks; as a weed in cultivated crops.

A much smaller and less sturdy weed than X. strumarium or T. purpurea, but quick in growth and finishes the life cycle earlier possibly to avoid competition with the senior partners.

Local name: Ranmethi

Flowers and Fruits: July to November, even later if the conditions are favourable.

Sabnis 889, 1521, 3253.

W. Himalayas to S. India.

Burma, Ceylon, Malay Isles, Afghanistan, China, Australia.

On the subject of the varieties of the above species please consult Chavan & Oza in Flora of Pavagadh. p.85.

### Trigonella Linn.

Trigonella occulta Delile, Fl. Aeg. III. 71, 1812.

FBI. 2:87; C.1:325; Sant.50.

A prostrate, annual herb. Leaves trifoliate; stipules leafy, deeply laciniate-toothed. Flowers white or cream in axillary clusters of 2-4. Pods membranous, slightly longer than the calyx.

On wet banks of ponds during the dry spell after monsoon.

Local name: Jangli methi

Flowers: November to January.

Fruits: January to February.

Sabnis 1960, 3423.

N.W. India, Upper gangetic plain, W. India.

Egypt, Nubia.

Cooke mention that the plant is very rare except in Sind and cites no locality from Gujarat. Although collected by Woodrow from Lonavla and Blatter from Khandala, Santapau has not seen it anywhere in the area after such a long exploration. In the area under study, the plant, though not very common, is locally abundant at few places. It's occurrence in the area, therefore, is noteworthy.

Melilotus Juss.

Melilotus alba Desr. in Lamk. Encycl. 4:63, 1789;

FBI.2:89; Saur.1:121; Maheshwari, 115.

An erect, sturdy annual. Leaflets 3, obovate, oblong, entire or distantly serrulate. Flowers white in racemes.

A weed in winter crops especially mixed with Lucerne, and a few vegetable crops.

Flowers and Fruits: January to April or May.

Sabnis 941, 1007.

From the plains to a height of nearly 4000 meters; introduced as a fodder plant.

Temperate and subtropical regions of the Old World.

Not enlisted in the Cooke's Flora of the Presidency of Bombay.

Melilotus indica All. Fl. Pedem. 1:308, 1785; C.1:325; Saur.1:121; Maheshwari, 116.

M. parviflora Desf. Fl. Atlant. 2:192, 1800; FBI.2:89.

An erect, delicate herb, not as robust as but commoner than the previous one. Leaflets 3, oblanceolate, serrate. Flowers yellow in close racemes. Pods ellipsoid, 1-seeded.

Very common as a weed in winter crops like chilly and Lucerne.

Flowers and Fruits: January to March.

Sabnis 926, 1036.

Tropical India, Europe, S. Persia, Afghanistan,  
and also introduced in many other regions for its  
value as fodder.

Indigofera Linn.

Indigofera linifolia (Linn.f.) Retz. Obs. Bot. 4:29,  
1786 and 6:33, t.2, 1791; FBI.2:92; Wight, Icon.  
t.333; Gillett in Kew Bulletin (Add. Ser.I) 35,  
1958; Ali in Bot. Notis.111:546, 1958; C.1:330;  
Saur.1:124; Maheshwari, 117; Chavan & Oza, Fl.  
Pavagadh, 74.

Hedysarum linifolium Linn. f. Suppl.331, 1781.

A prostrate, diffuse herb, branching from the base;  
branches wiry, spreading. Leaves simple, linear, acute.  
Flowers bright red in short racemes. Fruit globose,  
1-seeded, silvery white pods.

Noted on roadsides, lawns and other waste places;  
common and abundant.

Flowers: September to November.

Fruits: October to March.

Sabnis 1582, 2833, 3256.

Konkan, Deccan, S.M. country, Gujarat, Saurashtra  
and throughout India.

Ceylon, Abyssinia, Afghanistan, Malay Isles,  
N. Australia.

Indigofera cordifolia Heyne ex Roth, Nov. Pl.Sp.357, 1821;  
FBI.2:93; C.1:331; G.309; Gillett, loc.cit.35;  
Ali, loc.cit.545.

A prostrate, suberect or erect plant covered with  
white pubescence all over. Leaves simple, ovate, cordate,  
densely hairy. Flowers red, axillary. Pods globose-  
oblong, 2-seeded.

Noted on the lawns, roadsides and stony pathways  
inside the L.V. Palace compound; on old walls at Kelanpur;  
on the banks of the river at Umeta, where much stunted  
forms were observed. These plants had a deep tap root  
system; branches and leaves more crowded; leaves were  
smaller and more densely, silky pubescent.

Flowers and Fruits: September to November.

Local uses: Refer to Gillett, loc.cit.138.

Sabnis 748, 2240, 2900.

In the plains throughout India.

Afghanistan, Baluchistan, Nubia, Malay Isles,  
N. Australia.



Indigofera glandulosa Rexb. ex Willd. Sp.Pl.3:1227, 1800;  
FBI.2:94; C.1:332; Saur.1:125.

An erect herb. Leaves 3-foliolate; leaflets oblanceolate, glabrous above and nigro-punctate beneath. Flowers red or pink in short, axillary heads. Pods 5-6 mm. long, angled, angles with fimbriate-toothed wings.

Occasionally met with in roadside depressions, leafless, profusely fruiting specimens collected from roadside hedges at Sundarpura.

Not common, not abundant.

Flowers and Fruits: September to November.

Sabnis 2931, 3364.

Konkan, Deccan, S.M. country, Gujarat, Saurashtra, Bundelkhand, W. Peninsula. India.

Indigofera sessiliflora DC. Prodr. 2:228, 1825; Ali, loc.cit.549; Chavan & Oza, Fl. Pavagadh, 76.

I. trigonelloides auct. non. Jaub. & Spach; FBI.2:94; C.1:332.

Trailing herbs. Leaves compound. Flowers red in dense sessile heads. Pods 2-seeded.

Rare; under direct sunlight, not under the canopy of Banyan in Navlakhi area; on roadside lawns in University campus.

Flowers and Fruits: September to October.

Sabnis 829, 830.

According to Cooke, the plant is confined to Sind, from where possibly it has spread to the Punjab and the dry districts of W. India.

India, Afghanistan, Abyssinia, Aden.

Indigofera Linnaei Ali in Bot. Notis. 111:549, 1958;  
Saur.1:126; Chavan & Oza, Fl. Pavagadh, 75.

I. enneaphylla Linn. Mant. 2:272, 1771, Append.571,  
1771; nom. illegit.; FBI.2:94; C.1:332; G.309;  
Wight, Icon. t.403; Gillett, loc.cit.35.

A prostrate plant with a woody root-stock. Leaves pinnately compound; leaflets alternate. Flowers red in short axillary racemes or heads. Pods, white-hairy, 2-seeded.

Common on the grassy lawns, roadsides; banks of ponds etc.

Flowers and Fruits: July to November.

Sabnis 749, 1620, 2699.

Throughout the plains of India.

Burma, Ceylon, Angola, Malay Isles, N.Australia.

Indigofera hochstetteri Baker in Fl. Trop. Africa 2:101, 1871; Ali, loc.cit. 552; Gillett, loc.cit. 13; Saur. 1:126; Maheshwari, 118.

I. anabaptista stend. nom. 1:805, 1840, nom. nud.; Baker in FBI. 2:102, 1876; C.1:334.

A diffuse, trailing annual; branches many, slender, grooved. Leaflets 5 (rarely 3) oblanceolate, rounded, apiculate, clothed with white, appressed hairs. Flowers red in racemes, shorter than the leaves; calyx densely hairy; corolla slightly exserted. Pods linear, flat, papery with appressed hairs and with raised longitudinal ridge on the flattened faces and transverse ridges in between the seeds; seeds pale brown.

Very rare; noted so far near the railway track at Vasad.

Flowers and Fruits: September.

Sabnis 3466...3469.

According to Cooke, "it is a very rare plant, confined to Sind and Punjab", from where it is now spreading to various dry parts of Saurashtra and Gujarat.

The plants can be easily identified in the field because of the characteristic pods, which are unique in the whole genus.

Indigofera oblongifolia Forsk. Fl. Aeg.-Ar.137, 1775;  
G.311; Saur.1:127; Maheshwari, 117.

I. parvifolia Delile, Fl. Egypte 251, 1813; FBI.2:97;  
C.1:334.

A small bushy shrub. Leaflet number variable on the same plant; leaflets alternate, elliptic oblong, hairy above, silvery hairy beneath. Flowers red in axillary many-flowered racemes. Pods torulose, 6-8-seeded, slightly deflexed.

Noted along roadsides and ditches.

Rare, not abundant.

Flowers and Fruits: September to November.

Sabnis 2935, 3358.

Tolerably common in Gujarat and Sind.

Throughout the plains of India.

Arabia, Baluchistan, Ceylon, Java, Trop.Africa.

Indigofera trifoliata Linn. Cent. Pl.2:29, 1756;  
C.1:335 pro parte; Phatak & Joshi in JMSU 5(2):54,  
1956; Pathak and Satakopan in JMSU. 6(2):24, 1957.

An erect herb or undershrub. Leaves 3-foliolate; leaflets hairy above and nigropunctate beneath. Flowers dark pink in dense, axillary racemes. Pods straight, deflexed; seed 6-8.

I have observed the plant once in the L.V. Palace compound but due to paucity of material the identity could not be ascertained. Phatak and Joshi, loc.cit record its occurrence on the University campus and Phatak & Satakopan, loc.cit. remark that it is not common at Harni pond, although it is present there.

The presence of the plant is doubtful and is mentioned here on the authority of Pathak, Joshi and Satakopan. I was unable to locate the herbarium specimens supposed to have been deposited by them in the M.S. University Herbarium.

Konkan, Deccan, S.M. country, Gujarat, and throughout India.

Ceylon, Java, China, Philippines, N. Australia.

Indigofera trita Linn. f. Suppl.335, 1781; FBI.2:96; C.1:335; Wight, Icon. tt.315, 386; Gillett, loc.cit.101; Ali, loc.cit. 553; Saur.1:128; Maheshwari, 118; Chavan & Oza, Fl. Pavagadh, 76.

A stiff, erect undershrub, 1 meter or more tall; branches clothed with appressed pubescence. Leaflets 3, terminal one stalked. Flowers reddish in crowded, spike-like racemes. Pods tetragonous, hard-pointed, appressed hairy, divaricately spreading.

Noted along roadside and waste places fairly common, though not abundant.

Flowers and Fruits: September to November.

Sabnis 1809, 2285, 3294.

Throughout the plains of India.

Burma, Ceylon, Trop. Africa, Malay Isles,

N. Australia.

Indigofera tinctoria Linn. Sp.Pl. 751, 1753; FBI.2:99;  
C.1:339; G.312; Gillett; loc.cit. 106-107;  
Ali, loc.cit. 567; Saur.1:131, Maheshwari, 118;  
Chavan & Oza, Fl. Pavagadh, 77.

A sturdy undershrub or shrub, 1 meter high. Stems covered with fine appressed hairs. Leaflets 9-13; opposite, dark green (black or greyish on drying); Flowers dark pink-red, numerous in a lax spiciform raceme. Pods 2.5 cm. long or even slightly longer, linear, straight or slightly curved, apiculate, thickened at the sutures, glabrous, brown; seeds 8-12.

Probably under cultivation in the not too distant past; now in a wild state along the roadsides at Harni, Fazalpur and Vasad.

Rare not at all abundant.

Local name: Guli, Gali.

Flowers and Fruits: September to October.

Local uses: A well known source of Indigo dye;  
not commercially exploited now.

Sabnis 3455...3457.

Indigofera astragalina DC. Prodr. 2:228, 1825; Gillett,  
loc.cit. 110, 1958 & in Kew Bulletin 14(2):290-95,  
1960; Chavan & Oza in Ind. For.87:763-64, 1961;  
Maheshwari, 118.

I. hirsuta sensu Baker, FBI. 2:98, 1879. p.p. (non.Linn);  
C.1:339; Saur.1:132.

An erect, sturdy annual. Leaves imparipinnate;  
leaflets 9-11. Flowers pink or rose in a long axillary  
raceme. Pods 4-6 seeded, covered with white hairs,  
arranged closely on the peduncle often over lapping.

Noted among grasses during monsoon at Sundarpura,  
Bhimpura and L.V. Palace compound.

Local name: Runchhali guli

Flowers and Fruits: August to November.

Sabnis 2158, 2596, 2933.

Throughout the plains of India except S. India.

Burma, Ceylon, Trop.Africa, Trop. America, Java,  
Philippines and N. Australia.

Indigofera hirsuta Linn. and I. astragalina DC. are easily confused in the field. Gillett, loc.cit. has differentiated the two on the basis of a number of characters. According to him. I. hirsuta the Linnean plant, occurs in South India and the commoner species occurring in Bombay Presidency is Indigofera astragalina DC. For further discussion, see Chavan & Oza, loc.cit.

Psoralea Linn.

Psoralea corylifolia Linn. Sp.Pl.764, 1753; FBI.2:103; C.1:341; G.314; Sant.51; Saur.1:144; Maheshwari, 119; Chavan & Oza, Fl. Pavagadh, 87.

An erect, woodyherb; branches marked with glands. Leaves simple, petiolate, ovate-rounded, serrate or toothed, gland dotted. Flowers purple-blue in long peduncled dense racemes or heads. Pods ovoid-oblong, black, 1-seeded.

Noted as a weed of roadside and also in cultivated fields, so far only from Sundarpura.

Local name: Bavchi

Flowers and Fruits: October to January.

Local uses: Seeds are used in the treatment of certain skin diseases like leucoderma.

Sabnis 3427,...3429.



Throughout India in the plains and Ceylon.

Milletia Wt. & Arn.

Milletia ovalifolia Kurz. in JASB. 42(2):68, 1873  
(excl.Syn.Wt. & Arn.); FBI.2:107; Benthall,  
Trees Cale.145; Maheshwari,122.

A medium-sized tree. Leaflets ovate-elliptic,  
glaucous. Flowers purplish blue-lilac in *pendulous*  
racemes. Pods 2-3-seeded.

Planted in gardens for the beautiful flowers; noted  
on University campus and at Makarpura gardens.

Flowers and Fruits: January to June.

Sabnis 895, 1160.

A native of Burma; now cultivated in many parts  
of India.

Tephrosia Pers. (nom. cons.)

Tephrosia strigosa (Dalz.) Santapau & Maheshwari in  
JBNHS.54:804, 1957; Saur.1:134; Maheshwari,121;  
Chavan & Oza, Fl. Pavagadh, 80.

Macronyx strigosus Dalz. in Hook. Kew. Journ.2:35,  
1850.

Tephrosia tenuis Wall. ex Dalz. & Gibbs. Bomb.  
Fl.61, 1861; FBI.2:111; C.1:344; G.318.

Annual, grass-like herbs, clothed with appressed hairs. Leaves linear. Flowers bluish, solitary, axillary, on slender pedicels. Pods linear, flat, leaf-like, pointed 6 to 10-seeded.

Tolerably common in the lawns or grasses during monsoon. When in taller grasses, it is difficult to spot them. However, the small blue flowers and the characteristic fruits make them recognizable to a good field observer.

Flowers: September.

Fruits: September-October.

Sabnis 1798, 2255, 2661.

Konkan, Deccan, S.M. country, Gujarat,  
Saurashtra, Sind, Punjab.

India, Burma, Laccadives.

Tephrosia hamiltonii J.R. Drumm. in Gamble, Fl.Pres.

Madras. 320, 1918; Saur. 1:138; Chavan & Oza, Fl.  
Pavagadh, 81.

T. purpurea Baker in FBI. 2:112, pro parte; C. 1:346,  
p.p.; Maheshwari, 121.

An herb or undershrub, less than 1 meter tall.  
Leaves imparipinnate; leaflets obovate-lanceolate.  
Flowers pinkish-purple in leaf-opposed lax racemes.  
Pods 4-5 cm. long, glabrescent.

Common and abundant everywhere; along roadsides with common associate like Xanthium strumarium and Crotalaria medicaginea; on waste places and also in cultivated fields; common on poor soils of the ravines; also on sandy river banks.

Local name: Sarpankho

Flowers: July to December.

Fruits: October to June

Sabnis 699, 952, 2115, 2879.

Konkan, Deccan, S.M. country, Gujarat.

Ceylon, Malacca, Siam, Everywhere in the tropics.

Tephrosia pumila (Lamk.) Pers. Syn. Pl.2:330, 1807;  
Saur.1:137; Maheshwari, 121.

T. purpurea var. pumila Baker in FBI.2:113, 1876;  
C.1:347; Shah in Ind.For. 89(4): 288, 1963.

A small, procumbent herb stem and branches hairy. Racemes leaf-opposed, much smaller and fewer-flowered than that of T. hamiltonii. Pods straight, downy.

Not observed by me in this area particularly, but enlisted here on the authority of Shah, loc.cit.

Flowers and Fruits: September-October.

Gujarat, S.M. country.

Tropics generally.

Tephrosia hirta Ham. in Trans. Linn. Soc.13:546, 1822;  
G.318; Saur.1:135; Chavan & Oza, Fl. Pavagadh, 81.

T. villosa Wt. & Arn. Prodr.212, 1834; FBI.2:113  
(excl. some synonyms) C.1:347.

Suberect, robust undershrub. Leaves imparipinnate compound. Flowers dark pink or violet in racemes; calyx villous. Pods deflexed, softly villous.

Very similar to T. hamiltonii but for the villous pods.

Common along roadsides and waste places associated with T. hamiltonii and other typical ruderal plants.

Local name: Sarpankho

Flowers and Fruits: September to February

Sabnis 2619, 2987, 3543.

Throughout the plains of India.

Ceylon, Mauritius, Tropical Africa.

Tephrosia senticosa Pers. Syn. Pl.2:330, 1807; FBI.2:112;  
Saur.1:137.

T. pauciflora Grah. (in Wall. Cat. no.5635, nom.nud.)  
ex Baker in FBI.2:114, 1876; C.1:348.

A low, straggling or procumbent herb. Stem hairy. Leaves pinnately compound; leaflets 5-9; Flowers usually white but red or purple coloured flowers were observed

on the same plant, 1-3, axillary. Pods 2.5-4 cm. long, broad, linear, thinly silky hairy.

Noted in roadside ditches, rarely on the lawns; not common, not abundant.

Flowers and Fruits: August to November.

Sabnis 2548, 3361, 3531.

Sind, Punjab, Saurashtra, Gujarat.

Burma, Afghanistan.

Sesbania Scop. (nom.cons.)

Sesbania sesban (Linn.) Merr. var. picta (Prain) Santapau  
Pl. Saur. 263, 1953; Saur.1:139; Maheshwari, 120.

S. aegyptiaca Pers. var. picta Prain in JASB. 66:367,  
1898; C.1:349.

A soft-wooded medium-sized, unarmed shrub or a small tree. Flowers pale yellow with brownish, or purplish spots on the standard. Pods long, twisted, ending in a sharp beak.

Cultivated at a few places in the L.V. Palace compound; not at all wild.

Local name: Seviri.

Flowers and Fruits: October to May.

Local uses: Fresh leaves are eaten as vegetable.  
Seeds are used for treatment of skin affections.

Sabnis 1537...1540.

Throughout the tropics of the Old World.

Sesbania sesban (Linn.) Merr. var. Bicolor (Wt. & Arn.)  
F.W. Andr. in Kew Bulletin 93, 1953; Maheshwari,  
120; Shah in Ind. For. 89(4): 288, 1963.

S. aegyptiaca Pers. var. bicolor Wt. & Arn. Prod.  
214, 1834; C.1:350.

Unarmed shrubs reaching a height of 4-5 meters;  
resembles the previous one in all its essential characters  
but differs from it in the character of the flower  
colour. In this case, the standard is maroon coloured  
or dark purple outside (not mottled).

Noted under cultivation in the University Botanical  
garden from seeds brought from Ratanmahal hills near  
Devghadh Baria, Panchamahar Dist., Gujarat State by  
Shri. S.J. Bedi; not observed wild in our area as  
reported by Shah, loc.cit.

Local name: Sevahi.

Flowers and Fruits: November to February.

Cultivated or more or less naturalized in the  
Bombay Presidency.

Tropics of the Old World.

Sesbania bispinosa (Jacq.) Fawc. & Rendle, Fl. Jam.

4:24, 1920; Sant.52; Saur.1:40; Maheshwari,119.

Aeschynomene bispinosa Jacq. Icon. 3:13, t.564,  
1793.

Sesbania aculeata Pers. Syn. Pl.2:316, 1807;  
FBI.2:114; C.1:350.

An erect, tall herb or undershrub. Branches and leaf rachis prickly; leaflets many. Flowers yellow in racemes. Pods long, not twisted, subtorulose; seeds 20-30.

The commonest species of Sesbania; noted on water-logged soils near Nimetta, Timbi Tank, Alkapuri (in a marsh) and L.V. Palace compound.

Local name: Ikad.

Flowers and Fruits: September to November.

Sabnis 1544, 2286, 2781.

Common in wet places of the plains in India.

Cosmopolitan in the Tropics of the Old World.

A few plants, very much stunted in growth, were collected by me along roadsides and in tobacco fields near Harni aerodrome. The identity of the plants could not be properly established as the plants were not more than 30 cm. tall and the fruits were only 5-9 cm. long. Kew authorities have tentatively identified as probably

S. aculeata pers. I had identified it as S. procumbens  
Wt. & Arn. (Sabnis 3100, 3101).

Sesbania grandiflora Pers. Syn. Fl. 2:316, 1807;  
FBI.2:115; C.1:350; Saur.1:139.

A small, soft-wooded tree. Flowers largest in the  
genus, white or cream.

Planted in gardens and near temples for the showy  
flowers.

Local name: Agathio

Flowers and Fruits: October - December.

Sabnis 1.10.59, Near Bahucharaji Temple.

Malaya, Mauritius, India to N. Australia

#### Alhagi Adans.

Alhagi pseudalhagi (M. Bieb.) Desv. in Journ. de Bot.  
1:120, 1813; Saur. 1:141; Maheshwari, 122;  
Chavan & Oza, Fl. Pavagadh, 69.

Hedysarum pseudalhagi M. Bieb. Fl. Taur. Canc.2:174,  
1808.

Alhagi camelorum Fisch. Ind. Hort. Gorenk (ed.2) 72,  
1812; C.1:355.

A. maurorum Baker in FBI.2:145, 1876 (non. Desv.);  
D. & G.67.



A spiny undershrub or shrub. Leaves simple, obovate-oblong, obtuse. Flowers red, borne on the spines. Pods 2-3 cm. long, falcate, constricted between the seeds; seeds reniform.

A gregarious weed of dry, sandy places; on the middle and upper storey of the river banks in association with Solanum surattense and Argemone mexicana; dominant species of the banks of ponds during summer; in roadside ditches and in fallow fields.

Common and abundant.

Flowers and Fruits: March to May

Sabnis 1028, 1030.

In the drier regions of N., N.W. and W. India.

Baluchistan, Egypt, Arabia.

Zornia Gmel.

Zornia gibbosa Span. in Linnaea 15:192, 1841;

Mohlenbrock in Webbia 16(1):112, ff.44 & 76, 1961; Wagh in JBNHS. 61:214, 1964.

Z. graminea span. in Linnaea 15:192, 1841.

Z. angustifolia Sm. in Rees, Cycl. 34:1, 1819, pro maiore parte (nom. illegit.)

Z. diphylla auct. plur (non. Pers. 1807); FBI.2:147; C.1:355; Sant. 53.

A prostrate herb. Leaves bifoliolate. Stipules large, lanceolate, produced below the point of insertion into a triangular spur. (Santapau in Fl. Saur. p.142 describes the stipules as peltate. I would prefer to call them auricled or auriculate); leaflets dotted with black gland beneath. Flowers yellow in small racemes. Pods jointed, slightly exserted above the bracts; joints covered with spines.

Noted on laws and along roadsides among grasses; fairly common, especially during monsoon.

Local name: Samara pani

Flowers and Fruits: August to September.

Sabnis 653, 808, 3259.

On the plains from Himalayas to S. India.

Kumaon, Burma, Ceylon and everywhere in the tropics.

The Indian plant, according to Mohlenbrock, loc.cit. is not Z. diphylla Pers. but Z. gibbosa Span, which is an annual. On the subject, also refer to wagh, loc.cit.

### Aeschynomene Linn.

Aeschynomene indica Linn. Sp.Pl.713, 1753; FBI.2:151; C.1:363; Saur.1:144; Maheshwari,122.

An erect, much branched annual herb. Stem and branches soft and glabrous. Leaves imparipinnate; leaflets many pairs; stipules scarious, auricled. Flowers pale yellow in few-flowered racemes. Pods 20-30 mm. long, straight on the upper suture and indented on the lower, flat, 4-8 seeded, covered with glandular wart-like dots.

A marsh-loving or an amphibious hydrophyte, showing at times adventitious roots produced at the base of stem inside water or mud; fairly common and abundant in the locality.

Local name: Nani Ikad.

Flowers and Fruit: August to November.

Sabnis 674, 1734, 2621.

Widely distributed in India and South Andamans, ascending up to 1600 meters.

Throughout the tropics of the Old World.

Alysicarpus Desv. (nom.cons.)

Alysicarpus monilifer (Linn.) DC. Prodr. 2:353, 1825;  
FBI.2:157; C.1:368; G.338; Saur.1:147.

Hedysarum moniliferum Linn. Mant. 1:102, 1767.

Prostrate, much branched herbs. Leaves 1-foliolate; leaflets oblong, often cordate at base, mucronulate at the apex. Flowers pink or purple. Pods moniliform, 2-6 jointed; calyx equal to the first joint.

A common weed of lawns; as also on the slopes of the wet banks of ponds and level ground among grasses.

Common and abundant.

Flowers and Fruits: September to December.

Sabnis 666, 1783, 2625, 3408.

Throughout India.

Burma, Nubia, Abyssinia.

Alysicarpus procumbens (Roxb.) Schindler in Fedde, Repert. 21:11, 1925; Saur.1:147; Chavan & Oza, Fl.Pavagadh, 71.

Hedysarum procumbens Roxb. Hort. Beng.56, 1814, nom.nud. & Fl.Ind.3:345, 1832.

Alysicarpus hamosus Edgew. in JASB. 21:32 & 171, 1852; FBI.2:157; C.1:368.

A prostrate, trailing herb. Stems hairy. Leaflet rounded or orbicular, mucronulate. Flowers purple. Pods not moniliform, flat, hairy, veined.

Noted among grasses; also as a weed in banana plantations.

Fairly common.

Flowers and Fruits: September to November.

Sabnis 2260, 2998, 3407.

Throughout Inida from the Upper Gangetics  
plains to W. peninsula.

Alysicarpus vaginalis (Linn.) DC. Prodr. 2:353, 1825;  
FBI.2:158; C.1:369; G.338; Sant.55; Saur.1:148;  
Maheshwari, 124; Chavan & Oza, Fl. Pavagadh, 71.

Hedysarum vaginale Linn. Sp.Pl.746, 1753.

Alysicarpus vaginalis var. nummularifolius Baker in  
in FBI.2:158, 1876; C.1:369.

A. nummularifolius Sant. Pl. Saur. 173, 1953.

A diffuse, prostrate herb. Leaves 1-foliolate;  
stipules scarious, large; leaflets oblong to lanceolate.  
Flowers pinkish-bluish purple. Pods black or brown on  
maturity, separating into 1-seeded parts.

A common weed of wet banks of ponds, lawns and  
roadside among grasses along with other species of  
Alysicarpus.

Flowers and Fruits: September to beginning of  
November.

Sabnis 818, 1810, 2258.

Throughout India from the Himalayas, N. W. Provinces to Gujarat, Deccan and Konkan.

Malacca, Ceylon, Afghanistan and generally throughout the tropics of the Old World; introduced in America.

Alysicarpus bupleurifolius (Linn.) DC. Prodr. 2:352, 1825; FBI.2:158; C.1:370; G.338; Sant.55; Saur.1:148; Maheshwari, 125.

Hedysarum bupleurifolium Linn. Sp.Pl.745, 1753.

A diffuse or ascending herb. Leaves 1-foliolate; leaflets lanceolate-linear, shortly petiolate; stipules scarious. Flowers dark pink-red usually in pairs on a lax raceme. Pod 4-8 seeded, slightly moniliform, not ribbed or veined.

An annual weed of waste placed in the L.V. Palace compound and also at Por-vernama area.

Rare; not abundant.

Flowers and Fruits: July to September.

Sabnis 2065, 3373.

Throughout India from Himalayas to S. India.

Burma, Ceylon, Malay Isles, China, Philippines, Mauritius, Polynesia.

Alysicarpus longifolius Wt. & Arn. Prodr. 233, 1834;  
 FBI.2:159; C.1:370; G.338; Sant.55; Saur.1:148;  
 Maheshwari, 125; Chavan & Oza, Fl. Pavagadh, 72.

A stout, erect herb, sometimes reaching a height of 2 meters. Leaflets lanceolate-linear or oblong; stipules large, conspicuous. Flowers, purple with a yellow dot in long spike-like racemes. Pods moniliform reticulately veined.

Along roadsides and lawns mixed up with grasses; fairly common at L.V. Palace compound, Nimetta - Ajwa Road, Sundarpura etc.

Flowers and Fruits: September to November.

Sabnis 2284.

Throughout the plains of India.

Alysicarpus glumaceus (Vahl) DC. Prodr. 2:353, 1825;  
 Andrews, Fl.Pl. Anglo-Egypt. Sudan 2:175, 1952;  
 Shah in JBNHS. 60(1): 296, 1963.

Hedysarum glumaceum Vahl, Symb. Bot.2:106, 1791.

H. violaceum Forsk. Fl. Aeg.-Arab.136, 1775 (non.Linn. 1753).

H. rugosum Willd. Sp.Pl. 3(2):1172, 1803.

Alysicarpus violaceus (Forsk.) Schindl. in Fedde, Repert.21:13, 1925.

A. rugosus (Willd.) DC. Prodr. 2:353, 1825; C.1:371.

A prostrate or ascending plant. Leaves 1-foliolate; stipules scarious, very acute. Leaflets oblong to suborbicular. Flowers in dense spike-like racemes. Pods, concealed in the chaffy calyx, apiculate, moniliform, 2-5-jointed, transversely ribbed.

On wet banks as well as dry beds of ponds and small depressions.

Neither common, nor abundant.

Flowers and Fruits: October - November.

Sabnis 1800, 2952.

Throughout India.

Ceylon, Cape, W. Indies and tropics of the Old World.

Alysicarpus tetragonolobus Edgew. in JASB. 21:169, 1853; FBI.2:159; C.1:372; Saur.1:150; Chavan & Oza, Fl. Pavagadh, 71.

A. quadrangularis Edgew. ex Baker in FBI.2:159, 1876.

An erect, sometimes trailing herb. Flowers in long racemes. Pods moniliform, reticulately veined, transversely ribbed with a ridge of either side so as to give it a 4-gonous appearance.

A monsoon weed, noted among grasses.



Rare; L.V. Palace compound, Baroda.

Flowers and Fruits: 17.11.59.

Sabnis 2396, 2397.

Plains of Bundelkhand, Sind, Saurashtra, Gujarat,  
Deccan, S.M. country, Kokan.

Desmodium Desv. (nom.cons.)

Desmodium diffusum DC. Prodr. 2:336, no.106, 1825;  
FBI.2:169; C.1:377; Saur.1:154.

An erect undershrub. Stem angled and grooved, hairy.  
Leaflets 3, terminal largest; stipels lanceolate acute;  
stipules large, foliaceous, amplexicaul and auricled.  
Flowers in long, flexuous, terminal or axillary racemes,  
peduncles hairy. Pod 10-20 mm. long, indented on both  
the sutures, joints 3-6.

Rare; observed in or near hedges at Sundarpura and  
the backside of the University Botanical garden.

Flowers and Fruits: October - November.

Sabnis 2760, 2761.

Throughout the greater part of India.

Desmodium tortuosum (Sw.) DC. Prodr. 2:332, 1825.

Hedysarum tortuosum Sw. Prod. Veg.Ind. Occ.107.

An erect or straggling, perennial herb or undershrub. Stem hairy. Leaves 3-foliolate, stipulate. Flowers in long racemes. Fruit deeply indented on both the sutures.

Rare; noted only once on way to Bhimpura.

Flowers and Fruits: July onwards.

Sabnis 3194, 3195.

Northern India, Bundelkund to the plains of Gujarat.

A native of tropical America, now introduced in India and Ceylon.

The plant is apparently a new record for the erstwhile Bombay Presidency. Identification of the plant was confirmed at Kew. Dr. G. Taylor in a personal communication writes, "Two specimens are cited under D. spirale in the Flora of British India. The Royle specimen is referable to a less closely related species D. tortuosum (Sw.) DC. (D. purpureum (Mill.) Fawc. & Rendle, non. Hook & Arn.)". The second specimen of Edgeworth from Bundelkund is possibly D. neomexicanum A. Gray, which was recently re-collected by the author from North Gujarat (Chavan, Sabnis and Bedi in Kew Bulletin 1963).

Desmodium triflorum (Linn.) DC. Prodr. 2:334, 1825;  
 FBI.2:173; C.1:378; Wight, Icon. t.292;  
 Sant.57; Saur.1:155; Maheshwari, 123; Chavan &  
 Oza, Fl. Pavagadh, 73.

Hedysarum triflorum Linn. Sp.Pl.749, 1753.

A tiny, prostrate herb. Leaves trifoliate;  
 leaflets obovate, emarginate. Flowers purple; 2-3 in  
 the axil. Pods falcate, straight on the upper suture  
 and indented on the lower one; 3-5 jointed, with a  
 small, slender beak.

A common weed on the wet banks of pond and open  
 ground forming carpets or large patches, especially  
 during monsoon.

Flowers and Fruits: September to December.

Sabnis 2721, 3002, 3142.

In the plains throughout India, Kumaon and  
 Kashmir.

Cosmopolitan in the Tropics.

Desmodium gangeticum (Linn.) DC. Prodr. 2:327, 1825;  
 FBI.2:168; C.1:379; G.345; Sant.57; Saur.1:156;  
 Maheshwari, 123; Chavan & Oza, Fl. Pavagadh, 72.

Hedysarum gangeticum Linn. Sp.Pl. 746, 1753.

A straggling undershrub; branches irregularly angled, hairy. Leaves 1-foliolate; leaflet ovate, rounded at the base, dark above and paler beneath with appressed hairs. Inflorescence of a few fascicles of flowers racemosely arranged on a slightly angled rachis. Pods deeply indented on the lower suture and not so much on the upper, separating into 1-seeded parts on maturity.

A waste land weed found along the roadsides under the shade of trees or hedges.

Neither common, nor abundant.

Flowers and Fruits: September to November.

Sabnis 1736, 2290, 2840.

Konkan, Deccan, S.M. country, Kanara, Gujarat, Saurashtra, throughout India.

Ceylon, Trop. Africa, Malay Isles, Philippines, China; introduced in W. Indies.

Desmodium gangeticum (Linn.) DC. var maculatum Baker in FBI.2:168, 1876; C.1:379; G.345; Saur.1:157; Chavan & Oza, Fl. Pavagadh, 73.

Hedysarum maculatum Linn. Sp.Pl.746, 1753.

A small herb, reaching a height of about 25 cm. Leaflets almost orbicular, cordate at base, green with pale yellow spots; otherwise very much resembling the species proper.

A shade loving plant, found under the thick canopy of Banyan in the L.V. Palace compound.

Flowers and Fruits: 5.11.59.

Sabnis 5.11.59, L.V. Palace compound, Determined at FRI. Herbarium, Dehra Dun.

Rohilkhand, upper Bengal to Saurashtra, Gujarat, S.M. country.

Abrus Linn.

Abrus precatorius Linn. Syst. Nat. (ed.12) 472, 1767;  
FBI.2:175; C.1:382; G.349; Maheshwari, 126;  
Saur.1:158.

Glycine abrus Linn. Sp.Pl.753, 1753.

A slender twiner. Leaves abruptly pinnate; leaflets membranous, opposite, oblong, Flowers pale blue-pink in dense racemes. Pods oblong, turgid; seeds scarlet with black spots at the hilum.

Noted on hedges; small seedlings observed under the shade of tamarind.

Local name: Chanothi

Flowers: July to September.

Fruits: September to October.

Local uses: Seeds are used as weights by jewellers.

Sabnis 2618.

Throughout India.

Siam, Ceylon, Cosmopolitan in the tropics, often planted.

Lathyrus Linn.

Lathyrus aphaca Linn. Sp.Pl.729, 1753; FBI.2:179;  
Maheshwari, 127.

An annual with slender stem. Leaves modified into tendrils; stipules large, foliaceous. Flowers yellow. Pods linear-oblong.

Noted once on the backside of science faculty on lawns; small dwindling specimens were also collected just at the entrance of my house in Dandia Bazar.

Flowers and Fruits: February.

Sabnis 3610.

