

SOLANACEAE

1. Stamens all fertile and not didymous (twin), usually 5:
 2. Fruit a berry or atleast not capsular and not dehiscent:
 3. Anthers connivent round the style:
 4. Anthers opening mostly by pores or slit at or near the apex. Solanum
 4. Anthers opening from base to top, the apex extended into an empty extremity. Lycopersicon
 3. Anthers not connivent round the style:
 5. Calyx enlarging in fruit, overtopping it:
 6. Flowers solitary. Physalis
 6. Flowers in sessile or subsessile clusters. Withania
 5. Calyx not overtopping the fruit:
 7. Corolla rotate..... Capsicum
 7. Corolla tubular or cylindrical. Cestrum

- 2. Fruit capsular, mostly dehiscent or
at length splitting:
 - 8. Calyx nearly or quite covering
the fruit. Nicotiana
 - 8. Calyx much shorter than fruit;
mostly reflexing. Datura
- 1. Stamens paired, the fifth much smaller
or rudimentary. Petunia

Solanum Linn.

- 1. Plants unarmed. nigrum
- 1. Plants armed with prickles (*S.melongena*
may be armed or unarmed):
 - 2. Prostrate or ascending herbs
with long, straight prickles..... surattense
 - 2. Erect shrubs or undershrubs or herbs:
 - 3. Leaves exceeding 5 cm. long:
 - 4. Berries globose, yellow
turning to black; calyx
usually prickly. indicum
 - 4. Berries round, ovate or
elongate-cylindric; calyx
not prickly; cutigens. melongena
 - 3. Leaves not exceeding 5 cm. long.... trilobatum

Solanum nigrum Linn. Sp.Pl.186, 1753; FBI.4:229;
C.2:332; Santapau in JBNHS. 47:652; Sant.154;
Maheshwari, 245.

S. rubrum Mill. Gard. Dict. n.4, 1768; Wight, Icon.
t.344.

Erect herbs. Leaves glabrous, ovate, sinuate or lobed, dark green. Flowers white, in drooping, extra axillary cymes. Berries globose, green at first, then becoming red, orange or black on ripening.

A very common weed of cultivated and fallow fields; also in waste places, usually preferring cool, shaded places; in the crevices of the dilapidated walls.

Local name: Piludi

Flowers and Fruits: Almost all the year round.

Sabnis 643, 1024, 2343.

Common throughout India; Ceylon, all temperate and tropical regions of the world.

Solanum nigrum Linn. var. purpurilineatum Sabnis var.nov.

Haec planta in omnibus essentialibus characteribus assimilatur Solanum nigrum Linn., sed differt ab eo in sequentibus:

1. Ramificatio est densior. 2. Truncus vel thallus durior. 3. Folia grossiora et asperiora. 4. Calyx profundius incisus. 5. Petali, albi, habent singuli

purpuream mediam lineam. Aliquando petali habent praeterea duas laterales breves lineolas, una in unoquoque latere lineae mediae.

Planta est erecta et annualis herba, 25-40 cms. alta. Thallus est viridis, aliquantulum purpuratus, nodulatus, et durior atque hirsutior quam thallus Solanum nigrum Linn. Ramificatio densa. Folia irregulariter dentata, grossiora et asperiora; in coeteris characteribus S. nigrum Linn. foliis assimilatur. Inflorescentiae extra-axillariae, corymbosae cymae. Flores albi, regulares, bisexuales, completi. Calyx (3 mm.) gamosepalus, hirsutus, et profundius incisus quam in S. nigrum Linn.. Corolla (8 mm. lata) gamopetala, rotata, cum aureo gutture et purpurea media linea in unoquoque quinque petalorum; quandoque singuli petali habent duas breves laterales lineolas, una in unoquoque latere lineae mediae; purpureae lineae clarius apparent in inferiori facie petalorum. Stamina (3.5 mm.) quinque, epipetala. Filamenta brevia. Antherae (1.5 mm.) in apice incissae (notched) invicem contigue adherent. Ovarium (1.2 mm.) subglobosum. Stylus (3 mm.) conspicue hirsutus et in apice curvatus. Stigma globosum et capitatum. Fructus est baccula globosa cum calice persistente; initio viridis, postea luteus tandem maturatione niger purpuratus fructus fit. Semina plurima.

INDIA. Gujarat State: Baroda Dist., Baroda, L.V.
Palace compound, 2.10.60, Sabnis 2762, 2763 (Herbarium,
M.S. University of Baroda, Holotype); M.S. University
campus, behind Botany Dept. 10.11.64, Sabnis 3630.

The plant in all essential characters, agrees with
Solanum nigrum Linn., but differs from it in the following
characters:

1. Crowded branching 2. Stems harder 3. Leaves
thicker and rougher 4. Calyx more deeply cleft 5. Petals
white with a purple median streak, sometimes with two
short lateral ones on either side of the median.

An erect, annual herb, 25-40 cms. high. Stem green
with a purple tinge, nodular, harder and more pubescent.
Branching crowded. Leaves irregularly dentate, thicker
and rougher else as in S. nigrum Linn.. Inflorescence an
extra-axillary corymbose cyme. Flowers regular, bisexual,
complete. Calyx (3 mm.) gamosepalous, hairy and more
deeply cleft. Corolla (8 mm. wide) gamopetalous, rotate
with a yellowish throat and a purple median streak on
each of the five petals; sometimes two short lateral
ones present on either side of the median; streaks
more prominent on the lower or the outer surface of the
corolla; petals rarely four. Stamens (3.5 mm.) 5,
epipetalous; filaments short; anthers (1.5 mm.) closely



adhering, notched at the apex. Ovary (1.2 mm.) subglobose; style (3 mm.) prominently hairy, bent at the tip; stigma globose, capitate. Fruit a globose berry with persistent calyx; green when young and **orange** and ultimately purple-black when ripe. Seeds many.

Plate No. 19

The plants were first collected from the L.V. Palace Compound, Baroda and were observed to be growing along with S. nigrum Linn. Seeds from these plants were shown in Botanic gardens of the M.S. University of Baroda. The plants that came up also showed the same characters. The recurrence of these unusual characters over a period of four years demands at least a varietal status for the plant.

A number of infraspecific taxa have so far been described for the world-wide S. nigrum Linn.. The new one described here shows the presence of a character (purple median streak on the corolla lobes) which to the best of our knowledge is not recorded in the available literature.

I am thankful to Mr. C.N. Mendia, an undergraduate student of the department, for rendering the Latin diagnosis.

Solanum surattense Burm. f. Fl. Ind. 57, 1768 (excl.syn. Pluk. & Raj.); Sant. 154; Maheshwari, 245; Chavan & Oza, Fl. Pavagadh, 159.

S. xanthocarpum Schrad. & Wendl. Sert. 1:8, t.2, 1795; FBI. 4:236; C. 2:335; Santapau, loc.cit. 653.

A very prickly, prostrate or ascending herb or an undershrub. Prickles large, straight, yellow, shining. Leaves ovate, elliptic, pinnately lobed. Flowers deep purple in extra-axillary cymes; anthers yellow. Berries globose, yellow.

A common weed of all waste places and fallow fields; also noted in the crevices of the walls at Ajbadi Tank.

Local name: Bhonya Ringni.

Flowers and Fruits: January to June or during monsoon also.

Sabnis 569, 1593, 2751.

Throughout India; Ceylon, Malaya, S.E. Asia,
Trop. Australia and Polynesia.

Solanum indicum Linn. Sp.Pl.187, 1753 pro max. parte;
Gr.138; Wight, Icon. t.346; D. & G.174;
FBI.2:234; C.2:336; G.938; Santapau, loc.cit.653;
Sant.154; Maheshwari, 245.

An erect or diffuse, spiny undershrub. Leaves ovate,
entire or sinuate, usually spiny along the midrib.
Flowers blue purple in extra-axillary cymes; calyx
usually prickly. Berry globose, fleshy, yellow turning
to black.

Rare; Noted on dry, sandy places in the ravines
at Vasad and Bhimpura.

Flowers and Fruits: September to February.

Sabnis 3277, 3409.

Throughout Trop. India; Ceylon, Malaya, China,
Philippines.

Solanum melongena Linn. Sp.Pl.186, 1753; FBI.4:235;
Merr. Enum. 3:427; C.2:339; Santapau, loc.cit.
655; Sant.154; Maheshwari, 246.

S. esculentum Dunal, Hist. Solan. 208, 1813.

An erect or diffuse undershrub, prickly or not.
Leaves ovate, lobed, grey-tomentose. Flowers violet-
purple in cymes.

Cultivated in various parts of the area for the fruits, which are used as a vegetable.

Local name: Ringna

English name: Bringal or Egg-plant.

Flowers and Fruits: November to April

Sabnis 2433, 3229.

Native country uncertain, but widely cultivated throughout India.

Solanum trilobatum Linn. Sp.Pl.188, 1753; Gr.138;
Wight, Icon. t.854; D. & G.175; FBI.4:236;
C.2:337; Santapau, loc.cit.654.

An undershrub, scandent or subscandent. Leaves small, 3-5-lobed. Flowers showy, purple in extra-axillary racemose cymes; pedicels often prickly. Berry globose or subglobose.

Noted along the roadside hedges and waste places; very rare.

Flowers and Fruits: September - October.

Sabnis 3336,337; 10.9.61, Sundarpura.

W. Peninsular India; Ceylon, Malay Peninsula.

Lycopersicon Mill.

Lycopersicon esculentum Mill. Gard. Dict. n.2, 1768;
Sant.156; Maheshwari,247; FBI.4:237; C.2:345.
("Lycopersicum")

An erect, hairy herb. Leaves interruptedly pinnate; leaflets irregularly toothed. Flowers yellow. Berries red or yellow, pulpy.

Cultivated for its edible fruit; also as an escape in cool, moist places.

Local name: Tamata

Flowers and Fruits: December to April.

A native of Trop. America, now widely cultivated in India; often runs wild.

Physalis Linn.

Physalis minima Linn. Sp.Pl.183, 1753; FBI.4:238; C.2:340; Santapau, loc.cit.657; Sant.155; Maheshwari, 241.