Spread through the northern provinces ascending from the plains of Bengal to the temperate zone in Hazara, Kashmir and Kumaon.

Europe, Orient, Abyssinia.

The plant is not listed in the Cooke's Flora of the presidency of Bombay; possibly a recent introduction.

Teramnus Sw.

Teramnus labialis (Linn.) Spreng. Syst.3:235, 1826;  
 FBI.2:184; C.1:387; G.352; Sant.58; Saur.1:159;  
 Maheshwari,128; Chavan & Oza, Fl. Pavagadh,86.

Glycine labialis Linn. f. Suppl. 325, 1781; Wt. Icon.  
 t.168.

G. Warreensis Dalz. in Kew Journ. Bot. 3:210, 1851;  
 D. & G.68.

A small, hairy, herbaceous twiner. Leaves 3-foliolate.  
 Flowers purplish-blue or white in axillary racemes.  
 Pods 2-3 cm. long, hairy with a beak curved at right  
 angles.

Noted on hedges as well as roadsides.

Common, though not abundant.

Flowers and Fruits: September to January.

Sabnis 2251, 2689, 3376.

Throughout India.

Ceylon, and the tropics generally.

Mucuna Adans. (nom. cons.)

Mucuna prurita Hook. Bot. Misc. 2:348, 1831; Sant.59;  
 Saur.1:160; Maheshwari,129; Chavan & Oza, Fl.  
 Pavagadh, 85.

M. pruriens Baker in FBI.2:187, 1876; C.1:389  
(non. DC. 1825).

An extensive twinær. Leaflets 3, ovate-rhomboid. Flowers dark purple in large, drooping racemes. Pods covered with brownish, irritant bristles, 4-6 seeded.

Found in hedges and also climbing on shrubs and trees. Fruits develop when the plants are leafless. The bristles cause intense irritation to the skin, hence the plant should be carefully handled.

Local name: Kavach, Khajkhujli

Flowers: September to December.

Fruits: January to April.

Sabnis 1832, 2462, 3155.

Konkan, Deccan, Gujarat; throughout the plains of India.

Cosmopolitan in the tropics.

The plant is common but abundant only at a few places. The flowers are very attractive and may land anybody in trouble if proper precautions are not taken while collecting them; because the calyces also possess the irritant bristles and cause skin irritation.



Erythrina Linn.

Erythrina variegata Linn. var. orientalis (Linn.) Merr.

Interpret. Herb. Amb. 276, 1917 & Enum.2:306;  
Sant.59; Saur.1:162; Maheshwari,129.

E. corallodendron Linn. var. orientalis Linn. Sp.Pl.  
706, 1753.

E. indica Lamk. Encyl. 2:391, 1786.

A moderate-sized tree; trunk armed with numerous prickles. Leaflets broad, ovate. Flowers bright scarlet, showy; calyx spathaceous.

A few trees planted in the public and private gardens. Flowers appear on the trees before the leaves; ornithophilous.

Local name: Panaravo, Pandarva.

English name: Indian Coral tree.

Flowers: March-April.

Sabnis 10.3.58, Univ. Bot. garden & College compound.

Cultivated throughout the Bombay Presidency.

Sea coasts of India; Java, Polynesia.

According to Bullock (Kew Bulletin 20(2):294, 1966)  
"the name Erythrina variegata var. orientalis is a taxonomic synonym of E. variegata var. variegata and the use of a varietal epithet becomes redundant".

Butea Roxb. ex. Willd. (nom.cons.)

Butea monosperma (Lamk.) Tanb. in Engl. & Prantl. Nat.  
Pfam. 3(3):366, 1894; Sant.60; Saur.1:63;  
Maheshwari,130.

Erythrina monosperma Lamk. Encycl. 1:391, 1783.

Butea frondosa Koenig ex Roxb. in Asiat. Res.3:469,  
1792 & Pl. Cor.1:21, t.21; C.1:395.

Plaso monosperma (Lamk.) O. Kantze, Rev.Gen.Pl.1:202,  
1891.

A large tree. Leaflets 3, stiff, broadly obovate,  
glabrous above and silky beneath. Flowers showy, large,  
red or orange coloured in dense racemes. Pod 10-14 cm.  
long, velvety, 1-seeded.

Not spontaneous but planted in the botanical garden,  
Public park and the L.V. Palace compound and in a few  
private gardens.

Local name: Khakhro, Palas, Kesundo.

Flowers: March-April, before the leaves appear  
in the beginning of May.

Local uses: The gum, the leaves, the flowers  
are all economically important.

Sabnis 1022, 1216.

Throughout India, especially in the deciduous forests.  
Burma, Ceylon.

Canavalia DC.

Canavalia gladiata (Jacq) DC. Prodr. 2:404, 1825;  
Sant.61; Chatterji in JIBS. 28:86, 1949; Saur.1:165;  
Chavan and Oza, Fl. Pavagadh, 90.

Dolichos gladiatus Jacq. Coll. Bot. 2:276, 1788.

Canavalia ensiformis Baker in FBI.2:195, 1876,  
etalior. auct. (non. DC. nec Dolichos ensiformis  
Linn.) C.1:397.

A heavy climber. Leaflets ovate, acute, glabrous.  
Flowers pink or purple in a spike-like inflorescence.  
Pods linear-oblong, turgid; seeds ellipsoid reddish in  
colour.

Noted commonly on the hedges; probably cultivated  
and sometimes as escapes from cultivation.

Local name: Aboi, Abbo.

Flowers and Fruits: September to December.

Local uses: Seeds are edible.

Sabnis 3245, 3526.

Throughout India; wild and commonly cultivated.

Everywhere in the tropics. Native of Old World  
tropics.

Phaseolus Linn.

Phaseolus trilobus Ait.Hort.Kew.3:30, 1789; FBI.2:201;  
C.1:401; Saur.1:168; Maheshwari,132.

A prostrate annual herb. Leaves 3-foliolate; leaflets irregularly lobed, lobes rounded; stipules foliaceous. Flowers yellow in few flowered racemes. Pod 2-5 cm. subcylindric, slender, hairy or glabrous.

Noted on the wet, slopy banks of ponds and irrigation canals; not cultivated.

Not common, not abundant.

Local name: Janglimath.

Flowers and Fruits: September to October.

Sabnis 1820, 2730.

Very common throughout the Presidency sometimes cultivated in some parts of India, chiefly for fodder or as food of the poor.

Phaseolus radiatus Linn. Sp.Pl.725, 1753; Saur.1:169;  
Chavan & Oza, Fl. Pavagadh, 78.

P. sublobatus Roxb. Hort. Beng.54, 1814 nom.nudum  
& Fl.Ind.3:288, 1832; C.1:402.

P. trinervius Heyne in Wall Cat.5603, 1831-32;  
FBI.2:203.

Erect, suberect or climbing herb. Leaves trifoliolate; leaflets entire, round to cuneate at base, the lateral ones unequal-sided, hairy when young and glabrescent when old. Flowers yellow. Pods densely clothed with brownish hairs.

Noted in waste places climbing on wire ropes supporting a lamp post; rare.

Flowers and Fruits: September-October.

Sabnis 2684.

Throughout India and Ceylon.

Phaseolus aconitifolius Jacq. Obs.3:2, t.52, 1768;

FBI.2:202; C.1:403; Saur.1:167; Maheshwari, 132.

Prostrate or twining, annual, hairy herb. Leaves 3-foliolate; leaflets irregularly lobed, lobes acute, not rounded. Flowers yellow. Pods 2-4 cm. long, straight, cylindrical, torulose, smooth.

Not common, though locally abundant as a weed or probably an escape from cultivation in the L.V. Palace compound and Bhimpura; found under cultivation also.

Local name: Math

Flowers and Fruits: September to December.

Local uses: The seeds are edible. Leaves are used for fodder.

Sabnis 2337, 2473, 2634.

Cultivated in parts of the Bombay Presidency  
and India; occasionally wild.

Clitoria Linn.

Clitoria ternatea Linn. Sp.Pl.753; 1753; FBI.2:208;  
C.1:405; Saur.1:171; Maheshwari, 131; Chavan & Oza,  
Fl. Pabagadh, 80.

A twining herb. Leaves imparipinnate; leaflets obtuse,  
glabrous or nearly so. Flowers bright blue with a  
white or yellowish centre (or flowers perfectly white  
or cream) solitary, axillary. Pods 5-10 cm. long, flat,  
covered with minute hairs, the valves twisting after  
dehiscence. Seeds 6-10.

Noted on roadside hedges; on small shrubs or even low  
grasses; Common and abundant everywhere.

Local name: Garani

Flowers: July to September-October.

Fruits: November to March.

Sabnis 602, 1476, 2106, 3246.

Throughout the presidency.

Burma, Malacca, Ceylon; cosmopolitan in the  
tropics.

Clitoria biflora Dalz. in Kew. Journ. Bot.2:35, 1850;  
 FBI.2:208; C.1:406; Sant.64; Saur.1:172;  
 Chavan & Oza, Fl. Payagadh,80.

An erect herb. Leaves imparipinnate; leaflets 5,  
 membranous; Flowers blue, 2 in the axils. Pods 3-5 cm.  
 long, flat, pubescent, reticulately veined; seeds 5-6.

Rare; locally abundant in the L.V. Palace compound  
 during heavy monsoon under the canopy of trees along with  
 a few grasses and other monsoon weeds.

Local name: Ubhi garani

Flowers and Fruits: September.

Sabnis 2667, 2671.

Apparently endemic to Western India.

Rhynchosia Lour. (nom.cons.)

Rhynchosia capitata DC. Prodr. 2:386, 1825; FUGP.1:222;  
 Maheshwari, 134.

R. aurea DC. Prodr.3:386, 1828; FBI.2:221.p.p.

Nomismia aurea Wt. & Arn. Prodr. 237, 1834.

N. capitata Wt. & Arn. Prodr. 237, 1834; Wight,  
 Icon. t.295.

Trailing or climbing herbs. Stems hairy. Leaflets 3, deltoid-rhomboidal, minutely gland dotted beneath. Flowers yellow in many-flowered crowded, capitate racemes. Pods orbicular compressed with transverse wrinkles, mottled and covered with soft spreading hairs; seeds 2; brown with a waxy strophiole.

Rare; apparently confined to Vasad - Fazalpur area, where it was located just near the railway track; not so far observed elsewhere.

Flowers and Fruits: August to September.

Sabnis 3286, 3462.

A rare plant in Bombay Presidency.

Throughout India.

Rhynchosia minima (Linn.) DC. Prodr. 2:385, 1825;

FBI. 2:223; C.1:414; Saur.1:176; Maheshwari, 133.

Dolichos minimus Linn. Sp.Pl.1020, 1753.

Rhynchosia medicaginea DC. Prodr. 2:386, 1825;

D. & G. 74.

A spreading or twining, slender annual. Leaflets 3, deltoid at base, minutely gland-dotted beneath. Flowers small, yellow on long, flexuous racemes. Pods flat, 2-3-seeded.



Common and abundant all along the hedges; also climbing on small, spiny shrubs and grasses especially during monsoon.

Flowers and Fruits: September to December, occasionally even in the drier months of summer.

Sabnis 1393, 2238, 2700.

Throughout India.

Ceylon, Tropics generally, cape, United states.

Rhynchosia rothii Benth. ex Aitchinson, Cat. Pl. Punjab and Sindh, 50, 1869; Raizada in Sc. & Cult. 26:282-83, 1960; Nooteboom in Reinwardtia 5:441, 1961; Chavan & Oza, Fl. Pavagadh, 89.

Dolichos tomentosus Roth, Nov. Pl. Sp. 345, 1821; DC. Prodr. 2:401, 1825.

Rhynchosia sericea Spanoghe in Linnaea 15:195, 1841; (nom. illegit.) non Gill. ex Hook. & Arn. Bot. Misc. 3:199, 1833; FBI. 2:225; Shah & Panthaki in JBNHS. 57:440-41, 1960.

A woody climber; young parts clothed with glandular hairs. Leaves trifoliolate; Leaflets softly pubescent on both surfaces; terminal leaflet largest, ovate-rhomboid, equal sided, lateral ones oblique-ovate. Flowers yellowish brown tinged with purple in axillary racemes. Pods compressed, villous on the margins, 2-3-seeded; seeds dark brown.

Rare; neither common nor abundant; so far observed along hedges at Sundarpura (10.9.61).

Flowers and Fruits: September-November.

Sabnis 3338...3340.

Central and Western Himalayas and hills of W. Peninsula; Malaya.

The plant is a new record for the Bombay Presidency (Shah & Panthaki, loc.cit.) and is not listed in the Cooke's Flora.

Dalbergia Linn. f. (nom.cons.)

Dalbergia sissoo Roxb.Hort.Beng.53, 1814, nom.nud. & Fl.Ind. 3:223, 1832; FBI.2:231; C.1:421; Saur.1:179; Maheshwari, 135.

A medium-sized tree. Leaflets 3-5, acuminate. Flowers yellowish white. Pods strap-shaped, 1-3-seeded.

Planted along roadsides; not spontaneous.

Local name: Sisam.

Flowers and Fruits: March to July.

Local uses: A valuable timber tree.

Sabnis 6.4.59, Nimetta.

Planted throughout the plains, often spontaneous; indigenous in the sub-Himalayas from the Indus to Assam.

Dalbergia latifolia Roxb. Fl. Cor. 2:7, t.113, 1798; Fl. Ind. 3:221, 1832; FBI. 2:231; C.1:422; Wight, Icon. t.1156; Sant.67; Saur.1:178; Chavan & Oza, Fl. Pavagadh, 86.

A large tree with spreading branches. Leaves imparipinnate; leaflets ovate or orbicular, obtuse or emarginate. Flowers white. Pods flat, 1-3-seeded.

Planted along roadside; only few trees noted.

Local name: Sisam.

Flowers and Fruits: February-April.

Local uses: A valuable timber tree.

Sabnis 20.1.61, Sonarkui and Sevasi.

Konkan, Deccan, S.M. country; common throughout the W. Peninsula; Bihar, Sikkim, Bundelkhand.

The tree is indigenous in the outer ranges of the Himalayas and in Central and South India.

Dalbergia lanceolaria Linn. f. Suppl. 316, 1781; FBI.2:235; C.1:425; Sant.68; Saur.1:178; Chavan & Oza, Fl. Pavagadh, 87.

A middle-sized tree. Leaflets oblong-elliptic. Flowers bluish white in panicles. Pods tapering at both the ends, indehiscent, 1-3-seeded.

Planted at a few places in the K.V. Palace compound; not noted anywhere else.

Flowers and Fruits: April to June.

Sabnis 1307.

Konkan, Deccan, Kanara, Gujarat, Saurashtra; throughout the plains of India; Ceylon.

The tree is a native of Sikkim Terai, Bihar, and the Western Peninsular India.

Pongamia Vent. (nom.cons.)

Pongamia pinnata (Linn.) Pierre, Fl. For. Cochin.

Sub. t.385; 1899; Sant.68; Saur.1:180; Chavan & Oza, Fl. Pavagadh, 87.

Cytisus pinnatus Linn. Sp.Pl.741, 1753.

Pongamia glabra Vent. Jard. Malm. 28, 1803; FBI.2:240; C.1:429; Wight, Icon. t.59.

A medium-sized tree. Leaves imparipinnate; leaflets ovate, acute. Flowers pinkish or purplish-white in axillary racemes. Pods hard, compressed, oblique, 1-seeded.

Planted at a few places in the gardens, but otherwise spontaneous on the upper storey of the Vishwamitri Banks, Bhukhi Nallah (University campus) and in the L.V. Palace compound, where it is observed in all its stages of development.

Local name: Karanj.

Flowers and Fruits: February to June.

Local uses: The tree yields useful timber.

The oil from the seeds is used in the treatment of skin diseases.

Sabnis 581, 1211, 1331.

India (Banks of rivers and streams especially near the coast, widely planted elsewhere); Throughout tropical Asia, Trop. Australia, Ceylon, Malaya, China and the Seychelles.

### Gliricidia H.B.K.

Gliricidia sepium (Jacq.) Walpers, Repert. 1:679, 1842;  
Stearn in Blatt. & Mill. Some Beaut. Ind. Trees,  
ed.2, 87, t.16, 1954; Sant.289.

Robinia sepium Jacq. Enum. Pl.Carib.28, 1760.

A small tree. Leaflets oblong-ovate, somewhat appressed-pubescent. Flowers pink in long racemes.

Planted occasionally for the beautiful flowers in various gardens in Baroda.

Flowers: November - December.

Sabnis 2417.

A native of Trop. America, now cultivated in many tropical countries.

Trifolium Linn.

Trifolium alexandrinum Linn. Cent. Pl.1:25, 1755; Bailey, Man.Cult. Pl.581; Maheshwari, 113.

An annual 30-60 cm. tall. Leaflets oblong, obtuse. Flowers greenish yellow in dense, globular or ovate heads. Bracts forming an involucre at the base.

An important fodder plant, which is not under cultivation here but introduced after probably being mixed up with Lucerne seeds; a weed in the Lucerne crop.

Flowers: January to February.

Sabnis 3607.

Native of Eastern Mediterranean countries, being particularly widespread in cultivation in Egypt, Israel, Cyprus and Syria.

Cultivated crop plants

The following are the well known crop plants belonging to the Papilionaceae, cultivated in the region. The plants have not been included in the key to the identification of the Papilionaceae.

Medicago sativa Linn. Sp.Pl.778, 1753; Bailey, Man.  
Cult. Pl.582.

An important fodder plant, especially for the horses.  
The plant is very much affected by the parasite,  
Cuscuta chinensis Lamk.

Local name: Ghodaghas

Trigonella foenum-graecum Linn. Sp.Pl.777, 1753;  
FBI. 2:87.

Cultivated during the cold season for fodder and  
as a vegetable crop.

Local name: Methi.

Cyamopsis tetragonoloba (Linn.) Taub. in Engl. & Prantl,  
Nat.Pfam. 3(3):259, 1894:

Psoralea tetragonoloba Linn. Mant. 104, 1767.

Cyamopsis psoralioides DC. Prodr. 2:216, 1825;  
FBI.2:82; C.1:328.

Cultivated for the pods, which are eaten as vegetable and for feeding cattle.

Local name: Guvar.

Pisum sativum Linn. Sp.Pl.727, 1753; FBI.2:181; C.1:436;  
Bailey, Man. Cult. Pl.553.

Cultivated, though not extensively, in the area.  
Pods are sold in the markets for the peas.

Local name: Lila vatana

Dolichos lablab Linn. Sp.Pl.725, 1753; FBI.2:209;  
C.1:406; Bailey, loc.cit. 575.

Extensively cultivated for the pods used as vegetable.

Local name: Val, Valpapdi.

Pods used as a vegetable and the dried seeds as pulses.

Phaseolus mungo Linn. Mant. 101; 1767; FBI.2.203;  
C.1:403.

Local name: Adad.

Phaseolus aureus Roxb. Hort. Beng.55, 1814, nom.nud. &  
Fl.Ind. 3:297, 1832.

Local name: Mug.

The dry seeds are used as pulses.



Phaseolus vulgaris Linn. Sp.Pl.723, 1753; FBI.2:200;  
C.1:403.

Local name: Farasbi

The pods are used as a vegetable.

Cultivated nearabout Padra and Chhani area particularly.

Vigna unguiculata (Linn.) Walp. Repert. 1:779, 1842;  
Adrews, Fl.Pl. Anglo-Egypt. Sudan 2:246, 1952;  
Shah in JBNHS. 60(1):297, 1963.

Dolichos unguiculatus Linn. Sp.Pl.725, 1753.

Vigna sinensis (Linn.) Savi ex Hassk. Cat. Hort.  
Bogor. 279, 1844.

Dolichos sinensis Linn. Cent.Pl. 2:28, 1758.

Vigna catjang Walp. in Linnaea 13:533, 1839; C.1:405.

Cultivated for the pods and seeds.

Local name: Chola

Cajanus cajan (Linn.) Millsp. in Field Columb. Mus.Bot.  
2:53, 1900; Maheshwari, 134; Bailey, loc.cit.  
579.

Cytisus cajan Linn. Sp.Pl.739, 1753.

Local name: Tuver, Tur.

Arachis hypogea Linn. Sp.Pl. 741, 1753; C.1:435;  
Bailey, loc.cit. 554.

Local name: Mugphali.

Cicer arietinum Linn. Sp.Pl.738, 1753; FBI.2:176;  
C.1:435; Maheshwari, 126.

Local name: Chana

# CAESALPINIACEAE

1. Leaves simple or apparently so, divided into  
2 lobes. . . . . Bauhinia
1. Leaves compound:
  2. Leaf rachis ending in a spine; rachilla  
long, flat, bearing numerous, small  
leaflets. . . . . Parkinsonia
  2. Leaf rachis and rachilla not as above:
    3. Leaves once pinnate:
      4. Petals 0; calyx petaloid. . . . . Saraca
      4. Petals present; calyx not  
petaloid:
        5. Petals 3 perfect and 2  
reduced to scales. . . . . Tamarindus
        5. Petals 5 , perfect. . . . . Cassia
    3. Leaves twice pinnate:
      6. Pods not winged:
        7. Sepals valvate; stamens included. . . Delonix

7. Sepals imbricate; stamens exserted:

8. Straggling or scandent shrubs;  
pods armed. . . . . Caesalpinia

8. Erect shrubs; pods unarmed. . . . . Poinciana

6. Pods more or less broadly winged. . . . . Peltophorum

Bauhinia Linn.

Fertile stamens 3-5. . . . . purpurea

Fertile stamens 10 . . . . . racemosa

Bauhinia purpurea Linn. Sp.Pl.375, 1753; FBI.2:284;  
C.1:461; Sant.74; Saur.1:198.

Small trees. Leaves about as broad as long, deeply 2-lobed. Flowers conspicuous, pale purple; fifth petal darker with purple veins. Pods flats, almost woody.

Planted in gardens and near temples.

Local name: Asundro, Asatari.

Flowers: September to January

Sabnis 778, 1873.

It grows wild sporadically throughout India, particularly in the hill tracts; frequently cultivated for its showy flowers. It is also found in China.

Bauhinia racemosa Lamk. Encycl. 1:390, 1783; FBI.2:276;  
C.1:459; Sant.73; Saur.1:197; de Wit in  
Reinwardtia 3:537-38, 1956.

A small tree. Leaves not deeply bilobed. Flowers  
white or cream in racemes, terminal and axillary. Pods  
stalked, falcate.

Rarely planted as a roadside tree on way to Makarpura.

Local name: Asatari, Sonu.

Flowers: April

Local uses: Leaves are exchanged on Dassehra  
day; also used in the preparation of 'Bidis'.

Sabnis 1152, 1667.

Common in the deciduous forests of Bombay  
Presidency.

Throughout India; Ceylon, China, Timor.

### Parkinsonia Linn.

Parkinsonia aculeata Linn. Sp.Pl.375, 1753; FBI.2:261;  
C.1:442; Saur.1:186; Maheshwari, 138.

A small tree. Leaves bipinnate; main rachis ending  
in a spine; rachilla long, flat, bearing numerous,  
small leaflets. Flowers yellow in axillary racemes.  
Pods 8-12 cm. long, moniliform.

Planted in gardens for its exotic appearance and botanical interest; only a few trees noted.

Local name: Pardeshi Baval.

Flowers: October to February or even later upto May.

Sabnis 3.10.59 (Univ. Bot. garden); 11.2.60 (Public park).

A native of Trop. America, cultivated more or less throughout India.

Saraca Linn.

Saraca indica Linn. Mant.98, 1767; FBI.2:271; Benth.

Trees Calc. 178; C.1:456; Maheshwari, 139.

A small evergreen tree. Leaflets large, oblong-lanceolate. Flowers yellow-orange red in clusters, from the scars of fallen leaves; petals 0; calyx tubular, petaloid.

Planted in gardens; not common, rare.

Local name: Ashok.

Flowers: March - April; Flowers with a two separate carpels observed.

Sabnis 10.3.58, Univ. Bot. garden.

Central and Eastern Himalaya, East Bengal, W. Peninsula; Burma, Malaya, Ceylon.

Tamarindus Linn.

Tamarindus indica Linn. Sp.Pl.34, 1753; FBI.2:273;  
C.1:457; Saur.1:196; Maheshwari, 139.

A large tree. Leaves paripinnate; leaflets small, 10-20 pairs. Flowers yellow, striped or spotted with red in racemes. Pods falcate, indehiscent, pulpy inside; seeds dark brown, shining.

Planted as a roadside, avenue tree and in gardens for shade and also for the edible fruits; small seedlings growing spontaneously in the crevices of old walls of the 'Vav' at Sevasi.

Local name: Amli

Flowers and Fruits: August to May.

Local uses: The fruits are used in culinary preparations.

Sabnis 1448.

Probably indigenous in Africa, now cultivated or spontaneous throughout India.

Cassia Linn.

Herbs or shrubs:

Fertile stamens 5; staminodes 0:

Leaflets 2 pairs. . . . . absus

Leaflets 10-20 pairs. . . . . pumila

Fertile stamens 7, other reduced to staminodes:

Gland of the leaf rachis solitary,  
inserted below, not between, the  
leaflets. . . . . occidentalis

Glands inserted between 1 or more pairs  
of leaflets:

Leaflets 3-4 pairs; glands  
between the two lowest pairs  
of leaflets. . . . . tora

Leaflets 8-12 pairs; glands between  
each pair of leaflets. . . . . auriculata

### Trees:

Bracts conspicuous, persistent; three  
another filaments with a globose  
swelling:

Leaflets 6-14 pairs; racemes  
lateral. . . . . javanica

Leaflets 8-20 pairs; racemes from  
scars of fallen leaves. . . . . renigera

Bracts small, deciduous; anther  
filaments without globose swellings:

Stamens 10, all fertile. . . . . fistula

Fertile stamens 6-7. . . . . siamea

Cassia absus Linn. Sp.Pl.376, 1753; FBI.2:265; C.1:451;  
Sant. 72; Saur. 1:192; Shah in Ind. For. 89(4):  
289, 1963.

An erect herb. Stem and branches viscid with glandular hairs. Leaves pinnate; leaflets 2 pairs, glabrous above and hairy beneath. Flowers yellow in small leaf-opposed or terminal racemes, stamens 5. Pods thin, oblique, upto 4 cm. long, coarsely hairy; seeds 5-8.

A very rare plant on waste lands in the University campus; also in the L.V. Palace compound.

Flowers and Fruits: October

Sabnis 2297, 3.10.59, University campus.

Throughout India; Ceylon, Trop. Africa, Asia, Australia.

Cassia pumila Lamk. Encycl. 1:651, 1784; FBI.2:266;  
C.1:452; Sant.72; Saur.1:193; Maheshwari,141;  
Chavan & Oza, Fl. Pavagadh, 92.

Prostrate or decumbent herbs. Branches spreading from the base. Leaves simple pinnate, leaflets 10-20 pairs with a peltate gland on the rachis below the leaflets. Flowers yellow, solitary or 2-3, together. Pods flat with oblique partitions between the seeds.



Noted on wet, water-logged soils of lawns and banks of ponds along with low grasses; plants assume reddish colour on gravelly soils near Timbi tank.

Flowers and Fruits: September to November.

Sabnis 2632, 2695.

Throughout India; Ceylon, Malay Isles, Trop.  
Asia and Australia.

Cassia occidentalis Linn. Sinn. Sp.Pl.377, 1753;

FBI. 2:262; C.1:445; Saur.1:188; Maheshwari, 141;  
Chavan & Oza, Fl. Pavagadh, 92.

Senna occidentalis Roxb. Fl.Ind. (ed.carey 2) 343,  
1832.

An herb or undershrub. Leaves paripinnate; leaflets ovate-oblong or oblanceolate, acute or acuminate.

Flowers yellow. Pods, dark brown; seeds many.

Common and abundant immediately after the first few showers of rain along riverbanks, roadsides, waste places and also in the erevices of walls.

Local name: Kasundro

Flowers and Fruits: September to March. In the summer months, leafless plants with dry pods are observed.

Sabnis 933, 3271.

Throughout India and the tropics generally.

Cassia tora Linn. Sp.Pl.376, 1753; FBI.2:263, pro parte;  
C.1:447; Sant.71; Saur.1:189; Maheshwari, 141;  
Chavan & Oza, Fl. Pavagadh, 92.

Erect herbs. Leaflets obovate-oblong. Flowers  
yellow. Pods obliquely septate.

A very common weed occupying a variety of habitats  
especially during early monsoon; very common and  
abundant along roadside along with Xanthium strumarium;  
on the banks of ponds and rivers; in the ravines as  
an undergrowth in the scrub jungles of Acacia.

Local name: Kunvadiyo

Flowers and Fruits: July to March.

Local uses: Young leaves are used as a vegetable.

Sabnis 555, 1516.

Very common throughout India; Ceylon and the  
tropics generally.

Cassia auriculata Linn. Sp.Pl.379, 1753; FBI.2:263;  
C.1:448; de Wit in Webbia 11:234, 1955; Saur.1:190;  
Chavan & Oza, Fl. Pavagadh, 92.

An erect shrub, branches finely pubescent. Leaves  
once pinnate with a gland between each pair of leaflets;  
stipules foliaceous, oblique. Flowers yellow in corymbose

racemes. Pods flat, papery, obtuse.

A roadside weed; on the elevated banks of the rivers; common.

Local name: Aaval

Flowers and Fruits: October to May.

Local uses: The plant is a useful source of taunin.

Sabnis 1905, 3086.

In the dry regions, more or less throughout India; Ceylon.

Cassia javanica Linn. Sp.Pl.379, 1753; Blatt. & Mill.

Beaut. Ind. Trees 27, t.4; Maheshwari, 142.

A medium-sized tree. Flowers and leaves on the same branch, pink fading to white. Stamens 10, three filaments with globose swellings.

Planted in gardens and roadside for the ornamental flowers.

Flowers: May.

Sabnis 1447

Java, Philippines; cultivated in many parts of India.

Cassia renigera Wall. ex Benth. in TLS. 27:518, 1871;

FBI.2:262; Blatt. & Mill. Loc.cit. 35, t.5;

Maheshwari, 142.

Very much like the previous one. Flowers in racemes, on leafless branches; sepals red; stamens 10.

Commonly planted in gardens.

Flowers: April-June.

Sabnis 28.4.58, L.V. Palace compound (Navlakhi)

Indigenous to the dry zone of Burma, now introduced into India and Malaya as an ornamental tree.

Cassia fistula Linn. Sp.Pl.377, 1753; FBI.2:261;  
C.1:444; Sant.71; Saur.1:187; Maheshwari,142.

Cassia rhombifolia Roxb. Hort. Beng. 31, 1814;  
Wight, Icon. t.269.

A small, deciduous tree. Flowers bright yellow in long, drooping racemes. Pods cylindrical, pendulous, brown, with partitions between the seeds, indehiscent; seeds embedded in pulp.

Very common cultivated tree of roadsides and gardens.

Local name: Garmalo.

English name: Indian Laburnum.

Flowers and Fruits: April-May to October.

Local uses: Fruits are medicinally important as purgative.

Sabnis 833, 1377.

Throughout India in the deciduous forests; Ceylon, Malaya, China.

Cassia siamea Lamk. Encycl. 1:648, 1785; FBI.2:264;  
C.1:454; Bailey, Man. Cult. Pl.586; Maheshwari,  
143.

Moderate or large-sized tree. Leaves paripinnate, without glands; leaflets 12-24, oblong. Flowers yellow in corymbose racemes clustered at the end of branches; fertile stamens 6-7. Pods nearly straight, flat, with thickened sutures.

Planted as an avenue tree at a number of places on the University campus and in the L.V. Palace compound and also in some public and private gardens for shade and for ornamental purposes.

Flowers and Fruits: October to May.

Sabnis 20.10.58, College compound; 23.1.59,  
L.V. Palace compound.

Indigenous in Ceylon, Malay Peninsula and South India; cultivated in Bombay Presidency and elsewhere.

Delonix Raf.

Flowers bright red. . . . . regia

Flowers white or pale yellow. . . . . elata

Delonix regia (Boj.) Raf. Fl. Tell. 2:92, 1836; Benthall, Trees Calc. 170; McCann, Trees of India, 70; Sant. 71; Saur. 1:184; Maheshwari, 143.

Poinciana regia Boj. ex Hook. in Bot. Mag. t. 2884, 1829; FBI. 2:260 C. 1:442.

A fairly handsome tree. Leaves bipinnate; leaflets small, numerous. Flowers bright red in large racemes; the fifth, largest petal variegated with white or yellow. Pods thick, deep brown.

Planted in gardens and along roadsides for the beautiful flowers which are produced in profusion during the hot months.

Local name: Gulmohur.

Flowers and Fruits: February to June

Sabnis 1277...1280.

A native of Madagascar, now grown in gardens more or less throughout India.

Delonix elata (Linn.) Gamble, Fl. Pres. Madras 396, 1919; Sant. 70; Saur. 1:185.

Poinciana elata Linn. Cent. Pl. 2:16, 1756; FBI. 2:260; C. 1:441.

A small tree. Leaves bipinnate. Flowers white or pale yellow in terminal, few flowered racemes; stamens 10.

Rarely planted near houses on the outskirts of the village Nimetta; one tree noted on way to Harni village from Baroda.

Local name: Sandhesaro

Flowers: July-August.

Sabnis 1633.

A native of Abyssinia and perhaps Arabia, now widely planted in gardens and roadsides throughout the Bombay Presidency. The large-scale planting of this tree on the Barda Hills (Saurashtra) led many to believe that it was indigenous in the forests as far north as Gujarat and even Saurashtra.

Caesalpinia Linn.

Caesalpinia crista Linn. Sp.Pl.380, 1753, pro majore parte,  
EX61. Fl. Zeyl. 157; Saur.1:182; Maheshwari, 144;  
Chavan & Oza, Fl. Pavagadh, 94.

Guilandia bonducella Linn. Sp.Pl. (ed.2) 545, 1762.

Caesalpinia bonducella Fleming in As. Res. 11:159,  
1810; FBI.2:254; C.1:437.

C. bonduc Roxb. Hort. Beng. 32, 1814, nom.nud. &  
Fl. Ind.2:362, 1832.

A prickly, climbing shrub. Leaves abruptly bipinnate; leaflets elliptic-oblong, mucronate. Flowers yellow, at times with red spots, in long racemes. Pods oblong, broad, covered with prickles, 2-seeded; seeds greyish.

Planted along the hedges, often spontaneous. It forms very effective hedge.

Local name: Kanchaka

Flowers and Fruits: November to April.

Local uses: Seeds are medicinally important.

The girls use them for an indoor game.

Sabnis 1040, 2973.

Throughout India; in tropics generally.

### Poinciana Linn.

Poinciana pulcherrima Linn. Sp.Pl.380, 1753; Bailey, Man. Cult. Pl.589; Maheshwari, 144.

Caesalpinia pulcherrima Swartz, Obs. Bot. 166, 1791; FBI.2:255; C.1:440.

A shrub. Leaves bipinnate. Flowers yellow, orange or red in large, axillary or terminal racemes. Pods flat, oblong.



Cultivated commonly for hedges or garden shrubberies almost everywhere for the ornamental flowers.

Local name: Sankasur

Flowers and Fruits: April to January

Sabnis 2141.

Cultivated all over India and in some tropical countries.

Peltophorum vogel

Peltophorum pterocarpum (DC.) Backer ex K. Heyne, Nutt.

Fl.Ned.-Ind. (ed.2) 2:755, 1927; Blake in Austr.  
Journ. Bot. 2:112, 1954; Sant.289 (appendix);  
Saur.1:194.

Inga pterocarpa DC. Prodr. 2:441, 1825.

Peltophorum ferrugineum (Decne) Benth. Fl. Austr.

2:279, 1864; FBI.2:257.

A large, handsome tree. Leaves bipinnate; leaflets oblong, obtuse, base oblique. Flowers beautiful, golden yellow in terminal panicles. Pods flat, brown or rusty red.

Planted as an avenue tree on roadsides and also in parks for the shade and for ornamental purposes.

Flowers and Fruits: October to May.

Sabnis 891, 1320.

Not wild, though cultivated in many parts of India.

Ceylon, the Andamans, Malay Peninsula and Archipelago, N. Australia.

#### MIMOSACEAE

1. Stamens definite, 5-10:

2. Anthers gland-crested, at least in early stage:

3. Flowers in globose heads. . . . . Neptunia

3. Flowers in elongate spikes:

4. Pods straight, turgid. . . . . Prosopis

4. Pods twisted, thin. . . . . Dichrostachys

2. Anthers not gland-crested; flowers in globose heads. . . . .

Mimosa

1. Stamens <sup>many</sup> indefinite:

5. Stamens more or less free. . . . . Acacia

5. Stamens monadelphous:

6. Pods not septate between the seeds:

7. Pod straight, flat. . . . . Albizia

7. Pod curved or twisted. . . . . Pithecellobium

6. Pods septate between the seeds. . . . . Samanea

Neptunia Lour.

Annual, aquatic herbs with floats. . . . . prostrata

Perennial, prostrate, terrestrial herb. . . . triquetra

Neptunia prostrata (Lamk.) Baill. in Bull.Soc.Linn.

Par.1:356, 1883.

Mimosa prostrata Lamk. Encycl. 1:10, 1783.

Neptunia oleracea Lour. Fl. Cochinch. 654, 1790, .

FBI.2:285; C.1:464; D. & G. 84.

A floating aquatic herb with white, spongy, internodal floats. Leaves 2-pinnate. Flowers yellow in globose-ovoid heads on long peduncles. Pods flat and broad, brown.

Noted on the water surface or sometimes creeping on soft mud during the dry months in a number of ponds; common, though abundant at few places only.

Local name: Jalrisamani

Flowers and Fruits: July to February.

Sabnis 599, 1863, 2725.

Throughout the warmer parts of India in tanks;

Ceylon, Malay Archipelago and the tropics generally.

Neptunia triquetra (Willd.) Benth. in Hook. Journ. Bot.  
4:355, 1842; FBI.2:286; C.1:464; Saur. 1:199.

Desmanthus triquetrus Willd. Sp.Pl.4:1045, 1805;  
Gr.57; Wight, Icon. t.756.

A prostrate perennial. Leaves bipinnate; rachis  
grooved; stipules obliquely ovate. Lower yellow in  
globose heads on axillary peduncles. Pods oblong with  
a minute beak at the apex, black when ripe; seeds 4-8.

In water-logged soils as well as on dry beds of  
temporary pools; not common, nor abundant.

Local name: Risamani

Flowers and Fruits: August to October.

Sabnis 2518, 2771.

Konkan, Deccan; Gujarat; Saurashtra;

India; W. Peninsula and Bundelkhand.

### Prosopis Linn.

Prickles small, conical; pods cylindrical,  
torulose. . . . . spicigera

Prickles usually none; pods compressed. . . . juliflora

Prosopis spicigera Linn. Mant.68, 1767; FBI.2:288;  
C.1:467; Saur.1:200; Maheshwari, 145; Chavan &  
Oza, Fl. Pavagadh, 95.

A small tree armed with prickles. Leaves 2-pinnate. Flowers yellowish in spikes. Pods cylindrical.

Noted on <sup>l</sup>depleted, eroded soils on the banks of Vishwamitri, Bhukhi Nallah and also in the ravines of Mahi at Vasad along with some species of Acacia.

Local name: Shami

Flowers and Fruits: September to April

Sabnis 683, 800.

Sind, Punjab, Rajputana, Bundelkhand and the dry regions of W. Peninsula.

Baluchistan, Afghanistan, Persia.

Prosopis juliflora (Sw.) DC. Prodr. 2:447, 1825; Parker, For. Fl. 200; Saur. 1:201; Maheshwari, 145.

Mimosa juliflora Sw. Prodr. 85, 1788.

A large shrub or a small tree with drooping, spreading branches. Flowers yellow or cream in pendulous spikes. Pods compressed, curved and torulose; seeds brown.

Planted at a few places along the Bhukhi Nallah to check erosion.

Flowers and Fruits: September to October.

Sabnis 20.1058, Univ. Campus (Near Nallah)

The true Mesquite of Mexico, now planted in many dry parts of India for land reclamation.

Dichrostachys (DC.) Wight & Arn. (nom.cons.)

Dichrostachys cinerea (Linn.) Wt. & Arn. Prodr. 271, 1834; FBI.2:288; C.1:468; D. & G. 84; Wight, Icon. t.357.

Mimosa cinerea Linn. Sp.Pl.520, 1753.

A large shrub or a small tree, armed. Leaves bipinnate; main rachis pubescent with a small erect gland between each pair of pinnae. Flowers numerous in dense spikes, upper half of the spike yellow (bisexual flowers) and the lower half pink, rose or purple (neuter flowers). Pods thin, twisted, irregularly dehiscent.

A dominant species of the eroded lands of the ravines forming scrubs along with certain species of Acacia.

Flowers and Fruits: August to January.

Sabnis 3273

India: N.W. Provinces, Rajputana, Central India, W. Peninsula; Ceylon, Malay Islands, N. Australia.

Mimosa Linn.

Pinnae 1-2 pairs. . . . . pudica

Pinnae more than 2 pairs. . . . . hamata

Mimosa pudica Linn. Sp.Pl. 518, 1753; FBI.2:291;  
C.1:470; Sant.75; Maheshwari, 147.

A diffuse undershrub. Stems and branches prickly and bristly. Leaves sensitive; pinnae 4; leaflets 12-20 pairs. Flowers purplish-pink in globular heads. Pods flat, jointed, membranous with spinose-bristly margins.

Cultivated in the garden as a pot plant and also an escape in remote corners of the Botanical garden.

Local name: Lajjamani.

English name: Sensitive plant.

Flowers and Fruits: September to November.

Sabnis 1872/

Probably introduced from Trop.America, now naturalized more or less throughout India.

Mimosa hamata Willd. Sp.Pl. 4:1033, 1806; FBI.2:291;  
C.1:471; Sant. 75; Saur. 1:202; Maheshwari, 147;  
Shah in Ind. For. 89(4):289, 1963.

A prickly undershrub. Leaves bipinnate; pinnae 3-6 pairs; leaflets 6-10 pairs. Flowers pink in globose heads. Pods flat, curved, 4-8 jointed, sutures prickly.

Rare; Noted along roads at Sundarpura along with small plants of Acacia nilotica.

Flowers and Fruits: September to November  
Sabnis 2330, 2758.

From Baluchistan to the plains of N.W. India and Western Peninsula.

Acacia Willd.

Trees or erect shrubs:

Flowers in globose heads, not forming a panicle:

Pods flat, moniliform. . . . . nilotica

Pods thin, flat, straight. . . . . jacquemontii

Flowers in globose heads, forming a terminal panicle. . . . . leucophloea

Flowers in cylindric spikes:

Leaves reduced to phyllodes. . . . . auriculiformis

Leaves bipinnate; stipular spines 3. . . senegal

Large, climbing or straggling shrubs. . . . torta



Acacia nilotica (Linn.) Del. Fl.Eg. Ill. 79, 1813;  
Hill in Bot. Mus. Leaflet. Harv. Univ. 8:97, 1940;  
Saur.1:204.

Mimosa nilotica Linn. Sp.Pl. 521, 1753.

Acacia arabica auct.Ind. non. Willd.; F.B.I.2:293;  
C.1:472.

A small tree armed with straight, white stipular spines. Leaves bipinnate. Flowers yellow in globose heads on axillary peduncles; Pods moniliform, covered with whitish hairs.

Noted in all stages of development along river banks and roadsides; A dominant species of the low thorny scrubs characteristic of the depleted, eroded soils of the ravines.

Common and abundant almost everywhere.

Local name: Baval

Flowers and Fruits: October to April.

Local uses: Young branches are used as tooth-brushes and are commonly sold in the local market. The tree yields a useful gum.

Sabnis 532.

Probably indigenous in most of the drier and hotter parts of India as well as in Arabia and Africa.

Acacia jacquemontii Benth. in Hook. Lond. Journ.

Bot.1:499, 1842; FBI.2:293; C.1:475; Saur.1:206;  
Maheshwari, 149; Shah in Ind. For. 89(4):289,  
1963.

A small bushy shrub. Leaves bipinnate; pinnae 2-4 pairs; leaflets 5-10 pairs; stipular spines straight, white. Flowers yellow in globose heads, borne on axillary, fascicled peduncles. Pods 5-8 cm. long, flat, straight.

Noted along the roadside in dry places near Harni village; rare, not common.

Flowers and Fruits: February to April.

From Baluchistan to the plains of Punjab,  
Rajputana, Saurashtra, Gujarat.

Acacia leucophloea (Roxb.) Willd. Sp.Pl. 4:1083, 1806;  
FBI.2:294; C.1:475; Sant. 1:207; Maheshwari, 149;  
Chavan & Oza, Fl. Pavagadh, 96.

*Mimosa leucophloea* Roxb. Pl. Cor.2:27, t.150, 1800.

A small tree. Stipular spines short, straight. Flowers yellow in panicled heads. Pods flat, thin, yellowish brown because of the tomentum.

Rare; noted on roadside at Sundarpura and Gorwa.

Flowers and Fruits: September to January.

Sabnis 3388.

In the plains of Punjab, Rajputana, Saurashtra, Gujarat, Deccan, S.M. country; More or less throughout India.

Acacia auriculiformis A. Cunn. in Hook. Lond. Journ. Bot. 1:377, 1842; Maheshwari, 149.

A small tree with drooping branches. Leaves reduced to phyllodes. Phyllodes glabrous, shining. Flowers yellow, fragrant in dense spikes. Pods moniliform, brown, coiled at maturity, dehiscent.

Planted in gardens for botanical interest and for the beautiful, fragrant flowers.

Local name: Pardeshi Baval

English name: Australian Acacia

Flowers and Fruits: September to April.

Sabnis 1066, 2551.

A native of tropical Australia; now planted in many parts of India.

Acacia senegal Willd. Sp.Pl. 4:1077, 1806; FBI.2:295; C.1:478; Saur.1:208; Maheshwari, 150.

A small tree. Leaves bipinnate; stipular spines 3, curved. Flowers white, fragrant in spikes. Pods

shortly stalked, flat, linear-oblong, pale brown, reticulately veined.

A dominant species of eroded soils of the ravines at Bhimpura and Vasad along with Acacia nilotica and Dichrostachys cinerea.

Flowers and Fruits: September to February.

Local uses: The tree yields the gum arabic of commerce.

Sabnis 2630.

In the drier districts, especially the N.W. and W. India.

Baluchistan, Arabia, Tropical Africa.

Acacia torta (Roxb.) Craib. in Kew Bulletin 410, 1915.  
Santapau in JBNHS. 50:312; Sant.76.

Mimosa torta Roxb. Fl.Ind. 2:566, 1832.

Acacia caesia Wight & Arn. Prodr. 278, 1834,  
non. Willd.

A large, climbing or straggling shrub. Stem and leaf-rachis prickly. Flowers pale yellow in large paniced heads. Pods flat, brown.

Rare; though locally abundant in the Bhukhi Nallah on the backside of the Botany Department climbing on

trees like Guzuma and Phoenix; also noted at Gorwa.

Flowers and Fruits: October to January. The brown pods persisting into the hot season.

Sabnis 2427, 3558.

Deccan, W. Ghats, Kanara, Gujarat.

Albizia Durazz.

Albizia lebbeck (Linn.) Benth. in Hook Lond. Journ.  
Bot. 3:87, 1844; FBI.2:298; D. & G.88; C.1:481;  
Saur.1:210; Maheshwari, 151.

Mimosa Lebbeck Linn. Sp.Pl.516, 1753.

Acacia speciosa Willd. Sp.Pl. 4:1066, 1806; Gr.58.

A large, unarmed, deciduous tree. Leaves bipinnate. Flowers white in globose, umbellate heads. Pods broad, flat, thin, pale yellow to straw coloured, when old, glabrous, shining, making a rattling sound with the wind during summer.

Planted in gardens and along roadsides.

Local name: Siris

Flowers and Fruits: April to May

Sabnis 1316.

Throughout India; Arabia, Egypt. Senegal, China, Indo-china, Tropical America; not wild, but planted.

Pithecellobium Mart. (nom.cons.)

Pithecellobium dulce (Roxb.) Benth. in Hook. Lond.

Journ. Bot.3:199, 1844; FBI.2:302; C.1:485; Sant.78; Saur.1:211; Maheshwari, 152; Chavan & Oza, Fl. Pavagadh, 97.

Mimosa dulcis Roxb. Pl. Cor.1:67, t.99, 1798.

Inga dulcis Willd. Sp.Pl.4:1005, 1806.

A middle-sized tree. Leaves with one pair of pinnae, each pinna with two leaflets, with a small gland between the leaflets, the rachis ending in a weak spine or bristle; stipular spines small, straight. Flowers white in globose heads. Pods spirally twisted; seeds embedded in a whitish, edible pulp.

Cultivated in garden as a fruit tree or a hedge shrub; also noted wild in all stages of development on the banks of the rivers and Bhukhi Nallah.

Local name: Gorasamli

Flowers and Fruits: September to April.

Local uses: The leaves are used as cattle fodder and the seeds are eaten by man.

Sabnis 684, 3006.

A native of South America, now common in most of the hotter parts of India.

Samanea Merr.

Samanea saman Merr. in Journ. Wash. Acad. Sci. 6:47, 1916;  
Bailey, Man. Cult. Pl. 593; Saur. 1:211.

Pithecolobium saman Benth. <sup>complete citation</sup> C. 1:485.

A large tree with a huge trunk. Leaves bipinnate. Flowers in rose-pink, globose heads. Pods straight, thick margined; seeds surrounded by pulp.

Planted in gardens and along roadside as an avenue tree, for the shade and for the beautiful flowers.

Local name: Ratosiris

English name: Rain tree.

Flowers and Fruits: January to September.

A native of Brazil, now cultivated in many parts of India.

Parkia biglandulosa Wight & Arn. Prodr. 279, 1834;  
C. 1:486.

A tall, elegant tree. Leaves bipinnate. Flowers whitish-cream in large, globose heads.

A native of Africa, rarely planted in the gardens;  
only a few trees observed.

## ROSACEAE

### Rosa Linn.

Several types of roses are grown in the public and private gardens in Baroda. The usual flower colours are white, whitish-yellow, pink, rose, and red. Because of constant hybridization, the various horticultural types that emerge are mostly impossible of close identification with the specific types. However we have come across.

Rosa banksiae R. Br. in Ait. f. Hort. Kew. 3:256, 1811;  
Bailey, Man, Cult. Pl. 537.

The climbing rose. Flowers white in clusters. Noted in a few private gardens in the Alkapuri area.

Rosa chinensis Jacq: Bailey, l.c. 534.

Commonly cultivated in gardens.

Sabnis 1089.

### Potentilla Linn.

Potentilla supina Linn. Sp. Pl. 497, 1753; FBI. 2:359;  
C. 1:491; Maheshwari, 155.



A prostrate or at times ascending herb. Leaves imparipinnate; leaflets sharp or blunt-toothed or lobed. Flowers small, yellow, solitary, axillary; carpels numerous, free on a hemispherical thalamus. Achenes many, minute.

Noted in temporary depressions forming carpets along with Polygonum plebeium, Cnaphalium indicum and Rorippa indica. Rare; apparently confined to a small area near panigate.

Flowers and Fruits: March - April

Sabnis 1005, 1018.

Throughout the warmer parts of the plains of India; Afghanistan and westward to the Atlantic, N. Asia, N. Africa.

#### SAXIFRAGACEAE

#### Vahlia Thunb.

Vahlia digyna (Retz.) O. Kuntze, Rev.Gen.Pl.227, 1891;  
Sant.78; Saur.1:212; Chavan & Oza, Fl. Pavagadh,97.

Oldenlandia digyna Retz. Obs. 4:23, 1786.

Vahlia viscosa Robx. Hort. Beng. 86, 1814, nom.nud.  
& Fl.Ind.2:89, 1832; FBI.2:399; C.1:493;  
Wight, Incon. t.563.

A small, erect, glandular-pubescent herb. Leaves subsessile, oblong-lanceolate. Flowers pale yellow, usually in the upper axils.

A weed in the wheat fields. It appears before but persists till march in the fallow fields.

Rare; not common, not abundant.

Local name: Pilo Agyo

Flowers and Fruits: January to February.

Sabnis 945, 3440.

Throughout India in drier regions.

Persia, Egypt, Trop. Africa.

#### CRASSULACEAE

#### Kalanchoe Adans.

Flowers yellow. . . . .	<u>floribunda</u>
	var. <u>glabra</u>

Flowers red or scarlet:

Leaves fleshy, cylindric; producing bulbils at the tip. . . . .	<u>verticillata</u>
Leaves not fleshy or cylindric. . . .	<u>pinnata</u>

Kalanchoe floribunda Wight & Arn. Prodr. 359, 1834,  
var. glabra C.B. Clarke in FBI. 2:415; C. 1:496.

Succulent herbs. Leaves fleshy, elliptic-spathulate.  
Flowers yellow in trichotomous cymes.

Occasionally planted in gardens for the beautiful flowers.

Local name: Pattharchata

Flowers: April

Sabnis 1236.

Kalanchoe verticillata Elliot in JLS.29:14, 1891.

Bryophyllum tubiflorum Harvey in Harv. & Sond.

Fl.Cap.2:380.

An erect, glabrous herb. Leaves fleshy, cylindric, producing bulbils at the tip. Flowers scarlet, pendulous, in terminal cymes.

Flowers: February to April.

Commonly cultivated as a pot plant in the gardens for wierd look of the plant and for the beautiful flowers.

Sabnis 20.4.58 (Univ.Bot. garden)

A native of Madagascar, also found in Africa and Australia.

Kalanchoe pinnata (Lamk.) Pers.Syn.1:446, 1805.

Cotyledon pinnatum Lamk. Encyl. 2:141, 1786.

Bryophyllum calycinum Salisb. Parad. Lond. t.3,  
1805 & Bot. Mag. t.1409, 1811; FBI.2:413;  
C.1:494.

A succulent, glabrous herb. Leaves decussate, simple or compound, margins crenate. Flowers reddish, pendulous in large panicles on a long scape.

Often grown in the gardens for the flowers; in Botanical garden, especially for the adventitious bud produced at the crenations of the margins. The leaves placed on moist soil produce shoots from the adventitious buds.

Local name: Panfuti, Jakhme hayat

Flowers: February to April.

Sabnis 20.4.58 (Univ. Bot. garden)

Probably a native of Trop. Africa, now introduced in the tropical plains of India, from the base of the Himalaya to Ceylon and Malacca.

#### COMBRETACEAE

Climbing shrubs:

Calyx-limb persistent; petals 0. . . . Calycopteris

Calyx-limb deciduous; petals 4-5:

Flowers over 5 cm. long. . . . . Quisqualis

Flowers much smaller. . . . . Combretum

Erect trees:

- Flowers in globose heads. . . . . Anogeissus  
 Flowers in spikes or racemes. . . . . Terminalia

Calycopteris Lamk.

Calycopteris floribunda (Roxb.) Lamk. Encycl. Meth.

Suppl. 2:41, 1811; FBI.2:449; C.1:512; Sant.81;  
 Exell in Fl. Males. I. 4(5): 584, 1954.

Getonia floribunda Roxb. Pl. Cor. 1:61, t.87, 1795;  
 Gr.70; D. & G.91.

Large, climbing shrubs. Leaves opposite, ovate-lanceolate, acute or acuminate, more or less tomentose. Flowers sessile, yellowish green; calyx persistent; petals 0. Fruit oblong or ellipsoid, 5-ribbed.

Rarely planted in gardens.

Flowers and Fruits: April-May.

Sabnis 17.5.58 (Univ. Bot. garden)

Central, Western and Southern provinces of  
 India, Assam; Malaya.

Quisqualis Linn.

Quisqualis indica Linn. Sp.Pl. (ed.2) 556, 1762;

FBI.2:459; C.1:517; Talb.2:27.28, t.304; Sant.82;  
 Bailey, loc.cit. 724; Bor & Raizada, 178, Pl.66;  
 Maheshwari, 150.

A heavy climber. Leaves elliptic or ovate-oblong, superposed. Flowers pink to red in terminal, drooping racemes.

A common ornamental climber in gardens.

Local name: Madhurmalati

English name: Rangoon creeper

Flowers: April to October

Sabnis 1153, 21.4.58 (Makarpura gardens)

A native of Java, Malay Peninsula, W. Trop. Africa, extensively cultivated in gardens in India.

Combretum loefling (nom.cons.)

Combretum coccineum Lamk. Encycl. Method. 1:734, 1784; C.1:516; Shah in Ind. For. 89(4):289, 1963.

Poivrea coccinea DC. Prodr. 3:18; D. & G. Suppl.34.

A beautiful climber, native of Madagascar and the Mauritius is grown in the gardens for the dark green foliage and brilliant scarlet-coloured flowers, which are produced in dense racemes.

Flowers: January to March.

Sabnis 25.1.58 (Public Park)

Anogeissus Wall.

Fruit (including the wings) longer than  
broad; wings with entire margin. . . . . latifolia

Fruit (including the wings) broader than  
long; wings with jagged margin. . . . . sericea

Anogeissus latifolia Wall. ex Beddome, Fl.Sylv. t.15,  
1869; FBI.2:450; C.1:512; Talb.2:22, t.301;  
Sant.82; Saur.1:220.

Conocarpus latifolia Roxb. <sup>0</sup>Hart. Beng.34, 1814,  
nom.nud. & Fl.Ind. 2:442, 1824; Gr.70; D. & G.91;  
Wight, Icon. t.994.

A small or medium-sized tree. Leaves elliptic or  
oblong-elliptic, obtuse at apex, base rounded or cordate.  
Flowers in dense, globose heads. Fruits winged; wings  
entire.

Commonly planted in gardens; apparently wild in  
the L.V. Palace compound.

Local name: Dhavado

Flowers and Fruits: January to May

Sabnis 1349

Throughout the greater part of India; Ceylon.

Anogeissus sericea Brandis in Ind. Forester, 25:287,  
1900; C.1:513; Shah in Ind. For. 89(4):289, 1963.

A small tree. Leaves elliptic, obtuse, apiculate, clothed on the lower side with silky pubescence. Flowers in globose heads on long, axillary peduncles. Fruits winged, broader than long.

Probably cultivated along roadside; not observed by me, but included on the authority of shah, loc.cit.

Flowers and Fruits: Hot season.

Central provinces and Gujarat.

Terminalia Linn. (nom.cons.)

Fruit winged. . . . . arjuna

Fruit not winged:

Fruit ellipsoid, somewhat compressed,  
glabrous. . . . . catappa

Fruit subglobose, minutely brown-  
tomentose. . . . . bellirica

Terminalia arjuna (Roxb. ex DC) Wight & Arn. Prodr.  
314, 1834; D. & G.91; Bedd. Fl. Sylv. t.28,  
1869; FBI.2:447; C.1:509; Maheshwari, 156.

Pentaptera arjuna Roxb. Hort. Beng.34, 1814,  
nom.nud.; DC. Prodr. 3:14, 1828, cum descript.

A medium-sized tree. Leaves subopposite, oblong, with 2 glands at the base. Flowers in axillary and



terminal spikes. Fruits ovoid, prominently winged.

Rarely planted in the gardens, especially in the L.V. Palace compound.

Local name: Arjun sadad

Flowers and Fruits: September to April

Sabnis.1343

Central and South India to Ceylon; occasionally in North India.

Terminalia catappa Linn. Mant. 519, 1771; FBI.2:444;  
C.1:511; Saur. 1:218.

A small tree with whorled, horizontal branches. Leaves large, auricled at the base. Flowers creamy-white, in spikes. Fruit ovoid, edible.

Planted in gardens.

Local name: Deshi Badam

Flowers and Fruits: January to May.

Sabnis 1404.

It is a native of Malaya, but is now cultivated in many parts of India, especially near the coast. It is common in the coastal forests of the Andamans.

Terminalia bellirica (Gaertn.) Roxb. Pl.Cor.2:54, t.198, 1798; FBI.2:445; C.1:508; Gr.69; Sant.80; Saur.1:217; Maheshwari, 155; Chavan & Oza, Fl. Pavagadh, 99.

Myrobalanus bellirica Gaertn. Fruct. 2:90, t.97,  
1791.

A large tree. Leaves coriaceous, broadly elliptic. Flowers greenish yellow, in spikes. Fruit a subglobose drupe with brownish tomentum.

Only a few trees planted in gardens (Botanical garden & L.V. Palace gardens).

Local name; Behada.

English name: Myrobalan.

Flowers and Fruits: March to May.

Sabnis 1451.

Throughout India and Burma excluding the arid region. Common except in the moistest tracts.

#### MYRTACEAE

Fruits dry, dehiscent:

Inflorescence a spike resembling a  
bottle brush; small tree. . . . . Callistemon

Inflorescence not as above:

Tall tree. . . . . Encalyptus

Fruits fleshy, indehiscent:

Flowers large, white on 1 or few flowered  
peduncles; ovary 4 to 5-celled. . . . Psidium

Flowers small, greenish-white in terminal,  
 axillary or lateral cymes; ovary  
 2-celled. . . . . Syzygium

Callistemon R. Br.

Callistemon lanceolatus DC. Prodr. 3:223, 1828; Benthall,  
 Trees Calc. 249; Maheshwari, 158.

A large shrub or a small tree; branches drooping.  
 Leaves linear-lanceolate, alternate. Flowers red-crimson  
 in spikes, resembling a bottle-brush. Fruit a pyxis,  
 truncated at the apex.

Cultivated in the gardens for the ornamental flowers.

English name: Bottle-brush

Flowers and Fruits: September to May

Sabnis 757, 1527

A native of Australia, now often planted in  
 garden in India.

Eucalyptus L Herit.

Eucalyptus globulus Labill. Voy.1:153, t.13, 1800;  
 Bailey, Man. Cult. Pl.727; Maheshwari, 159.

A lofty tree; bark peeling off in long sheets;  
 trunk greyish-white. Flowers 1-3 together in the axils.

Fruits dry, dehiscent.

Commonly planted in gardens both private and public, for the sheer grandeur of the tree.

Local name: Nilgiri

Flowers: 25.1.58 (college compound)

A native of Australia, now planted in gardens all over India.

Psidium Linn.

Psidium guajava Linn. Sp.Pl.470, 1753; Beuthall Trees  
Calc. 244; Bailey, loc.cit.729; Maheshwari,160.

A small to medium-sized tree. Leaves leathery, oblong-elliptic. Flowers white, large. Fruits globose, ovoid or pyriform, yellow with white or deep pink pulp.

Grown in a number of fruit orchards in and around Baroda. The edible fruit are much valued in the market.

Local name: Jamphal.

English name: Guava.

Flowers and Fruits: May to December

Sabnis 1554.

It is a native of Brazil, but is now common in most tropical countries.

Syzygium Gaertn. (nom.cons.)

Syzygium cumini (Linn.) Skeels in U.S. Dept. Agric.  
Bur. Pl.Ind.Bull. no.248:2, 1912; Benthall,  
Trees, Calc.242; Sant.83; Saur.1:221;  
Maheshwari, 160.

Myrtus cumini Linn. Sp.Pl.471, 1753.

Eugenia jambolana Lamk. Encycl. 3:198, 1789;  
FBI.2:499; C.1:523.

Syzygium jambolanum DC. Prodr. 3:259, 1828; G.481.

A large tree. Leaves coriaceous, shining, with a clear intramarginal vein. Flowers white or greenish white, fragrant, in cymes. Fruit an ovoid, dark-purple, 1-seeded, edible berry.

Planted along roadsides for shade and for the edible fruits; small seedlings spontaneously growing in the crevices of dilapidated walls.

Local name: Jambhudo.

English name: Jambolan or Jambolan-plum.

Flowers and Fruits: December to May.

Sabnis 1309...1315.

Throughout India, except the dry regions.

Indo-China and Australia

## LYTHRACEAE

## Herbs:

Capsules dehiscent through valves. . . . Rotala

Capsules dehiscent irregularly. . . . . Ammannia

## Shrubs or trees:

Flowers irregular; calyx tube slightly  
curved . . . . . Woodfordia

Flowers regular; calyx tube straight:

Stamens 8 . . . . . Lawsonia

Stamens many. . . . . Lagerstroemia

Rotala Linn

## Capsule 2-valved:

Flowers axillary, solitary. . . . . indica

Flowers in terminal, spicate racemes.... serpyllifolia

Capsule 3-valved. . . . . densiflora

Rotala indica (Willd.) Koehne in Bot.Jahrb. 1:172, 1880  
& in Pfreich.17:40; Sant.88.

Peplis indica Willd. Sp.Pl.2:244, 1799.

Ammannia peploides Spreng. Syst. 1:444, 1825;  
FBI.2:566; C.1:538.

A decumbent annual often rooting at the lower nodes; branches 4-gonous. Leaves opposite, elliptic-spathulate, sessile or subsessile; those on the flower-bearing branches much smaller, linear, oblong, almost bract-like. Flowers small, solitary axillary, so crowded as to look like a spike. Capsule ellipsoid, opening by 2 valves.

The plant at the first sight may be mistaken for Hygrophila polysperma; noted on the banks of the Harni pond, very near water. Rare, not observed elsewhere so far.

Flowers and Fruits: October to November

Sabnis 2801...2803

Throughout India in rice-fields and damp places.

From Kabul and the Himalayas to Ceylon, Andamans, Java, Tonkin, China, Philippines, Japan.

Rotala serpyllifolia (Roth) Bremek. in Acta Bot.

Neerland. 3(1):149, 1954; Saur.1:224.

Micranthus serpyllifolius Roth, Nov.Pl.Sp.282, 1821.

Ammannia tenuis Clarke in FBI.2:567, 1879; C.1:538.

Rotala tenuis (Wight) Koehne in Bot.Jahrb. 1:177, 1880 & in Pfreich. 17:42 t.4: C; Sant.89.

Ameletia tenuis Wight, Icon, t.257, 1840; D. & G.96.

A small erect annual. Leaves rounded-ovate, opposite. Flowers purplish in long, terminal, spike-like racemes.

A gregarious herb; noted on the wet sandy banks of the Mahi river at Vasad; on one occasion, dry fruiting specimens were collected from the river banks at Umeta.

Flowers and Fruits: March to April.

Sabnis 979, 980.

Konkan, Deccan, S.M. country, Gujarat, Saurashtra.

India: Bihar, Central India, E. Bengal and W. Peninsula.

Rotala densiflora (Roth) Koehne in Bot. Jahrb. 1:164, 1880 & 4:388, 1883 & in Pflreich. 17:35, t.30; Sant.88.

Ammannia densiflora Roth in R. & S. Syst. 3:304, 1818.

A. pentandra Roxb. Fl.Ind. 1:448, 1820; FBI.2:568; C.1:539.

Rotala roxburghii Wight, Icon. t.260B, 1840.

A small delicate herb, rooting at the basal nodes. Leaves linear, spreading. Flowers minute, pink, axillary. Capsule 3-valved.



A very rare plant; noted on the wet banks of the pond and also on the muddy soils of the rice-fields near Harni village.

Flowers and Fruits: September to November.

Sabnis 3380

Throughout Trop. India in moist places.

Ceylon, China, Malaya, Australia, Trop. Africa, Afghanistan.

Ammannia Linn.

Cymes distinctly peduncled. . . . . multiflora

Cymes sessile or subsessile. . . . . baccifera

Ammannia multiflora Roxb. Fl. Ind. 1:447, 1820; F.B.I. 2:570;  
Koehne in Pfreich. 17:48, t. 5A. C. 1:541; D. & G. 97;  
Sant. 87; Saur. 1:225; Chavan & Oza, Fl. Pavagadh, 102.

An erect, annual herb. Leaves opposite, linear-oblong, auriculate - cordate. Flowers pink or rose in axillary pedunculate cymes. Fruit a globose, reddish capsule.

A monsoon annual found growing as an amphibious hydrophyte in some puddles and also as a weed in rice fields and other moist situations, though not as common as A. baccifera.

Fairly common, though not abundant.

Flowers and Fruits: September to November  
Sabnis 1686, 3552.

Throughout the plains of India.

Persia, Afghanistan, Africa, Andamans, Philippines,  
 S. China, Formosa, S. Japan, Australia.

Ammania baccifera Linn. Sp.Pl. (ed.2) 175, 1762;  
 FBI.2:569; C.1:541; Koehne in Pfreich. 17:53,  
 t.5M; Blatt. & Hallberg in JBNHS.26:215; Sant.87;  
 Saur.1:226; Maheshwari, 161; Chavan & Oza, Fl.  
 Pavagadh, 102.

An erect herb, very variable in height. Leaves  
 oblong-lanceolate, slightly cordate at the base. Petals  
 0 or minute. Fruits globose, reddish capsules forming  
 dense clusters round the stem.

In all moist situations, even as an amphibious  
 hydrophyte; common and abundant.

A few decumbent plants rooting at regular intervals  
 were observed at the Danteshwar tank. This unusual  
 habit and the profuse nodular rooting was very much  
 peculiar and not commonly observed.

Flowers and Fruits: September to March  
Sabnis 551, 983, 3517.

Throughout India in moist places.

Ceylon, Afghanistan, Malaya, China, Australia,  
Trop. Africa.

Woodfordia salisb.

Woodfordia fruticosa (Linn.) Kurz in JASB. 40:56, 1871;  
Koehne in Pfreich. 17:79, t. 12A; G.511;  
Sant.89; Saur.1:227; Maheshwari, 161.

Lythrum fruticosum Linn. Sp.Pl. (ed.2) 641, 1762.

Woodfordia floribunda Salisb. Parad. Lond. t.42,  
1806; FBI.2:572 (Excl.Syns.); C.1:543.

A shrub with spreading branches. Bark easily peeling off. Leaves lanceolate, rounded or cordate at the base. Flowers red in axillary clusters, on slender pedicels. Capsule ellipsoid, enclosed by the persistent calyx tube.

Noted in the crevices of the tank walls at Virod and also on the walls and steps of the Kamnath temple along the Vishwamitri banks.

Flowers and Fruits: November to March.

Sabnis 2040

Throughout India: Ceylon, Baluchistan, Trop. Africa, Madagascar, China, Japan, Sumatra, Java.

Lawsonia Linn.

Lawsonia inermis Linn. Sp.Pl.349, 1753; Koehne in  
Pfreich. 17:270, t.59; C.1:544; G.514; Sant.89;  
Maheshwari, 162.

L. alba Lamk. Encycl. 3:106; 1789; FBI.2:573.

A much branched armed shrub. Flowers white or  
yellowish white, fragrant, in large terminal panicles.  
Capsules globose.

A very common hedge plant. The leaves yield a dye  
used for colouring nails and skin.

Local name: Mendi.

Flowers and Fruits: May to October.

Sabnis 1373.

Indigenous in Arabia and Persia; elsewhere  
cultivated.

Lagerstroemia Linn.

Lagerstroemia indica Linn. Syst. 1076, 1759; Koehne in  
Pfreich. 17:259, t.55A; C.1:546; Bailey, Man.  
Cult. Pl.720.

A small shrub. Flowers white, pink or purple;  
corolla crupled; petals clawed; stamens many.

An ornamental shrub grown in hedges of gardens.

Local name: Chinai Mendi

English name: The Crepe Myrtle.

Flowers and Fruits: March to June.

Sabnis 1133

Cultivated in many parts of India.

Japan, Korea, China, Tonkin, Cochinchina,  
Manila, Australia.

#### PUNICACEAE

#### Punica Linn.

Punica granatum Linn. Sp.Pl. 472, 1753; FBI.2:581;  
C.1:548; Saur.1:234; Maheshwari, 163.

A shrub or a small tree. Leaves oblong, obovate.  
Flowers bright red. Fruits reddish-brown, globose;  
seeds angled; aril filled with juice.

Planted in gardens for the edible fruit.

Local name: Dadam

English name: Pomegrauate

Flowers and Fruits: May to September

Sabnis 810, 3005.

Indigenous to persia, kabul and Baluchistan,  
now under cultivation throughout India.

## ONAGRACEAE

Jussiaea Linn.

Flowers white, plants floating or creeping...repens

Flowers yellow; plants erect. . . . . perennis

Jussiaea repens Linn. Sp.Pl.388, 1753; FBI.2:587;  
C.1:549; Maheshwari, 163; Subramanyam, Aq.  
Angios, 19.

A floating hydrophyte, floating by means of white, spongy, aerenchymatous roots formed in whorls at the nodes of the main stem. Leaves obovate to oblanceolate. Flowers white. Capsule cylindric.

Grown in small tanks in the University Botanical gardens; not at all wild.

Flowers and Fruits: October.....

Sabnis 12.10.63 (Botanical gardens)

Throughout India in fresh-water lakes & ponds.

Ceylon and generally throughout the warmer regions of the world.

Jussiaea perennis (Linn.) Brenan in Kew Bulletin 163, 1953; Saur.1:235; Maheshwari, 164.

Ludwigia perennis Linn. Sp.Pl.119, 1753.

L. parviflora Roxb. Fl. Ind. 1:440, 1820; FBI.2:588;  
C.1:550; Sant.91.

An erect, glabrous herb. Stems reddish. Flowers yellow, solitary, axillary, tetramerous. Stamens 4. Capsule oblong many seeded, chocolate-brown to reddish in colour, capped by persistent, superior calyx.

Common and abundant in all moist situations such as ponds, puddles and rice-fields.

Local name: Panlavang

Flowers and Fruits: September to November.

Sabnis 869, 1848.

Throughout India.

Ceylon, Malaya, N. Australia, Persia, Abyssinia.

#### TRAPACEAE

#### Trapa Linn.

Trapa natans L. var. bispinosa (Roxb.) Makino in Iinuma, Somuku-Dzusetzu (Iconography.....plants.....Japan) ed.3, 1:137, 1907.