P. pubescens Wight, Ill. t.166 B, f.6 (non linn.)

Erect or suberect herb. Leaves ovate, acute, sinuate or toothed, pubescent. Flowers solitary, yellowish. Berry enveloped in a bladdery calyx.

A common weed of waste places, usually preferring cool, wet corners; also as a weed in wheat fields.

Local name: Popati

Flowers and Fruits: August to February.

Sabnis 627, 938, 3345.

More or less throughout India; Ceylon, Trop.
Africa, Australia.

Withania Pauquy (nom. cons.)

Withania somnifera (Linn.) Dunal in Dc. Prodr. 13(1):
453, 1852; FBI.4:239; C.2:341; Santapau, loc.cit.
657; Maheshwari, 241.

Physalis somnifera Linn. Sp.Pl.182, 1753; Wight,
Icon. t.8553.

An erect herb or undershrub. Leaves ovate, entire,
oblique at base. Flowers creamy yellow to greenish
yellow in sessile or subsessile clusters. Berries
globose, enclosed in the inflated calyx.

A common weed of waste places; rarely as a weed of
cultivated fields; very healthy growth of these plants
was observed on the nitrogenous soils of the sewage
disposal area.

Local name: Ghoda Aasun, Ashwagandha

Flowers and Fruits: September to May.

Sabnis 761, 1248, 2723.

Throughout the drier parts of India; Mediterranean
region, canaries, cape of Good Hope.

Capsicum Linn.

Capsicum annuum Linn. Sp.Pl.188, 1753; Duthie & Fuller,
Field & Gard. crops 3:36; Maheshwari, 248.

A shrubby plant. Flowers solitary, drooping, white.
Berries longer than broad, red or yellow, pungent.

var. acuminata Fingerh. in Mon.Gen.Caps.13, t.2, f.c,1832.
and var. longum Sendt. in Mart. Fl.Bras. 10:147.

Commonly cultivated in many parts of the area
for the pungent fruits, which are used as spices.

Flowers and Fruits: August to March.

Sabnis 3189, 3244.

Natives of Trop. America, now widely cultivated
in India.

Cestrum Linn.

Lobes of corolla acute, erect or
spreading. nocturnum

Lobes of corolla blunt, becoming
distinctly reflexed. diurnum

Cestrum nocturnum Linn. Sp.Pl.191, 1753; Bailey, Man.
Cult. Pl.874; Bor & Raizada, 119, f.76, Pl.45;
Maheshwari, 247.

A glabrous shrub. Leaves ovate oblong, membranous. Flowers white-green, sweet smelling at night; corolla tube cylindrical with acute, erect or spreading lobes.

Cultivated in gardens for the fragrant flowers.

Local name: Rat Rani.

Flowers: Almost year round.

Sabnis 1181.

Cestrum diurnum Linn. Sp. Pl. 191, 1753; Bailey, loc.cit. 874; Bor & Raizada 118, f.75, Pl.43.

A large shrub. Leaves oblong or elliptic, glossy above and lighter coloured and puberulent on the veins beneath. Flowers white, sweet-scented by day; corolla lobes reflexed.

Cultivated in the gardens; not as commonly as the preceding one.

Flowers: July to November.

Nicotiana Linn.

Flowers pale pink; naturalized herbs. plumbaginifolia

Flowers rosy or reddish; cultigens. tabacum

Nicotiana plumbaginifolia Viv. Elench. Pl.Hort. Dinegro.

26, t.5, 1802; Haines, Bot. Bih. & Or.616;

Chavan & Sabnis in JBNHS. 57(2):446, 1960;

Maheshwari, 242.

An erect herb, sticky glandular throughout. Basal leaves forming a rosette, upper ones elliptic, ovate or lanceolate, clasping the stem. Flowers pale pink, in lax racemes. Capsules ovoid.

The plants were found occupying the banks of a stream in the most shaded and undisturbed parts of Navlakhí area in K.V. Palace compound; also from a few places on the banks of river Vishwamitri.

Neither common nor abundant.

Plate No. 20

Flowers and Fruits: October to April

Sabnis 692, 2034, 3075.

The plant has not been enlisted in Cooke's Flora, neither does it find a mention in the later works. The plant is an introduced weed from Mexico and west Indies, reported here for the first time from Gujarat or



Nicotiana plumbaginifolia Viv.

possibly the whole of erstwhile Bombay state.(Chavan & Sabnis,loc.cit.) Earlier It has been reported from Bengal, W. Pakistan, upper Gangetic plain, Orissa.

Nicotiana tabacum Linn. Sp.Pl.180, 1753; FBI.4:245;
C.2:346; Santapau in JBNHS. 47:660; Maheshwari,242.

An large, viscid annual. Leaves large, oblong or ovate-lanceolate, course. Flowers rosy or reddish in terminal panicles. Capsules ovate.

Extensively cultivated in many parts of the area under study; an important commercial crop.

Local name: Tamaku

Flowers and Fruits: November to March

Sabnis 916, 3518.

Believed to be a native of S. America, now cultivated in various parts of the country.

Datura Linn.

Plants glabrous or nearly so; corolla
5-toothed; fruits tuberculate or armed
with short spines. metel

Plants pubescent; corolla 10-toothed;
fruits armed with long, weak spines. inoxia

Datura metel Linn. Sp.Pl.179, 1753; Santapau in JBNHS.
47:657; Sant.155.

D. fastuosa Linn. Syst.2:932, 1759; FBI.4:242;
C. 2:343; Wight, Icon. t.1396.

D. alba Nees in TLS. 17:73, 1834; Wight, Icon. t.852.

D. fastuosa var. alba Clarke in FBI. 4:243, 1883.

D. alba Rumph. Herb. Amb. 5:242, t.87, 1755.

Plant glabrous or nearly so. Stems dark purple.
Leaves ovate, oblique at base. Flowers white or purple;
corolla single or double. Capsules tuberculate or with
short spines.

A common weed of all waste places; at times cultivated
near temples and small houses.

Local name: Dhanturo

Flowers and Fruits: Flowers are almost throughout
the year, more profuse in the monsoon and post-
monsoon period. Fruiting is abundant during the
hot months from February to May.

Sabnis 902, 3522.

Very common throughout the Bombay state and India.

Datura inoxia Mill.Gard.Dict. (ed.8) n.5, 1768; Santapau,
loc.cit. 659; Sant.155; Maheshwari,243; Chavan
& Oza, Fl. Pavagadh,161.

D. metel Sims in Bot. Mag. t.1440, 1812; FBI.4:243
(non Linn.)

Plants pubescent. Leaves ovate, acute, oblique at base. Flowers white; corolla single, 10-toothed. Capsule armed with long, weak spines.

Noted on waste heaps in the L.V. Palace compound and the University campus; apparently not common like the previous one; not at all cultivated.

Local name: Dhanturo.

Flowers and Fruits: October to February.

Sabnis 568.

An American plant, which has naturalized in certain parts of the country.

Petunia Juss.

Petunia hybrida Hort.; Bailey, Cycl. Hort. 3:3565,
tt.2880, 2881 & Man. Cult. Pl.879.

The common garden 'Petunia' is cultivated in a number of gardens in Baroda. They are a series of hybrids remarkably variable as regards their habit, size of the leaf, length and colour of the flowers, etc. The plants have never been observed as escapes. Very often Orobanche has been observed as a root-parasite on these plants.

Sabnis 1253, 1254.

SCROPHULARIACEAE

1. Plants aquatic or marshy:

2. Perfect stamens 4:

3. Lower leaves pinnatifid or
multifid. Limnophila

3. Leaves not as in above, but
obovate-oblong or spatulate,
entire. Bacopa

2. Perfect stamens 2:

4. Plants succulent, erect:

5. Flowers solitary, axillary. Dopatrium

5. Flowers in axillary, lax
racemes. Veronica

1. Plants terrestrial:

6. Plants parasitic:

7. Corolla 2.5-4 cm. long; leaves
pinnatisect. Sopubia

7. Corolla much less than 2 cm.
long; leaves scale-like or
linear, not pinnatisect. Striga

6. Plants not parasitic:

8. Leaves all alternate, corolla
subrotate; tube short. Verbascum

- 8. Leaves mostly whorled; flower almost regular; corolla throat bearded. . . . Scoparia
- 8. Leaves all opposite or the lower only; corolla tube elongate:
 - 9. Corolla spurred or saccate at the base in front:
 - 10. Corolla saccate; flowers variously coloured. Antirrhinum
 - 10. Corolla spurred in front; flowers yellow. Kickxia
 - 9. Corolla not spurred or saccate in front: capsule opening by valves.
 - 11. Corolla tube very long, narrow; flowers red in cymes. Russelia
 - 11. Corolla tube not very long; flowers axillary or racemose, other than red:
 - 12. Flowers yellow. Lindenbergia
 - 12. Flowers other than yellow (blue, purple, pink or white):
 - 13. Leaves pinnatifid, segments toothed and cut. Sutera

13. Leaves not as above:

14. Stamens 4, included in
corolla tube. Stemodia

14. Stamens, if 4 the anterior
or lower pair, if 2 the
staminodes attached to
corolla throat; the
posterior or the only
perfect pair of stamens
inserted within the
corolla tube. Lindernia

Limnophila R. Br.

Limnophila indica (L.) Druce, in Rep.Bot.Exch.Cl.Brit.
Isles 3:420, 1914; Pennell, Scroph.west.Himal.26,
1943; Subramanyam, Aquat. Angios. 30, 1962.

Hottonia indica Linn. Syst.Nat. 919, 1759.

Limnophila gratioloides R. Br. Prodr. 442, 1810;
FBI.4:271; C.2:362.

L. racemosa Benth. Scroph. Ind.26, 1835; FBI.4:271;
C.2:362.

A slender, aquatic herb. Upper leaves whorled or
opposite, serrate; lower leaves capillaceo-multifid.
Flowers white to pinkish-purple, usually solitary,
axillary, pedunculate. Capsule ovoid or subglobose.

A completely submerged or an emergent hydrophyte on extremely muddy soils; not common, not abundant.

Flowers and Fruits: September to January.

Sabnis 862, 1897.

Throughout India in wet places; Ceylon, South Andamans, Malayan Archipelago, Java, China, Australia, Trop. Africa.

Bacopa Aubl. (nom.cons.)

Bacopa monnieri (Linn.) Pennell in Proc.Acad.Nat.Sc.

Philad. 98:94, 1946; Santapau in JBNHS.49:30; Sant.158; Maheshwari, 253.

Lysimachia monnieri Linn. Cent. Pl.2:9, 1756.

Moniera cuneifolia Michaux, Fl.Bor.Amer. 2:22, 1803 (Monniera); C.2:356; G.953.

Herpestis monniera Benth. Scroph. Ind. 30, 1835; FBI.4:272; Gr.144.

Prostrate, fleshy or succulent herbs, rooting at the nodes. Leaves obovate-oblong, obtuse, succulent. Flowers pale blue-purple, at times white with markings, solitary, axillary. Capsule ovoid, glabrous.

A marsh-lover, noted on damp places along the banks of rivers and ponds forming mats along with grasses and other herb.

Common and abundant.

Local name: Jalnevari, Bam.

Flowers and Fruits: August to March.

Sabnis 521, 1056, 3581.

Throughout India; Ceylon, Burma and all warm countries.

Dopatrium Buch. - Ham.

Dopatrium junceum (Roxb.) Buch.-Ham. ex Benth. Scroph.

Ind.31, 1835; FBI.4:274; C.2:363; Merr.Enum.
3:435; G.954; Santapau, loc.cit.35; Sant.159;
Subramanyam, loc.cit.31.

Gratiola juncea Roxb. Pl. Cor. 2:16, t.129, 1798.

Succulent, erect herb; lower part swollen and spongy, upper slender. Lower leaves elliptic, sessile; upper small, bract-like. Flowers pink pale purple on slender, axillary peduncles. Capsules globose.

A typical plant of extremely muddy or water-logged soils of rice fields and marshes at Harni, Panigate and Timbi.

Flowers and Fruits: September to October.

Sabnis 1869.

Throughout India, Ceylon, Malay Islands, China, Japan, Philippines, Australia.

Veronica Linn.

Veronica anagallis Linn. Sp.Pl.12, 1753; FBI.4:293;
C.2:373; Wetst. in Pfam. 4(3b):86, 1895;
Santapau, loc.cit.41.

An erect, succulent herb. Leaves sessile or the lowest petiolate, oblong or oblong lanceolate, entire or more or less serrate. Flowers in axillary, lax racemes; pedicels filiform; bracts linear-lanceolate. Flowers pink or white. Capsules compressed, orbicular to oblong orbicular, emarginate.

A very rare plant, so far noted growing on the wet, sandy banks of river Mahi, near Vasad.

Flowers and Fruits: January to March.

Sabnis 3434, 3435.

India: Punjab, Kashmir, Bhutan, Bengal, Assam,
W. Peninsula; Europe, N. Asia, S. Africa, N. America.

Glossostigma Arn. (nom.cons.)

Glossostigma spathulatum (Hook. ex Wt.) Arn. ex Benth.
in Comp. Bot. Mag. 2:59, 1836; FBI.4:288;
C.2:371; G.964; Pennell, loc.cit. 36; Santapau,
loc.cit.41.

Microcarpaea spathulata Hook. ex Wt. in Bot. Misc. 2:101,
Suppl. t.4, 1831.

Glossostigma diandrum Kuntze, Rev.Gen.Pl.461, 1891.

A small, creeping herb, rooting at the nodes. Leaves small, spathulate. Flowers whitish blue, solitary, axillary on slender pedicels. Capsule enclosed in enlarged calyx.

Noted only once on the banks of river Mahi at Vasad, just near the water current; sometimes even entering water.

Flowers: March

Sabnis 991, 992.

India: Upper Gangetic plain, Bihar, W. Peninsula;
Trop. Africa and Australia.

It is provisionally included here. The identity of the plant could not be confirmed because of the paucity of flowering and fruiting material.

Sopubia Buch. - Ham.

Sopubia delphinifolia (Roxb.) G. Don.Gen.Syst.4:560,
1837; FBI.4:302; C.2:378; Gr.145; D. & G.182;
G.970; Santapau, loc.cit.45; Sant.164; Chavan
& Oza, Fl. Pavagadh, 168.

Gerardia delphinifolia Roxb. Pl. Cor. 1:t.90, 1795.

An erect root-parasite. Leaves pinnatisect or much divided. Flowers purple or rose, usually solitary, axillary; corolla 2.5-4 cm. long. Capsule oblong ellipsoid.

Noted immediately after a few showers on the grassy banks of ponds and in roadside marshes and on lawns parasitizing the roots of a number of grasses.

Fairly common and abundant.

Flowers and Fruits: September to November.

Sabnis 668, 1850, 2323.

Konkan, Deccan, Gujarat, W. Peninsula, Bihar;
Ceylon.

Striga Lour.

Flowers white; leaves linear, stems not
purple. angustifolia

Flowers purplish-pink; leaves scale-like;
stems purple. gesnerioides

Striga angustifolia (Don) Saldanha in Bull. Bot. Surv.

India, 5:70, 1963; Chavan & Oza, Fl. Pavagadh, 167.

Buchnera angustifolia Don, Prodr, Fl. Nep. 91, 1825.

B. ^e~~Euphrasioides~~ Benth. Scroph. Ind. 41, 1835 (non Vahl. 1794).

Striga euphrasioides (Benth.) Benth. in Hook. Comp.
 Bot.Mag.1:364, 1836 & in DC. Prodr. 10:503, 1846;
 FBI.4:299; C.2:376; G.968; Santapau, loc.cit. 44p
 Sant.164; Maheshwari, 251.

An erect herb, much variable in height. Leaves linear, scabrous. Flowers pure white, conspicuous, in lax or interrupted, erect spikes; calyx campanulate, with 15, strong, scabrous ribs. Capsule oblong-ellipsoid.

A very common plant of the grassy banks of ponds and lawns under direct sunlight especially during heavy monsoon, parasitizing the roots of a number of grasses. The plants turn absolutely black on drying.

Local name: Dholo Aagiyo

Flowers and Fruits: August to October.

Sabnis 679, 3232.

Throughout India in the plains; Ceylon, Java.

Striga gesnerioides (Willd.) Vatke in Oest. Bot.
 Zeitschr.25:11, 1875; Santapau, loc.cit.42;
 Sant.162; Saldanha in Bull.Bot.Surv.India. 5:68,
 1963.

Buchnera gesneroides Willd. Sp.Pl.3:338, 1800.

Striga orobanchioides (R.Br. ex Endl.) Benth in Hook.
 Comp. Bot. Mag. 1:361, t.19, 1836; FBI.4:299;
 C.2:374; G.967.

Erect herbs. Stem purple coloured. Leaves scale-like. Flowers pinkish-purple, sessile, in erect, terminal spikes. Capsule oblong-ellipsoid.

Noted growing at base of tall hedges, probably parasitic on the roots of Euphorbia plants; not common, nor abundant.

Local name: Rato Aggiyo.

Flowers and Fruits: September - October.

Sabnis 728, 729.

W. Peninsular India; Ceylon, Trop. and S. Africa, Arabia.

Verbascum Linn.

Verbascum chinense (Linn.) Santapau, Fl.Puran.90, 1958; Sant.157; Maheshwari, 249.

Scrophularia chinensis Linn. Mant. 2:250, 1771.

Celsia coromandeliana Vahl, Symb. Bot.3:79, 1794; FBI.4:251; C.2:352; Wight, Icon. t.1406.

Erect herbs 50-100 cm. high. Leaves radical and cauline, pinnatifid at the base of the stem, gradually becoming smaller up the stem. Flowers yellow, almost regular, in terminal racemes; corolla subrotate. Capsules subglobose.

Noted in moist situations on the muddy banks of rivers and ponds; rarely in cultivated fields.

Local name: Kalhar

Flowers and Fruits: November to March.

Sabnis 526, 1471, 3012.

Throughout India; Burma, Ceylon, Afghanistan, China, Ava.

On the nomenclature of the plant as well as on the subject of the limits of Verbascum and Celsia, please refer to Santapau in JBNHS.49:25, 1950.

Scoparia Linn.

Scoparia dulcis Linn. Sp.Pl.116, 1753; FBI.4:289; C.2:383, G.964; Merr. Enum. 3:441; Pennell, loc.cit.22; Santapau, loc.cit.47; Sant.165.

An erect herb. Leaves usually whorled, irregularly toothed. Flowers white; corolla 4-lobed, throat densely bearded. Capsule, globose, loculicidal.

Noted rarely, in waste places.

Plate No. 21

Flowers and Fruits: August to September.

Sabnis 2265...2268.

Trop. American weed, which has naturalized
in many parts of this country.

Antirrhinum Linn.

Antirrhinum majus Linn. Sp.Pl.617, 1753; C.2:382; Pennell,
Scroph. East.Temp. N.Amer.317, 1935; Bailey, Man.
Cult.Pl.895.

A perennial, grown in gardens as an annual. Leaves
lanceolate or oblong-lanceolate. Flowers up to 4 cm.
long, variously coloured (red, purple, white), in
elongated spikes.

Grown in gardens as an ornamental annual.

English name: Snapdragon.

Flowers: January to April.

A native of the mediterranean region; cultivated
throughout India.

Kickxia Dumort.

Kickxia ramosissima (Wall.) Janchen in Oesterr. Bot.
Zeitschr. 82:152, 1933; Pennell, loc.cit. 59:
Santapu, loc.cit.27; Chavan & Oza, Fl.Pavagadh,164.

Linaria ramosissima Wall., Pl.As.Rar.2:43, t.153,
1831; FBI.4:251; C.2:353; G.946.

Elatinoides ramosissima (Wall.) Wettst. in Pfam.
4(3b):58, 1891.