T. bispinosa Rixb. Hort. Beng. 11, 1814, nom. nud. & Fl. Ind. 1:449, 1820; FBI.2:590; C.1:551; Maheshwari, 164; Subramanyam, Aquat. Angios. 21.

A floating aquatic. Floating leaves rhomboidal arranged in rosettes; submerged ones dissected; petioles swollen, spongy. Flowers white. Nuts angled, beaked at the apex, with sharp spines on the sides.

Not at all wild; cultivated in a number of small tanks for the edible fruit.

Local name: Singoda.

Flowers and Fruits: October to March.

Sabnis 1854.

Throughout India, often cultivated.

Ceylon, Malaya, Trop. Africa.

#### PASSIFLORACEAE

#### Passiflora Linn.

Bracts pinnatisect; plant foetid. . . . . foetida

Bract not pinnatisect; plants not foetid.... edulis

Passiflora foetida Linn. Sp.Pl.959, 1753; Bor. & Raizada, 258; Chakravarty in Bull. Bot. Soc. Bengal 3:57; Saur.1:238.

An herbaceous, viscous-hairy, climber. Leaves large, 3-lobed. Flowers white tinged with purple or lilac, subtended by bracts which are pinnatisect into



filiform, gland-tipped segments. Fruits globose, hairy. .

Noted as an escape on roadside hedges, especially during monsoon.

Neither common nor abundant.

Flowers and Fruits: August to October

Sabnis 3247

A native of Brazil, commonly cultivated in gardens in India.

Passiflora edulis Sims, Bot. Mag. t.1989, 1818; Bor & Raizada, 254; Bailey, Man.Cult.Pl.691; Saur.1:238.

A woody climber. Tendrils simple, axillary. Leaves deeply 3-lobed, somewhat cordate at base, serrate, petiole with 2 glands at apex. Flowers white tinged with purple; corona in several series, white above and purple below. Fruits oval, purple when ripe, rind hard, edible.

Grown in the gardens for the ornamental flowers.

Local name: Krishnakamal

Flowers and Fruits: July to November

Sabnis 2080.

A native of Brazil, now extensively cultivated in gardens all over the world.

## CARICACEAE

Carica Linn.

Carica papaya Linn. Sp.Pl.1036, 1753; FBI.2:599;  
C.1:557; Saur.1:236; Maheshwari,164; Chavan &  
Oza, Fl. Pavagadh,104.

A small soft-wooded tree with milky sap. Leaves large, palmately lobed. Flowers pale yellow. Male flowers in long drooping panicles and females in short clusters. Fruits large, succulent, edible; seed many, black.

Planted in the gardens for the edible fruit.

Local name: Papaiya.

Flowers and Fruits: Almost all the year round.

A native of West Indies, now widely cultivated throughout the tropics.

## TURNERACEAE

Turnera Linn.

Turnera ulmifolia Linn. Sp.Pl.271, 1753; Gilg in Pfam.  
3(6A):64, t.23J; Saur.1:237.

An erect shrub. Leaves alternate, elliptic, irregularly serrate or dentate. Flowers large, bright yellow.

Planted in gardens for the decorative flowers.

Flowers: September or even April and May.

Sabnis 1176, 1467

A native of Trop. America, planted in gardens and often run wild in some parts of India.

### CUCURBITACEAE

(Key to the genera of Cucurbitaceae adapted from Santapau, Fl. Saurashtra 1:239, 1962)

Leaves with large stipular bracts at base of Petioles. . . . . Blastania

Leaves without stipular bracts:

Flowers white:

Petals fimbriate. . . . . Trichosanthes

Petals not fimbriate. . . . . Coccinia

Flowers yellow:

Male flowers with a conspicuous bract on the peduncle; female ones with or without such bracts. . . . . Momordica

Flowers without bracts on peduncles:

Fruits 6 mm. in diameter; brightred. . . . . Melothria

Fruits more than 6 mm. in diameter:

Fruits dehiscing operculately  
at apex. . . . . Luffa

Fruits indehiscent, or not operculately  
dehiscent:

Fruit globose 8-12 mm. in diam. . . . . Diplocyclos  
(Bryonopsis)  
Fruit over 2.5 cm. in diam.:

Corolla bell-shaped,  
distinctly gamopetalous. . . . . Cucurbita

Corolla parted to the base,  
not distinctly gamopetalous:

Tendrils simple. . . . . Cucumis

Tendrils branched:

Leaves not lobed. . . . . Lagenaria

Leaves pinnatifid. . . . . Citrullus

Blastania Kotschy & Peyr.

Blastania fimbristipula (Fenzl) Kotschy & Peyr. Pl.

Tinn.15, t.7, 1865-66; Cogn. in DC.Monog.

Phan.3:628, 1881; C.1:576; Chakravarty in

RBSI.17(1):174, 1959; Saur.1:240.

Bryonia fimbristipula Fenzl in Kotschy, It.Nub.

no.205 & 231, 1841 & in Flora 313, 1844.

Ctenolepis Cerasiformis (Stocks) Hook. in Oliver,

Fl.Trop. Africa 2:558, 1871; FBI.2:630.

An extensive, herbaceous climber. Leaves usually 3-lobed; stipular bracts orbicular or reniform, scabrid, ciliate. Female and male flowers yellow. Fruit globose, scarlet; seeds 2.

Noted all along the hedges especially during monsoon.

Local name: Ankhphutamani

Flowers and Fruits: September to November.

Sabnis 734, 2920.

Gujarat, Sind, dry districts of India.

Arabia, Tropical and S. Africa.

Trichosanthes Linn.

Trichosanthes cucumerina Linn. Sp.Pl.1008, 1753;

FBI.2:609; C.1:560; Gr.79; D. & G.102;

Chakravarty, loc.cit.31.

T. pachyrrhachis Kundu & T. brevibracteata Kundu  
in Journ. Bot.77:9-10, 1939.

A slender climber. Stem furrowed, hairy. Leaves deeply 3-5-lobed. Tendrils 2-3-fid. Flowers white; petals fimbriate. Pepo ovoid-fusiform, scarlet colored when ripe.

A climber on hedges or straggling on smaller vegetation under the canopy of trees.

Local name: Jungli Parvar

Flowers and Fruits: July to September.

Sabnis 2213.

Konkan, Deccan, Kanara, Gujarat; throughout India.

Ceylon, Malaya, N. Australia, Java, Philippines.

Coccinia Wight & Arn.

Coccinia cordifolia (Linn.) Cogn. in DC. Monog. Phan.

3:529, 1881; Chakravarty, loc.cit.117.

Bryonia cordifolia Linn. Sp.Pl.1012, 1753.

Coccinia indica Wt. & Arn. Prodr. 347, 1834; C.1:572.

Cephalandra indica Nand. in Ann. Sc. Nat.(Ser 5)

5:16,1866; FBI.2:621 (excl.syn.)

A slender climber. Leaves 3-5-lobed or angled, cordate, shining. Flowers white. Fruit greenish with white stripes, turning red on ripening.

Commonly observed climbing on low trees and hedges especially during monsoon.

Local name: Ghiloda, Tindora

Flowers and Fruits: July to January.

Local uses: The fruits are edible and are used as a vegetable.

Sabnis 720, 1531

Throughout India.

Ceylon, Malaya, Trop.Africa, China, C.America.

Momordica Linn.

Flowers monoecious:

Bracts of male flowers about the middle  
of the peduncle or below. . . . . Charantia

Bracts of male flowers just below the  
flower. . . . . balsamina

Flowers dioecious. . . . . dioica

Momordica charantia Linn. Sp.Pl.1009, 1753; FBI.2:616;  
C.1:562; Saur.1:243; Chakravarty, loc.cit.  
88-89.

A climbing plant. Leaves 5-7 lobed; lobes spiny  
dentate. Flowers yellow. Fruit orange-coloured,  
tuberculate all over.

Cultivated and also run wild along hedges especially  
in the Bhimpura area.

Local name: Karela.

Flowers and Fruits: September to December.

Sabnis 2628

Widely cultivated throughout India.

Ceylon, Malaya, China, Trop. Africa.

Momordica dioica Roxb. ex Willd. Sp.Pl.4:605, 1805;  
FBI.2:617 (excl.syns.); C.1:563; Saur.1:244;  
Maheshwari, 169.

A dioecious climber. Flowers yellow. Fruits ovoid,  
rounded at the base, softly and densely echinate.

Cultivated and often run wild on hedges.

Local name: Kantola.

Flowers and Fruits: August to September.

Sabnis 2211.

Cultivated in the drier region of Bombay Presidency  
and throughout India.

Ceylon, Malaya.

Momordica balsamina Linn. Sp.Pl.1009, 1753; FBI.2:617;  
C.1:562; Chakravarty, loc.cit.90.

A climber. Stems grooved. Tendril simple.  
Leaves 3-5-lobed, cordate at the base. Male, flower  
solitary on a peduncle with a suborbicular, reticulately  
veined bract just below the flower. Female flowers  
ebracteate or bracteate. Fruit orange red, ovoid.

Not cultivated but wild on hedges; rare.



Flowers: July.

Sabnis 2138.

India: Punjab, Sind, N.W. Provinces, Gujarat,  
Deccan.

Malaya, Australia, W. Asia, Africa.

Melothria Linn.

Melothria maderaspatana (Linn.) Cogn. in DC. Monog.

Phan.3:623, 1881; C.1:573; Chakravarty, loc.cit.  
141; Saur.1:244; Maheshwari, 166.

Cucumis maderaspatanus Linn. Sp.Pl.1012, 1753.

Bryonia scabrella Linn. f. Suppl.424, 1781; Gr.78;  
Wight, Icon. t.501.

Mukia scabrella Arn. in Hook. Journ. Bot. 3:276,  
1841; FBI.2:623; D. & G.100.

Scandent or prostrate annual herb. Stems angular,  
very hispid. Tendril simple, sparingly hirsute. Leaves  
variable, 3-5-lobed, scabrid above and beneath. Flowers  
small, yellow. Fruits globose, small, red when ripe.

A common plant especially during monsoon; noted  
on hedges and other plants.

Local name: Chanak chibhdi.

Flowers and Fruits: July to November.

Sabnis 2136, 2974.

Throughout India; Ceylon, Africa, Malaya,  
Australia, China, New Zealand.

Luffa Cav.

Seeds with a wing-like margin. . . . . cylindrica

Seeds without a wing-like margin:

Fruit strongly ribbed, more or less

smooth. . . . . acutangula

Fruit not ribbed, echinate. . . . . echinata

Luffa cylindrica (Linn.) Roem. Syn. Mon.2:63, 1846;

Cogn. & Harms in Pfreich.88:62; Chakravarty,

loc.cit.75; C. Jeffrey in Kew Bulletin 15:355,

1962; Saur.1:246; Maheshwari,168; Chavan & Oza,

Pavagadh,106.

Momordica cylindrica Linn. Sp.Pl.1009, 1753,

Luffa aegyptiaca Mill. Gard. Dict.1768; FBI.2:614;

C.1:565.

A large climber. Leaves scabrous, palmately 5-lobed.  
Flowers yellow. Fruit cylindric, 12-30 cm. long; fibrous  
inside when old.

Occasionally cultivated and often run wild on hedges near the outskirts of villages.

Local name: Galaka.

Flowers and Fruits: September to November

Local uses: Young fruits are eaten as a vegetable.

Sabnis 9.9.58 (L.V. Palace compound)

Native country uncertain; cultivated throughout India and the tropics.

China, Japan, Malaya, Australia, New Zealand, Africa, America.

Luffa acutangula (Linn.) Roxb. Hort. Beng. 70, 1814  
nom. nud. & Fl. Ind. 3:713, 1832; FBI. 2:615;  
C. 1:566; Chakravarty, loc. cit. 79.

A climber. Leaves glabrous, 5-7 angled or slightly lobed, cordate. Flowers yellow. Fruit ribbed with 10 angles. Seeds black, not winged.

Cultivated and also run wild near human habitations.

Local name: Tunriya.

Flowers and Fruits: September to January.

Sabnis 901.

Cultivated in many parts of India, often run wild. Ceylon, Malaya, China, Australia, Africa, America.

Var. amara (Roxb.) Clarke in FBI.2:615, 1879; C.1:567;  
Sant.93; Chakravarty, loc.cit.81.

Luffa amara Roxb. Hort.Beng.70, 1814 & Fl.Ind.3:715, 1832.

A climber on shrubs. Flowers yellowish, Fruit  
5-10 cm. long, 10-ribbed or angled, bitter. Seeds black.

Not cultivated but wild on hedges and shrubs.

Local name: Kadva Tunriya

Flowers and Fruits: September to November.  
The climber with dried fruits and no leaves were  
observed during summer.

Sabnis 1595, 2210.

Konkan, S.M. country, Gujarat, W. Peninsula;  
Ceylon.

Luffa echinata Roxb. Hort. Beng. 104, 1814, nom.nud. &  
Fl.Ind.3:716, 1832; FBI.2:615; C.1:567;  
Saur.1:247.

A slender, herbaceous climber. Leaves 5-angled or  
lobed, scabrid. Flowers white. Fruit ovoid with long,  
dense bristles; seeds many.

Rare; apparently wild on wayside hedges near human  
habitation at Makarpura and Por.

Local name: Kadvo Velo

Flowers and Fruits: September to October.

Sabnis 3356.

Rare, except in Gujarat and Sind; Trop. Africa.

Diplocyclos (Endl.) Von Post & Kuntze  
(Bryonopsis Arn.)

Diplocyclos palmatus (Linn.) C. Jeffrey in Kew Bulletin  
15:352, 1962.

Bryonia palmata Linn. Sp.Pl.1012, 1753 (excl.syn.)

B. laciniosa sensu Linn. Sp.Pl.1013, 1753, pro parte;  
Roxb. Fl.Ind. 3:728; FBI.2:622; Wight, Icon.  
t.500.

Bryonopsis laciniosa Senu Naud. in Ann. Sc. Nat.  
(ser.4)12; 141, 1859, pro majore parte, et sensu  
auct. mult., non (Linn.) Naud. loc.cit. sensu  
stricto; Cogn. & Harms in Pfreich. 88:160;  
Chakravarty, loc.cit.135; C.1:568.

An extensive climber. Leaves 5-lobed; tendrils bifid.  
Flowers greenish yellow. Fruits globose green with  
white vertical lines. Seeds resemble in a shape a  
'shivaling', hence the local name.

Common on wayside hedges especially during the monsoon.

Local name: Shivalingi

Flowers and Fruits: August to October.

Sabnis 806, 2212.

Throughout India.

Ceylon, Pegu, Malaya, Mauritius, Trop. Africa,  
Australia, China.

Cucumis Linn.

Cucumis callosus (Rottl.) Cogn. ex Cogn. & Harms in  
Pfreich. 88:129, 1924; Sant.93; Chakravarty,  
loc.cit.100.

Bryonia callosa Rottl. in Neue. Schr. Ges. Nat. Fr.  
Berlin 4:210, 1803 ("collosa")

Cucumis trigonus Roxb. Hort. Beng.70, 1814 & Fl.Ind.  
2L619, 1824 & 3:722, 1832; FBI.2:619 (excl.syn.)  
C.1:569; Wight, Icon. t.497.

A trailing or a climbing herb. Leaves suborbicular,  
hairy, deeply 5-7-lobed. Flowers yellow. Fruit an  
ellipsoid pepo with white and yellow stripes.

Noted on hedges and also trailing in barren fields.

Flowers and Fruits: August onwards.

Sabnis 1560, 2191.

Throughout India.

Ceylon, Malaya, N. Australia, N. Africa,  
Afghanistan, Persia, China.

Cucumis melo Linn. Sp.Pl.1011, 1753; FBI.2:620;  
C.1:570.

Local name: Kharbij, Shakkarteti, Chibhdu

English name: Musk melon

Cucumis sativus Linn. Sp.Pl.1012, 1753; FBI.2:620;  
C.1:570.

Local name: Kakdi

English name: Cucumber.

Occasionally cultivated on the sandy river  
beds or along hedges.

Cucurbita maxima Duch. in Lamk. Encycl. 2:151, 1786;  
FBI.2:622; C.1:582; Sant.95.

Trailing herbs. Leaves rounded to reniform. Flowers  
large, yellow. Fruits large and heavy.

Cultivated commonly for the fruits which are used  
as vegetables.

Local name: Lal Kolu

English name: Red pumpkin

Flower and Fruits: August, September onwards.

The above three Cucurbits are cultivated through-  
out India and in most hot countries.

Lagenaria Ser.

Lagenaria leucantha (Duch.) Rushy. Mem. Torr. Bot.  
Club.6:43, 1896; Merr. Enum. Philip.Fl.Pl.  
3:584, 1923.

Cucurbita Leucantha Duch. in Lamk. Encycl. 2:150,  
1786.

Lagenaria vulgaris Ser. Mem.Soc.Phys.Hist.Nat.  
Geneve 3:25, 1825, t.2; FBI.2:613; C.1:581.

Cucurbita lagenaria Linn. Sp.Pl.1010, 1753.

A softly pubescent, climbing or trailing herb,  
cultivated for the edible fruits used as vegetable.  
Flowers white.

Local name: Dudhi .

English name: Bottle gourd .

Flowers and Fruits: August to November.

Sabnis 1496.

Wild in some parts of India, the moluccas and  
Abyssinia, but cultivated almost throughout India  
and in tropical and warm regions throughout the world.

Citrullus Schrad. (nom.cons.)

Fruits globose, very bitter, not exceeding  
7.5 cm. in diam. . . . . colocynthis



Fruits subglobose or ellipsoid, sweetly upto  
25 cm. in diam. . . . . vulgaris

Citrullus colocynthis (Linn.) Schrader in Linnaea 12:414;  
1838; FBI.2:620; C.1:571; Wight, Icon. t.498;  
Oza in Taxon 11:255, 1962.

Cucumis colocynthis Linn. Sp.Pl.1011, 1753.

Colocynthis vulgaris Schrader, Ind.Sem.Hort.  
Gotting.2, 1833; Chakravarty 11.cc. 31 & 113.

Perennial trailing herbs. Leaves variable; lobed,  
lobes sinuately pinnatifid. Flowers yellow. Fruits  
globose, striped with white and green, bitter.

Not very common; by the side of abandoned fields.

Flowers and Fruits: March to November.

Sabnis 2167.

Wild or sparingly cultivated throughout India.

Ceylon, W. Asia, Arabia, Africa, Spain, Europe.

Citrullus vulgaris Schrader in Ecklon & Zeyher, Enum.  
Pl.Afr.Austr. Extra-trop.279, 1836; FBI.2:621;  
C.1:571; D. & G.102; Oza, loc.cit.255.

Colocynthis citrullus (Linn.) O. Kuntze, Rev.Gen.  
1:256, 1891; Chakravarty in Sc. & Cult.15:31,  
1948 & loc.cit.114.

Cucurbita citrullus Linn. Sp.Pl.1010, 1753.

A climbing or a trailing annual. Leaves divided or lobed, scabrid. Flowers large, yellow. Fruits large, subglobose or ellipsoid, dark green or mottled. Pulp white or red.

Cultivated for the edible fruits.

Local name: Tadbuch

English name: Watermelon

Flowers and Fruits: August to May

Sabnis 9.9.61, Vasad.

Cultivated throughout India and all warm countries of the world.

#### CACTACEAE

#### Opuntia Mill.

Opuntia elatior Mill. Gard. Dict. no. 4, 1768; G. 548; Saht. 96; Burkill in RBSI. 4: 313, 1911; Saur. 1: 253; Maheshwari, 173; Chavan & Oza, Fl. Pavagadh, 112.

O. dillenii Graham, Cat. 546, 1839; FBI. 2: 657, pro parte; D. & G. Suppl. 39.

O. nigricans Woodrow in RBSI. 1: 89, 1895; C. 1: 587.

A tall, much branched cactus. Phylloclades obovate, pale green, flattened. Spines dark-coloured. Flowers yellow, changing to pink or reddish. Berries red.

Commonly planted along the hedges.

Local name: Fafdo Thor.

Flowers and Fruits: October to February.

Sabnis, Wet preservation, University Botany Museum.

Throughout the Bombay presidency.

Various other species of this family are grown in gardens and indoors for the sheer beauty of the cacti. Genera such as Mammillaria, Echinocactus and Pereskia are usually represented.

#### AIZOACEAE ( FICOIDACEAE)

##### Trianthema Linn.

Stamen 5; styles 2 . . . . . govindia

Stamens 10-20; style 1 . . . . . portulacastrum

Trianthema govindia Buch.-Ham. ex G. Don, Gen. Syst. 3:72, 1834; Melville in Kew Bulletin 264, 1952; Saur. 1:232; Maheshwari, 175.

Trianthema pentandra auct. plur. (non. Linn.); C. 1:590.

A prostrate, much branched herb. Stem angled and grooved, tinged with purple. Leaves elliptic-obovate, petioles distinct, leaf-bases dilated. Flowers sessile or subsessile in few to many-flowered axillary clusters; calyx deeply 5-cleft, coloured within with a short apiculation at the back; stamens 5; styles 2. capsules exserted, with broad, deflexed horns. Seeds rounded reniform, black.

Noted on waste land in Bhimpura ravines, L.V. Palace compound and near Harni pond especially during monsoon.

Not common, though locally abundant.

Flowers and Fruits: August to September

Sabnis 2594, 2595

Konkan, Deccan, S.M. country, Gujarat, Saurashtra, Sind; Punjab, N.W. Provinces. Tropical Africa.

Trianthema portulacastrum Linn. Sp.Pl.223, 1753; G.550;

Backer in Fl.Males. (Ser.I) 4(3):274, 1951;

Saur.1:229; Maheshwari, 176; Chavan & Oza, Fl.

Pavagadh, 113.

T. monogyna Linn. Mant.1:69, 1767; FBI.2:660;

C.1:589.

T. obcordata Roxb. Hort. Beng. 34, 1814; D. & G. 14;

Wight, Icon. t.288.

A prostrate, succulent herb. Stems and also the leaf margins tinged reddish-purplish. Leaves unequally paired; petioles dilated into a triangular pouch at the base. Flowers pinkish or white enclosed in the petiolar pouch; stamens 10- 20; style 1. Capsules transversely dehiscent; seeds black.

Common and abundant on wet, moist situations such as lawns, roadside waste places and also in the crevices of the footpaths, cultivated fields etc.

Flowers and Fruits: July to October

Sabnis 632, 2250, 3510.

Throughout India.

Ceylon and most tropical regions.

#### MOLLUGINACEAE

Flowers in axillary fascicles; seeds  
appendaged. . . . . Glinus

Flowers in terminal cymes; seeds minutely  
appendaged or not. . . . . Mollugo

#### Glinus Linn.

Plant densely stellate-hairy. . . . . lotoides

Plant glabrous. . . . . oppositifolius

Glinus lotoides Linn. Sp.Pl.463, 1753; Backer in Fl.  
Males. (Ser I) 4(3):269, 1951; Sant.97;  
Saur.1:232; Maheshwari, 173.

Mollugo lotoides O. Kuntze, Rev.Gen.Pl.264, 1891;  
G.552.

M. hirta Thunb. Prodr. Fl.Cap.24, 1794; FBI.2:662;  
C.1:593.

Prostrate or suberect herbs. Leaves obovate-  
orbicular, stellate-hairy. Flowers in axillary  
fascicles, pink-white, on short pedicles. Fruit ovoid  
capsule.

A typical weed of the dry pond beds along with  
species of Heliotropium and Polygonum.

Common and abundant everywhere.

Flowers and Fruits: November to June.

Sabnis 544, 2057.

Common throughout India.

Ceylon, Malayasia and warmer regions of the  
World.

Glinus oppositifolius (Linn.) DC. in Bull.Herb.  
Boiss. (ser.2) 1:559, 1901; Backer, loc.cit.270,  
t.1; Sant.97; Saur.1:233; Maheshwari,174.

Mollugo oppositifolia Linn. Sp.Pl.89, 1753;  
C.1:593, G.552.

M. spergula Linn. Syst.881, 1759; FBI.2:662.

A trailing or diffuse, much branched herb. Leaves obovate spatulate, usually in whorls. Flowers white on slender pedicels in clusters at the nodes. Capsule ovoid, enclosed by the calyx, <sup>called</sup> 3-~~pedd~~ed, many seeded.

Commonly observed in wet places along with low grasses on lawns and banks of ponds and puddles.

Flowers and Fruits: July to March.

Sabnis 591, 702, 3405.

Deccan, S.M. Country, Kanara, Gujarat, Saurashtra, Delhi.

Burma, Ceylon, Tropical Africa, Australia.

Mollugo Linn.

Leaves in whorls at the nodes:

Seeds with raised, tubercular points. . . . pentaphylla

Seeds without raised, tubercular points. . . . . cerviana

Leaves all radical/ . . . . . nudicaulis

Mollugo pentaphylla Linn. Sp.Pl.89, 1753; C.1:594; Saht.97; Saur.1:234.

M. stricta Linn.Sp.Pl. (ed.2)131, 1762; FBI.2:663.

An erect herb. Leaves whorled, linear lanceolate to obovate. Flowers white in terminal cymes. Fruit a capsule. Seeds many, reniform.

Very rare; only once observed on the river banks at Umeta. A few depauperate specimens were collected and tentatively identified. The identification was later confirmed at FRI herbarium, Dehra Dun.

Flowers and Fruits: 19.11.60

Sabnis 2908, 2909.

Throughout India.

Ceylon, Malacca, China, Japan, Fiji.

Mollugo cerviana (Linn.) Ser. in DC. Prodr. 1:392; 1824;  
FBI.2:663; C.1:594; Maheshwari, 174.

Pharnaceum cerviana Linn. Sp.Pl.272, 1753.

A small, wiry herb; branches slender filiform, umbellately arranged. Leaves radical and cauline. Flowers in Umbellate or trichotomous cymes; calyx white margined. Capsules globose with numerous seeds.

Noted on loose soils of the river banks; rare and not at all abundant.

Flowers and Fruits: September to November

Sabnis 754, 2889.



Punjab, Sind, W. Peninsula.

Ceylon, Trop. Africa, Australia

Mollugo nudicaulis Lamk. Encycl. 4:234, 1797; FBI.2:664;  
Saxton in RBSI.9(3):254, 1922; Saur.1:234;  
Shah in JBNHS. 59(1):319.

A delicate, tiny herb, measuring up to 15 cm. The leaves are all radical, elliptic or oblong-spathulate, forming a rosette on the ground. Flowers minute, white, in di- and trichotomous cymes. Capsules brown; seeds black, closely reticulate.

A rare plant of sandy, moist soils.

Flowers and Fruits: August to October.

Sabnis 850...852, 1.10.57 (Nimetta Ajwa Road)

In the plains of Punjab, Saurashtra and Gujarat.

Shah (l.c.) has reported it as a new record for the old Bombay State form Baroda. In this connection Saxton's (l.c.) comment - "216C. Mollugo nudicaulis Lamk. Common in cultivated land. Flowers early monsoon, and during the cold weather in irrigated land" - is self-explanatory.

Further it may be added that M. nudicaulis Lamk. and M. pentaphylla L. are quite distinct both in field and the herbarium and that there is no possibility of the

two being mistaken for each other as implied in Shah's note.

# UMBELLIFERAE (APIACEAE)

Leaves simple; umbels simple; flowers  
pink. . . . . Centella

Leaves compound; umbels compound:

Flowers yellow:

Fruits oblong or ellipsoid,  
the ribs not winged. . . . . Foeniculum

Fruits dorsally compressed and  
narrowly winged. . . . . Anethum

Flowers white or pink purple:

Fruits bristly. . . . . Daucus

Fruits glabrous. . . . . Coriandrum

## Centella Linn.

Centella asiatica (Linn.) Urban in Mart.Fl. Braz.11:287;  
1879; Fyson, Fl.Nizgiri & Pulney Hill-tops 3:346;  
Sant.97; Saur.1:253; Maheshwari,176.

Hydrocotyle asiatica Linn. Sp.Pl.234, 1753;  
FBI.2:669; C.1:598.

A creeping herb, rooting at the nodes. Leaves 1-3 from each node, rounded or reniform, on long petioles. Flowers pink.

Rarely cultivated on wet, moist lands in the Baroda Central Jail compound.

Local name: Brahmi

Sabnis 21.8.59; near Jail Road.

Throughout India.

Ceylon, tropical and subtropical regions of the World.

Foeniculum Adans.

Foeniculum vulgare Mill. Gard. Dict. n.1, 1768; FBI.2:695; C.1:609; Maheshwari, 177.

Erect, glabrous herbs. Leaves much divided. Flowers yellow in compound umbels. Fruits oblong, ellipsoid, ribbed.

Cultivated for the fruits used as condiments.

Local name: Valiyari.

English name: Fennel.

Flowers and Fruits: January to April.

A native of the mediterranean region, now cultivated in some parts of this country.

Anethum Linn.

Anethum graveolens Linn. Sp.Pl.263, 1753; Saur.1:254;  
Shah in Ind.For. 89(4):289, 1963.

Peucedanum graveolens Hiern in Oliver, Fl.Trop.  
Africa 3:19, 1871; FBI.2:709; C.1:606.

A strongly scented plant. Leaves finely dissected.  
Flowers yellow. Fruits narrowly winged.

Cultivated for the fruits which are used as a  
condiment; also medicinally useful as a carminative and  
stomachic.

Local name: Suva

Flowers: September onwards

Sabnis 2103, 27.7.59 (L.V. Palace compound)

Cosmopolitan in distribution.

Daucus Linn.

Daucus carota Linn. Sp.Pl.242, 1753; FBI.2:717;  
C.1:609.

A much branched herb. Leaves pinnately decompound.  
Flowers white.

Cultivated for the edible, fleshy roots; rarely  
as an escape.

Local name: Gajar.

English name: Carrot.

Flowers and Fruits: February.

Cultivated in some parts of India.

Distributed in S.W. Asia.

Coriandrum Linn.

Coriandrum sativum Linn. Sp.Pl.256, 1753; FBI.2:717;  
C.1:609.

A strongly smelling herb. Flowers white or with purple tinge in compound umbels. Fruits subglobose, ribbed.

Cultivated for the fruits and leaves used for flavouring curries etc.

Local name: Kothmir, Dhana.

English name: Coriander.

Flowers and Fruits: January to March

Cultivated in many parts of India.

Southern Europe and S.W. Asia.

## ALANGIACEAE

Alangium Lam. (nom. cons.)

Alangium salvifolium (Linn.f.) Wang. in Engl. Pfreich.  
 Alangiac.9,1910; G.572; Saur.1:256; Chavan & Oza,  
 Fl. Pavagadh,116.

Grewia salvifolia Linn. f. Suppl.409, 1781.

Alangium lamarckii Thw. Enum.133, 1859; FBI.2:741;  
 C.2:1; D. & G. 109; N.137; Talb.2:79, t.333.

A. decapetalum Lam.: Gr.72; Wight, Icon. t.194.

A small tree. Leaves narrowly oblong, acute or acuminate. Flowers, white or cream, few in fascicles on leafless branches; pedicels jointed at the top; petals reflexed. Fruit a subglobose berry. Seed one.

A few trees planted on the University campus.

Local name: Ankol.

Flowers and Fruits: January to April.

Sabnis 1010a.

Throughout the dry regions of India.

Africa, China, Malaya.

## RUBIACEAE

## 1. Herbs:

- 2. Fruit densely and coarsely hairy;  
prostrate or creeping herbs. . . . . Dentella
- 2. Fruit more or less pubescent, but  
not densely and coarsely hairy:
  - 3. Seed 1 in each cell of the  
ovary. . . . . Borreria
  - 3. Seeds many in each cell of the  
ovary. . . . . Oldenlandia

## 1. Shrubs or trees:

- 4. Flowers in dense, globose heads:
  - 5. Fruit a syncarpium formed by the  
enlarged, succulent calyces. . . . Morinda
  - 5. Fruit capsular, not a syncarpium:
    - 6. Leaves over 10 cm. diam,  
stigma clavate. . . . . Adina
    - 6. Leaves less than 10 cm. diam,  
stigma mitriform. . . . . Mitragyna
- 4. Flowers not in globose heads:
  - 7. Branches spiny:
    - 8. Fruit fleshy. . . . . Meyna
    - 8. Fruit capsular, not fleshy. . . Xeromphis

## 7. Branches not spiny:

9. One calyx lobe petaloid. . . . . Mussaenda

## 9. No petaloid calyx lobe:

10. Flowers large, (4-5 cm.diam.)  
solitary. . . . . Gardenia10. Flowers smaller, (upto 2.5 cm.  
diam):11. Stipules filiform with  
ciliate margins;  
Flowers pale purple..... Pentas

## 11. Stipules not as above:

12. Flowers in trichotomously  
branched panicles..... Hamiltonia12. Flowers solitary, cymose  
or in corymbose cymes:13. Corolla tubular..... Hamelia13. Corolla salver-  
shaped. . . . . IxoraDentella Forst.Dentella repens (Linn.) Forst. Charact. Gen.26, t.13,  
1776; FBI.3:42; C.2:12; G.590; Sant.103;  
Saur.1:260.Oldenlandia repens Linn. Mant. 1:40, 1767(non. Burm.).Slender, prostrate or creeping herbs. Leaves small;  
stipules scarious. Flowers inconspicuous, white. Fruit  
capsular, coarsely hairy.



Noted forming pale green mats on wet grounds along roadsides and banks of ponds and puddles during monsoon and post-monsoon period.

Common and abundant.

Flowers and Fruits: July to February.

Sabnis 724, 725.

Throughout India in moist places.

Ceylon, Malay Islands, China, N. Australia, Polynesia.

Borreria G.F.W. Meyer (nom.cons.)

Small, erect herbs; flowers white. . . . .stricta

Large, procumbent herbs; flowers purple, pale, blue, rarely white. . . . . articularis

Borreria stricta (Linn.f.) K. Schum. in Pfam. 4(4):143, 1891. G.654; Sant.108; Saur.1:262; Maheshwari, 180; Chavan & Oza, Fl. Pavagadh, 118.

Spermacoce stricta Linn. f. Suppl. 120, 1781; FBI.3:200; C.2:52.

An erect, annual herb. Branches furrowed and scabrid. Leaves sessile, opposite or whorled, linear-lanceolate; stipules united, bristly, filiform. Flowers white in dense, capitate cymes, terminal and axillary. Mericarps dehiscent ventrally without a

persistent septum.

Noted on stony, gravelly grounds along with tall grasses under direct sunlight and not under canopy of trees, especially during monsoon.

Common, though abundant only at a few places.

Flowers and Fruits: September-October to February.

Sabnis 2234, 2678

Konkan, Deccan, S.M. country, Gujarat, Saurashtra.

Tr. Himalaya from Kashmir eastwards and throughout India.

Ceylon, Trop. Asia and Africa.

Borreria articularis (Linn. f.) F.N. Will. in Bull.

Herb. Boiss. II, 5:956, 1905; Saur.1:261;

Santapan & Merchant in Bull. Bot. Suru. India

3(2):107, 1962; Chavan & Oza, Fl. Pavagadh, 117.

Spermacoce articularis Linn. f. Suppl. 119, 1781

(excl. syn. Rumph.)

S. hispida Linn. Sp. Pl. 102, 1753; FBI. 3:200;

G. 2:53.

Borreria hispida K. Schum. in Pfam. 4(4): 144, 1891,

non Spruce ex K. Schum. 1888; G. 654; Sant. 108;

Maheshwari, 181.

A prostrate or decumbent herb. Stems 4-angled, hispid. Leaves subsessile, oblong or elliptic. Flowers purple or pale blue, rarely white in dense nodal whorls ensheathed by the bristly, interpetiolar stipules. Mericarps dehiscent ventrally, septum persistent.

A herb of the open grasslands under direct sunlight, which comes up during monsoon and persists for quite a long time thereafter; also on river banks.

Flowers and Fruits: September to February. Fruiting specimens were collected from the river banks at Umeta in the month of June.

Sabnis 738, 3022.

Throughout India, from W. Himalaya to Assam. Ceylon, S. China, Malayan Archipelago.

Oldenlandia Linn.

Oldenlandia corymbosa Linn. Sp.Pl.119, 1753; FBI.3:64; C.2:15; G.600; Sant.103; Saur.1:263; Maheshwari, 180; Chavan & Oza, Fl. Pavagadh, 117.

A prostrate, straggling or erect herb. Leaves linear. Lanceolate, subsessile. Flowers white, 2 or more, on axillary peduncle. Capsules globose with persistent calyx.

Noted along the borders of lawns in monsoon; as also on the wet banks of ponds and irrigation canal; rarely in the crevices of walls.

Local name: Pitpapdo.

Flowers and Fruits: August to October or even January.

Sabnis 717, 1826, 3577.

Throughout India.

Ceylon, Trop. E. Asia, Java, Philippines,  
Trop. Africa and America.

Morinda Linn.

Morinda citrifolia Linn. Sp.Pl. 176, 1753; FBI.3:155;  
C.2:42; Saur.1:258.

A small tree. Leaves glabrous, shining. Flowers white, in dense heads.

Only a single tree planted in the Univ.Bot. garden.

Cultivated and doubtfully wild in the hotter parts of India.

Ceylon, Malaya Archipelago, Australia, Pacific Islands.

Anthocephalus indicus A. Rich. in Mem. Soc.Hist.Nat.  
Paro 5:238, 1834; C.2:6.

A large tree. Leaves coriaceous, decussate. Flowers in globose heads, on stout peduncles.

Rare; planted in the L.V. Palace compound.

Sabnis 2496.

Throughout India, often cultivated.

Ceylon, Sumatra, Borneo.

Adina salisb.

Adina cordifolia Hook.f. ex Brandis, For. Fl.263, f.33,  
1874 & in FBI. 3:24, 1800; C.2:7; Saur.1:258;  
Shah in Ind.For. 39(4):289, 1963.

A medium-sized tree. Leaves very large, suborbicular, acuminate; stipules of young branches large, foliaceous, deciduous. Flowers in globose heads; corolla yellowish or creamy.

A few trees planted at Nimetta and adjoining area; not at all wild.

Local name: Haldarvo

Flowers: June to September

Sabnis 2056, 6.8.59, Nimetta Road.

Throughout the hilly parts of India.

Burma, Ceylon.

Mitragyna Korth. (nom. cons.)

Mitragyna parvifolia (Roxb.) Korth. Obs. Naocl. Ind. 19,  
1839; C. 2: 8; G. 585; Sant. 101; Saur. 1: 259;  
Maheshwari, 181; Chavan & Oza, Fl. Pavagadh, 118.

Nauclea paroifolia Roxb. Pl. Cor. 1: 40, t. 52, 1795.

Stephegyne paroifolia Korth. Verh. Nat. Ges. Bot. 161,  
1840; FBI. 3: 25; Talb. 2: 86-87, t. 335.

Nauclea paroiflora Dalz. & Gibson, Bom. Fl. 118, 1861.

A large, deciduous tree. Leaves obovate with  
oblong-spathulate, foliaceous stipules. Flowers greenish  
yellow in globose heads. Fruits a globose head of  
capsules.

Occasionally planted in gardens and roadsides.

Local name: Kadamb

Flowers and Fruits: April to May

Sabnis 1371, 1381.

Throughout the drier parts of India; Ceylon.

Meyna Link.

Meyna laxiflora Robyns in Bull. Jard. Bot. Brux. 11: 228,  
1928; Sant. 105; Saur. 1: 205.

Vangueria spinosa Hook. f. in FBI. 3: 136, 1882;  
C. 2: 36.

A small tree. Leaves opposite or ternate; spines stout. Flowers greenish white; corolla tube hairy within. Fruit fleshy, subglobose.

Rarely planted in garden. Only a single tree noted in the public park area.

Flowers and Fruits: March to May.

Sabnis 12.4.63 (Public Park).

India, occasional in the dry forests of the Peninsula, both on the plain and on the hills; Assam and N.E.F.A.

Burma and Java.

Xeromphis Rafin.

Xeromphis spinosa (Thumb.) Keay in Bull. Jard. Bot. Etat Bruxelles 28:38, 1958.

Gardenia spinosa Thunb. Diss.Gard. no.7, 1780.

Randia dumetorum Lamk. Encycl. Suppl.2:829, 1811; C.2:27; FBI.3:110.

A small tree armed with spines. Flowers white, turning yellow with age. Fruit globose, 2.5-3 cm. in diam.

Planted in the University Botanical garden.

Local name: Mindhal

Flowers and Fruits: March to May.

Sabnis 1407.

Throughout India in the deciduous forests; also in Assam and N.E.F.A.

Ceylon, Java, Sumatra, S. China, Trop. E. Africa.

Mussaenda Linn.

Mussaenda luteola Delile, Cent. Pl. Meroe 65, t.62, 1826;  
Bor & Raizada, 80, f.50, Pl.25; Maheshwari, 181.

An erect shrub. Leaves ovate to elliptic, acute or acuminate. Flowers yellow in terminal cymes; corolla tube narrow; one of the sepals large and petaloid.

Grown in the gardens.

Flowers and Fruits: August; April.

Sabnis 613.

A native of Trop. Africa, now commonly cultivated in gardens throughout the plains of India.

Gardenia Linn.

Gardenia resinifera Roth, Nov.Pl.Sp.150, 1821;  
Santapam & Panthaki in JBNHS.53:500, 1956;  
Saur.1:267.



G. lucida Roxb. Fl. Ind. 2:553, 1824; FBI. 3:115;  
C. 2:30.

✕ A shrub or a small tree. Leaves elliptic, oblong, narrowed into the short petiole. Flowers large, white, drying to yellow, very fragrant; calyx teeth long, subulate, erect. Fruit ellipsoid or globose, with persistent calyx.

Planted in the gardens for the fragrant, attractive flowers.

Local name: Dikamali

Flowers: July to October

Local uses: Source of 'Dikamali' resin, a product of medicinal importance.

Sabnis 836, 1641.

W. Peninsular and E. India; Burma.

### Pentas Benth.

Pentas lanceolata (Forsk.) K. Schum in Pfam. 4(4):29, 1891; Bailey, Man. Cult. Pl. 931; Maheshwari, 182.

Ophiorrhiza lanceolata Forsk. Fl. Aegypt.-Arab. 42, 1775.

Pentas carnea Benth in Bot. Mag. t. 4086, 1844.

An elegant herb or undershrub. Leaves elliptic, tapering at both the ends. Stipules interpetiolar with ciliate margins. Flowers pale purple in compound dichasial corymbose cymes, tending towards monochasial.

An ornamental plant grown in the gardens; not common.

Flowers: August to October.

Sabnis 2227.

A native of Trop. Africa and Arabia, now cultivated in many parts of the World.

Hamiltonia Roxb.

Hamiltonia suaveolens Roxb. Hort. Beng. 15, 1814, nom. nud.  
& Fl. Ind. 1:554, 1832; FBI. 3:197; C. 2:51; Bor & Raizada 97, f. 62, Pl. 34, 35.

A tall shrub. Leaves ovate-elliptic, lanceolate. Flowers white-bluish, scented, in trichotomously branched panicles. Capsule ellipsoid.

Planted in the University Botanical garden.

Flowers and Fruits: December to February

Sabnis 12.1.60, Univ. Bot. garden.

Tropical and subtropical Himalayas, Central India, Bihar, W. Peninsula; China.

Hamelia Jacq.

Hamelia patens Jacq. Enum. Pl. Carib. 16, 1760 & select.  
Am. 72; Bor & Raizada 96, f. 61, Pl. 32, 33;  
Maheshwari, 182.

H. erecta Jacq. Enum. Pl. Carib. 16, 1760.

An handsome shrub. Leaves usually whorled, elliptic, obovate or oblanceolate. Flowers orange-red in polychasial and ultimately scorpioid cymes.

Planted in a number of gardens for the ornamental flowers.

Flowers: April to December.

Sabnis 1086, 1178.

Indigenous to Trop. America; now commonly cultivated throughout the tropics.

Ixora Linn.

Flowers red or scarlet. . . . . coccinea

Flowers white:

Corolla tube shorter than 2.5 cm. . . . . arborea

Corolla tube much exceeding 2.5 cm. . . . . finlaysoniana

Ixora coccinea Linn. Sp. Pl. 110, 1753; Bor & Raizada, 86, Pl. 28; Bailey, loc. cit. 929, Maheshwari, 183.

A small ornamental shrub. Leaves oval with cordate, amplexicaul base. Flowers red or scarlet in compact corymbs; corolla salver-shaped with a long, slender tube.

Grown in the gardens for the attractive flowers.

Flowers: April to September.

Sabnis 739, 1241.

Indigenous to W. Peninsular India; now cultivated throughout India and the tropics generally.

Ixora arborea Roxb. ex Smith in Rees, Cycl. 19: no. 5, 1811; Saur. 1: 269; Chavan & Oza, Fl. Pavagadh, 119.

I. parviflora Vahl. Symb. 3: 11, t. 52, 1794 (non. Lamk.) FBI. 3: 142; C. 2: 39; G. 631, Wight, Icon. t. 711.

Large shrub or a small tree. Leaves leathery, elliptic or obovate, base rounded or cordate. Flowers white, fragrant, in subglobose, cymose clusters; corolla tube much shorter than 2.5 cm.

A common garden plant, grown for its green, shining foliage and white, fragrant flowers.

Local name: Raikuda, Nevari.

Flowers: January to April.

Sabnis 1242.

Indigenous to W. Peninsular India, but throughout the country, chiefly in hilly districts.

Ceylon, Burma and the Nicobars.

Ixora finlaysoniana Wall. ex G. Don. Gen. Syst. 3:572,  
1834; G. 2:444; Kar & Panigrahi in Bull. Bot.  
Surv. India 5:230, 1963.

A small tree, much resembling the previous species.  
Flowers white, fragrant in terminal, globose cymes;  
corolla tube much exceeding 2.5 cm.

Planted in the garden and also probably wild in  
certain desolate corners of the L.V. Palace compound.

Flowers: March-April.

Sabnis 1081, 1082.

Native country doubtful. Gardens in Mysore,  
Madras and elsewhere in the East, Assam and N.E.F.A.

Catesbaea spinosa Linn. Sp. Pl. 109, 1753; Bor & Raizada,  
99, f. 63.

A spiny shrub. Leaves opposite, shortly petiolate,  
stipulate, ovate-elliptic. Flowers white or greenish  
yellow, solitary axillary, pendulous corolla tube 7-10 cm.  
long.

Noted in the public park nursery, not commonly  
cultivated.  
K

Flowers: April to June

Sabnis 21.4.64, Public Park.

Indigenous to the West Indies, now cultivated  
in gardens throughout the plains of India.

#### COMPOSITAE (ASTERACEAE)

(Key to the genera of the Compositae adapted from  
Santapau in Indian Ecologist I(1):1-4, 1946)

1. All the florets, on the same head, white:
2. Florets all tubular:
  3. Stems with white, cottony pubescence;  
leaves deeply pinnatifid, spinous...Echinops
  3. Stems without cottony pubescence:
    4. Stems glabrous; planted suberect  
or prostrate; pappus of 2 scales..Caesulia
    4. Stems more or less pubescent,  
Erect:
      5. Involucral bracts connate for  
about half way into a tube....Lagasca
      5. Involucral bracts not  
connate; very acute ribbed on the back,  
ciliolate and with scarious  
margins. . . . . Ageratum

- 2. Outer florets ligulate, inner tubular:
  - 6. Leaves sessile; achenes compressed, with a narrow wing. . . . . Eclipta
  - 6. Leaves petiolate:
    - 7. Paleae narrow, flat; pappus of 2-4, retrorsely hispid, slightly spreading awns. . . . . Bidens
    - 7. Paleae concave, embracing the achenes; pappus of a few unequal, acute scales, rarely short bristles; achenes not ciliate. . . . . Blainvillea
- 1. All florets, on the same head, red-pink-purple-violet-blue:
  - 8. All leaves sessile:
    - 9. Lower leaves runcinate; upper lanceolate, amplexicaul, stem strong, erect, viscid, heads axillary in pairs. . . . . Cichorium
    - 9. Leaves not as above but clearly decurrent into the stem, giving it a winged appearance. . . . . Sphaeranthus
    - 9. Leaves sessile, pinnatifid, the segments toothed, more or less pubescent. . . . . Cyathocline
    - 9. Leaves not decurrent into the stem:
      - 10. Pappus 0 or of a few short hairs. . . . . Tricholepis

10. Pappus present, paleaceous,  
many-seriate. . . . . Amberboa  
(Voluntaria)
8. All leaves petiolate:
11. Involucre of fertile heads hard,  
tough, 2-beaked. . . . . Xanthium
11. Involucre not as above:
12. Lower leaves petioled; the  
upper amplexicaul and  
auricled. . . . . Emilia
12. Leaves not variable as above;  
all petiolate:
13. Pappus of 5 scales. . . . . Ageratum
13. Pappus 2-many seriate. . . . Vernonia
13. Pappus uniseriate. . . . . Blumea
1. Florets of two or more colours on the same head:
14. Leaves compound. . . . . Bidens
14. Leaves simple; outer florets  
white or yellow; inner deep yellow.... Tridax
1. Florets all yellow:
15. Leaves lobed:
16. Leaves opposite:
17. Pappus of 2-4 rigid, retrorsely  
hispid hairs. . . . . Bidens



- 17. Pappus of many, aristate, feathery  
bristles. . . . . Tridax
- 16. Leaves mainly radicle; achenes  
columnar, truncate at both ends/ . . . . Launaea
- 16. Leaves alternate:
  - 18. Prostrate plants; pappus a short  
tube with fimbriate mouth. . . . . Grangea
  - 18. Erect plants; florets all  
ligulate. . . . . Sonchus
- 15. Leaves entire or serrate, but not (or only  
obscurely)lobed:
  - 19. Leaves mainly radical; florets  
all ligulate. . . . . Launaea
  - 19. Leaves opposite:
    - 20. Achenes spinous, with 2 long,  
horn-like spines at the top.... Acanthospermum
    - 20. Achenes ciliate. . . . . Spilanthus
    - 20. Achenes not ciliate, nor  
spinous:
      - 21. Achenes cuneiform. . . . . Blainvillea
      - 21. Achenes not cuneiform, but  
gibbous, curved. . . . . Sclerocarpus
  - 19. Leaves alternate:
    - 22. Florets all ligulate. . . . . Sonchus

22. Outer florets ligulate, inner tubular:

23. Leaves sessile; rigid herbs. . . . Vicoa

23. Leaves petiolate:

24. Achenes truncate,  
triquetrous. . . . . Blainvillea

24. Achenes not truncate,  
nor triquetrous. . . . . Sclerocarpus

22. Florets all tubular, or tubular and  
ligulate on the same head, but  
ligulate ones small, inconspicuous:

25. Leaves petiolate; pappus  
uniseriate, slender; achenes  
small. . . . . Blumea

25. Leaves sessile or subsessile;  
pappus uniseriate:

26. Heads in dense clusters. . . . Gnaphalium

26. Heads solitary. . . . . Blumea

### Echinops Linn.

Echinops echinatus Roxb. Hort. Beng. 62, 1814, nom. nud. &  
Fl. Ind. 3:447, 1832; Fl. 3:358; C. 2:142; G. 724;  
Maheshwari, 200; Chavan & Oza, Fl. Pavagadh, 123.

An erect annual, clothed with white-woolly tomentum.  
Leaves oblong, pinnatifid, the lobes possessing long,  
rigid spines. Flowers white or white with a bluish tinge,  
in a globose, spiny head. Achenes villous.

Noted growing in isolated clumps on dry, waste places along the railway track at Vasad and also in the Bahucharaji Temple area in Baroda.

Neither common nor abundant.

Local name: Utkanto

Flowers and Fruits: October to March

Sabnis 2766.

More or less throughout India; Afghanistan.

Caesulia Roxb.

Caesulia axillaris Roxb. Fl. Cor. 1:64, t. 93, 1795; FBI. 3:291; C. 2:92; G. 702; Wight, Icon. t. 1102; Sant. 117; Chavan & Oza, Fl. Pavagadh, 123.

A succulent, suberect herb, about 25-40 cm. high. Leaves linear lanceolate; margin with shallow serrations; base tapering with a dilated base, embracing the flower clusters. Flower heads homogamous; florets whitish. Achenes flat, 1-ribbed on each side; pappus scales 2.

Often gregarious; a marsh-loving herb of temporary pools, rice-fields and marshes.

Very common and abundant everywhere.

Plate No. 14



Caesulia axillaris Roxb.

Flowers and Fruits: September to February  
or even April.

Sabnis 780, 1761, 2444.

Throughout the greater part of India in rice fields.

Lagasca Cav.

Lagasca mollis Cav. in Anal. *Cienc.Nat.*6:332, t.44, 1803;  
C.2:93; Sant.118.

An erect herb with many spreading branches. Stems hairy. Leaves simple, softly hairy. Flowers white in terminal heads. Achenes with a short cup-like pappus.

An introduced weed, a native of Central America, found in a number of places completely naturalized in the erstwhile Bombay state. In Baroda, it is apparently restricted to the L.V. Palace compound, where it is found growing always under the shade of trees.

Not common, though locally abundant.

Flowers and Fruits: May to November.

Sabnis 877.

Ageratum Linn.

Ageratum conyzoides Linn. Sp.Pl.839, 1753; FBI.3:243;  
C.2:70; G.677; Sant.110; Maheshwari, 190;  
Chavan & Oza, Fl. Pavagadh, 123.

An erect, hairy, odoriferous annual herb. Leaves petiolate, broadly ovate, crenate. Heads white (at times purple) forming terminal corymbs. Achenes black; pappus of 5 scales.

A common weed of waste, shaded places during monsoon; also noted on the footpaths and walls of Navlakhi Vav and as a weed in some of the winter crops.

Local name: Ajgandha

Flowers and Fruits: July to April.

Sabnis 695, 1351, 3192.

Throughout India; in all hot countries.

Eclipta Linn. (nom.cons.)

Eclipta prostrata (Linn.) Linn.Mant.2:286, 1771; Santapan JBNHS.54:475-76 & Fl. Purandhar 68; Sant.118; Maheshwari, 197; Chavan & Oza, Fl. Pavagadh, 124.

Verbesina prostrata Linn. Sp.Pl.902, 1753.

V. alba Linn. Sp.Pl.902, 1753.

Cotula alba Linn. Syst. (ed.12) 564, 1767.

Eclipta erecta Linn. Mant.2:286, 1771; C.2:95.

Eclipta alba (Linn.) Hassk. Fl.Jav.Rar.528, 1848; FBI.3:304; G.705; Hoffmann in Pfam. 4(5): 227, t.115 E-H.

A prostrate, erect or an ascending herb. Leaves sessile, oblong-lanceolate, strigose. Heads white, generally 2 in the axil on unequal peduncles. Achenes compressed with a narrow wing.

The plant exhibits variability in all its gross, morphological characters depending upon the habitat. The plant is a water lover and is found growing on soft muddy banks of rivers, ponds and puddles, sometimes even entering water. On many occasions, the plants were observed on absolutely dry, sandy places. On such habitats, the growth is very much stunted. In the sewage disposal area, very tall, healthy plants with exceptionally swollen nodes, were observed.

Local name: Bhangro

Flowers and Fruits: Almost throughout the year.

Local uses: The plant is cooling and is mixed with oil to keep hair black.

Sabnis 548, 1981, 2172.

Throughout India; Ceylon, Burma, Malaya; cosmopolitan in warm climates.

Bidens Linn.

Bidens biternata (Lour.) Merr. & Sherff in Bot.Gaz.88:293, 1929; Sherff, Gen.Bidens 389, 1937; Sant.118.

Coreopsis bitermata Lour. Fl.Cochinch.508, 1790.

Bidens wallichii DC. Prodr. 5:598, 1836; Gr.101;  
D. & G. 128.

B. pilosa auct. non. Linn.; FBI.3:309; C.2:101.

An annual, erect herb. Stems grooved. Leaves variable, simple or compound. Heads white, yellow or mixed; heterogamous. Achene black, ribbed; pappus of 2-4, retrorsely hispid, slightly spreading awns.

Noted in waste corners; not common, nor abundant.

Flowers and Fruits: September to November.

Sabnis 2217, 2218.

Throughout India; Ceylon and most warm countries.

### Spilanthes Linn.

Spilanthes paniculata Wall. ex DC. Prodr. 5:625, 1836.

S. calva DC. Prodr. 5:625; Wight, Icon. t.1109.

S. acmella auct. non (L.) Murr: FBI.3:307;  
D. & G. 129; Trimen 3:40; C.2:99.

A small, erect herb. Heads ovoid, yellowish-red and not white, solitary on long peduncles. Achenes ciliate; pappus 0.



Noted as an escape in certain waste corners in the L.V. Palace compound. The plant is highly medicinal. The heads, when chewed, have a pungent taste and cause profuse salivation.

Local name: Akkalgaro

Flowers and Fruits: December to January.

Sabnis 1930, 2445, 2480.

Tropical American species, now introduced throughout India, Ceylon and all warm countries.

Blainvillea Cass.

Blainvillea acmella (Linn.) Philipson in Blumea 6(2): 350, 1950.

Verbesina acmella Linn. Sp.Pl.901, 1753.

Eclipta latifolia Linn. f. Suppl. 378, 1781.

Blainvillea latifolia DC. in Wight, Contrib. 17, 1834; FBI.3:305; Maheshwari, 198.

B. rhomboidea Cass. in Dict. Sc.Nat.29:494, 1823; Cl2:97.

A small, rigid, hispid herb, apparently dichotomously branched. Leaves petiolate, ovate, serrate, 3-nerved, hairy. Head white or yellowish white on long, stiff, axillary peduncles. Achenes triquetrous, curved or nearly straight.

Noted growing gregariously under the shade of trees in a few waste corners of the L.V. Palace compound, especially during the monsoon and post-monsoon period; also found on roadside, waste places on way to Bhimpura, but not as abundant.

Flowers and Fruits: August to November.

Sabnis 878, 2373, 3213.

Throughout the greater part of India.

Ceylon, Java, Trop. Asia, Africa, America and Australia.

Cichorium Linn.

Cichorium intybus Linn. Sp.Pl.813, 1753; FBI.3:391; C.2:127; Bailey, Man. Cult. Pl.983; Maheshwari, 188; Chavan & Oza, Fl. Pavagadh, 126.

An erect, hispid herb. Latex white. Leaves oblanceolate, clasping the stem; lower usually pinnately lobed and upper entire. Heads bright blue, sessile, homogamous. Achenes glabrous; pappus short, scaly.

Noted so far, in the Lucerne fields as an escape; rare.

English name: Chicory.

Flowers and Fruits: February to April.

Sabnis 3615, 3616.

N.W. India, Kumaon. Westward to the Atlantic.

Sphaeranthus Linn.

Sphaeranthus indicus Linn. Sp.Pl.927, 1753; FBI.3:275;  
C.2:84; Sant.116; Chavan & Oza, Fl. Pavagadh,126.

S. hirtus Willd. Sp.Pl.3:2395, 1804.

S. mollis Roxb. Hort. Beng. 62, 1814; Gr.96;  
D. & G. 123.

Prostrate or suberect herbs. Leaves decurrent into the stem, giving it a winged appearance. Heads purple, perfectly globose. Achenes glabrous, angular.

Noted on moist or wet banks of ponds and rivers; also in dry, waste places.

Common and abundant.

Local name: Gorakh Mundi, Bodiyo Kalhar.

Flowers and Fruits: November to April.

Sabnis 546, 2905.

Through India - Tr.Himalaya, Kumaon to Sikkim, Assam and the W. Peninsula.

Ceylon, Africa, Malay Islands, Australia.

Cyathocline Cass.

Cyathocline purpurea (Don) Kuntze, Rev.Gen.Pl.338, 1891;  
Sant.110; Chavan & Oza, Fl. Pavagadh, 130.

Tenacetum purpureum Don, Prodr. 181, 1825.

Cyathocline lyrata Cass. in Ann. Soc.Sci.Nat.(Ser.1)  
17:420, 1829; FBI.3:246; C.2:71; G.679; Wight,  
Icon. t.1098.

C. stricta DC. Prodr. 5:374, 1836; D. & G.124.

Slender, erect herbs. Leaves sessile, pinnatifid,  
segments toothed. Heads purple or purple-rose, arranged  
in a corymbose manner. Achenes small, smooth; pappus 0.

A rare plant of the wet river banks, locally abundant  
at Shahapura.

Flowers and Fruits: October to December.  
occasionally in May.

Sabnis 3157,..3160.

Throughout India - N.W. Himalayas, Bihar, Central  
India, Assam, W. Peninsula; Burma.

Tricholepis DC.

Tricholepis glaberrima DC. Prodr. 6:754, 1837; FBI.3:381;  
C.2:115; Sant.121; Chavan & Oza, Fl. Pavagadh, 127.

A spiny herb. Leaves linear-oblong, serrate. Heads purple. Pappus 0 or of a few short hairs.

A common weed of cultivated crop fields and waste places.

Local name: Utkatari; Utkanti

Flowers and Fruits: October to May

Sabnis 1001, 2895.

Throughout the Bombay Presidency; Central India, Marwar, W. Peninsula.

Amberboa Less. (nom.cons.)

(Volutarella Cass.)

Amberboa ramosa (Roxb.) Jafri in Scientist (Karachi)

III:29, 1959; Chavan & Oza, Fl. Pavagadh, 127.

<sup>u</sup>  
Carduus ramosus Roxb. Fl.Ind. 3:407, 1832.

<sup>k</sup>  
Volutarella ramosa (Roxb.) Santapau in Fl.Saur.22, 1953, and Fl.Pūrandhār, 71.

V. divaricata Benth. et. Hook. f. Gen. Pl. 2:476, 1837 (excl.syn.quibusdam); FBI.3:383, C.2:115; G.727.

Tricholepis procumbens Wight, Icon. t.1139, 1846; D. & G.131.

An herbaceous plant. Leaves oblong-obovate, pinnatifid; lobes undulate. Heads purple; pappus palaeaceous, many-seriate.

A weed of waste places and cultivated crop fields; resembles in habit and habitat Tricholepis glaberrima DC, from which it can be differentiated with the help of the pappus character.

Flowers and Fruits: November to March.

Sabnis 2032, 2033.

N.W. Himalayas, Central, Western and Southern India; Afghanistan, Baluchistan.

### Xanthium Linn.

Xanthium strumarium Linn. Sp.Pl.987, 1753; FBI.3:303; C.2:94; Sant.118; Maheshwari,196; Chavan & Oza, Fl. Pavagadh, 128.

X. indicum Koen. ex Roxb. Hort. Beng. 67, 1814 & Fl. Ind. 3:601, 1832; Gr.101; D. & G.127; Wight, Icon. t.1104.

Erect herb or undershrub, up to 2 meters tall.

Leaves triangular-cordate, irregularly toothed. Heads, bisexual and female. separate; latter 2-flowered. Fruiting involucre hard, tough, 2-beaked.

A very common weed of roadsides and waste places along with common associates like Crotalaria medicaginea, Acanthospermum and various species of Tephrosia and Cassia; also noted on the elevated banks of ponds and

rivers, where at times pure stands are met with.

Very common and abundant.

Local name: Gadariyun.

Flowers and Fruits: September to May.

In the hot months, the fruits are all scattered over on the banks of ponds and rivers and also along roadside, making it almost difficult to walk on them. The spiny fruits stick to the fur of passing animal, thereby helping dispersal. Small seedlings are observed with the first few showers of monsoon.

Sabnis 539, 1004, 3084.

Throughout India.

Ceylon and warmer parts of the world; cosmopolitan in distribution.

Emilia Cass.

Emilia sonchifolia (Linn.) DC. in Wight, contrib 24, 1834 & Prodr. 6:302; FBI.3:336; C.2:107, C.715; Sant.120; Chavan & Oza, Fl.Pavagadh, 128.

Cacalia sonchifolia Linn. Sp.Pl.835, 1753; Gr.98.

A slender herb 30-50 cm. tall. Lower. Leaves petiolate, the upper amplexicaul and auricled, both very variable. Heads purplish, in lax corymbs. Achenes

oblong, 5-ribbed, scabrid on the ribs; pappus copious.

A monsoon weed, which prefers cool and shaded places under the shade of trees.

Neither common, nor abundant.

Flowers and Fruits: August to October or even January.

Sabnis 656, 2615.

Throughout India and all tropical and subtropical regions of the world.

Vernonia Schreb. (nom. cons.)

Vernonia cinerea (Linn.) Less in Linnaea 4:291, 1829 & 6:673, 1831; FBI.3:233; C.2:65; G.676; Sant.109; Maheshwari, 190; Chavan & Oza, Fl. Pavagadh, 126.

Conyza cinerea Linn. Sp.Pl.862, 1753.

An erect, herbaceous annual. Leaves ovate to lanceolate, variable. Heads purple to pinkish-violet, homogamous. Achenes hairy; pappus hairs white, 2-many seriate.

A very common weed of waste places, cultivated fields and abandoned lawns; also noted on the old walls of Sevasi Vav and other dilapidated structures.



Common and abundant.

Local name: Sahadevi

Flowers and Fruits: June to February.

Sabnis 537, 953, 2278.

Throughout India in various situations and  
under varying conditions of moisture and soil;  
Tropical Asia, Africa and Australia.

Blumea DC. (nom. cons.)

Heads all solitary:

Leaves dentate; pappus pink. . . . . obliqua

Leaves serrate; pappus white. . . . . bifoliata

Heads few, in axillary and terminal

corymbs. . . . . eriantha

Heads many:

Heads in spiciform cymes or panicles:

Florets yellow; plants with the  
turpentine smell. . . . . lacera

Florets purple; plants with no  
turpentine smell. . . . . mollis

Heads in peduncled, open corymbs. . . . membranacea

Blumea obliqua (Linn.) Druce in Rep.Bot.Exch.Club.  
Brit.Isles. 4:609, 1917.

Erigeron obliquus Linn. Mant. 573, 1771.

Blumea amplexens DC. in Wight, Contrib. 13, 1834;  
FBI. 3:260; C.2:75.

A decumbent herb. Branches densely villous. Leaves sessile, semi-amplexicaul, dentate or entire. Heads yellow. Achenes oblong, hairy.

Noted on waste places and fallow fields.

Flowers and Fruits: December to March.

Sabnis 3131.

Konkan, Gujarat, Saurashtra; more or less throughout India; Ceylon.

Blumea bifoliata DC. in Wight, contrib. 14, 1834;  
FBI.3:261; C.2:75; Maheshwari, 195; Shah in Ind.  
For. 89(4):289, 1963.

An erect, hairy herb, branching from the base. Leaves serrate. Heads yellow, solitary on long peduncles. Achenes narrow, oblong, angular; pappus white.

In waste places and fields. Not observed by me in the fields, listed on the authority of Shah, loc.cit.

Flowers and Fruits: December to February.

Deccan, S.M. country, Gujarat, Bengal, W. Peninsular India; Ceylon, Malay Peninsula.

Blumea eriantha DC. in Wight, Contrib. 15, 1834;  
 FBI.3:266; C.2:78; Sant.114; Randeria in Blumea  
 10(1):279, 1960; Chavan & Oza, Fl. Pavagadh, 129.

A slender, erect herb. Leaves thin, membranous,  
 obovate. Heads yellow. Acheness angled, sparsely hairy.

In waste localities; not common.

Flowering and Fruiting: February.

Sabnis 2484a.

Apparently endemic to W. Peninsular India.

Blumea lacera (Burm.f.) DC. Prodr. 5:436, 1834; FBI.3:263;  
 C.2:76; Maheshwari, 195.

Conyza lacera Burm. f. Fl.Ind.180, 1768.

Erect herb with an odour of turpentine. Leaves oval  
 or obovate, dentate or serrate. Heads yellow in spiciform  
 cymes or panicles. Achemes not ribbed; pappus white.

A very common weed of waste places and fallow fields;  
 also noted in the crevices of old walls.

Flowers and Fruits: November to April (dry  
 fruiting stage).

Sabnis 936, 1141, 2451.

Thourghout the plains of India; Ceylon, China,  
 Malaya, Trop. Africa.

The plant resembles Blumea mollis (D. Don.) Merr. but can be differentiated from it by the yellow heads and peculiar odour.

Blumea mollis (D. Don) Merr. in Philip. Jour: Sci. (Bot.) 5:395, 1910; Sant.113; Maheshwari, 195.

~~Blumea~~ molle D. Don, Prodr. 172, 1825.

Blumea wightiana DC. in Wight, Contrib.14, 1834; FBI.3:261; C.2:75; FUGP.1:453.

Erect, upright, hairy herb. Leaves ovate, obovate or lanceolate, serrate. Heads purplish, many, in spiciform cymes or panicles. Achenes angular, not ribbed.

A common weed on waste lands, cultivated fields as well as in the cracks of old walls.

Flowers and Fruits: December to March

Sabnis 1974...1977, 3091, 3132.

Throughout the plains of India.

Blumea membranacea DC. Prodr. 5:440, 1836; FBI.3:265; C.2:77; G.687; Sant.114; Randeria in Blumea 10(1): 269, 1960; Chavan & Oza, Fl. Pavagadh, 130.

Erect, annual herbs, more or less pubescent, at times densely so. Leaves obovate or oblanceolate, membranous, coarsely toothed. Heads yellow.

No page number  
385 here.

Noted growing in waste corners of the L.V. Palace compound; rare.

Flowers and Fruits: December to February.

Sabnis 2446, 2447.

Throughout India; Ceylon, Malay Islands.

(All my Blumeas have been confirmed at the Kew Herbarium.)

Tridax Linn.

Tridax procumbens Linn. Sp.Pl.900, 1753; FBI.3:311,  
G.2:102; G.711; Sant.119; Maheshwari,199;  
Chavan & Oza, Fl. Pavagadh,130.

Aprostrate or suberect herb with spreading branches.  
Leaves ovate or lanceolate, shallowly or deeply dentate.  
Heads yellow or yellowish white, on long peduncles.  
Achenes oblong, silky hairy.

A common weed of waste places; noted on lawns, in the shade of hedges, borders of cultivated fields and on old walls.

Local name: Pardesi Bhangaro

Flowers and Fruits: Almost year round, more profusely from November to April.

Sabnis 541, 1511, 2090.



A native of Central America, which has become completely naturalized in various parts of India.

Launaea Cass.

Launaea nudicaulis (L.) Hook. f. in FBI:3:416, 1881;  
C.2:122; Sant.122; Maheshwari,189; Chavan & Oza,  
Fl. Pavagadh,131.

Chondrilla nudicaulis L., Mant. 2:278, 1771.

A herb with radical leaves. Latex yellow. Leaves lobed or pinnatifid. Heads yellow, more or less subracemose on a usually naked scape or floral shoot. Achenes ribbed; pappus of many simple hairs.

A common weed of lawns and open grounds; as a weed in winter crop fields; on the old walls of tanks and 'Vav'.

Local name: Bhonyapatri

Flowers and Fruits: July to March.

Sabnis 553, 1562.

More or less throughout the plains of India.

A mediterranean oriental species known from Canary Islands, Madeira, Spain, North Africa, Egypt, Arabia and the Middle East eastwards to Persia.

Grangea Adans.

Grangea maderaspatana (Linn.) Poir. Encycl. Suppl.2:825; 1811; FBI.3:243; C.2:72; G.680; Wight, Icon. t.1097; Sant.112; Maheshwari,191; Chavan & Oza, Fl.Pavagadh, 131.

Artemisia maderaspatana Linn. Sp.Pl.849, 1753.

A prostrate, spreading herb. Leaves sinuately pinnatifid, alternate. Heads yellow, disciform. Achenes glandular; pappus a short tube with fimbriate mouth.

Noted in almost circular patches forming carpets on the wet banks of Vishwamitri river; otherwise a very typical plant of dry pond or puddle beds (which are filled up during monsoon) in association with Rorippa indica (Linn.) Hiern. and Gnaphalium indicum Linn., often confused with the former when in leaf only.

Local name: Mundi.

Flowers and Fruits: November to April.

Sabnis 509, 1970, 2729.

Throughout India; Ceylon, Tropical and subtropical Asia and Africa.

Sonchus Linn.

Sonchus oleraceus Linn. Sp.Pl.794, 1753; FBI.3:414; C.2:119; Sant.122; Tadulingam, South.Ind. Weeds 251, Pl.100, 1955; Maheshwari,190.



An erect annual herb. Leaves sessile, runcinate-pinnatifid with clasping, auricled leaf bases. Heads yellow, borne in umbellate cymes. Achenes compressed, longitudinally ribbed, transversely muricate, light brown; pappus hairy, copious.

A weed of waste places and fields; not at all common. Healthy plants were observed in the vegetable crops in the sewage disposal area.

Flowers and Fruits: October to February.

Sabnis 1984, 2745.

Introduced into the gardens, from where it has spread tolerably widely in the Bombay Presidency and sparingly throughout India.

A native of Eurasia and North Africa, now more or less cosmopolitan as a weed.

Acanthospermum Schrank.

Acanthospermum hispidum DC. Prodr. 5:522, 1836; G.604; Santapau in JBNHS.45:445-46; Sant.123; Chavan & Oza, Fl. Pavagadh, 132.

A dichotomously branched, erect herb. Leaves simple, sessile, obovate-lanceolate. Heads yellow, placed at

the base of the forking branches, heterogamous. Achenes spinous, with 2 long horn-like spines at the top.

An aggressive, roadside weed found in association with Xanthium strumarium; not yet well established in comparison to its senior partner, but in certain localities (Bhimpura - along the roadside and Vasad - along the railway track) it forms pure stands to the exclusion of everything else.

Flowers and Fruits: August to February

Sabnis 2791, 3328.

A native of S. America, which has become quite antroublesome weed like Xanthium strumarium in various parts of the country such as S. India, Bombay, Rajasthan, Madhya Pradesh, etc.