A slender, much branched herb. Leaves variable, ovate to triangular, hastate; petioles slender, at times coiled. Flowers yellow, solitary, axillary, spurred; pedicels filiform, taking an inverted U-shaped turn in fruit. Capsules globose, pale brown; seeds echinulate.

Occurs in the cracks and crevices of the walls of old, dilapidated buildings, along with its frequent associate, Lindenbergia indica kuntze; not common.

Flowers and Fruits: November to February.

Sabnis 3446, 3447.

Throughout India, on rocky and stony places;
Ceylon, Burma, Afghanistan, Ava.

Russelia Jacq.

Upper leaves scale like or very small;
lower linear, lanceolate or ovate. equisetiformis
Leaves broad ovate, serrate. coccinea

Russelia equisetiformis Schlecht. & Cham. in Linnaea
6:377, 1831; Santapau, loc.cit.47; Bor & Raizada
227, Pl.83.

R. juncea Zucc. in Flora 15(2) Beibl.99, 1832; C.2:382.

An erect or drooping, much branched shrub. In vegetative condition, the plant resembles Equisetum. Leaves whorled; lower linear, lanceolate or ovate; upper small, reduced, scale-like. Flowers beautiful, scarlet-red, on 1 to 3-flowered peduncle.

Grown in some gardens for the beautiful flowers.
(University Bot. garden and Public Park, near Band stand)

Flowers: August - September or even later.

A native of Mexico, much cultivated in gardens in various parts of the country.

Russelia coccinea Wetts. in Pfam. 4(3b): 63, 1891 & in Bull. Herb. Boiss. 2:562, 1894; Bor & Raizada, 228; Maheshwari, 251.

A small shrub. Flowers red, in many-flowered, close axillary cymes.

Ornaamental garden shrub.

Flowers: September to April.

Sabnis 756.

Indigenous to Mexico, now grown in gardens in India and throughout the tropics.

Lindenbergia Lehm.

Lindenbergia indica (Linn.) Kuntze, Rev. Gen. 462, 1891;
Santapau, loc. cit. 45; Maheshwari, 252; Chavan
& Oza, Fl. Pavagadh, 165.

Dodartia indica Linn. Sp. Pl. 633, 1753.

Lindenbergia urticifolia Lehm. in Link & Otto, Icon.
Pl. Rar. Hort. 95, t. 48, 1828; FBI. 4: 262; C. 2: 379.

An hairy, annual herb. Leaves broadly ovate,
serrate. Flowers yellow, blotched with red, solitary,
axillary passing into axillary and terminal spiciform
racemes. Capsule hairy, slightly longer than the calyx.

A typical plant of the cracks and crevices of old
walls, from where it hangs downwards; also on the cleft
banks of Vishwamitri river.

A very variable plant; common and abundant.

Local name: Bhint Chatti

Flowers: August to February

Fruits: November to March

Sabnis 524, 801, 2894.

Konkan, Deccan, Gujarat, Sind, W. Peninsula,
Himalayas, Punjab, Bihar, Bengal; Afghanistan, Burma.

Sutera Roth.

Sutera dissecta (Del.) Walp. Repert. 3:271, 1844;
Santapau, loc.cit.28; Sant.157.

Capraria dissecta Del. Fl.Egypte 95, t.32, f.2, 1812.

Sutera glandulosa Roth, Nov.Pl.Sp.291, 1821; FBI.4:258;
C.2:355; G.946; Wight, Icon. t.856.

A diffuse or suberect, glandular hairy herb, branching from the base. Leaves pinnatifid, segments toothed and cut. Flowers small, white. Fruit a septicidal capsule, with 2 bifid valves, viscidly pubescent.

A rare plant of river banks and pond banks; noted, so far, from the banks of Vishwamitri.

Flowers and Fruits: October to December.

Sabnis 1912, 1813.

India: Bihar, Bengal, w. Peninsula; Arabia,
Egypt, Nubia.

Stemodia Linn. (nom. cons.)

Stemodia viscosa Roxb. Pl. Cor.2:33, t.163, 1798;
FBI.4:265; C.2:359; G.949; Wight, Icon. t.1408;
Santapau, loc.cit. 32; Sant.158; Chavan & Oza,
Fl. Pavagadh, 165.

An erect or suberect herbs. Stem and branches angular, viscidly pubescent. Leaves sessile, oblong, cordate. Flowers violet-purple, solitary, axillary or in few-flowered racemes. Capsule ovoid-oblong, acuminate, glabrous.

Noted on the wet banks of ponds and rivers; also as a weed of cultivated fields.

Common though not abundant.

Flowers and Fruits: September to April.

Sabnis 572, 1011.

Central, Western and South India; Afghanistan.

Lindernia All.

Perfect stamens 4; capsule equalling the calyx or shorter. crustacea

Perfect stamens 2; capsule twice as long as calyx or longer:

Leaves parallel nerved. parviflora

Leaves penni-nerved:

Leaves sharply, deeply and closely serrate; Flowers white-pinkish blue in lax, terminal racemes. ciliata

Leaves shortly and distantly serrate; Flowers purplish-violet in axillary racemes. oppositifolia

Lindernia crustacea (Linn.) F. Muell. Cens.Austr. Pl.
97, 1882; Mukerjee in JIBS.24:130, 1945; Merr.
Enum. 3:437; Santapau, loc.cit. 37; Sant.159;
Maheshwari, 252.

Capraria crustacea Linn. Mant. 87, 1767.

Vandellia crustacea Benth. Scroph. Ind.35, 1835;
FBI.4:279; C.2:366.

A tender, diffuse or erect, annual herb. Leaves
ovate, coarsely and shallowly serrate or subentire.
Flowers purplish, axillary, solitary or in racemes at
the end of branches. Capsule equalling the calyx or
shorter.

A monsoon annual observed at a few places on banks
of ponds at Harni Amaliyara and Por-Vernama.

Flowers and Fruits: September - October.

Sabnis 733, 3367.

Throughout India; Ceylon, Tropics of the
Old World.

Lindernia parviflora (Roxb.) Haines, Bot.Bih. & Or. 635,
1922; Mukerjee, loc.cit.132; Pennell, loc.cit.
29; Santapau, loc.cit. 38; Sant.160; Maheshwari,
253.

Gratiola parviflora Roxb. Pl.Cor. 3:3, t.203, 1811.

Ilysanthes parviflora (Roxb.) Benth. in DC.Prodr.
10:419, 1846; FBI.4:283; C.2:368.

An erect annual. Leaves sessile or the lower shortly petiolate. Flowers bluish-white, solitary, axillary. Capsule ovoid-oblong, acute, twice as long as the calyx or longer.

Apparently rare as compared to the other species of Lindernia; observed on the grassy banks of Danteshwar pond.

Flowers and Fruits: September - October.

Sabnis 1688, 1689.

More or less throughout India; Siam, Trop.Africa.

Lindernia ciliata (Colsm.) Pennell in JAA. 24:253, 1943
& Scroph. West. Himal.32; Mukerjee, loc.cit.133;
Santapau, loc.cit.39; Sant.160; Maheshwari,253.

Gratiola ciliata Colsm. Prodr. Desc. Grat.14, 1793.

Bonnaya brachiata Link & Otto, Icon.Pl. Sel.2:25,
t.11, 1820; FBI.4:284; C.2:369.

Vandellia brachiata (Link & Otto) Haines, Bot.Bih. &
Or.632, 1922.

An erect or decumbent herb, branching from the base. Leaves glabrous, sessile, obtuse or subacute, sharply deeply and closely serrate. Flowers white-pinkish blue, in lax racemes. Capsules linear-oblong, acute.

A common weed of the grassy banks of ponds or lawns, especially during monsoon.

Flowers and Fruits: August to September.

Sabnis 651, 770, 2728.

Throughout India; Malacca, Ceylon, Java, China, Philippines.

Lindernia oppositifolia (Retz.) Mukerjee, loc.cit. 134; Santapau, loc.cit.40; Chavan & Oza, Fl. Pavagadh, 167.

Gratiola oppositifolia Retz. Obs. 4:8, 1786 (non Linn. ut scribit Mukerjee).

Bonnaya oppositifolia Spr.Syst. 1:41, 1825; FBI.4:286; C.2:370; G.962.

Vandellia oppositifolia Haines, Bot.Bih. & Or.634, 1922.

Small, erect herbs. Leaves sessile, linear oblong, shallowly and distantly serrate. Flowers purplish-violet. Capsule about twice as long as the calyx; seeds minute.

A common weed during monsoon; noted amongst low grasses of lawns and banks of ponds.

Flowers and Fruits: August - September.

Sabnis 1643, 2182.

Endemic to the W. Peninsular India.

OROBANCHACEAE

Orobanche Linn.

Orobanche cernua Loefl. var. nepalensis DC.Prodr. 11:33, 1847; Graham in Fl.Trop. E.Afr. (Orobanchaceae) 6; Santapau & Wagh in Bull. Bot.Surv.India 5:107; Chavan & Oza, Fl. Pavagadh, 169.

O. nicotianae Wight, Ill. 2:179, t.158, 1850; FBI.4:326.

O. cernua loefl. var. desertorum G. Beck. Biblioth. Bot.19:142, t.33(1), 1890; G.2:387.

Erect herbs with brownish stems. Flowers in an elongated, close spike; corolla with a bluish limb and white tube. Capsule ellipsoid.

A very common total parasitic weed, found parasitizing the roots of Tobacco in the fields; also commonly noted on the garden 'Petunia' on the University campus year after year.

Local name: Vakumbo

Flowers and Fruits: December to March.

Sabnis 917, 3010, 3011.

W. Himalaya, Kashmir, Nepal, W. Tibet, Punjab;
N. Africa, Spain, Extra-tropical Australia.

LENTIBULARIACEAE

Utricularia Linn.