#### Sclerocarpus Jacq.

Sclerocarpus africanus Jacq. Icon. Pl.Rar.1:17, t.176, 1782; FBI.3:305; C.2:96; Chavan & Oza, Fl. Pavagadh, 132.

An erect herb. Leaves ovate, acute, dentate, clothed with appressed hairs on both the surfaces, merging into the petiole. Florets yellow in sessile heads. Achenes gibbous and ribbed.

A weed of waste places, particularly common in the L.V. Palace compound under the thick canopy of Banyans.

Flowers and Fruits: August to October.

Sabnis 820, 2219, 2655.

W. Himalaya, Punjab, W. Peninsula.

Tropical Africa.

Vicoa Cass.

Vicoa indica (Willd.) DC. in Wight, contrib. 10, 1834;  
Gr.97; D. & G.126; G.701; Wight, Icon. t.1148;  
Sant.117.

Inula indica Willd. Sp.Pl.3:2092, 1804.

Vicoa auriculata Cass. in Ann. Sc. Nat. (Ser.1)  
17:418, 1829; FBI.3:297; C.2:88.

An erect, rigid herb. Leaves linear lanceolate, rough or scabrid on both the surfaces, with rounded auricles at the base. Heads yellow on long peduncles, heterogamous. Pappus of ray florets absent and of disc florets few, slender hairs.

A common weed of waste places and in barren or ~~ex~~ cultivated fields, especially tobacco.

Local name: Sonasali

Flowers and Fruits: October to May.

Sabnis 965, 2352.

Throughout the drier parts of India; Burma, Ceylon.

Gnaphalium Linn.

Heads in spikes. . . . . indicum

Heads in subglobose, axillary or  
terminal, leafy clusters. . . . . pulvinatum

Gnaphalium indicum Linn. Sp.Pl.852, 1753; FBI.3:289;

C.2:87; Sant.117; Maheshwari, 194; Chavan & Oza,  
Fl. Pavagadh, 133.

Erect, suberect or prostrate herbs covered over with  
white pubescence. Leaves linear-obovate or spatulate.  
Heads shining, whitish yellow or straw-coloured, in spikes.

Noted in comparatively wet ditches along with Glinus  
oppositifolius (Linn.) DC., Polygonum plebejum R. Br. and  
Potentilla supina Linn.; also on muddy banks of rivers.

Flowers and Fruits: November to April.

Sabnis 511, 1978.

Throughout India; Burma, Africa, China, Japan,  
Australia.

Gnaphalium pulvinatum Delile, Descript. de l'Egypte 266,  
t.44, 1812; FBI.3:289; C.2:87.

A prostrate, woolly herb. Leaves spatulate. Heads whitish yellow or straw-coloured in dense, subglobose clusters.

Noted on wet or muddy banks of rivers and ponds; not as common as G. indicum Linn.

Flowers and Fruits: January to March.

Sabnis 528, 529.

Throughout the plains of India; Egypt.

The following are the composites which are grown commonly in gardens as seasonals for their attractive flowers.

Aster amellus Linn.; Calendula officinalis Linn.;  
Chrysanthemum indicum Linn.; Coreopsis tinctoria Nutt.;  
Cosmos bipinnatus Cav.; Dahlia variabilis Desf.;  
Gaillardia pulchella Foug.; Gerbera jamesonii Bolus.;  
Helianthus annuus Linn.; Solidago canadensis Linn.;  
Tagetes erecta Linn.; T. patula Linn.; Zinnia elegans  
 Jacq.

## PLUMBAGINACEAE

Plumbago Linn.

Flowers white. . . . . Zeylanica

Flowers blue. . . . . Capensis

Plumbago zeylanica Linn. Sp.Pl.151, 1753; FBI.3:480;  
C.2:136; Sant.124; Maheshwari 203; Chavan & Oza,  
Fl. Pavagadh, 134.

A shrubby plant. Stems striate. Leaves ovate, entire,  
thin. Flowers white in spike-like racemes; calyx very  
much glandular. Capsules oblong.

A weed of waste places; at the foot of bushy trees  
or straggling amongst hedges.

Local name: Chitrak

Flowers and Fruits: August to January

Sabnis 649, 3476.

Throughout India, often cultivated (?); wild in  
W. Peninsula and probably Bengal.

Burma, Ceylon and tropics of the Old World.

Plumbago capensis Thunb. Prodr. Capen. 33, 1794; C.2:137;  
Bailey, Man.Cult. Pl.786; Bor & Raizada 163,  
Pl.58 & 59.

An erect or straggling shrub or undershrub. Leaves oblong-spathulate, tapering into short petiole. Flowers blue in spikes; corolla 2-5 to 4 cm. long; calyx glandular, pubescent.

Cultivated in a few gardens for the ornamental flowers.

English name: The Cape Leadwort.

Flowers and Fruits: February to April

Sabnis 1140a, 20.4.58 (Public Park Nursery)

Native of the Cape of Good Hope, now widely cultivated in gardens throughout the plains of India.

#### PRIMULACEAE

#### Anagallis Linn.

Anagallis arvensis Linn. var. coerulea (Schreb.) Gren.

ET Godr. Fl. France 2:467, 1852; Pax & Knuth in Pfreich. 22:323.

A. coerulea Schreb. Fl. Lips. 5, 1771.

A. arvensis Dalz. & Gibs. Bom. Fl. 136, 1861; FBI. 3:506; C. 2:139.

An erect or suberect herb up to 15 cm. high. Stem and branches 4-gonous. Flowers blue on slender pedicels

arising from the axils of ovate-lanceolate, sessile opposite leaves. Capsules operculately dehiscent with the style persistent on the opeculum; seeds numerous, minute, trigonous.

A weed of the winter crops such as Lucerne and wheat; also along the banks of an irrigation channel; not common, though locally abundant.

Flowers and Fruits: January to March.

Sabnis 921, 2031.

More or less throughout India.

Ceylon, Europe, W. Asia and introduced into most temperate regions.

## MYRSINACEAE

### Jacquinia Linn.

Jacquinia aculeata (L.) Mez in Urb.Symb. antill. 2:445, 1901; Mez in Pfreich. 15:35, 6.7, J-O, 1903.

Medeola aculeata L. Spec. Pl.(ed.1): 339, 1753.

Jacquinia ruscifolia Jacq. Enum. 15, 1760.

A small, handsome, bushy tree. Leaves elliptic, strongly cuspidate, dark green. Flowers brick-red in terminal or axillary racemes.



Planted in the gardens; not common.

Flowers and Fruits: November to April.

Sabnis 1262, 3183.

A native of Mexico and West Indies, now planted in many tropical countries.

#### SAPOTACEAE

Calyx segments 4-5; staminodes none. . . . . Madhuca

Calyx segments 6-8; staminodes present:

Flowers normally tetramerous. . . . . Mimusops

Flowers normally trimerous. . . . . Manilkara

#### Madhuca J.F. Gmel.

Madhuca indica J.F. Gmel. Syst. Nat. 2:799, 1791; Sant. 126; Maheshwari, 204.

Bassia latifolia Roxb. Pl. Cor. 1:20, t. 19, 1795; FBI. 3:544; C. 2:152.

Madhuca latifolia (Roxb.) Macbride in Contr. Gray. Herb. (N.S.) 3 (53):17, 1918.

A medium-sized, deciduous tree. Leaves clustered at the end of branches, elliptic or broadly lanceolate. Flowers cream-coloured, sweet-scented, rusty-tomentose in dense clusters at the ends of leafless branches.

Planted in gardens; not at all wild in the locality.

Local name: Mahudo

Flowers: March-April.

Sabnis 4.3.60, L.V. Palace compound.

Konkan, Kanara, Deccan, S.M. country, Plentiful in Gujarat, Central India, W. Peninsula; Burma.

Mimusops Linn.

Mimusops elengi Linn. Sp.Pl.349, 1753; FBI.3:548; Merr. Enum. 3:288; C.2:155.

A small to medium-sized, evergreen tree. Leaves oblong, elliptic, coriaceous. Flowers creamy white, fragrant, solitary or in fascicles. Berries yellow when ripe.

Planted in a number of private and public gardens in and around Baroda. The flowers which have fallen on the ground are picked up and made into 'venis'.

Local name: Borsali, Bakul

Flowers and Fruits: February to May.

Sabnis 1246.

India (W. Peninsula), often planted.

Ceylon, Malaya; cultivated in the tropics.

Manilkara Adans (nom.cons.)

Fruit ellipsoid, yellow when ripe. . . . . hexandra

Fruit globose, rusty-brown. . . . . achras

Manilkara hexandra (Roxb.) Dubard in Ann.Mus.Col.

Marseille (ser 3)3:9, 1915; Bor, Man. Ind. For.

Bot.235; Maheshwari, 205; Chavan & Oza, Fl.

Pavagadh, 135.

Mimusops hexandra Roxb. Pl.Cor.1:16, t.15, 1795 &

F. Ind. 1:238; FBI.3:549; C.2:155.

A small, evergreen tree. Leaves coriaceous, elliptic-obovate, obtuse or emarginate. Flowers whitish, axillary, solitary or in fascicles of 2-6. Berry ellipsoid, usually 1-seeded, yellow when ripe.

Noted at a number of places; planted and not wild.

Local name: Rayan

Flowers and Fruits: November to May

Local uses: The fruits are edible and are sold in large quantities in the local markets.

Sabnis 10.11.58, Univ.Bot.garden; L.V. Palace compound; outskirts of Bhimpura village.

India (W. Peninsula, cultivated in N.W. India); Ceylon.

Manilkara achras (Mill.) Fosberg in Taxon 13:255, 1964.

Sapota achras Mill., Gard. Dict. 1768.

Achras zapota Linn. <sup>complete citation</sup>; Bailey, Man. Cult. Pl. 790;  
FBI. 3:534; C. 2:156.

An handsome tree. Leaves oblong-lanceolate or elliptic, crowded at the end of branches. Flowers white, long-pedicelled. Fruit globose, 4.5-5 cm. across, with thin, rusty-brown, scurfy skin and yellow-brown pulp, surrounding shining black, obovate seeds.

Cultivated in a few private and public gardens for the edible fruits, which are sold in the market.

Local name: Chiku.

English name: Sapodilla Plum.

Flowers and Fruits: January to April.

Sabnis 1299; L.V. Palacec compound; Public Park Nursery.

The Sapodilla Plum of the W. Indies, introduced from America and now cultivated more or less throughout India.

#### EBENACEAE

Diospyros Linn.

Diospyros cordifolia Roxb. Pl. Cor. 1:38, t. 50, 1795 & Fl. Ind. 2:538, 1832; FUGP. 2:17; C. 2:165.

D. montana Clarke in FBI.3:555, 1882, in part.

D. montana var. Cordifolia Hiern, Monog. Eben.222,  
1873.

A large shrub or a small tree. Leaves ovate-oblong to ovate-lanceolate, cordate or rounded at base. Male flowers pale white, in threes; female yellowish white, solitary. Fruit globose, yellow or orange at maturity.

Common along the roadside hedges, where it is probably planted; growing wild at many places.

Flowers and Fruits: January to June.

Sabnis 517, 1387:

W. Peninsular India and Ceylon.

#### OLEACEAE

#### Jasminum Linn.

Leaves 1-foliolate:

Plants hairy; calyx lobes short. . . . . sambac

Plants very hairy; calyx lobes very long. multiflorum

Leaves 3 - or more foliolate:

Two lateral leaflets very small and frequently absent. . . . . auriculatum

Leaves not as above, but distinctly compound, terminal leaflet much larger than others; laterals acute. . . . . officinale

Jasminum sambac (Linn.) Ait.Hort.Kew.1:8, 1789; C.2:172;  
Bailey, Man.Cult.Pl.798; Bor. & Raizada, 218,  
f.128; Maheshwari,208.

Nyctanthes sambac Linn. Sp.Pl.6, 1753.

An erect, bushy shrub. Leaves opposite, petiolate,  
broadly ovate or elliptic, glabrous, shining. Flowers  
white, fragrant; corolla many-whorled.

Commonly grown in the gardens for the fragrant  
flowers, which are made into garlands and 'venis' and  
sold in the market.

Local name: Mogra

Flowers: December to May.

Sabnis 1576.

Believed to be indigenous to S. India, now widely  
planted throughout India and in the tropics of both  
hemispheres.

Jasminum multiflorum (Burm.f.) Andr.Bot.Rep.8, t.496,  
1807; Bailey, loc.cit. 799; Maheshwari,208.

Nyctanthes mutliflorum Burm. f.Fl.Ind.5, t.3, f.1,  
1768.

Jasminum pubescens Willd. Sp.Pl.1:37, 1797;  
FBI.3:592; C.2:173; Bor. & Raizada, 219, f.129,  
Pl.78.

A scandent shrub. Leaves simple, ovate, cordate. Flowers white, fragrant, in many-flowered umbels; calyx lobes very long.

Cultivated in public and private gardens for the fragrant flowers.

Local name: Mogra (Ran)

Flowers: February to May

Sabnis 1572.

Throughout the greater part of India ascending to more than 1000 meters in the Himalayas, also in Burma and China.

Jasminum auriculatum Vahl, Symb. Bot.3:1, 1794; FBI.3:600; C.2:174; Maheshwari, 208.

A bushy shrub. Leaves 3-foliolate; the basal two lateral leaflets very small, forming auricles, on either side of the big, terminal leaflet; frequently the laterals are wanting. Flowers white, sweet-scented in dichasial cyme.

Noted under cultivation in the L.V. Palace garden; grown for its fragrant flowers.

Local name: Jai

Flowers: From May onwards.

Sabnis 1570.

Indigenous to W. Peninsular India, planted  
elsewhere in India and Ceylon.

Jasminum officinale Linn. Sp.Pl.7, 1753; C.2:175;  
Bailey, loc.cit.798; Bor & Raizada, 222, f.132;  
Maheshwari, 208.

A climbing shrub, requiring support of a cage or  
trellis. Leaflets 5-7 elliptic, ovate or rhomboid  
oblong. Flowers white, delicately fragrant in terminal  
clusters.

Noted in a number of private and public gardens in  
and around the University campus.

Flowers: September to November.

Sabnis September 1957 onwards; University  
campus, Public Park, etc.

A native of Kashmir, Afghanistan and Persia,  
cultivated in India, China, Europe, etc.

#### SALVADORACEAE

Salvadora Linn.

Leaves ovate to ovate-lanceolate, 1.9 cm.  
or more broad; flowers pedicellate; ripe  
fruits red. . . . . .persica



Leaves linear-lanceolate, less than 1.9 cm.  
 broad; flowers sessile; ripe fruits  
 yellow. . . . . oleoides

Salvadora persica Linn. Sp.Pl.122, 1753 var. persica;  
 FBI.3:619; C.2:182; Maheshwari, 209.

A small tree with crooked trunk. Leaves thick,  
 fleshy, variable. Flowers greenish white in axillary  
 and terminal panicles. Drupes globose, translucent,  
 juicy, pink, dark pink and ultimately red at maturity.

A very common tree all along the roadside hedges;  
 Noted on sandy soils of the ravines along with Acacia  
nilotica ; On the river banks at Dabka along  
 with true halophytes like Spinifix and Aleuopus;  
 dominant perennial on old walls of temples along with  
Clerodendrum phlomidis.

Local name: Piludi.

Flowers and Fruits: September to April.

Sabnis 687, 2741.

Verdcourt in Kew Bulletin (19:153-54) recognises a  
 number of varieties of Salvadora persica L. and mentions  
Salvadora persica Linn. proper, occurs in Africa, Middle  
 East and India.

Salvadora oleoides Decne. in Jacq. Voy.Bot.140, t.144,  
1844; FBI.3:620; C.2:183; Maheshwari, 210.

Salvadora stocksii Wight, Ill. 2:229 & Icon. t.1621.

A shrub or a small tree. Leaves linear lanceolate, coriaceous, whitish green, glabrous, fleshy. Flowers greenish-white, sessile, in axillary spikes, often clustered. Drupes globose, yellow at maturity.

Typical tree of the sandy tracts of ravines; rare.

Local name: Piludi.

Flowers and Fruits: December to May

Sabnis 2743, 2744.

In the dry, arid regions of N.W. & W. India; Aden.

#### APOCYNACEAE

1. Erect herbs or small shrubs:

2. Fruit a dehiscent follicle; leaves  
opposite or alternate. . . . . Catharanthus

2. Fruit an indehiscent drupe;  
leaves whorled. . . . . Rauvolfia

1. Erect, diffuse or climbing shrubs and trees:

3. Habit climbing:

4. Anthers exserted. . . . . Vallaris

## 4. Anthers included:

5. Corolla salver-shaped. . . . . Aganosma

## 5. Corolla campanulate:

6. Flowers as long as 10 cm. . . . . Beaumontia6. Flowers upto 5 cm. long. . . . . Allamanda

## 3. Habit erect or diffuse:

7. Plants armed with thorns. . . . . Carissa

## 7. Plants unarmed:

## 8. Leaves alternate:

9. Corolla campanulate. . . . . Thevetia9. Corolla hypocrateri form  
or salver-shaped. . . . . Plumeria8. Leaves whorled; corolla  
salver-shaped:10. Trees; flowers greenish  
yellow. . . . . Alstonia10. Large shrubs; flowers white,  
rose or red. . . . . Nerium8. Leaves opposite; flowers white,  
pink or red; corolla salver-  
shaped:

## 11. Corolla without coronal scales:

12. Shrubs; follicles few-  
seeded. . . . . Tabernaemontana12. Trees; follicles many  
seeded, linear. . . . . Holarrhena

11. Corolla with coronal scales. . . . Wrightia

Catharanthus G. Don.

Wild plants; stem quadrangular; corolla  
less than 1 cm. long. . . . . pusillus

Cultivated plants; stem not quadrangular;  
corolla more than 1 cm. long. . . . . roseus

Catharanthus pusillus (Murr.) D. Don. Gen.Syst.4:95, 1837;  
Santapau in Bull. Bot. Surv.Ind.3:15;  
Maheshwari, 211.

Vinca pusilla Murr. in Act.Goett.3:66, t.2, f.1, 1773;  
FBI.3:640.

Lochnera pusilla K. Schum in Pfam. 4(2):145, 1895;  
C.2:191.

An erect, annual herb. Stems and branches  
quadrangular. Leaves lanceolate linear. Flowers small,  
white, solitary or paired. Fruit a pair of straight,  
slender follicles. Seeds black.

A common weed of cultivated and fallow fields; also  
noted on the grassy slopes of the ravines immediately  
after the onset of monsoon.

Flowers and Fruits: August to October

Sabnis 3217, 3535.

India (W. Himalaya, Upper Gangetic plain,  
W. Peninsula); Ceylon.

Catharanthus roseus (Linn.) G. Don, Gen. Syst. 4:95, 1837;  
Gr. 115; D. & G. 53; Santapau in Bull. Bot. Surv.  
Ind. 3:15.

Vinca rosea Linn. Syst. Nat. (ed. 10.) 944, 1759;  
Bor. & Raizada 200, f. 119.

Lochnera rosea Reichenb. Consp. Regn. Veg. 134, 1828;  
C. 2:192; Sant. 131.

A well known garden shrub. Flowers pink or white  
axillary, solitary or in clusters; corolla salver-  
shaped. Fruit a pair of cylindric follicles; seeds many.

Commonly planted in gardens for the beautiful  
flowers.

Local name: Barmasi

Flowers and Fruits: All round the year.

Sabnis 1288.

Probably a native of W. Indies, grown in gardens  
all over the country.

### Rauvolfia Linn.

Flowers creamy white. . . . .	<u>tetraphylla</u>
Flowers pink or rose. . . . .	<u>serpentina</u>

Rauvolfia tetraphylla Linn. Sp.Pl.208, 1753; Sulochana  
in JIBS.38:586; Raizada in Ind.For.92(5):322, 1966.

R. canescens Linn. Sp.Pl. (ed.2) 303, 1762;  
D. & G.53; C.2:190.

A small shrub. Leaves whorled, of unequal sizes.  
Flowers small creamy white in corymbose cymes. Fruit a  
red drupe, purple at maturity.

A cultigen, now found as an escape on the banks of  
the mallah at the backside of the University Botanical  
garden and in the L.V. Palace compound in a cool, shaded  
place.

Not common nor abundant.

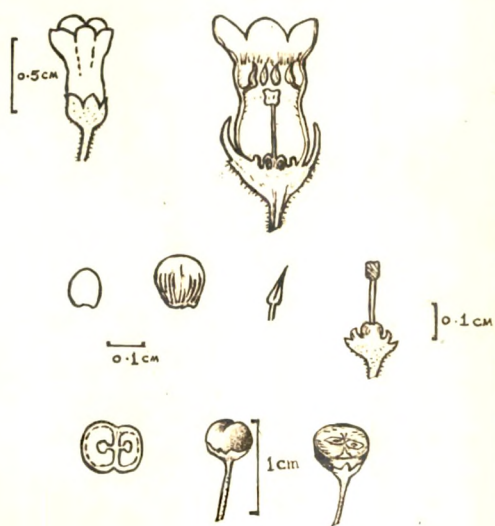
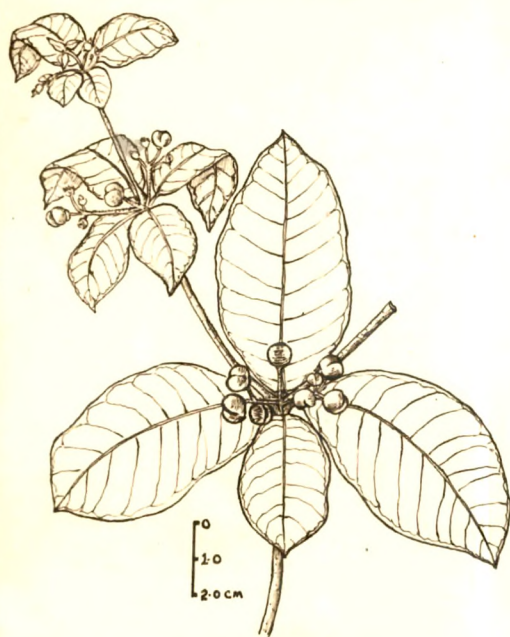
Plate No. 15

Flowers and Fruits: September to October or  
even later.

Local uses: It is as important as 'sarpagandha'  
medicinally, but the local people are possibly not  
aware of it.

Sabnis 790.

A native of the West Indies, has been occasionally  
grown in gardens, now running wild chiefly in the  
port towns along the Indian coastline.



*Rauvolfia tetraphylla* L.

Rauvolfia serpentina (Linn.) Benth. ex Kurz, For. Fl.

Burma 2:171, 1877; FBI.3:632; C.2:188; Sant.130.

Ophioxylon serpentinum Linn. Sp.Pl.1043, 1753.

Small, erect shrubs. Leaves elliptic, lanceolate or obovate to oblanceolate, whorled. Flowers pink or rose-coloured. Drupes dark purple.

A few plants cultivated in cool and moist places in the University Botanical garden; also on a larger scale near Ranoli.

Local name: Sarpagandha

Flowers and Fruits: September to January

Local uses: It is an important medicinal plant, cultivated on a large scale near Ranoli for the extraction of alkaloid reserpine.

Sabnis 20.11.64, Univ.Bot.garden; 1.12.65, Ranoli.

From the sub-Himalayan tracts to moist forests of W.Peninsular India.

Burma, Malaya, Ceylon, Java, Thailand and the Andamans.

Vallaris Burm.

Vallaris solanacea (Roth) Kuntze, Rev.Gen.2:417, 1891;

Bor.Man.Ind.For.Bot.284; Maheshwari, 212.



Peltanthera solanacea Roth, Nov.Pl.Sp.132, 1821.

Vallaris heynei Spreng.Syst.1:635, 1824; FBI.3:650;  
C.2:199; Bor & Raizada 208, f.123.

V. dichotoma Wall.Cat.1621, nom.nud.; Wight, Icon.  
t.438.

A twining shrub. Leaves ovate-oblong or elliptic.  
Flowers white or cream, fragrant in axillary cymes;  
anthers exserted.

Occasionally cultivated in gardens.

Flowers: March - April.

Sabnis 1011a, Private Bungalow, Jail Road;  
Public Park Nursery.

A native of India and Burma.

Aganosma caryophyllata (Roxb. ex Sims) G. Don. Gen.  
Syst.4:77, 1837; FBI.3:664; Gr.113; D. & G.  
Suppl.51; C.2:203.

A large climbing shrub. Leaves ovate, subcordate  
at base. Flowers pure-white, fragrant, salver-shaped.

Occasionally cultivated on the University campus for  
its beautiful, fragrant flowers, which are produced in  
profusion during the monsoon season.

Local name: Malati

Sabnis 2510a

A native of lower Bengal, now grown in garden throughout the tropics.

Beaumontia Wall.

Beaumontia grandiflora Wall. Tent. Fl.Napal.15, t.7, 1824;  
FBI.3:660; C.2:201; Sant.132; Bor & Raizada 206,  
Col.Pl. & f.115; Bailey, Man.Cult.Pl.811.

A woody, evergreen climbing shrub. Leaves elliptic to obovate. Flowers large, white in terminal cymes, few to many flowered; calyx reddish brown; corolla campanulate from a short tubular base; anthers connivent to the stigma forming a 5-sided cone; stigma fusiform.

Cultivated in the University Botanical garden for its fragrant, white flowers; noted climbing on tall trees of Casuarina.

Flowers: April.

Sabnis 3625, 21.4.66.

A native of E. Himalayas, now frequently cultivated in gardens throughout India.

Allamanda Linn.

Allamanda cathartica Linn. Mant.2:214, 1771; C.2:207;  
Bor. & Raizada 196, f.117; Bailey, Man.Cult.  
Pl.810.

A. aubletii Pohl, Pl.Bras.1:75, 1827; Gr.116;  
D. & G.Suppl.53.

A scandent or climbing, milky shrub. Leaves obovate lanceolate, acuminate, whorled. Flowers yellow, conspicuous, campanulate from a tubular base; stamens 5, included.

Commonly cultivated in all private and public gardens for the attractive flowers.

Flowers: Almost throughout the year.

Sabnis 1008b.

A native of Trop.America, now extensively grown throughout the tropical and subtropical parts of the world.

Allamanda violacea Gardn. <sup>complete citation</sup> Bor. & Raizada, 198, 1954.

A scrambling or climbing shrub. Flowers purplish violet in few flowered cymes. Only one specimen observed near the University Botanical gardens.

Sabnis 1008a.

A native of Brazil, now grown in the tropics of the world.

Carissa Linn. (nom.cons.)

Carissa congesta Wight, Icon. t.1289, 1848; G.803;  
Sant.129; Chavan & Oza, Fl.Pavagadh,136.

C. carandas Graham, Cat.116, 1839; D. & G.143;  
FBI.3:630 (pro parte); C.2:186 (non.Linn.)

C. carandas var. congesta Bedd., For.Man.Fl.Sylv.157,  
1869; FBI.3:631.

A thorny, bushy shrub. Leaves variable ovate or elliptic oblong, rarely mucronate. Thorns paired, straight. Flowers white-pink in terminal, corymbose cymes; corolla tube up to 2.5 cm. long. Barries ellipsoid, smooth, green and later purple.

Planted at a few places for the edible fruits.

Local name: Karamada

Flowers and Fruits: March to May.

Sabnis 12.4.58, Race-course Road; 15.5.59,  
Univ. Bot. garden; 21.5.60, on way to Bhimpura.

Throughout India, wild or cultivated.

Ceylon, Burma, Malacca, Java, Timor.

Thevetia Linn. (nom.cons.)

Thevetia peruviana (Pers.) Merr. in Philip.Jour. Sci.  
(Bot.)9:130, 1914 & Enum. 3:331; Benthall, Trees  
Calc.302; Bailey, Man.Cult.Pl.809.

Cerbera peruviana Pers. Syn. 1:267, 1805.

C. thevetia Linn. Sp.Pl.209, 1753.

Thevetia neriiifolia Juss. on Stend.Nom.2:680, 1841;  
Bor & Raizada 193, f.116.

An evergreen shrub or a small tree. Leaves linear, alternate, shining green above, paler and dull beneath, margins revolute. Flowers yellow with pinkish tinge, arranged in subterminal, few-flowered cymes; corolla campanulate with hairy, coronal structures. Drupes angular.

A common, cultivated shrub of gardens; also spontaneous in some parts of the ravines at Bhimpura.

Local name: Pili Kaner, Bitti

Flowers and Fruits: All the year round.

Sabnis 1367, 2377.

A native of Trop.America, cultivated or naturalized throughout India.

### Plumeria Linn.

Plumeria rubra L. forma acuminata (Ait.) Sant. & Irani  
ex Shah in J. Univ.Bomb. 30:35, 1961-62; Datta  
& Majumdar in Bull. Bot.Soc.Bengal 20(2):98, 1966.

P. acuminata Ait.Hort.Kew. (ed.2) 2:70, 1811; Gr.119.

P. rubra L. var. acutifolia Bailey, Man.Cult.Pl.810.

P. rubra L. forma acutifolia (Poir.) Woodson in Ann.  
Miss.Bot.Gard.25:211, 1938; Benthall, Trees  
Calc.304.

P. acutifolia Poir. in Lamk. Encycl. Suppl. 2:667,  
1811; FBI.3:641; C.2:205.

A small tree, apparently dichotomously branched.  
Flowers waxy, white with a yellow centre.

A native of Trop.America, cultivated for its  
fragrant, white flowers.

Local name: Khadchampo, Nagchampo.

Flowers: May to October.

Sabnis 1536; Nazarbaug gardens.

Alstonia R. Br. (nom.cons.)

Alstonia scholaris (Linn.) R.Br. in Mem.Wern.Soc.1:75,  
1810; FBI.3:642; C.2:194; Benthall, Trees  
Calc.310; Maheshwari, 215.

Echites scholaris Linn. Mant. 55, 1767.

A medium-sized, evergreen tree. Leaves oblong  
lanceolate or obovate, bright green, thick, shining,  
whorled. Flowers greenish white in compact, terminal  
cymes. Follicles cylindric, pendulous; seeds many, comose.

A few trees planted near the Band stand in public park and in the University Botanical garden.

Local name: Satvin, Saptaparni.

Flowers and Fruits: July to February.

Sabnis 840.

Throughout India, often planted.

Ceylon, Java, Trop.Africa, E. Australia.

Nerium Linn.

Nerium indicum Mill. Gard.Dict. n.2, 1768; Merr. Enum. 3:336; Sant.133; Maheshwari, 215.

N. odorum Soland. in Ait.Hort.Kew. 1:297, 1789; FBI.3:655; C.2:206; Bor & Raizada 199, f.118.

N. oleander Blanco, Fl.Filip.104, 1837; 75, 1845; L:140, t.47, 1877 (non.Linn.)

A large garden shrub. Leaves linear lanceolate, dark green above, decurrent at the base. Flowers white, rose or red, fragrant, in terminal cymes; corolline corona present.

Commonly cultivated in almost every garden.

Local name: Karen

Flowers: All the year round.

Sabnis 787, 1145

From Persia to China and Japan; frequently grown in gardens throughout the country.

Tabernaemontana Linn.

Tabernaemontana divaricata (Linn.) R. Br. in Roem. & Schult. Syst. 4:427, 1819; Merr. in Contr. Arn. Arb. 8:140, 1934; Sant. 131; Maheshwari, 215.

Nerium divaricatum Linn. Sp. Pl. 209, 1753 (Quoad Syn. Fl. Zeyl. excl. syn. Hermann).

Tabernaemontana coronaria Willd. Enum. Hort. Berol. 275, 1809; F.B.I. 3:346; Wight, Icon. t. 477; Bor & Raizada 205.

Ervatamia coronaria Stapf. in This. - Dyer, Fl. Trop. Africa 4:127, 1902; C. 2:197.

An evergreen shrub. Leaves oblong to lanceolate, glabrous, shining. Flowers pure white in few-flowered cymes, fragrant at night.

A common shrubs of all private and public gardens.

Local name: Tagar

Flowers: April to October.

Sabnis 837, 1289.

Believed to be indigenous to N. India, now grown in gardens throughout India.



Holarrhena R. Br.

Holarrhena antidysenterica (Linn.) Wall. Cat. 1672, 1829,  
nom. nud.; G. Don. Gen. Syst. 4:78, 1837; FBI. 3:644;  
C. 2:195; Sant. 131; Maheshwari, 216.

Nerium antidysentericum Linn. Sp. Pl. 209, 1753.

A large shrub or a small tree. Leaves opposite,  
broad ovate or elliptic. Flowers white in cymes. Follicles  
2, very narrow, long, pendulous; seeds comose.

Occasionally planted in the gardens; not at all wild.

Local name: Kadvo Indrajav

Flowers and Fruits: June to December

Sabnis 2470.

More or less throughout India; Malacca.

Wrightia R. Br.

Leaves glabrous; follicles slender,  
glabrous. . . . . tinctoria

Leaves softly tomentose; follicles stout,  
rough with white tubercles. . . . . tomentosa

Wrightia tinctoria R. Br. in Mem. Wern. Soc. 1:73, 1809;  
FBI. 3:653; C. 2:200; Gr. 114; D. & G. 245; G. 815;  
Sant. 132; Maheshwari, 216.

A small tree. Leaves glabrous, elliptic ovate or oblong, acuminate. Flowers white pale yellow, fragrant. Follides slender, glabrous; seeds comose.

Planted at a few places; not wild.

Local name: Mitho Indrajav

Flowers and Fruits: March to October

Sabnis 1290, 25.4.58, L.V. Palace compound;  
12.3.60, Lalbaug Road; 1.4.61, University Botanical garden.

India (Rajputana, Central Provinces, W. Peninsula).

Burma, Ceylon, Timor.

Wrightia tomentosa Roem. & Schult. Syst.4:414, 1819;  
FBI.3:653; C.2:199; Gr.114; D. & G.145; Wight,  
Icon. t.443.

W. wallichii A. DC. in Prodr. 8:405, 1844; Wight,  
Icon. t.1296.

A small tree. Leaves softly tomentose, ovate.  
Flowers yellow to creamy white. Follicles stout, rough  
with white tubercles; seeds comose.

Noted near Band stand, Public park, Baroda.

Local name: Kalo Indrajav

Flowers and Fruits: July to October.

Sabnis 27.9.57, Public park.

Throughout Trop.India; Burma, Ceylon.

## ASCLEPIADACEAE

1. Leaves absent, or minute and rudimentary;  
Flowers largest in the family, up to  
20 cm. across. . . . . Stapelia
1. Leaves present:
  2. Plants erect:
    3. Stem and leaves glabrous;  
leaves lanceolate. . . . . Asclepias
    3. Stem and leaves fugaciously  
cottony-pubescent; leaves  
broadly ovate. . . . . Calotropis
  2. Plants trailing, twining or climbing:
    4. Anthers without a membranous  
appendage:
      5. Corolla rotate. . . . . Leptadenia
      5. Corolla tubular. . . . . Ceropegia
    4. Anthers with a membranous  
appendage:
      6. Follicles softly echinate. . . . Pergularia
      6. Follicles not echinate:
        7. Pollen-masses pendulous:
          8. Corolla divided half-way  
down; leaves linear;  
flowers showy. . . . . Oxytelma

8. Corolla divided nearly to the  
base; flowers small, not  
showy. . . . . Pentatropis
7. Pollen-masses erect or  
horizontal:
9. Corona corolline; corolla  
campanulate. . . . . Gymnema
9. Corona staminal; corolla  
salver-shaped. . . . . Telosma

Stapelia Linn.

Stapelia grandiflora Masson, Stap. Nov. t. 11, 1796;  
C. 2:245; Santapan & Irani in Bot. Mem. Univ.  
Bomb. 4:79, 1962.

Dwarf, succulent, perennial herbs. Stems thick,  
fleshy, green. Leaves absent, or minute and rudimentary.  
Flowers large, with a very disagreeable odour; corolla  
purple with deep purple, horizontal markings on the  
inner surface.

A native of S. Africa, occasionally cultivated in  
the gardens for the exotic flowers; a good succulent for  
the rock gardens along with the Cacti group.

Flowers: September - October.

Sabnis, preserved in the Museum!

Asclepias Linn.

Asclepias curassavica Linn. Sp.Pl.215, 1753; Gr.120;  
D. & G. Suppl. 54; FBI.4:18; C.2:245; Sant.140;  
Bailey, Man.Cult.Pl.815; Santapau & Irani,  
loc.cit.15.

An erect undershrub. Leaves lanceolate. Flowers  
orange-yellow, showy, in extra-axillary umbellate cymes.

Cultivated in the gardens; not at all wild.

Flowers: March to July.

Sabnis 3184.

A native of the W. Indies, naturalized and  
growing wild in the tropics of the Old World;  
cultivated in the gardens in Bombay Presidency or  
common as a weed in moist river beds or along the  
sides of streams.

Calotropis R. Br.