Submerged aquatic; flowers yellow. stellaris

Marsh-loving terrestrial; flowers
purple-violet. reticulata

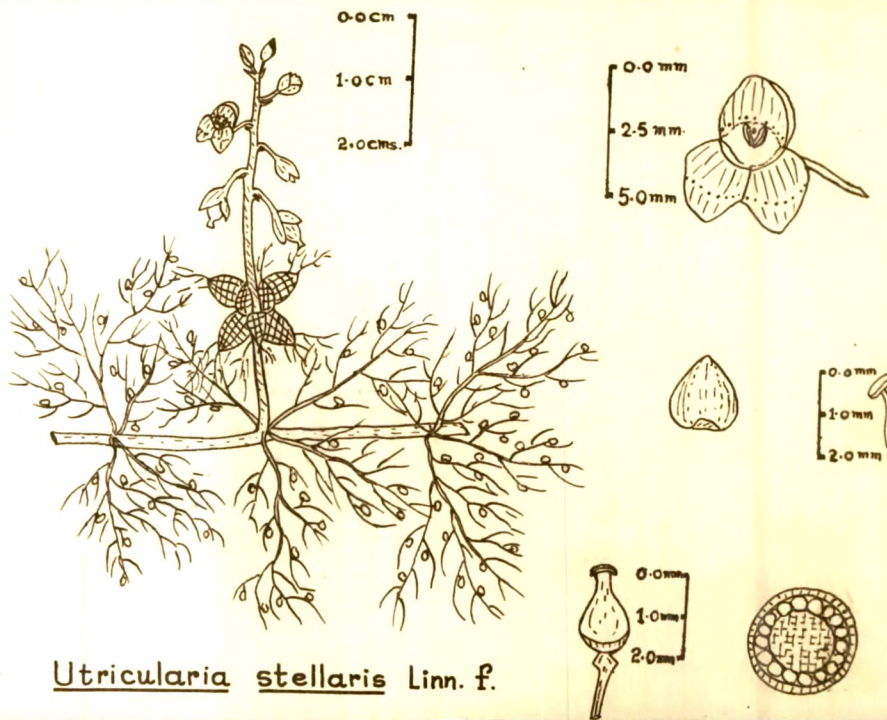
Utricularia stellaris Linn. f. Suppl 86, 1781; FBI.4:328;
Wight, Icon. t.1567; C.2:389; G.980; Subramanyam,
Aquat. Angios. 33, f.23, 1962.

A submerged aquatic with the peduncles seen above the water surface, suspended in water by means of ellipsoid or avoid, reticularately veined floats, which have a bundle or filiform segments at their tips. The leaves much dissected with pectinate segments; each pinna having a globular, ovoid bladder with a truncate mouth. Flowers yellow, in slender racemes. Capsules globose, circumscissile.

An insectivorous, free floating aquatic, observed in a number of ponds, puddles and ditches especially in Harni and Danteshwar area.

Plate No. 22

Flowers and Fruits: September to March.



Utricularia stellaris Linn. f.

Sabnis 501.

Throughout India; Ceylon, Malaya, S.E. Asia,
Australia, Trop. and S. Africa.

Utricularia reticulata Sm., Exot.Bot.2:t.119, 1805;
FBI.4:331; D. & G. 135; C.2:393; G.982; Santapau
in JBNHS. 49:219; Sant.167.

U. uliginosa Wight, Icon. t.1574 (right hand figure only)

U. graminifolia Graham, Cat. 165 (non Spreng.)

A marsh-loving terrestiral. Leaves narrowly linear-oblong, deciduous. The flower-bearing scapes, slender, weak and flexuous. Flowers ("largest of the Bombay species") deep purple-violet, few in a raceme. Capsule ellipsoid enclosed by the enlarged sepals.

Noted in the water-logged soils of the rice-fields, twining on rice or other small herbs.

Plate No. 23

Flowers and Fruits: September to October.

Sabnis 1745, 1803.

W. Peninsular and South India; Ceylon.



Utricularia reticulata Sm.

BIGNONIACEAE

1. Erect trees or shrubs:

2. Leaves simple; if compound, with a winged rachis:

3. Flowers orange-yellow. Tecomella3. Flowers yellowish with green,
purple or red veins. Crescentia

2. Leaves compound:

4. Leaves once pinnate:

5. Calyx spathaceous, splitting
down on one side; flowers
orange scarlet. Spathodea5. Calyx not as above; flowers
other than orange scarlet:6. Fruit indehiscent, large,
woody gourd-like. Kigelia6. Fruits dehiscent, not as
above:7. Large shrubs; leaflets
toothed; capsules linear....Tecoma

7. Trees:

8. Flowers yellowish-
brown; fruit cylindric,
curved. Halophragma8. Flowers pale rose to
white; fruit straight....Heterophragma

4. Leaves 2 to 3-pinnate:
- 9. Flowers white with a long,
slender tube. Millingtonia
 - 9. Flowers mauve blue, not as long
as the above. Jacaranda
1. Tendril climbers; Stamens slightly
exserted; corolla cylindrical. Pyrostegia

Tecomella Seem.

Tecomella undulata (Sm.) Seem. in Ann. & Mag. nat.
Hist. (ser.3)10:30, 1862; C.2:402; Blatt. & Mill.
Beaut.Ind.Trees. 239, t.30; Maheshwari, 257.

Bignonia undulata Sm. Exot. Bot. 1:35, 1805.

Tecoma undulata G.Don, Gen.Syst. 4:223, 1837;
FBI.4:378.

A small tree. Leaves narrowly oblong, obtuse, entire
with undulate margins. Flowers orange-yellow in
corymbose racemes terminating short, lateral branches.

Not a commonly cultivated tree. A number of trees
planted along the roadside in the L.V. Palace compound
for ornamental purposes.

Flowers and Fruits: **January** to April.

Sabnis 1959a.

In the drier parts of N.W. and W. India;
Baluchistan, Arabia.

Crescentia Linn.

Crescentia cujete Linn. Sp.Pl. 626, 1753; C.2:411;
Bailey, Man. Cult. Pl.904.

A small tree. Leaves often fascicled, broadly oblanceolate, obtuse, tapering to base. Flowers yellowish with green, red or purple veins, solitary, pendulous. Fruit a big, globose amphisarca with a hard rind.

Planted at a few places in the L.V. Palace compound and on the University campus.

English name: The Calabash tree.

Flowers and Fruits: October to April.

A native of Trop. America.

Spathodea campanulata Beauv. Fl. D'Owar. 1:47, 1805;
C.2:410; Bailey, loc.cit.907.

A medium sized to large tree. Leaves imparipinnate; leaflets ovate-lanceolate or elliptic, with 2-3 fleshy glands at the base. Flowers orange scarlet in racemes; calyx boat-shaped, spathaceous; corolla large, campanulate. Capsule oblong lanceolate, pointed at both ends.

Planted as an ornamental tree in gardens.

English name: The fountain tree.

Flowers and Fruits: November to April.

Sabnis 28.11.58, Kirti Mandir garden;
19.2.59, Public park.

Introduced from the forests of Uganda and the northern part of Congo basin; planted in various parts of Bombay state.

Kigelia DC.

Kigelia pinnata DC. Prodr. 9:247, 1845; C.2:411; Benthall, Trees Calc. 346; Bailey, loc.cit.905; Maheshwari, 258.

A medium sized to large trees, with a spreading crown. Leaves imparipinnate; leaflets obovate or oblong, leathery. Flowers chocolate red in lax, pendulous racemes; corolla campanulate, tube broad, with 5 spreading lobes. Fruit woody, gourd-like hanging on cord-like peduncles; seeds embedded in the pulp.

Planted in gardens for the exotic flowers and fruits and also for the excellent shade it provides.

English name: Sausage tree.

Flowers and Fruits: January to May.

Sabnis 23.4.58, L.V. Palace compound;
19.11.59, Motibaug; also near Band stand, Public Park.

A native of Abyssinia and Nubia and as far South as Natal; cultivated in gardens in India.

Tecoma Juss. emend. H.B. & K.

Tecoma stans (Linn.) H.B. & K. Nov. Gen. & Sp. 3:144, 1818;
Sant.171; Bor & Raizada 37, f.28, Pl.9,10;
Maheshwari, 258.

Bignonia stans Linn. Sp.Pl.871, 1763.

Stenolobium stans Seem. in Journ. Bot. 1:88, 1863.

A large shrub. Leaves imparipinnate; leaflets 5-11, ovate oblong to lanceolate, acuminate, serrate. Flowers bright yellow, in terminal panicles. Capsule long, linear; seeds thin winged.

A very common garden plant grown for the graceful foliage and beautiful flowers.

English name: Yellow bells.

Flowers and Fruits: Almost throughout the year; flowering profuse during the monsoon season.

Sabnis 794, 1566.

Native of Trop. America, common in gardens in the plains throughout India.

Halophragma P. Dop.

Halophragma adenophyllum (Wall.) P. Dop in Bull. Soc. Bot. France 72:890, 1925; Steenis, Malay. Bignon.1006; Maheshwari, 259.

Bignonia adenophylla Wall. Cat.6502, 1832, nom.nud.;
P.Dop. in Bull. Soc. Bot. France 72:889, 1925.

Heterophragma adenophyllum Seem. ex Benth. & Hook. f.
Gen. Pl.2:1047, 1876; FBI. 4:381; C.2:410.

Medium sized to lofty trees. Leaves large, once pinnate; leaflets 5-7, broad elliptic. Flowers large, yellowish brown in terminal panicles. Capsules cylindric, long, ribbed and curved; seeds winged.

Planted in gardens and also as an avenue tree along roadsides.

Flowers and Fruits: July to November; also during the summer season.

Sabnis 20.4.58, Faculty of Technology compound; 1.5.60, Hospital compound; also in Univ.Bot. garden.

A native of Burma and the Andamans.

Heterophragma DC.

Heterophragma quadriloculare (Roxb.) K. Schum in Pfam.
4(3b):243, 1895; Sant.170.

Bignonia quadrilocularis Roxb. Pl.Cor. 2:24, t.145, 1798.

Heterophragma roxburghii A. DC. Prodr. 9:210, 1845;
D. & G.160; FBI.4:381; C.2:404.

A small tree. Leaves simple pinnate leaflets 3-5 pairs and an odd one, oblique. Flowers pale rose to white in many-flowered panicles; corolla tube swollen, with 5 lobes; margins crisped. Capsule elongate, straight.