Corona lobes shorter than the staminal  
column, with two obtuse auricles just,  
below the apex. . . . . gigantea

Corona lobes equalling or longer than  
the staminal column, without auricles  
below the apex. . . . . procera

Calotropis gigantea (Linn.) R. Br. in Ait.Hort.Kew (ed.2)  
2:78, 1811; FBI.4:17; C.2:214; Gr.120; D. & G.149;  
Sant.134; Santapau & Irani, loc.cit.17.

Asclepias gigantea Linn. Sp.Pl.214, 1753.

A tall, milky, much branched shrub. Leaves large, sessile, ovate, cordate. Flowers purplish in umbellate cymes. Follicles 2, large, fleshy; seeds comose.

A very common weed of all waste places and roadsides; also noted in the crevices of the old walls.

Local name: Aakdo.

Flowers: All round the year.

Fruits: February to May.

Sabnis 531, 1402.

Throughout India; Ceylon, Malay Islands,  
South China.

Calotropis procera (Ait.) R. Br. in Ait.Hort.Kew (ed.2)  
2:78, 1811; FBI.4:18; C.2:215; Santapau & Irani,  
loc.cit.19; Maheshwari, 218.

Asclepias procera Ait.Hort.Kew (ed.1) 1:305, 1789.

A shrub, very much similar to the preceding species.  
Flowers pink-purple or white in umbellate cymes.

Common in dry, waste places; also noted in the cracks  
and crevices of dilapidated walls.

Local name: Aakdo

Flowers: All round the year.

Fruits: February to July.

Sabnis 1401.

Throughout India in the drier regions; Trop.  
Africa, Persia.

Leptadenia R. Br.

Leptadenia reticulata (Retz.) Wight & Arn, in Wight,  
Contrib. 47, 1834; Wight, Icon. t. 350; Gr. 118;  
D. & G. 152; FBI. 4:63; C. 2:237; Bullock in Kew  
Bulletin 1955: 291, 1955; Santapau & Irani,  
loc. cit. 60.

Cynanchum reticulatum Retz. Obs. 2:15, 1781.

Twining or straggling shrubs. Leaves thick,  
subcoriaceous, ovate or ovate-lanceolate, densely pubescent  
on the lower side, less so on the upper. Flowers small,  
greenish-yellow in many flowered, umbellate cymes.  
Follicle oblong or broadly lanceolate with a thick,  
curved beak; seeds comose.

A common climber on hedges or trailing on ground.

Local name: Nani Dodi

Flowers: June to October.

Fruits: December to May.

Sabnis 709, 3222.

Throughout the Bombay Presidency especially near sea coast.

Throughout India; Ceylon, Burma, Singapore.

Ceropegia Linn.

Ceropegia bulbosa Roxb. Pl. Cor. 1:11, t. 7, 1795;

Wight, Icon. t. 845; FBI. 4:67; C. 2:240; Santapau & Irani, l. c. 28.

C. bulbosa var. esculenta Hk. f. in FBI. 4:67, 1883.

C. bulbosa var. lushii Hk. f. l. c.; C. 2:241.

A perennial climbing herb with an underground tuber. Leaves fleshy, narrowly linear. Flowers 6-10, in lateral umbellate cymes.

Noted on barren ground, twining around the stems of Aristolochia bracteslata; very rare.

Flowers: August - September.

Fruits: August - October.

Sabnis 3622, 3623.

Confined to India, but growing in this country from the Punjab southwards throughout the Peninsula.



Pergularia Linn.

Pergularia daemia (Forsk.) Chiov. Result.Sc.Miss. Stefan-Paoli Somal. Ital. 1:115, 1916; Blatter & McCann in JBNHS.36:528, 1933; Santapau & Irani loc.cit.74.

Asclepias daemia Forsk. Fl.Aeg.-Arab.51, 1775.

Daemia extensa R.Br. in Mem. Wern. Soc.1:50, 1809; FBI.4:21; C.2:219; Wight, Contrib.59 & Icon. t.596.

A perennial, bad-smelling, climber. Leaves ovate, acuminate, deeply cordate. Flowers yellowish white or cream yellow in umbellate inflorescences. Follicles in pairs, reflexed, slightly curved, lanceolate, softly echinate all over; seeds with silky-white coma.

A common climber of hedge shrubs and small trees of Acacia nilotica.

Local name: Dodi

Flowers and Fruits: April to November.

Sabnis 3571.

Common in the hotter parts of the state and India; Afghanistan, Ceylon, Arabia, Trop. & S. Africa, Madagascar.

On the subject of exact circumscription of the genus Pergularia Linn., please refer to N.E. Brown, Kew Bulletin 1907; 323-325 or an extract from the

same in Santapau & Irani, loc.cit. 72-74.

Oxystelma R. Br.

Oxystelma secamone (Linn.) Karst. Deut.Fl.1031, 1880-1883;  
K. Schum in Pfam. 4(2):229, 1895; Santapau &  
Irani, l.c. 67.

Periploca secamone Linn. Mant. 2:216, 1771.

Oxystelma esculentum (Linn.f.) R.Br. in Mem.Wern.  
Soc.1:40, 1809; FBI.4:17; C.2:2.6.

A small twining herb. Leaves thin, narrow, linear-lanceolate. Flowers cream or yellow with white-purple patches, very showy, in drooping cymes. Follides glabrous, avoid lanceolate, pointed; seeds many, minute, comose.

In roadside ditches twining on low herbs or shrubs; not common, nor abundant.

Plate No. 16

Flowers and Fruits: July to October.

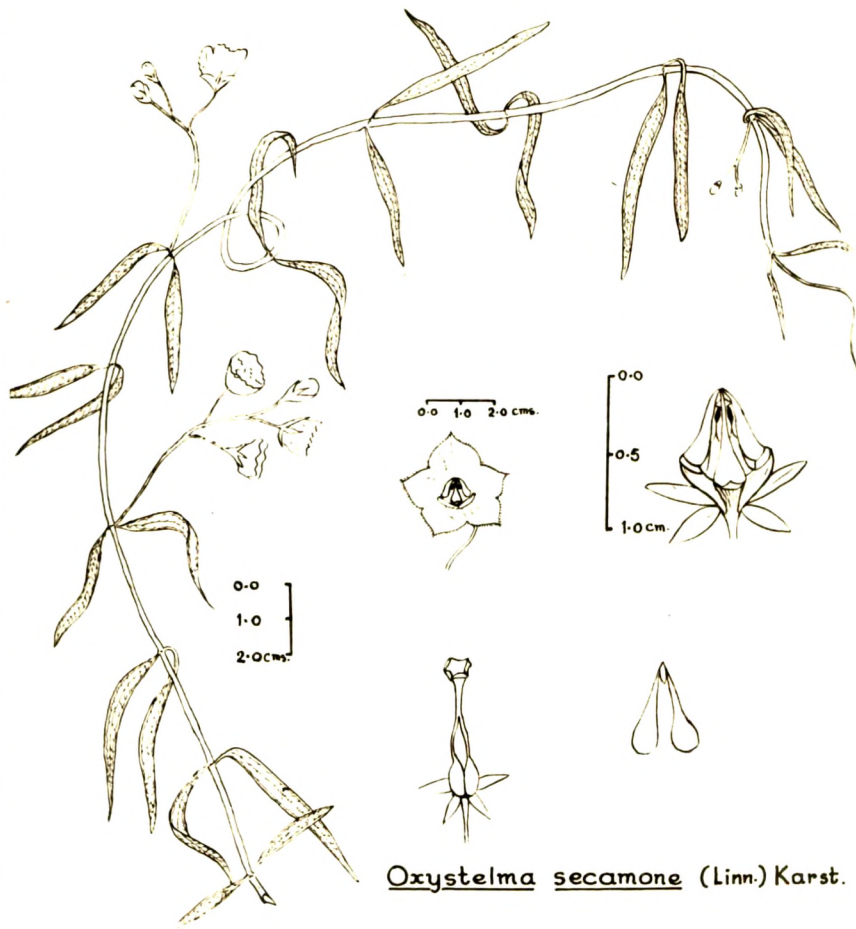
Sabnis 2061, 3386, 3598.

Throughout the plains and lower hills of India.

Ceylon, Burma, Java.

Pentatropis Wight & Arn.

Flower buds subglobose; corolla lobes  
deltoid, not tailed; corona lobes acute  
at the base. . . . . capensis



*Oxystelma secamone* (Linn.) Karst.

Flower buds acuminate; corolla lobes with long, linear tails; corona lobes rounded at the base. . . . . spiralis

Pentatropis capensis (Linn.f.) Bullock in Kew Bulletin 1955:284, 1955; Santapau & Irani, loc.cit.69; Chavan & Oza, Fl. Pavagadh, 141.

Cynanchum capense Linn. f. Suppl. 168, 1781.

Pentatropis microphylla (Roxb.) Wight & Arn, in Wight, Contrib. 52, 1834; FBI.4:20; C.2:218; Wight, Icon. t.352.

Asclepias microphylla Roxb. Fl.Ind.2:35, 1832.

A slender twiner. Leaves ovate, obtuse, mucronate. Flowers greenish-white; corolla lobes not tailed; corona-lobes acute at the base.

Rare; noted on hedges near Mohmadwadi, Baroda, during monsoon.

Flowers: September

Sabnis 763, 17.9.57, Mohmadwadi.

Konkan, Deccan, Gujarat; tolerably common in the State.

Bengal and Peninsular India; Burma, Ceylon.

Pentatropis spiralis (Forsk.) Decaisne in Ann. Sc.Nat. (Ser.2) 9:327, t.11, E, 1838; FBI.4:19; Bullock, loc.cit.284; Santapau & Irani, loc.cit.70; Chavan & Oza, Fl. Pavagadh, 141.

Asclepias spiralis Forsk. Fl. Aegypt.-Arab. 49, 1775.

Pentatropis cynanchoides R.Br. in Salt. Voy. Abyss.  
App. 64, 1814; C. 2: 218.

A slender twiner. Leaves ovate, oblong or elliptic, acute or obtuse, mucronate. Flower buds acuminate; flowers small, greenish-yellow; corolla lobes with long linear tails; corona lobes rounded at the base. Follicles glabrous, lanceolate.

Rare; noted on hedges during monsoon.

Flowers and Fruits: July to November.

Sabnis 1636, 21.7.58, Makarpura gardens; 2950,  
20.11.60, Sundarpura.

In the drier regions of N., N.W. and W. India;  
Afghanistan, Baluchistan, Arabia, Trop. Africa.

Gymnema R. Br.

Gynema sylvestre (Retz.) R.Br. ex Schultes in Roem. &  
Schult. Syst. Veg. 6: 57, 1819; Wight, Icon. t. 349;  
Gr. 120; D. & G. 151; F.B.I. 4: 29; C. 2: 224; Sant. 135;  
Santapau & Irani, loc. cit. 47.

Periploca sylvestris Retz. Obs. 2: 15, 1781.

A much branched, twining shrub. Flowers small,  
greenish-yellow, arranged in lateral corymbs.

Rarely cultivated in the gardens; not at all wild.

Local name: Madhunashi.

Flowers: April to July.

Sabnis 20.4.60, Univ.Bot. garden; 8.6.65,  
Public park.

Very common from Konkan southwards.

India, Ceylon, Tropical Africa.

Telosma Coville

Telosma pallida (Roxb.) Craib in Kew Bull. 1911:418, 1911;  
G.844; Santapau & Irani, loc.cit.83; Chavan & Oza,  
Fl. Pavagadh, 142.

Asclepias pallida Roxb. Fl.Ind. 2:48, 1832.

Pergularia pallida Wight & Arn. in Wight, Contrib. 42,  
1834; FBI.4:38; C.2:229; Wight, Icon. t.585.

A twining undershrub. Leaves membranous, ovate,  
shortly acuminate, cordate at the base, pale green beneath,  
darker above. Flowers creamy-white or yellowish-white,  
in many flowered, umbellate cymes. Follicles woody,  
lanceolate, shortly acuminate; seeds comose.

A common plant on hedges during the monsoon along  
with other climbers.

Local name: Varshadodi

Flowers and Fruits: July to November.

Sabnis 842, 1638.

Tr. Himalaya, Central India, W. India, Bihar;  
Burma.

#### PERIPLOCACEAE

#### Cryptostegia R. Br.

Corona lobes divided into two long,  
filiform segments; Follicles up to  
12 cm. long. . . . . grandiflora

Corona lobes entire, subulate with  
incurved tips; follicles up to  
7 cm. long. . . . . madagascariensis

Cryptostegia grandiflora R. Br. in Bot.Reg.5: t.435, 1819;  
Wight, Icon. t.832 & Ill. 2:t.182, f.9; Gr.122;  
D. & G. Suppl.54; FBI.4:6; C.2:245; Bailey, Man.  
Cult. Pl.816; Santapau & Irani, loc.cit.93;  
Maheshwari, 217.

A woody, suberect or climbing shrub; branches terete,  
whip-like, sarmentose. Leaves elliptic oblong, glabrous.  
Flowers large, pink-purple; corona lobes 1-1.2 cm. long,  
each divided into two long, filiform segments. Follicles  
3-winged, ovate, glabrous; seeds comose.

A commonly cultivated garden shrub; also in a wild state in the cracks and crevices of old walls.

Local name: Rabarvel

Flowers: February to December.

Fruits: January to May.

Local uses: The latex of the plant yields rubber of a good quality.

Sabnis 934, 1389.

A Tropical African plant, widely cultivated in gardens in India; also common as an escape.

Cryptostegia madagascariensis Boj. Hort. Maurit. 212, 1837; Decne in DC. Prodr. 8:492, 1844; Bailey, loc.cit.816; Santapau & Irani in JBNHS. 55:594, t.1, 1959 & loc.cit.94; Chavan & Sabnis in JBNHS 56:675, 1959 & Chavan, et al in Curr. Sci.29:32, 1960.

An erect, suberect or climbing shrub. Leaves oppsite, coriaceous, ovate or elliptic oblong, shortly acuminate, glabrous. Flowers showy, pink-purple, in few-flowered, terminal, dichotomous cymes; corolline coronalobes subulate with incurved tips. Follicles woody, 3-angled, up to 7 cm. long, ovate, glabrous.

Rarely cultivated, not as common as the preceding species; also noted in a wild state as an escape. The plant was reported by Santapau & Irani, l.c. as a



new record for Bombay and India and subsequently by Chavan & Sabnis, loc.cit. from Baroda, Gujarat.

Local name: Rabarvel.

Flowers and Fruits: September to May.

Sabnis 747, 2199, Makarpura & L.V. Palace compound.

The two species of the genus Cryptostegia have been differentiated mainly on the basis of the morphology of the corona lobes. Critical observations indicated that the variability of this character was of considerable extent.

The corona-lobe types observed during this study are shown in Plat No. 17 . These types can be grouped under three categories.

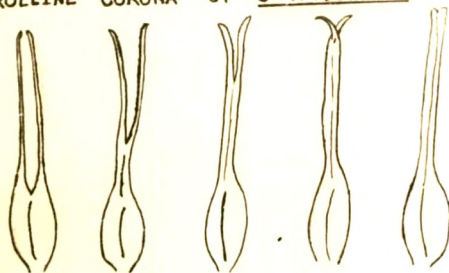
I. The corona lobes are divided into two, long, filiform segments which show various degrees of fusion.

II. The corona lobes are divided into two segments which are unequal and which show protuberances.

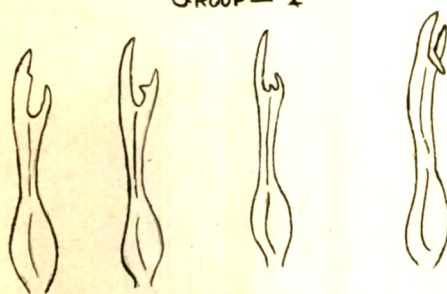
III. The corona-lobes are entire with incurved tips.

A native of Madagascar, rarely planted in gardens in India and in some tropical countries often runs wild round about Bombay and Baroda.

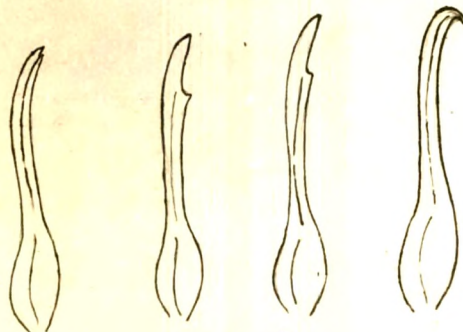
COROLLINE CORONA OF CRYPTOSTEGIA



GROUP — I



GROUP — II



GROUP — III

## LOGANIACEAE

## Shrubs:

Leaves ovate to lanceolate; flowers in  
spikes. . . . . Buddleja

Leaves round-ovate to suborbicular;  
flowers in umbels. . . . . Nicodemia

Trees. . . . . Strychnos

Buddleja Linn.

Buddleja asiatica Lour. Fl. Cochinch. 72, 1790; Merr.  
Enum. 3: 316; Bailey, Man. Cult. Pl. 804; C. 2: 248;  
Maheshwari, 222.

A large shrub. Young branches clothed with white  
or dirty white tomentum. Leaves lanceolate, white  
beneath. Flowers white, fragrant, in spikes.

Occasionally cultivated in the gardens for the  
fragrant flowers.

Flowers: March - April.

Sabnis 20.4.58, University garden; 12.4.60,  
Public Park Nursery.

Distributed throughout India, Malaya, China,  
Java; often under cultivation.

Nicodemia Tenore

Nicodemia diversifolia Tenore, Cat.Ort.Napol.88, 1845;  
 Parker, For. Fl.355; Phatak & Joshi in JMSU 5(2):  
 62; Maheshwari, 222.

A bushy shrub. Leaves round-ovate to suborbicular,  
 glabrous, usually lobed in the upper part. Flowers  
 greenish-yellow in compound, axillary or terminal umbels.

Only one specimen noted in the University Botanical  
 garden.

Flowers: September, 11.9.57.

Sabnis 710, 11.9.59, Univ.Bot.garden; J.56,920.

Native of Mascarene Islands, now rarely cultivated  
 in gardens in India.

Strychnos Linn.

Strychnos nux-vomica Linn. Sp.Pl.189, 1753; FBI.4:90;  
 Gr.112; D. & G. 155; Bailey, Man.Cult.Pl.804.

A lofty tree. Leaves ovate, glabrous and shining.  
 Flowers greenish-white in compound cymes. Fruit globose,  
 orange-red when ripe; seeds flattened, discoid, finely  
 silky-hairy.

Cultivated in the University Botanical garden.

Local name: Zer Kachulo

Flowers and Fruits: March - April

Sabnis 10.3.58, Univ.Bot.garden

A native of India, more or less throughout  
Trop. India.

#### GENTIANACEAE

Aquatic herbs. . . . . Nymphoides

Terrestrial herbs:

Corolla regular; flowers in sessile,  
axillary clusters. . . . . Enicostema

Corolla irregular:

Flowers yellow; stigma scarcely lobed... Hoppea

Flowers pink; stigma deeply 2-lobed. . . . Canscora

#### Nymphoides Hill

Corolla lobes entire, with a longitudinal  
fold down the middle and glands below it  
on the tube, white; seeds few, large,  
with prominent, small, slightly  
glochidiate tubercles. . . . . cristatum

Corolla lobes long, fimbriate, densely  
papillose, not folded down the middle,  
white with yellow centre; seeds many,  
smooth or sometimes minutely tuberculate..... indicum

Nymphoides cristatum (Roxb.) O. Kuntze, Rev. Gen. Pl. 429, 1891; Subramanyam in Aquat. Angios. 24, f. 16.

Menyanthes cristata Roxb. Pl. Cor. 2:3, t. 105, 1798.

Limnathemum cristatum Griseb. Gen. & Spec. Gent. 342, 1839; FBI. 4:131; C. 2:261; Sant. 145.

A floating aquatic. Leaves suborbicular, cordate, purplish beneath. Flowers white, in clusters at the base of petiole.

Not common, though locally abundant in the Harni area.

Flowers and Fruits: September to March.

Sabnis 956.

Common in tanks or lakes throughout India.

Ceylon, China.

Nymphoides indicum (Linn.) O. Kuntze, Rev. Gen. Pl. 429, 1891; Subramanyam in Aquat. Angios. 24, f. 17, Pl. II; Bailey, Man. Cult. Pl. 808.

Menyanthes indica Linn. Sp. Pl. 145, 1753.

Limnanthemum indicum (Linn.) Griseb. emend. Thw. Enum. Pl. Zeyl. 205, 1860; FBI. 4:131; C. 2:261; Sant. 144.

A larger plant. Leaves orbicular, deeply cordate. Flowers white with a yellow centre; petals fimbriated and densely papillose.

A floating aquatic; not common, nor abundant.

Flowers and Fruits: September to February.

Sabnis January 1957, Harni Pond; October 1958,  
Panigate area; September 1959. Pratapnagar area.

Common throughout India; Afghanistan, Ceylon,  
Malaya, Andamans, Australia, Mascarene, Fiji Islands.

Enicostema Blume (nom. cons.)

Enicostema verticillatum (Linn.) Engl. Pflanzenw. Ost.-  
Afr. C.313, 1895; Engler & Prantl, Pfam. 4:67,  
f.31; Maheshwari, 223; Chavan & Oza, Fl. Pavagadh,  
143.

Gentiana verticillata Linn. Syst. (ed.10) 952, 1759.

Enicostemma littorale Blume, Bijdr. 848, 1826;  
FBI.4:101; C.2:255.

An erect or decumbent, perennial herb with square  
stems. Leaves opposite, sessile, linear lanceolate.  
Flowers white, in axillary clusters. Capsule subglobose;  
seeds minute, brown, foveolate.

A common monsoon weed of lawns, banks of irrigation  
canals and other moist places; also noted during the  
dry season on the lawns, wherever ample water is  
available; in the cracks of old walls at Sevasi 'Vav'.



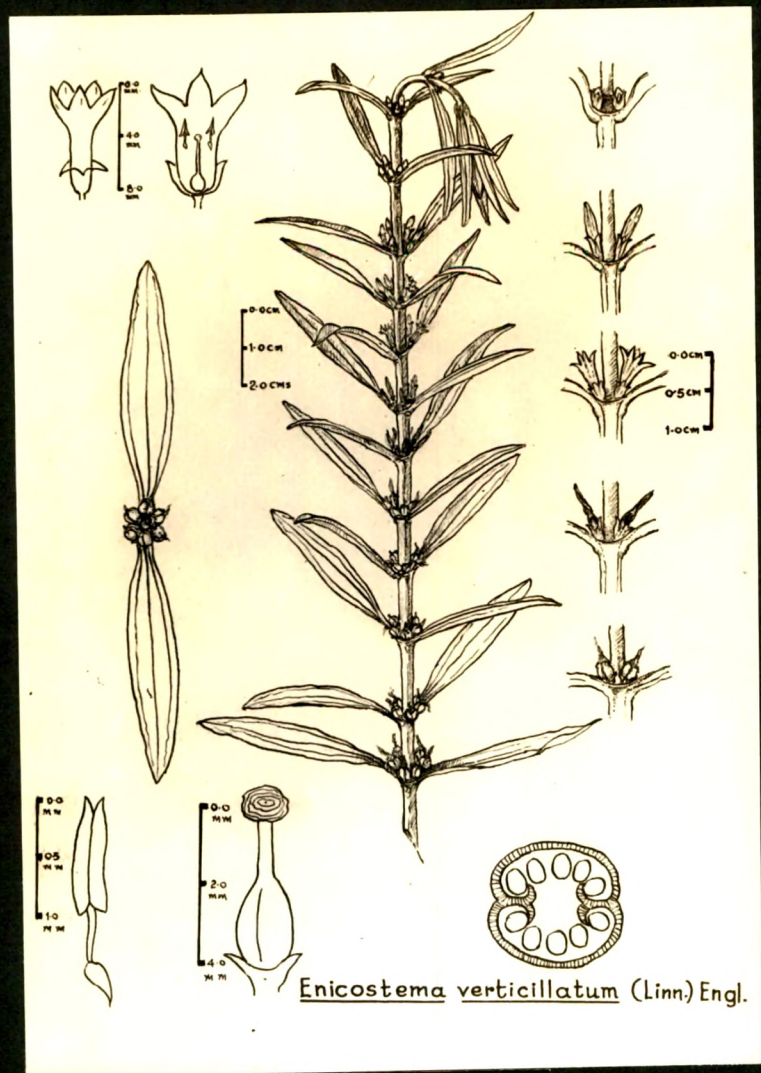




Plate No. 18

Flowers and Fruits: July to November; also in April and May.

Sabnis 585, 741, 1434.

Throughout the greater part of India.

Ceylon, Malaya, Trop. Africa, W. Indies.

Hoppea Willd.

Hoppea dichotoma Willd in Ges.Naturf. Fr. Neue Schr.

§:434, 1801; FBI.4:100; C.2:256; Bamber in Pl. Punjab 157, 1915.

A small erect annual herb up to 15 cm. high. Stem quadrangular, winged. Flowers in lax dichotomous cymes; calyx longer than the corolla; Corolla pale yellow, with unequal lobes; stamen 1 fertile and 3 barren; ovary bottle-shaped, with subentire, capitate stigma, 1-seed; ovules many.

A rare plant of soft muddy banks at Timbi tank; not observed elsewhere, so far.

Flowers: October.

Sabnis 2783...2790.

Konkan, Deccan, S.M. country, Gujarat.

More or less throughout India on the plains to a height of 1000 meters.

Canscora Lamk.

Canscora diffusa R.Br.Prodr.451 in Obs.1810; FBI.4:103;  
C.2:257; Gr.123; D. & G.158; G.878; Sant.143.

C. lawii Wight, Icon. t.1327, 1848 (non Clarke)

An erect, branched annual. Stem quadrangular.  
Upper leaves smaller, sessile, ovate; lower bigger,  
petiolate, elliptic, thin, membranous, 3-nerved. Flowers  
pink or rose in lax, paniculate cymes; calyx not winged.  
Capsule membranous, narrowly oblong.

A common plant of the elevated river banks.

Flowers and Fruits: November to May. In  
summer, leafless plants with profuse flowering and  
fruiting observed.

Sabnis 903, 1025, 3161.

Throughout India; Ceylon, Malaya, Australia,  
Trop. Africa.

## HYDROPHYLLACEAE

Hydrolea Linn. (nom. cons.)

Hydrolea zeylanica (Linn.) Vahl, Symb.Bot.2:46, 1791;  
FBI.4:133; Wight, Icon. t.601; C.2:263;  
Sant.145; Subramanyam in Aquat. Angios.27,f.18.

Nama zeylanica Linn. Sp.Pl.226, 1753.

A suberect, decumbent herb often rooting at the nodes all along the stem and branches. Leaves lanceolate, membranous. Flowers blue in terminal racemes; bracts foliolar; calyx glandular. Capsule small, enclosed in the calyx.

A water loving herb found on muddy banks or even as emergent or submerged aquatic of stagnant waters at Sundarpura and Bhayali.

Flowers and Fruits: September - October.

Sabnis 3390, 3601.

Throughout India in wet places and swamps.

Ceylon, Malaya, S.E. Asia, Trop; Africa, America, Australia.

#### POLEMONIACEAE

Phlox Linn.

Phlox drummondii Hook. Bot.Mag.t.3441, 1835; Bailey, Cycl. Hort.3:2587, f.2909 & Man.Cult.Pl.826.

An erect branching annual, producing flowers of a variety of colours, in flat-topped cymes.

Commonly grown in gardens as a seasonal ornamental plant.

Sabnis 1234, 1235.

A native of Texas in America, now grown in India in gardens.

#### BORAGINACEAE

Flowers white or pale yellow, very small:

Flowers solitary, axillary, pale yellow or white. . . . . Coldenia

Flowers white, in scorpioid cymes or in spikes. . . . . Heliotropium

Flowers pale blue or violet blue, fairly large. . . . . Trichodesma

#### Coldenia Linn.

Coldenia procumbens Linn. Sp.Pl.125, 1753; FBI.4:144; C.2:271; Gr.135; D. & G.171; Sant.146; Maheshwari,225.

A prostrate, hairy herb. Branches radially spreading. Leaves obovate-oblong, crisped on the margin, dirty green. Flowers pale yellow or white, solitary, axillary. Drupes pyramidal, separating into 4, 1-seeded pyrenes.

Common during the summer on dry beds of ponds and ditches along with common associates like Cressa cretica and Chrozophora prostrata. The plants disappear with the flooding due to monsoon.

Local name: Okhrad.

Flowers and Fruits: February to June.

Sabnis 930, 931.

Throughout India; Ceylon, Trop. Africa, Australia and America.

Heliotropium Linn.

Anthers free, not connate by their connectives:

Calyx divided but less than  $\frac{1}{3}$  the length of the tube; nutlets rounded. . . . supinum

Calyx deeply divided; nutlets acute at the apex. . . . . ovalifolium

Anthers connate by their produced connectives, afterwards separating. . . . . scabrum

Heliotropium supinum Linn. Sp.Pl.130, 1753; FBI.4:149; C.2:275; Sant.147; Maheshwari,225; Chavan & Oza, Fl. Pavagadh, 147.

A prostrate, hairy herb. Leaves elliptic, ovate, or suborbicular. Flowers white, sessile in short spiciform

cymes. Fruit ovate to subglobose, enclosed by the persistent calyx.

A very common weed of dry beds of ponds, puddles and ditches in association with Glinus lotoides and Chrozophora prostrata.

Local name: Hathi Shundha

Flowers and Fruits: December to June.

Sabnis 552, 1017.

N.W. India, Punjab, Upper gangetic plain and W. Peninsular India; Ceylon, W. Asia, S. Europe, N. & S. Africa, Canary Islands.

Heliotropium ovalifolium Forsk. Fl. Aegypt.-Arab. 38, 1775; FBI.4:150; C.2:278; G.896-897; Sant.147; Shah in Ind. For.89(4):289, 1963.

H. coromandelianum Retz. Obs. 2:9, 1781; Wight, Icon. t.1388.

A decumbent, hairy herb. Leaves obovate, spatulate, obtuse, clothed with soft hairs. Flowers white in ebracteate pairs of spikes. Nutlets acute at the apex.

Rare; its occurrence in the locality is doubtful, however mentioned here on the authority of Shah, loc.cit.

Flowers and Fruits: September - October.

E. India, W. Peninsular India; Trop. Africa, Australia.

Heliotropium scabrum Retz. Obs. 2:8, 1781; Santapau,  
Fl.Saur.25; Chavan & Oza, Fl. Pavagadh, 148.

H. marifolium Retz. Obs. 2:8, 1781, pro parte;  
FBI.4:152; C. 2:280; Wight, Icon. t.1390.

H. marifolium var. wallichii C.B. Clarke in  
FBI.4:152, 1885.

A much-branched, decumbent herb. Leaves ovate,  
lanceolate. Flowers white in spike-like cymes, at least  
2.5 cm. long.

In isolated patches along with small grasses on the  
lawns and cricket ground.

Local name: Hathi Shundha

Flowers and Fruits: July to September

Sabnis 766.

Throughout India; Ceylon.

Trichodesma R. Br. (nom.cons.)

Calyx rounded at the base. . . . . zeylanicum

Calyx cordate or hastate at the base. . . . amplexicaule

Trichodesma zeylanicum (Burm.f.) R. Br. Prodr. 496, 1810;  
FBI.4:154; C.2:282; Gr.134; D. & G.173.

Borago zeylanica Burm. f. Fl.Ind.41, 1768; Linn.  
Mant.202, 1771.

An erect herb, covered with coarse hairs. Leaves oblong, cordate. Flowers blue or violet-blue, solitary or in leaf-opposed cymes; calyx rounded at the base.

Noted as a weed in cultivated fields; not common.

Flowers and Fruits: November to February.

Sabnis 2411, 3081.

E. India and W. Peninsular India; Ceylon, Malaya, Australia, Philippines, Mascarene Islands.

Trichodesma amplexicaule Roth, Nov.Pl.Sp.104, 1821;

FBI.4:153; D. & G. 173; Sant.147; Chavan & Oza, Fl. Pavagadh, 146.

T. indicum var. amplexicaulis Cooke, Fl.Pres.Bomb. 2:282.

An erect herb. Stem and branches covered with stiff, irritating hairs from white, circular tubercles. Leaves ovate-oblong or lanceolate oblong, coarse hairy. Flowers blue to purple violet; calyx cordate hastate produced below into auricles, turning inwards; anthers connivent in a cone, connective produced, twisted at the apex; ovary deeply 4-lobed.

A common weed of cultivated and fallow fields.

Flowers and Fruits: August to May

Sabnis 1437, 1998, 3219.



Throughout W. India; from Sind, Rajputana,  
Central India to Malabar.

#### EHRETIACEAE

Style twice forked (4-fid.) . . . . . Cordia

Style once forked (2-fid) or styles 2. . . . . Ehretia

#### Cordia Linn.

Flowers bright scarlet to orange-red. . . . . sebestena

Flowers smaller than those of above, white:

Leaves alternate, broad ovate,  
elliptic to suborbicular, with  
basal nerves. . . . . dichotoma

Leaves subopposite, oblong to  
oblanceolate, with no distinct,  
basal nerves. . . . . gharaf

Cordia sebestena Linn. Sp.Pl.190, 1753; C.2:268;

Bailey, Man.Cult.Pl.839.

A small tree. Leaves large, rough hairy, cordate,  
entire or undulate. Flowers 2.5 to 5 cm. long, bright  
scarlet to orange-red in large, open, terminal cymes.

Occasionally cultivated in the gardens for the  
showy flowers.

Flowers: January to April.

Sabnis 1322...1324, L.V. Palace compound;  
13.4.59, Public Park, near Band stand.

A native of Cuba, now grown in gardens in India.

Cordia dichotoma Forst. f. Prodr. 18, 1786; Merr. Enum.  
3:373; Sant. 145; Maheshwari, 227; Chavan & Oza,  
Fl. Pavagadh, 145.

C. obliqua Willd. Phytogr. 4, t. 4, 1794; FBI. 4:137  
excl. vars.; G. 887; Shah in Ind. For. 89(4):289,  
1963.

C. myxa auct. Plur.; C. 2:265 (non. Linn.)

A large tree. Leaves ovate to suborbicular. Flowers  
white, in lax cymes. Berry ovoid, greenish yellow,  
supported by the accrescent calyx; pulp mucilaginous.

Often cultivated in the garden and at times spontaneous  
in some parts of the L.V. Palace compound.

Local name: Mota Gunda

Flowers and Fruits: March to May

Local uses: The fruits are edible; also pickled.

Sabnis 1039.

Throughout India, wild and cultivated; Ceylon,  
Egypt, CochinChina, Philippines, Trop. Australia.

3. Style entire, stigmas usually 2:
5. Stigma lobes elongate:
6. Plants erect or prostrate,  
rarely twining or climbing  
flowers white or pink. . . . . Convolvulus
6. Plants climbing or twining;  
flowers blue. . . . . Jacquemontia
5. Stigmas globose:
7. Capsule 4-valved; stems not  
winged. . . . . Merremia
7. Capsule operculately  
dehiscent; stems winged. . . . . Operculina

Argyreia Lour.

Argyreia nervosa (Burm.f.) Boj. Hort. Maurit. 224, 1837;  
Merr. Enum. 3:371; Santapau in JBNHS. 47:351;  
Sant. 153; Van Ooststroom in Fl. Males. (ser I)  
4:499, 1953.

Convolvulus nervosus Burm.f. Fl. Ind. 48, t. 20, f. 1,  
1768.

Argyreia speciosa Sweet, Hort. Brit. 289, 1827;  
FBI. 4:185; C. 2:324.

A large climber with white, hairy stem. Leaves  
large, ovate, cordate, acute, green above and white  
silky below. Flowers rosy-purple in subcapitate cymes.  
Bracts large, foliar.

Cordia gharaf (Forsk.) Ehrenb. & Asch. in Bitzung.

Bericht Ges. Naturf. Fl. Berl. 46, 1879; Johnston  
in JAA. 37:297; Raizada in Ind. For. 92(5):307,  
1966.

Cornus gharaf Forsk. Fl. Aeg.-Arab. 94, 1775.

Cordia rothii R. & S. Syst. 4:798, 1819; FBI. 4:138;  
Wight, Icon. t. 1379; C. 2:268; Maheshwari, 228.

A small tree. Leaves subopposite, entire, oblong  
to oblanceolate. Flowers small, white, in pedunculate  
cymes. Drupes ovoid, orange-yellow to reddish brown  
when ripe, pulpy.

Planted in gardens, not at all wild.

Local name: Nana Gunda

Flowers and Fruits: December to May

Local uses: The fruits are edible.

Sabnis 1223, 1455.

In the dry districts of Punjab and W. Peninsular  
India; often planted.

Ceylon, Egypt, Arabia, Abyssinia.

Ehretia Linn.

Ehretia laevis Roxb. Pl. Cor. 1:42, t. 56, 1796; FBI. 4:141  
C. 2:269; Wight, Icon. t. 1382.