Only one tree noted on the University Campus, near the General Education Centre.

Flowers and Fruits: February to April.

Central India and W. Peninsula.

Millingtonia Linn. f.

Millingtonia hortensis Linn. f. Suppl. 291, 1781;

FBI. 4:377; C.2:409; Steenis, Malay. Bignon. 826;

Blatt. & Mill. Beaut. Ind. Trees. 196, t. 22; Maheshwari, 259.

An erect, handsome tree. Leaves 2 to 3-pinnate; leaflets ovate or ovate-lanceolate, acuminate, serrate crenate. Flowers white, long, tubular, fragrant, in terminal panicles.

An ornamental tree planted in groups in gardens or as a roadside avenue tree.

English name: Indian Cork-tree.

Local name: Buchnu Zad, Akash Neem.

Flowers: September to November or even later up to January.

Sabnis 2702, 2703.

Indigenous to parts of Burma; cultivated throughout India and naturalized in Orissa, Madras, etc.

Jacaranda Juss.

Jacaranda mimosifolia D. Don. in Bot. Reg. t.631, 1822;
Sandwith in Kew Bulletin 456, 1953; Blatt. &
Mill. loc.cit.93, t.18; Maheshwari, 259.

J. ovalifolia R. Br. in Bot.Mag. t.2327, 1822; Merr.
Enum. 3:444.

J. acutifolia auct. (non. Humb. & Bonpl.)

A small tree. Leaves bipinnate. Flowers mauve-blue in panicles.

Only one tree observed in the University Botanical Garden; a few more planted in the new University arboretum.

English name: Blue Jacaranda

Flowers: 12.3.64, observed for the first time.

A native of Brazil, doing splendidly well in dry situations, especially in North India.

Pyrostegia Presl

Pyrostegia ignea Presl, Bot.Bemerk. 93, 1844; C.2:410;
Bailey, loc.cit.903.

P. Venusta (Ker - Gawl.) Miers in Proc.Roy. Hort
Soc.3:188, 1863; Maheshwari, 260.

Bignonia venusta Ker - Gawl. in Bot.Reg. 3:t.249, 1818.

An evergreen, climbing shrub. Leaflets ovate-oblong,
abruptly acuminate. Tendril 3-partite. Flowers
orange-red coloured in pendulous corymbs; corolla lobes
reflexed; stamens slightly exserted.

An ornamental climber, commonly grown in gardens.

English name: Golden shower.

Flowers: November to March.

Indigenous to Brazil, but now a very common
garden plant in all tropical countries.

PEDALIACEAE

Flowers yellow; fruit drupe-like, 4-spinous...Pedaliu

Flowers white or pink; fruits elongate,
capsular. Sesamum

Pedalium Linn.

Pedalium murex Linn. Syst. 1123, 1759; FBI.4:386; Wight,
Icon. t.1615; C.2:412; Haines, Bot.Bih. & Or.661.

A diffuse, much branched herb or an undershrub,
containing mucilage. Leaves ovate, distantly crenate.
Flowers yellow, axillary, solitary. Fruits drupaceous,
bluntly 4-angled, 4-spinous, narrowed at the base and
pyramidal, ovoid above the spines.

A rare, monsoon weed of waste places; noted in the
L.V. Palace compound and Harni Amaliyara road; neither
common nor abundant.

Local name: Velati Gokhru, Mota Gokhru.

Flowers and Fruits: August to October.

Sabnis 2205, 3528.

Throughout the Bombay state, especially on the
sandy sea coasts; Ceylon, Tropical Africa.

Sesamum Linn.

Sesamum indicum Linn. Sp.Pl. 634, 1753; FBI.4:387;
C.2:413; Sant.172; Maheshwari, 262.

S. orientale Linn. Sp.Pl. 634, 1753; Gr.126; Merr.
Enum. 3:448.

An erect, hairy herb. Lower leaves deeply divided; upper ones linear-oblong. Flowers generally white, although pale pink or pinkish purple flowers also observed, with conspicuous glands at base. Capsules erect, oblong, valvular. Seeds black or white.

A cultivated plant, grown for the oil-yielding seeds, commercially known as gingelly or 'sesame'; also running wild in a number of waste places in the ravines at Shimpura, on the banks of Nallah in Navlakhi area and also in the L.V. Palace compound.

Local name: Tal

Flowers and Fruits: September to November.

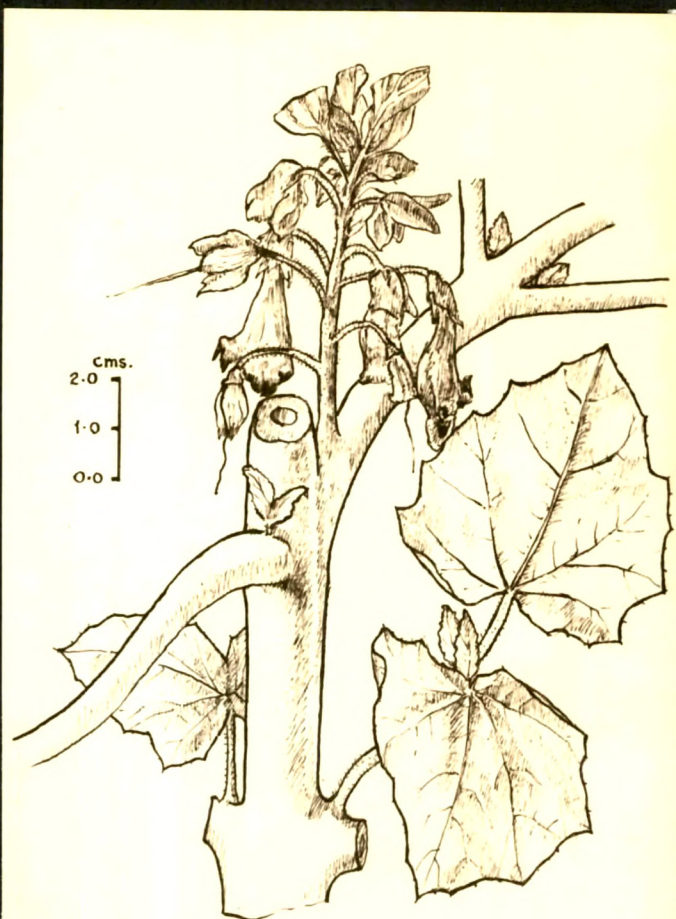
Sabnis 2317, 2572.

Probably a native of Trop. Africa, largely cultivated throughout India.

MARTYNIACEAE

Martynia annua Linn. Sp.Pl. 618, 1753; Santapau, Fl.Pur. 95; Maheshwari, 263.

M. diandra Glox. Obs. Bot. 14, t.1, 1785; Gr.127; D. & G. Suppl. 58; C.2:414; Haines, Bot. Bih. & Or. 662.



Martynia annua Linn.

A tall, sturdy undershrub; all parts glandular hairy. Stems thick, fistular. Leaves broad ovate, sticky, with irregularly dentate margins. Flowers rose-coloured with purplish dots at the throat, conspicuous, in terminal, glandular racemes. Fruits hard, with 2 prominent hooks.

A native of Mexico, now perfectly naturalised in many parts of India. In Baroda, these plants were observed on rubbish heaps and in waste places, during the monsoon.

A completely white coloured variant of the plant was recorded from waste places near human habitation in the Navlakhi area of the L.V. Palace compound.

Plate No. 24

Local name: Vinchhudo

Flowers and Fruits: September to November.

Sabnis 802, 2233, 2672.

ACANTHACEAE

(Key to the genera of the Acanthaceae adapted from
Cooke & Santapau)

1. Climbers. Thunbergia

1. Plants prostrate or erect, not climbing:
 2. Scapigerous, stemless herbs; leaves radical. Elytraria
2. Plants with stems and cauline leaves:
 3. Corolla with upper lip reduced; lower lip large, expanded, 3-lobed. Blepharis
 3. Corolla 2-lipped or with 5 subequal lobes:
 4. Corolla lobes twisted to the left in bud:
 5. Ovules more than 2 in each cell; capsule normally with 6 or more seeds:
 6. Corolla distinctly 2-lipped; inflorescence spinous or not. Hygrophila
 6. Corolla subequal 5-lobed:
 7. Inflorescence in lax, axillary cymes; cymes at times forming panicles. Ruellia
 7. Inflorescence, a single, axillary flower or in axillary triads, or 2-3 flowers superposed. . . . Dipteracanthus
 7. Inflorescence a capituliform compound spike, surrounded by four, large ovate bracts. Gantelbua

- 7. Inflorescence a more or less
elongated simple spike provided
with but one kind of bracts. . . . Hemigraphis
- 5. Ovules 2 in each cell; capsules
with 4 or fewer seeds:
 - 8. Corolla tube long, slender,
linear; stamens 2. Eranthemum
 - 8. Corolla tube narrow below,
usually infundibuliform
upwards; stamens usually 4. . . . Thelepaepale
- 4. Corolla lobes imbricate in bud:
 - 9. Ovules 3-10 in each cell; capsule
normally 6 or more seeded:
 - 10. Flowers in unilateral racemes
without axillary cladodes. . . . Andrographis
 - 10. Flowers, in dense, terminal
spikes and clustered in the
midst of axillary cladodes. . . . Bremekampia
 - 9. Ovules 2 or rarely 1 in each cell:
 - 11. Corolla subequally 5 lobed:
 - 12. Anthers 1-celled; stamens
4, didynamous; calyx 5-
partite, the inner sepals
smaller than the outer. . . . Crossandra
 - 12. Anthers 2-celled:
 - 13. Calyx 4-partite;
stamens only 2 perfect... Barleria
 - 13. Calyx segments 5;
stamens 4. Asystasia

11. Corolla distinctly 2-lipped:

14. Placentas separating elastically
from the valves from the base
upwards:

15. Bracts in unilateral spikes...Rungia

15. Bracts clustered in the
leaf axils. Dicliptera

14. Placentas not separating
elastically from the valves:

16. Anther cells, atleast the
lower, with a basal, spur
like appendage. Justicia

16. Anther cells not spurred
at base:

17. Anther cells apiculate....Adhatoda

17. Anther cells muticous:

18. Bracts and
bracteoles small,
subequal; corolla
white.. . . . Rhinacanthus

18. Bracts larger than
bracteoles, in
opposite, valvate
pairs; corolla rose
or purple. Peristrophe

Thunbergia Retz. (nom.cons.)

Flowers axillary, solitary or in pairs;

corolla white. laevis

Flowers in racemes; corolla blue or

purple. grandiflora

Thunbergia laevis Nees in Wall. Pl.As.Rar. 3:77, 1832;

Bremek. in Verh. K. Nederl. Akad. Wet. II,
50(4):51, 1955; Santapau & Panthaki in JBNHS.
53:500, 1956; Sant.172.

T. fragrans Roxb. Pl. Cor. 1:47, t.67, 1795;

FBI.4:390; C.2:417; Santapau in Bot. Mem. Univ.
Bomb. 2:8, 1951.

T. fragrans Roxb. var laevis Clarke in FBI. 4:391,
1884.

A glabrous twiner. Leaves deltoid ovate, entire or with a few large, angular, apiculate lobes at the base; base rounded, cordate or hastate, petioles not winged. Flowers showy, white, not fragrant, solitary, axillary or 2 in pairs. Capsules puberulous, with a long beak.

Grown as an ornamental along the walls; also noted as an escape in the L.V. Palace compound and University area.

Flowers and Fruits: November to January.

Sabnis 2375, 2422.

Throughout India in the hilly districts; Ceylon
Malaya, philippines, N. Australia.

Thunbergia grandiflora (Roxb. ex Rottl.) Roxb. Hort.

Beng. 45, 1814, nom.nud. & Fl. Ind. 3:34, 1832;
FBI. 4:392; Wight, Icon. t.872; C.2:418;
Sant.172; Santapau, loc.cit.9; Bor & Raizada 108,
Pl. 40; Maheshwari, 265.

Flemingia grandiflora Roxb. ex Rottl. in Ges. Naturf.
Fr. Neue Schr. 4:202, 1803.

A large, woody climber. Leaves large, ovate, deeply
cordate, toothed or lobed, quite thick. Flowers bright
blue, very showy.

Occasionally observed in the gardens, where it is
grown as an ornamental climber for the showy flowers and
the thick screen produced by the foliage.

Flowers: September to November.

Sabnis 813, 814.

Native of E. Bengal, commonly grown in gardens
in the plains throughout the country.

Elytraria Michaux (nom. cons.)

Elytraria acaulis (Linn.f.) Lindau in Pfam. 1:304, 1897;
G.1009; Santapau, loc.cit.11; Maheshwari, 265.

Justicia acaulis Linn. f. Suppl. 84, 1781; Roxb. Pl.
Cor.2: t.127, 1897.

Tubiflora acaulis O. Kuntze, Rev. Gen. Pl. 500, 1891;
Lindau, Op.cit. 4(3b.):289; C.2:420.

A scapigeous herb. Leaves radical, obovate spatulate, crenate, obtuse. Flowers white, in long bracteate spikes (sometimes the spikes are branched). Fruit an ovoid capsule; seeds many, minute, brown-red, reticulate.

A very common. monsoon weed on the lawns and the grassy slopes of the banks of ponds and river; also observed in the crevices of the steps of Navlakhi Vav.

Flowers and Fruits: July to November.

Sabnis 690, 1201, 3240.

From W. Peninsula extending north to Delhi and E. Himalaya; Ceylon, Trop. & S. Africa, Trop. & N. Australia.

Blepharis Juss.

Leaves petiolate, thin, acute. maderaspatensis

Leaves sessile, thick and fleshy, obtuse. molluginifolia

Blepharis maderaspatensis (Linn.) Heyne ex Roth, Nov.

Pl. Sp. 320, 1821; Bremek in Verh. Nederl.

Akad. Wet II, 45(2): 10, 1948; Santapau, loc.cit. 15; Maheshwari, 266.

Acanthus maderaspatensis Linn. Sp.Pl. 892, 1753.

Blepharis boerhaviaefolia Pers. Syn. Pl. 2:180, 1806;
Wight, Icon. t.458; FBI.4:478; C.2:424.

A prostrate or straggling herb, with divaricate branches. Leaves petiolate, thin, acute, in whorls of 3-4, unequal, ovate, elliptic. Flowers white or dull white, rarely with a bluish tinge, axillary, solitary or 2-3 together, usually at the base; bracteoles bristly; upper lip of corolla reduced, lower lip large, expanded and 3-lobed. Capsules 2-seeded.

Noted on stony pathways, in the shade of hedges or bushy shrubs; more commonly on extremely grazed areas on grassy banks of rivers.

Local name: Utingan.

Flowers and Fruits: August to March.

Sabnis 506, 2838, 3350.

Konkan, S.M. country, Gujarat, Saurashtra, Bihar, Orissa, central and N. India; Burma, Ceylon, Ava, Trop. & S. Africa.

Blepharis molluginifolia Pers. Syn. Pl. 2:180, 1806;
FBI. 4:479; C.2:425; Santapau, loc.cit. 16;
Maheshwari, 267.

A prostrate herb with hairy, spreading branches. Leaves generally in whorls of 4, unequal, subsessile, thick and fleshy, oblong obovate, obtuse. Flowers blue,

sessile, solitary, axillary; bracteoles spiny bristly.
Capsule ellipsoid, included, 2-seeded.

Noted on wet or dry grassy slopes of the banks of
ponds and even along roadside; not as common as the
previous one.

Flowers and Fruits: September to January.

Sabnis 507, 3378.

From western Peninsular India to Central India
and some parts of N. India; Ceylon, Trop. & S. Africa.

Hygrophila R. Br.

Plants with spinous inflorescence. auriculata

Plants without spinous inflorescence. polysperma

Hygrophila auriculata (Schumach.) Heine in Kew Bulletin
16, 172, 1962; Chavan & Oza, Fl. Pavagadh, 175.

Barleria auriculata Schumach. in Schumach. & Thonn.
Beskr. Guin. Pl. 285, 1827.

B. longifolia Linn. Cent. Pl. 2:22, 1755 & Amoen.
Acad. 4:320.

Asteracantha longifolia (Linn.) Nees in wall. Pl. As.
Rar. 3:90, 1832; Wight, Icon. t. 449; C. 2:428;
Sant. 173; Santapau, loc. cit. 17.

Hygrophila spinosa T. Anders in Thw. Enum. 225, 1860;
FBI; 4:408.

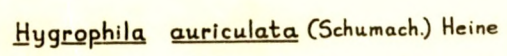


PLATE NO. - 25

Erect, ~~marsh~~-loving, stout herbs. Leaves whorled, oblong lanceolate or oblanceolate, with sharp straight, yellow spines. Flowers purplish blue, showy in sessile, axillary whorls. Capsule linear oblong.

A very common and abundant weed, occupying the stagnant waters near the banks of ponds, puddles and roadside ditches; also noted in the rice fields.

Plate No. 25

Local name: Ekharo

Flowers and Fruits: July to January.

Sabnis 505, 723.

Throughout India; Ceylon, Trop. & S. Africa.

Hygrophila polysperma (Roxb.) T. Anders. in JLS. 9:456, 1867; FBI. 4:406, C.2:429; Santapau, loc.cit. 19; Maheshwari, 269.

Justicia polysperma Roxb. Hort. Beng. 3, 1814, nom.nud. & Fl. Ind. 1:119, 1832.

Hemiadelphis polysperma Nees in wall. Pl. As. Rar. 3:80, 1832; Wight, Icon. t.1492.

A small, procumbent herb, branching and rooting near the base. Leaves oblong to ovate, small. Flowers minute, pale blue or white in dense, terminal spikes. Capsules 20 or more seeded, hairy at the apex.

Noted as forming dense mats on the margins of ponds often entering water. The land plants flower more profusely than the submerged ones.

Flowers and Fruits: November to January.

Sabnis 502, 2795.

Throughout India in wet places; Afghanistan.

Ruellia Linn. emend. Bremek.

Ruellia tuberosa Linn. Sp.Pl. 635, 1753; Bremek in Verh. Nederl. Akad. Wet. II, 45(1):11, 1948; Santapau, loc.cit. 23; Maheshwari, 272.

An erect or suberect herb, with a number of slender, elongated tuberous roots. Leaves oblong, narrowed at the base, entire. Flowers blue-purple, solitary in few-flowered axillary cymes. Capsule elongate, with persistent, deflexed calyx, bursting spontaneously on moistening.

Noted in moist, cool places under the shade of trees forming pure stands especially in the early monsoon; also noted under the shade of hedges, and on lawns.

Flowers and Fruits: July to November; rarely flowering and fruiting observed during April and May under favourable conditions.

Sabnis 880, 1101, 2415.

A native of Central America, now spreading in India and other S.E. Asian countries.

Dipteracanthus Nees, emend. Bremek.

Dipteracanthus prostratus (Poir.) Nees in Wall. Fl. As.

Rar. 3:81, 1832 & DC. Prodr. 11:124, 1847;
Bremek., loc.cit. 16; Santapau, loc.cit. 24;
Maheshwari, 273.

Ruellia prostrata Poir. in Lamk. Encycl. 6:349, 1804;
FBI. 4:411; G.1017.

Ruellia prostrata Poir. var. dejecta Clarke in
FBI. 4:412; C. 2:431.

A much branched, straggling herb. Inter nodes long, terete or angular above. Leaves ovate, elliptic, entire, dark green above and paler beneath. Flowers pale violet to pinkish blue or white, solitary or few together, axillary; corolla fugacious. Capsules pubescent, pointed, club-shaped.

Abundant on lawns and waste places in cool, moist places under the canopy of tall trees or straggling under the shade of hedges and other tall shrubs.

Flowers and Fruits: July to February or even later up to May.

Sabnis 580, 887, 2098.

Throughout India; Ceylon, E. Africa.

Gantelbua Bremek.

Gantelbua urens (Heyne ex Roth) Bremekamp, Mat. Mon.
Strob. 148, 1944; Santapau, loc.cit. 28.