A very small tree. Leaves elliptic or obovate.  
 Flowers white, in cymes of unilateral spikes or racemes.  
 Drupes orange, turning black and wrinkled when dry.

Rarely planted in the gardens.

Flowers and Fruits: January to June.

Sabnis 1959.

Throughout India, especially in the deciduous  
 forests; Ceylon, Persia, China, Australia.

#### CONVOLVULACEAE

1. Pollen grains echinulate:

2. Fruit indehiscent, mealy or fleshy.... Argyreia

2. Fruit dehiscent, or if indehiscent,  
 then with thin, fragile walls. . . . . Ipomoea

1. Pollen grains not echinulate:

3. Styles 2, free or partly united below:

4. Plants usually erect; flowers in  
 small clusters in the axils of  
 upper leaves. . . . . Cressa

4. Plants usually prostrate;  
 flowers axillary, solitary or  
 in few-flowered pedunculate  
 cymes, never forming clusters..... Evolvulus

Planted in a number of private and public gardens for the beautiful flowers and handsome foliage.

Local name: Samudrashosh.

Flowers and Fruits: August to October.

Sabnis 1529, 1530.

A native of India, often cultivated; also in Java, China, Mauritius and other tropical countries.

Ipomoea Linn.

1. Corolla tubular or salver-shaped:

2. Stems muricate; flowers pale

purple. . . . . muricata

2. Stems not muricate:

3. Flowers orange or scarlet;

stamens and style far exserted

from corolla. . . . . lobata

3. Flowers brilliant red, scarlet or

crimson; stamens and style not

much exserted:

4. Leaves ovate-cordate. . . . . hederifolia

4. Leaves with filiform segments.... quamoclit

1. Corolla campanulate or infundibuliform:

5. Large straggling or diffuse

shrubs; flowers pink. . . . . fistulosa

12. Corolla up to 2.5 cm.  
long; sepals acute. . . . . obscura
8. Leaves lobed or compound:
13. Prostrate, glabrous herbs; leaves  
digitate; flowers white. . . . . coptica
13. Twining herbs or shrubs:
14. Flowers in many-flowered,  
dense, pedunculate heads,  
surrounded by large bracts.... pes-tigridis
14. Flower in lax, 1 to few-  
flowered cymes, not  
surrounded by large bracts:
15. Leaves pentafoliolate or  
deeply palmately lobed;  
sepals without ligulate  
tips. . . . . cairica
15. Leaves 3-lobed; sepals  
with long, ligulate  
tips. . . . . nil
7. Stems twining; roots large, ovoid,  
elongated and tuberous. . . . . mauritiana

Ipomoea muricata (Linn.) Jacq. Hort.Schoenbr. 3:40,  
t.323, 1798 (non. Cav. 1799); FBI.4:197; Van  
Ooststroom in Blumea 3:551, 1940; Santapau in  
JBNHS 47:349; Sant.151; Maheshwari, 233.

5. Herbaceous or woody twiners,  
trailers or climbers:
  6. Aquatic plants. . . . . aquatica
  6. Terrestrial plants:
    7. Prostrate, long-trailing and  
rooting herbs with edible  
tuberous roots. . . . . batatas
    7. Stems twining, not rooting;  
roots not tuberous:
      8. Leaves entire (occasionally  
3-lobed in I.dichroa):
        9. Outer sepals sagittate or  
cordate at base. . . . . sinensis
        9. Outer sepals not cordate  
at base:
          10. Flowers in sessile  
or subsessile heads.... sindica
          10. Flowers in pedunculate,  
1 to few-flowered  
cymes:
            11. Leaves silvery,  
white-woolly  
beneath. . . . . dichroa
            11. Leaves not white-  
woolly beneath:
              12. Corolla 4-5 cm.  
long; sepals  
obtuse..... sepiaria



Convolvulus muricatus Linn. Mant.44, 1767.

Calonyction muricatum G. Don. Gen.Syst.4:264, 1837;  
Gr.137; C.2:322; G.920.

A twining shrub. Stems muricate. Leaves ovate, deeply cordate with a long petiole. Flowers pale purple; peduncles 1-5 flowered, variable in length; pedicels usually much thickened upwards in fruit. Capsule globose, apiculate usually 4-seeded.

A twiner on tall shrubs in the Mahi ravines at Vasad; not cultivated but truly wild; rare.

Flowers and Fruits: September to January.

Local uses: The thickened pedicels are used as a vegetable.

Sabnis 3470.

Himalayas extending from Kangra to Sikkim,  
Deccan hills and plains.

Ceylon, Malaysia, Japan.

Ipomoea lobata (Cerv.) Thell. in Vierteljahres. Nat. Ges.  
Ziirich 64:775, 1919; Bor & Raizada, 8, f.8;  
Maheshwari, 233.

Mina lobata Cerv. in De La Llave & Lex. Nov.Veg.  
Desc. fasc. 1:3, 1824.

Quamoclit lobata (Cerv.) House in Bull. Torrey.  
Bot.Cl.36:602, 1909.

Ipomoea versicolor Meissn. in Mart.Fl.Bras.7:200,  
1869.

An annual creeper. Leaves 3-lobed, deeply cordate, the middle lobe longest and narrowed below. Flowers orange or scarlet, in elongate, racemiform cymes; stamens and style much exserted.

Rarely cultivated in the gardens.

Flowers: May to September.

Sabnis 3191

A native of Mexico; now commonly cultivated in all tropical countries.

Ipomoea hederifolia Linn. Syst.Nat. (ed.10) 925, 1759;  
G. Donnell in Lilloa 29:45, 1959; Verdcourt in  
Fl. Trop. E. Africa 132, 1963.

I. angulata Lamk. Encycl. 1:464, 1793; van. Ooststroom  
in Blumea 3:553, 1940; Santapau in JBNHS. 47:349.

I. coccinea Clarke in FBI. 4:199, 1833. (non Linn.)

Quamoclit coccinea Cooke, Fl.Pres.Bomb.2:330,  
1904 (non Moench).

A twiner. Leaves ovate, cordate hastate, glabrous. Flowers scarlet red, in few-flowered, long-peduncled cymes; corolla salver shaped.

A very pretty, showy twiner when in bloom; On hedges near Sama and Bhayali villages; not cultivated but running wild.

Flowers and Fruits: October to December

Sabnis 3595, 3596.

A native of Trop. America, now circumtropical; cultivated in gardens, often run wild in waste places, fields etc.

Several authors (including Clarke in FBI.) have confounded this species with the North American I. coccinea L.

Ipomoea quamoclit Linn. Sp.Pl.159, 1753; FBI.4:199; Sant.151; Maheshwari, 234.

Quamoclit pinnata (Desr.) Boj.Hort.Maurit.224, 1837; Bor. & Raizada 3, f.1.

Convolvulus pennatus Desr. in Lamk. Encycl. 3:567, 1792.

Quamoclit vulgaris Choisy in Mem.Soc.Phys.Geneve 6:434, 1833; D. & G. Suppl. 59; C.2:331.

Q. quamoclit Britton & Brown, Fl. North Unit. Stat. 3:22, 1898, nom. illegit.

A glabrous, slender twiner. Leaves pinnatisect to form almost filiform segments. Flowers very attractive, scarlet red.

Grown in the gardens for the ornamental flowers and exotic foliage.

Flowers: September to January.

Sabnis 2273.

A native of Trop. America and is now widely spread in the warmer parts of the world.

Ipomoea fistulosa Mart. ex Choisy in DC. Prodr. 9:349, 1845; Shah in Journ. Univ.Bom. 30( 3 & 5):36, 1962.

I. carnea Auct. non. Jacq. 1760; C.2:321; Bor. & Raizada 6, f.5.

A large, straggling or diffuse shrub with milky juice. Stems thick, fistular. Leaves large, ovate, cordate, acuminate. Flowers large, pink or flesh-coloured in dichotomous cymes.

Grown as an ornamental in gardens as also along the roadsides.

Flowers: September to December.

Sabnis 3105, 3534.

Indigenous to S. America, but now commonly cultivated in the plains.

Ipomoea aquatica Forsk. Fl. Aegypt.-Arab. 44, 1775;  
 FBI.4:210; C.2:315; Santapau in JBNHS. 47:346;  
 Chavan & Oza, Fl. Pavagadh, 153.

Convolvulus repens Vahl, Symb. 1:17, 1790 (non Linn.)

Ipomoea reptans Poir in Lamk. Encycl. Suppl. 3:460,  
 1814; Gr.130; D. & G.164; G.916.

A aquatic herb, usually floating on the water surface, at times occupying the muddy banks of ponds, rooting at the nodes. Leaves variable, elliptic, or ovate-oblong, cordate or hastate. Flowers pink-purple on 1 to few-flowered peduncles. Capsule ovoid, glabrous.

A very common aquatic weed of ponds puddles and muddy banks.

Local name: Nadni Bhaji

Flowers and Fruits: July to March

Local uses: Young leaves, shoots and roots are used as vegetable.

Sabnis 503, 1038, 1853.

Throughout India and South Andaman.

Tropical America, Trop. Africa, Tropical Asia and North Australia.

Ipomoea batatas (Linn.) Lamk. Tabl. Encycl. 1:465, 1793;  
 FBI. 4:202, Merr. Enum. 3:364; C.2:320;  
 Sant.152; Maheshwari, 235.

Convolvulus batatas Linn. Sp.Pl.154, 1753.

Batatas edulis Choisy in Mem.Soc.Phys.Geneve 6:435,  
1833.

A spreading, glabrous plant, often rooting at the nodes. Tuberous roots white or red. Leaves ovate cordate, somewhat lobed. Flowers purple.

Cultivated for its edible roots; not common.

Local name: Shakkariyan

Flowers: September - January

Sabnis 3488.

A native of Tropical America, cultivated as a vegetable throughout India.

Ipomoea sinensis (Desr.) Choisy in Mem. Soc.Phys.  
Geneve 6:459, 1833; Verdcourt in Kew Bulletin  
204, 1958; Maheshwari, 235.

Convolvulus sinensis Desr. in Lamk. Encycl. 3:557,  
1792.

Ipomoea calycina (Choisy) Clarke in FBI.4:201, 1883;  
C.2:311.

Aniseia calycina Choisy, <sup>l.c.</sup> 6:482, 1833; Gr.250;  
Wight, Icon. t.833; D. & G. 163.

An extensive twiner. Stems villous. Leaves ovate, cordate, acuminate. Flowers white or with a purplish

tinge; outer sepals with sagittate bases. Capsules hairy globose.

A twiner on hedges and other shrubs, especially during monsoon.

Flowers and Fruits: August to November.

Sabnis 2408, 2852, 3223.

Konkan, Deccan, Gujarat extending to Bundelkhand and the W. Himalaya; Trop. Africa, China.

Ipomoea sindica Stapf in Kew Bulletin 346, 1894; C.2:313; Maheshwari, 236; Chavan & Oza, Fl. Pavagadh, 153.

Prostrate or low twining herbs (twining around itself). Stems with profuse, spreading hairs. Leaves oblong, hastate, hairy, margins ciliate. Flowers white, in sessile or subsessile, few-flowered, axillary heads. Capsule globose, glabrous; seeds thinly velvety.

Noted in the Mahi ravines at Vasad, twining round low herbs; on way to Bhimpura, on roadside herbs; on the river banks at Shahapura.

Not common, though locally abundant.

Flowers and Fruits: September to November.

Sabnis 2962, 3318, 3341.

In the drier regions of N.W. and W. India.

Ipomoea dichroa (Roem. & Schult.) Choisy in DC. Prodr.  
9:364, 1845; Shah in Journ. Univ. Bombay  
30 ( 3 & 5):36, 1962.

Convolvulus dichrous Roem. & Schult. Syst. Veg.4:263,  
1819.

C. pilosus Roxb. Hort. Beng. 14, 1814, nom.nud. &  
Fl.Ind. 1:473, 1824.

Ipomoea pilosa Sweet, Hort. Brit.289, 1827; FBI.4:213;  
C.2:313 (non Houtt. 1777 nee Cav. 1791-1801).

A twiner. Stems hirsute. Leaves broadly ovate,  
cordate, silvery white-woolly beneath. Flowers pink  
or rose. Capsule subglobose, hairy towards the apex.

A common twiner found on hedges and taller grasses  
and other shrubs, especially during the monsoon.

Flowers and Fruits: September to January.

Sabnis 866, 1842, 3150.

In the drier regions of N.W. and W. India  
and Bengal; Trop. Africa.

Ipomoea sepiaria Koenig ex Roxb. Hort.Beng.14, 1814;  
nom.nud. & Fl.Ind.2:90, 1824; FBI.4:209;  
C.2:315; Verdcourt in Kew Bulletin 15(1):7-8,  
1961. & in Fl.Trop. E.Africa 117, 1963.

I. maxima Sensu auct. mult. non (L.f.) Sweet, 1830.



Prostrate, trailing or twining herbs. Leaves ovate-oblong, cordate hastate or sagittate. Flowers pale purple or bluish purple or white, axillary, 2-3 together. Capsules ovoid; seeds minutely hairy.

Commonly noted on hedges all over Baroda, especially during rains.

Flowers and Fruits: August to December or even in April and May.

Sabnis 1273, 1558, 3227.

Throughout India; Ceylon, Malacca, Malaya.

Ipomoea obscura (Linn.) Ker Gawl. in Bot.Reg. 3, t.239, 1817; FBI.4:207; C.2:317; Gr.131; D. & G. 166; G.916; Santapau in JBNHS. 47:347, Maheshwari, 236.

Convolvulus obscurus Linn. Sp.Pl. (ed.2) 220, 1762.

A twiner with slender, wiry stems. Leaves entire, glabrous, ovate, cordate, acuminate. Flowers white with a purple centre, solitary or few in dichasial cymes. Capsules globose or ovoid, glabrous; seeds brown, velvety.

A very common twiner on hedges of Lawsonia and Euphorbia; also on barbed wire-fencings, especially during the rains. In the summer months, leafless plants without dehiscent fruits are a common sight along the hedges.

Local name: Bhingri, Pungli.

Flowers and Fruits: August to February.

Sabnis 558, 853, 2576, 3578.

Throughout India; Trop. E. Africa, Mascarenes Islands, Trop. Asia, N. Australis.

Ipomoea coptica (Linn.) Roth, apud Roem. & Schult. Syst. 4:208, 1819; Gr.132; D. & G.166; Santapau in JBNHS. 47:347; Maheshwari, 237; Chavan & Øza, Fl. Pavagadh, 151.

Convolvulus copticus Linn. Mant. 2, append. 559, 1771.

Ipomoea dissecta Willd. Phytogr. 5, t.2, 1794; FBI.4:200; C.2:318.

A prostrate or twining herb with slender angular branches. Leaves deeply palmately lobed; lobes irregularly serrate, stipule like, laciniate, small, axillary leaves. Flower white, solitary or 2-3 together on axillary peduncles; corolla less than 2.5 cm. long; Sepals oblong lanceolate, glabrous but rough outside with small protuberances; Fruit a globose capsule with persistent calyx.

Noted at the base of tall hedges, amongst grasses during monsoon.

Flowers and Fruits: September - October.

Sabnis 2325, 2769, 3546.

Some parts of Western India; Tropical and  
South Africa, Trop. Asia and N. Australia.

Ipomoea pes-tigridis Linn. Sp.Pl.162, 1753; FBI.4:204;  
C.2:320; G.918; Wight, Icon. t.836; Santapau in  
in JBNHS. 47:348; Sant.152; Maheshwari 237;  
Chavan & Oza, Fl. Patwagadh, 152.

I. pes-tigridis var. hepaticifolia Clarke in  
FBI. 4:204, 1883.

A spreading or twining hairy herb. Leaves deeply  
palmately, 5-7-lobed, hirsute on both surfaces. Flowers  
white or pinkish in usually many-flowered, dense,  
pedunculate heads, surrounded by large bracts; peduncles,  
bracts and sepals very hairy. Corolla about 2.5 cm. long,  
tubular campanulate. Capsules globose, glabrous, papery,  
concealed in the hairy calyx and bracts.

Noted along roadsides and lawns among grasses; on  
the slopes of Vishwamitri river banks among grasses;  
fairly abundant on abandoned lawns in the L.V. Palace  
compound; common and abundant during monsoon.

Local name: Waghpadini Vel.

Flowers and Fruits: July to November.

Sabnis 697, 2574.

More or less throughout India.

Ceylon, Malaya, China, Polynesia, Trop.Africa

Ipomoea cairica (Linn.) Sweet, Hort.Brit.287, 1827;  
G.918 (excl. syn. I. pulchella Roth); Santapau in  
JBNHS. 47:348; Sant.152; Maheshwari,238; Chavan &  
Oza, Fl. Pavagadh, 154.

Convolvulus cairicus Linn. Syst. (ed.10) 922, 1759.

Ipomoea palmata Forsk. Fl.Aegypt.-Arab.43, 1775;  
FBI.4:214; C.2:319.

I. pulchella Wight, Icon. t.156, 1839 (non Roth)

A large, perennial twiner. Leaves deeply palmately  
lobed; lobes elliptic or lanceolate. Flowers pale purple,  
on 1 to 3 flowered peduncles.

A very common plant in gardens; commonly grown near  
railways stations.

Flowers: All the year round.

Sabnis 1589.

Cultivated throughout India and most of the  
tropical countries of the world.

Ipomoea nil (Linn.) Roth, Cat.Bot. 1:36, 1797; van  
Ooststroom in Blumea 3:497, 1940; Santapau in  
JBNHS. 47:348; Sant.151; Maheshwari,238;  
Chavan & Oza, Fl. Pavagadh, 152.

Convolvulus nil Linn. Sp.Pl. (ed.2) 219, 1762.

Ipomoea hederacea Clarke in FBI.4:199, 1883; C.2:321.

(et al. Plur. auct. non. Jacq.)

A twining or spreading shrub. Leaves variable, large or small, ovate-cordate, 3-lobed, not deeply. Flowers large, blue or purple with white bands at the back. Fruit a subglobose, glabrous capsule.

Noted among hedges or on low undershrubs in a number of localities during rains.

Flowers and Fruits: August to November or even later up to January.

Sabnis 1840, 2387, 2916.

Cultivated or run wild in many parts of Bombay Presidency.

East Africa and Tropics generally;

Ipomoea mauritiana Jacq. Collect. 4:216, 1791; Verdcourt in Fl.Trop. E. Africa 135, 1963; Raizada in Ind. For. 92(5):314, 1966.

I. digitata auct. non Linn.; 4:202; C.2:318; Santapau in JBNHS. 47:347.

A large, perennial twiner. Leaves deeply palmately lobed, lobes 5-7, ovate lanceolate with prominent veins below. Flowers purple. Capsule ovoid.

Rarely planted in gardens for the ornamental flowers.

Flowers and Fruits: September - October.

Sabnis 10.10.58, near Faculty of Science.

Throughout Trop. India in moist regions.

Ceylon, Trop. Asia, Africa, America, Australia.

Cressa Linn.

Cressa cretica Linn. Sp.Pl.223, 1753; FBI.4:225;

C.2:296; Maheshwari, 230; Chavan & Oza, Fl. Pavagadh, 154.

C. indica Retz. Obs. 4:24, 1786; Gr.133.

Small, erect, hairy herbs. Leaves elliptic, acute, greyish green. Flowers pinkish-white, in small clusters in the axils of upper leaves; stamens exserted. Fruit a capsule.

Noted commonly on the sandy soils of the exposed banks of ponds or even roadsides; rarely as a weed in cultivated fields.

Local name: Padiyp.

Flowers and Fruits: August to February.

Sabnis 758, 3143.

Throughout India; Ceylon and all warm countries.

Evolvulus Linn.

Erect or suberect or prostrate, but not  
rooting at the nodes; flowers blue. . . . . alsinoides

Prostrate and rooting at the nodes;  
flowers white. . . . . nummularius

Evolvulus alsinoides (Linn.) Sp.Pl.392, 1762; FBI.4:220;  
C.2:297; G.923; Santapau in JBNHS. 47:340; Sant.149;  
Van Ooststroom in Mon.Gen.Evolv. 26, 1934.

Convolvulus alsinoides Linn. Sp.Pl.157, 1753.

Evolvulus hirsutus Lamk.: Gr.133; D. & G.162.

Erect, suberect or even prostrate, densely hairy  
herbs. Leaves distichous, clothed with fine, appressed  
pubescence, lanceolate, ovate. Flowers blue, solitary  
or in pairs on axillary peduncles. Fruit a capsule;  
seeds glabrous.

A common weed of lawns or grassy banks of ponds,  
especially during monsoon.

Local name: Zini Phudardi

Flowers and Fruits: July to February.

Sabnis 609, 2133, 3225.

Throughout India and Ceylon.

Tropical and subtropical areas of the globe.

Evolvulus nummularius (Linn.) Linn. Sp.Pl.391, 1762; Hall.  
f. in Engler, Bot. Jahrb. 18:85, 1894; Van  
Ooststroom in Mon.Gen.Evolv.114, 1934; Santapau in  
JBNHS. 47:341.

Convolvulus nummularius Linn. Sp.Pl.152, 1753.

Evolvulus alsinoides Jackson in Ind. Kew. 1:940,  
1893 (non Linn.)

A small, perennial, prostrate herb rooting at the  
nodes. Leaves distichous, shortly petioled, broad ovate,  
oblong to orbicular, rounded or emarginate at the apex.  
Flowers white, solitary or 2 in the axil. Capsule  
globular, 4 or less seeded.

On the lawns of the University campus as also on the  
grassy slopes of banks at Danteshwar pond; rare, not at  
all common or abundant.

The plant resembles very much Merremia but for the  
colour of flowers.

Flowers and Fruits: September - October.

Sabnis 663, 1690.

A native of Mexico and now widely distributed in  
many parts of West Indies, Trop. Africa and Madagascar.  
In India it has been reported from Bombay, Bihar, Upper  
Gangetic plain, Bengal and Assam.



Convolvulus Linn.

Trailing or twining herbs; leaves auriculate  
or hastate at base. . . . . arvensis

Prostrate or suberect herb; leaves not  
auriculate. . . . . microphyllus

Convolvulus arvensis Linn. Sp.Pl.153, 1753; FBI.4:219;  
Gr.132; D. & G. 163; C.2:303; G.925; Van  
Ooststroom in Blumea 3:283, 1939; Santapau in  
JBNHS. 47:343; Maheshwari, 239.

Trailing or twining, perennial herbs. Stem much  
twisted, angular, glabrous. Leaves alternate, ovate or  
oblong-lanceolate; base auriculate to hastate. Flowers  
white or pinkish white, solitary, axillary, on long  
peduncles. Capsules globose.

Usually a very obnoxious weed, but not common or  
abundant in this area; noted in a cultivated field and  
also along the railway tract near Vasad.

Local name: Phudardi

Flowers and Fruits: January to March.

Sabnis 961, 962.

Widely spread in the temperate and subtropical  
parts of both hemispheres, rarely in the tropics.

Convolvulus microphyllus Sieb. ex Spreng. Syst. 1:611,  
1824; DC. Prodr. 9:402; FBI.4:218; C.2:301;  
Wight, Icon. t.1367; Heine in Kew Bulletin 16:205,  
1962.

C. pluricaulis Choisy, Mem. Soc. Phys. Geneve 6:477,  
1833 & in DC. Prodr. 9:403; FBI.4:218, Syn. nov.

Prostrate or ascending herbs. Stem hirsute. Leaves  
petiolate, lanceolate, mucronate, hairy. Flowers pinkish  
white. Capsules oblong-globose, pale brown.

A very common weed of lawns and grassy banks of ponds,  
rivers and even roadside; on any dry open land among  
grasses; also as a weed of cultivation.

Local name: Shankhavali

Flowers and Fruits: June to March.

Sabnis 534, 2923, 3017.

In the drier parts of W. and N.W. India.

Baluchistan to Egypt and Nubia.

#### Jacquemontia Choisy

Jacquemontia pentantha (Jacq.) G. Don. in Gen. Syst.  
4:283, 1837; Van Ooststroom in Fl. Males. (Ser I)  
4(4):435, 1953; Chavan & Oza in Ind. For. 86:  
319 & Fl. Pavagadh, 156; Maheshwari, 239.

Convolvulus pentanthus Jacq. Coll. 4:210, 1790.

C. violaceus Vahl, Symb. Bot. 3:29, 1794.

Jacquemontia violacea Choisy in Mem.Soc.Phys.  
Geneve 8(1):61, 1838.

J. caerulea Cooke 2:304, 1905 (non Choisy in Mem.Soc.  
Phys. Geneve 6:476, 1833); FBI.4:220.

A twiner with slender stem. Leaves ovate, cordate,  
entire. Flowers blue, attractive, in axillary capitate  
cymes; peduncles long.

An ornamental garden plant, grown along trellises and  
walls in a number of private and public gardens in  
Baroda.

Local name: Nili Ghanti

Flowers: September to April.

Sabnis 811, 1335.

A native of tropical America, cultivated in  
many parts of India.

Merremia Dennst. ex Hallier f.

Plants creeping or prostrate, not twining:

Leaves reniform. . . . . gangetica

Leaves linear, oblong to obovate with  
usually 3-toothed apex and dilated at  
the base into toothed auricles. . . . . tridentata

Plants usually twining:

Leaves entire or occasionally 3-lobed.....hederacea

Leaves 5-7-partite or lobed:

Leaves palmately lobed; lobes  
again subpinnatifid or toothed..... dissecta

Leaves palmately compound:

Stems clothed with long, scattered  
hairs; flowers white to pale  
purple. . . . . aegyptia

Stems sparsely hairy; flowers  
creamy yellow. . . . . quinquefolia

Merremia gangetica (Linn.) Cufodontis in Bull. Jard.

Bot.Etat. Brux. Suppl. 31:743, 1961; Maheshwari  
in Bull. Bot.Surv.Ind. 5(2):133, 1963; Raizada in  
Ind. For. 92(5): 317, 1966.

Convolvulus gangeticus Linn. Cent. Pl.II:9, 1756;  
Amen. Acad. IV:306, 1759.

Evolvulus gangeticus Linn. Sp.Pl. (ed.2) 391, 1762.

Merremia emarginata Hall. f. in Engler, Bot. Jahrb.  
16:552, 1893; C.2:305.

Ipomoea reniformis Choisy in Mem.Soc.Phys.Geneve  
6:446, 1833; FBI.4:206.

A small, prostrate, creeping herb, rooting at the  
nodes. Leaves reniform 1.2 to 2.5 cm. broad. Flowers  
yellow. Fruit a globose capsule.

In wet and moist places; noted on the riverbanks, banks of ponds, cultivated and fallow fields as well as on dry pond beds. The plants show lot of colour variation from pale to dark green to almost reddish black depending upon the habitat.

Local name: Undarkani

Flowers and Fruits: September to March.

Sabnis 767, 972, 2954.

Western Peninsula and Ceylon.

Trop. Africa, Trop. Asia, Malaysia.

Merremia tridentata (Linn.) Hall. f. in Engler, Bot. Jahrb. 16:552, 1893; C.2:306; G.928; Van Oostroom in Blumea 3:315, 1939; Santapau in JBNHS. 47:344.

Convolvulus tridentatus Linn. Sp.Pl.157, 1753.

Ipomoea tridentata Roth in Roem. & Schult., Arch. Bot. 1(3): 38, 1798; FBI. 4:205; Gr.131; D. & G.165.

Perennial with a woody rootstock. Stems prostrate, slender, angular. Leaves linear, oblong, obovate, often deeply emarginate and 3-toothed at the apex and dilated at the base into toothed auricles. Flowers white or pale yellow, axillary, solitary, on filiform peduncles. Capsules globose.

Noted on sandy areas near the brick kilns at Sama and Chhani; also on roadside slopes at Vasad.

Flowers and Fruits: September to December.

Sabnis 3034, 3314.

Tropical Asia from Bengal to central province southwards to S. India and Ceylon, eastwards to Malay Peninsula and the Malay Archipelago.

Tropical Africa, Mascarene Islands, Australia.

Merremia hederacea (Burm. f.) Hall. f. in Engler, Bot. Jahrb. 18:118, 1894; Merr. Enum. 3:361; Ooststroom in Blumea 3:302, 1939; Santapau in JBNHS. 47:345.

Evolvulus hederaceus Burm. f., Fl. Ind. 77, t.30, f.2, 1768.

Ipomoea chryseides Ker - Gawl. in Bot. Reg. t.270, 1818; FBI.4:206; Wight, Icon. t.157; D. & G.166.

Merremia chryseides (Ker-Gawl.) Hall. f. in Engler, Bot. Jahrb. 16:552, 1893; G.2:307; G.929.

A twiner on hedges. Leaves entire or occasionally 3-lobed, cordate, distantly toothed, acuminate, with long, slender petioles. Flowers yellow in raceme-like cymes; calyx truncate, apiculate or obscurely toothed. Capsules broadly ovoid, somewhat 4-angled; seeds with velvety, fulvous pubescence.

Rare; noted on hedges near Bhat Talavdi, Race-course road, on way to T.B. Hospital.

Flowers and Fruits: October to December.

Sabnis 1895, 1896.

Throughout India, though not very common in Bombay Presidency.

Ceylon, Malaya, China, Australia, Trop.Africa.

Merremia dissecta (Jacq.) Hall. f. in Engler, Bot.Jahrb.16: 552, 1893; C.2:309; G.928; Santapau in JBNHS.47: 345.

Convolvulus dissectus Jacq., Obs.2:4, 1761.

<sup>n</sup>  
Ipomoea sinuata Ortega, Hort. Matr. Decad. 7:74, 1798; FBI.4:214; Gr.132; D. & G. Suppl.59.

A twiner with hairy stems and leaves. Leaves palmately lobed; lobes again subpinnatifid or toothed. Flowers white or pink with a blue tinge in the throat. Fruits capsular.

Noted running wild at a few places in the L.V. Palace compound; twining on hedges and tall grasses.

Flowers and Fruits: November to May.

Sabnis 1910...1915.

Probably indigenous only in America: Southern U.S., Central America, West Indies, South America to

Argentina and Uruguay; Africa: Upper Guinea, cordofan, Seychelles; becoming naturalized in India, as a garden escape; also in Australia: Queensland.

Merremia aegyptia (Linn.) Urb. Symb. Antill. 4:505, 1910; G.928; Ooststroom in Blumea 3:327, 1939; Santapau in JBNHS. 47:345.

Ipomoea aegyptia Linn. Sp.Pl.162, 1753.

Convolvulus pentaphyllus Linn. Sp.Pl.223, 1762.

Ipomoea pentaphylla Jacq., Collect. 2:297, 1788; FBI.4:202.

Merremia pentaphylla Hall. f. in Engler, Bot. Jahrb. 16:552, 1893; C.2:308.

Batatas pentaphylla Choisy, 6:436, 1833; Gr.129; D. & G.167.

A twiner. Stems clothed with long, scattered hairs. Leaves pentafoliate; leaflets broadly lanceolate, acuminate, subsessile, thinly hirsute. Flowers white to pale purple in few-flowered, fulvous hairy cymes; sepals large, hirsute with brown hairs. Capsules ovoid, papery; seeds shining.

Noted on roadside hedges; not common.

Flowers and Fruits: September to November.

Dry fruiting specimens observed on hedges in the month of June.



Sabnis 2978...2980.

In the drier parts of the Western Peninsula.

Trop. America, Trop. Africa, Pacific Islands.

Merremia quinquefolia (Linn.) Hall. f. in Engler, Bot. Jahrb. 16:552, 1893; Ooststroom in Fl. Males. I, 4(4):446, f.28, 1953; Santapau & Patel in JBNHS. 53:215, f.2; Shah in Ind. For. 89(4):289, 1963.

Ipomoea quinquefolia Linn. Sp. Pl. 162, 1753.

Convolvulus quinquefolius Linn. Syst. (ed. 10) 923, 1759.

A twiner with sparsely hairy stem. Leaves alternate, petiolate, palmately compound; leaflets sessile or subsessile, oblong-lanceolate, acute, serrate or entire. Flowers creamy yellow. Capsule globose.

Noted on hedges; I have observed the plant at Pavagadh. Shah, loc. cit. records its occurrence in Baroda.

Flowers and Fruits: November.

Western India; Tropical America and Malay Archipelago; probably an escape from culture.

Operculina Silva Manso

Operculina turpethum (Linn.) Silva Manso, Enum. Subst.

Bras. 16 & 49, 1836; Hall. f. in Engler, Bot. Jahrb. 18:120, 1894; C.2:309; G.929; Merr. Enum. 3:363; Van Ooststroom in Blumea 3:362, 1939; Santapau in JBNHS. 47:345; Maheshwari, 231.

Convolvulus turpethum Linn. Sp.Pl.155, 1753.

Ipomoea turpethum R. Br. Prodr. 485, 1810; FBI.4:212; Gr.131; D. & G.165.

A heavy twiner. Stems twisted, angular, winged. Leaves ovate, cordate or truncate at base. Flowers white with a pinkish tinge in few-flowered cymes. Bracts large. Capsule globose, enclosed in the persistent, brittle, papery calyx; seeds black, round.

A twiner on roadside hedges; not common not abundant.

Flowers and Fruits: September to December. In my field diary dated 22.5.60, the following observations are there. Dried condition - wings of the stem peeling off at a number of places. Mature capsules in a dehiscent condition.

Sabnis 2497, 3102, 3156.

Throughout India, sometimes cultivated.

Trop. E. Africa, Mascarenes, Seychelles, Ceylon,  
Indo-China; Malaysia, Tropical Australia, Polynesia;  
also introduced in the West Indies.

# CUSCUTACEAE

## Cuscuta Linn.

Corolla two to three times as long as  
calyx; style 1, short, stout. . . . . reflexa

Corolla less than twice as long as calyx;  
styles 2, distinct, elongate, slender:

Scales on the corolla tube 0. . . . . hyalina

Scales on the corolla tube present  
and fimbriate. . . . . chinensis

Cuscuta reflexa Roxb. Pl. Cor. 2:3, t.104, 1798;  
FBI.4:225; C.2:292; Gr.134; No206; Santapau in  
JBNHS. 47:339; Santapau & Patel in JBNHS. 54:712,  
t.1, A; Sant.149; Maheshwari, 240.

A twining, leafless, yellow to yellowish green, total  
stem parasite. Flowers white, in clusters. Capsules  
globose.

The parasite forms dense, yellow masses on trees  
and shrubs. Commonly observed on Streblus, Duranta and  
Lantana.

Local name: Amarvel, Antarvel

Flowers and Fruits: December to April.

Sabnis 1923...1926.

Throughout N. India, extending north to Afghanistan and East to Yunnan, China, and Java; rare in S. India and Ceylon.

Cuscuta hyalina Roth, Nov.Pl.Sp.100, 1821; FBI.4:226; C.2:292; Santapau in JBNHS. 47:339; Phatak & Joshi in JMSU. 5(2):62; Santapau & Patel in JBNHS. 54:711, t.1, D ; Maheshwari, 240.

C. arabica Wight, Icon. t. 1371 (non Fresen.)

"A parasite with yellow threads; much slender and wiry than C. reflexa. Noted twining closely round Plumbago and Pupalia plants or sometimes seen spreading on ground in Bot. garden area near Student's Common room. Flowers very tiny, dull white in colour".

The occurrence of the plant in the locality remains doubtful as I have not observed the plant in the field nor the herbarium sheet (J:960) was available for critical examination; however, it is mentioned here on the authority of Phatak and Joshi, loc.cit.

Flowers: During the monsoon.

Western Peninsula and N.W. India; Baluchistan, Abyssinia, Cordofan to S. Trop. Africa.

Cuscuta chinensis Lamk. in Encycl. Method. 2:229, 1786;  
 FBI. 4:226; Wight, Icon. t.1373; C.2:293;  
 Santapau in JBNHS. 47:339; Chavan & Sabnis in  
 Sc. & Cult. 25:544, 1960 & in JMSU: 36-39.

C. sulcata Roxb. Hort. Beng. 12, 1814; Fl.Ind. 1:477,  
 1820. (non wall.)

C. hyalina Wight, Icon. t.1372 (non Roth).

A yellow or orange, slender-stemmed, parasitic herb.  
 Flowers waxy, white, in shortly pedunculate cymose  
 clusters. Fruit a globose capsule.

A serious weed of the Lucerne crop in Baroda; not  
 yet common but is 'locally abundant' in the L.V. Palace  
 compound and Hirabaug Stud farm. The nature and extent  
 of parasitism has been studied by me in great details  
 (Chavan & Sabnis 11.cc.). After that study a few more  
 host plants have been recorded such as Thevetia peruviana  
 (Pers.) Merr. Tabernaemontana, Indigofera trita Linn.  
 and Peristrophe bicalyculata Nees.

Local name: Antarvel, Amarvel

Flowers and Fruits: November to May.

Sabnis 1009, 1442, 2186, etc.

Throughout the greater part of India; from  
 Abyssinia, Sokotra and Afghanistan eastward to Ceylon,  
 Australia and China.