Ruellia urens Heyne ex Roth, Nov. Pl.Sp. 302, 1821.

Hemigraphis dura T. Anders. in JLS. 9:461, 1867
(excl. syn. R. crispa Nees, non Linn.);
FBI. 4:422; C. 2:433.

A procumbent or diffuse, densely bristly herb. Leaves oblong, obtuse, subcrenate, hispid with long hairs. Flowers blue, in a capituliform compound spike, surrounded by four, large, ovate bracts; bracts densely clothed with hairs.

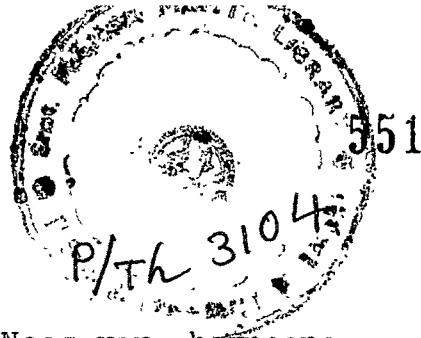
Noted only once in a dry condition in the shade of trees in the Sundarpura reserve forest.

Flowers: November.

Sabnis 2971, 2972; 20.11.60, Sundarpura.

Central and W. Peninsular India.

Hemigraphis Nees.



Hemigraphis latebrosa (Heyne ex Roth) Nees var. heyneana
Bremek., Mat. Mon. Strob. 139, 1944; Santapau,
loc.cit. 26; Sant. 174.

H. latebrosa (Heyne ex Roth) Nees in DC. Prodr.
11:723, 1847; FBI.4:423; Wight, Icon. t.1504;
C. 2:434.

Ruellia latebrosa Heyne ex Roth, Nov. Pl.Sp. 307,
1821.

An erect or suberect herb, 30-60 cm. tall. Leaves
ovate, acute or acuminate, crenate-serrate. Flowers blue
or purplish-white, in axillary and terminal short, reduced
spikes. Capsules minutely pubescent, 6-seeded.

Noted growing under the shade of trees in the college
compound and along the elevated banks of river Vishwamitri.

Flowers and Fruits: November to March.

Sabnis 896, 2038.

W. Peninsular India.

Eranthemum Linn.

Eranthemum nervosum (Vahl) R. Br. Prodr. 1:477, 1810;
G.1024; Bremek. in Rec. Trav. Bot. Neerl. 35:136,
t. 14E, 1938; Santapau, loc.cit.35.

Justicia nervosa Vahl, Enum. 1:164, 1805; Bot. Mag. t.1358, 1811.

Daedalacanthus nervosus T. Anders. JLS. 9:487, 1867; FBI. 4:418; C. 2:441.

An erect shrub. Leaves ovate-elliptic, coriaceous, prominently veined. Flowers deep blue, very attractive, in axillary and terminal, dense spikes; bracts large, conspicuous, veined.

Probably planted in gardens for the ornamental flowers. Now observed in a wild state at a few spots such as the Kareli baug area, near public park and also in certain shaded corners of Navlakhi.

Flowers and Fruits: November to April.

A native of N. Bengal and Tirhut, now planted in gardens.

Thelepaepale Bremek.

Thelepaepale ixiocephala (Benth.) Bremek., Mat. Mon.

Strob. 188, 1944; Santapau, loc.cit. 48;

Sant. 176; Santapau, Fl. Puran. 98; Shah in Ind.

For. 89 (4): 289, 1963.

Strobilanthes ixiocephalus Benth. in Flora 32:557, 1849; FBI. 4:444; C. 2:448.

S. neesiana Wight, Icon. t.1523, 1849; D. & G.188.

A small, straggling shrub. Leaves opposite, unequal in size, elliptic, lanceolate, acuminate, crenate. Flowers white, in axillary or terminally clustered ovoid, viscid spikes. Capsule 1.3 cm. long, obovoid, usually 2-seeded.

I have not observed the plant in the field. The distribution of the plant as given in Cooke's Fl. Pres. Bombay, reveals that it is a forest species confined to Kanara and Konkan, and apparently endemic to India (W. peninsula). The occurrence of the plant in a wild state in the area of my study remains doubtful. However it is mentioned here on the authority of Shah, loc. cit.

Flowers: November to January.

Andrographis Wall.

Andrographis echioides (Linn.) Nees in Wall., Pl. As.

Rar. 3:117, 1832; FBI. 4:505; C. 2:451; G. 1051;
Santapau, loc. cit. 51; Maheshwari, 268.

Justicia echioides Linn. Sp. Pl. 16, 1753; Roxb. Fl.

Ind. 1:118, 1832; Gr. 164.

An erect, hairy herb. Stems quadrangular. Leaves opposite and decussate, linear-oblong or subelliptic. Flowers white, with purple dots or ^{streaks}~~streaks~~ in the throat,

arranged in, axillary, one sided, horizontally spreading, racemes. Capsule hairy, elliptic-lanceolate.

A weed of waste places but not common. Noted in certain waste corners of Navlakhi area as well as on the roadside sandy patches in the ravines at Bhimpura.

Flowers and Fruits: September to December

Sabnis 2425, 2748.

In the drier districts of Trop. India; Ceylon.

Bremekampia Sreem.

Bremekampia neilgherryensis (Wt.) Sreem. in Bull. Bot. Surv. Ind. 6:323, 1964.

Haplanthus neilgherryensis Wt. Icon. t.1556, 1850; G.1052; Santapau, l.c. 52; Sant. 178.

H. tentaculatus var. neilgherryensis Clarke in FBI. 4: 507, 1884.

H. tentaculatus Nees in DC. Prodr. 11:513, 1847, pro parte; C.2:453.

A rigid herb attaining a height of 30 cm. or more. Leaves ovate, acuminate, decurrent into the petiole which is therefore obscure. Flowers white with a blue-purplish tinge in the midst of cladodes gathered in

dense spikes at the end of the stem or branches. Fruit a capsule, oblong, pubescent.

Noted in waste places, stony pathways or even on lawns especially in the dry season and in the shade of tall trees. During summer, the leaves fall off and leafless horizontally spreading branches with erect spikes at the end are observed.

Flowers and Fruits: November to May

Sabnis 905, 2455.

Central and W. Peninsular India.

Crossandra Salisb.

Crossandra infundibuliformis (Linn.) Nees in Wall.,

Pl. As. Rar. 3:98, 1832 & in DC. Prodr. 11,280, 1847; Santapau, loc.cit. 55; Bailey, Man. Cult. Pl. 917; Maheshwari, 275.

Justicia infundibuliformis Linn. Sp. Pl.21, 1753.

C. undulaefolia Salisb. Parad. Lond. t.12, 1805; FBI. 4:492; C. 2:455.

C. axillaris Nees, loc.cit.; Wight, Icon. t.460.

Small shrubs. Leaves ovate or lanceolate. Flowers orange yellow, enclosed in imbricate bracts and arranged in linear oblong spikes.

Grown in gardens for its showy flowers.

Flowers: April to September

Sabnis 1292.

W. Peninsula, N. India, Bengal; often planted,
rarely wild; Malaya, Ceylon.

Barleria Linn.

Plants spinous. prionitis

Plants not spinous. cristata

Barleria prionitis Linn. Sp.Pl. 636, 1753; FBI. 4:482;
Wight, Icon. t.452; C.2:457; G. 1058; Santapau,
loc.cit. 57; Sant. 178; Maheshwari, 274.

A spinous undershrub or shrub. Leaves ovate, elliptic.
Flowers yellow or orange yellow; calyx lobes spiny.
Capsule black, pointed, larger than the calyx, 2-seeded.

Noted commonly in hedges on the elevated banks of
ponds and on waste places under the shade of trees.

Local name: Kanta Shelio, Koranti.

Flowers and Fruits: September to May.

Sabnis 955, 1365.

Throughout India; Ceylon, Trop. Asia, Trop.
& S. Africa.

Barleria cristata Linn. Sp. Pl. 636, 1753; FBI. 4:488;
C.2:460; Santapau, loc.cit. 59; Sant. 179;
Maheshwari, 274; Shah in Ind. For. 89(4):289.

An erect undershrub. Leaves elliptic oblong, abruptly tapering to the base. Flowers blue-purple in crowded racemes, axillary and terminal. Capsule ellipsoid, 4-seeded.

Cultivated as well as wild; not common.

Flowers and Fruits: October - March.

Sabnis 2431, 2432; 21.11.59, University campus,
near nallah.

Throughout India, often grown in gardens.

Asystasia Blume.

Asystasia gangetica (Linn.) T. Anders. in Thw. Enum.
235, 1859-64; G.1063; Santapau, loc.cit. 68;
Sant. 181.

Justicia gangetica Linn. Amoen. Acad. 4:299, 1759.

Asystasia coromandeliana Wight ex Nees in Wall., Pl.
As. Rar. 3:89, 1832; Nees in DC. Prodr. 165;
FBI. 4:483; Wight, Icon. t.1506; C. 2:466.

An erect, herbaceous annual. Leaves ovate, acute,
dark green and glabrous above and paler and slightly
pubescent ^eneath. Flowers white, in one sided racemes.

Probably cultivated but now only in a wild state as an escape in certain corners of the Science Faculty lawns; not observed elsewhere.

Flowers: September to October or even up to December.

Sabnis 797, 3489.

W. Peninsular India, often cultivated in gardens; Ceylon, Trop. & S. Africa.

Rungia Nees.

Bracts dimorphic; flowers small, bright blue;
bracts not conspicuously winged.. . . . pectinata

Bracts homomorphic; flowers large,
violet; bracts conspicuously winged. repens

Rungia pectinata (Linn.) Nees in DC. Prodr. 11:469,
1847, pro parte; Wight, Icon. t.1547; Santapau,
loc.cit. 77; Sant. 183; Maheshwari, 269;
Chavan & Oza, Fl. Pavagadh, 181.

Justicia pectinata Linn. Amoen. Acad. 4:299, 1759.

R. parviflora Nees var. pectinata Clarke in FBI.
4:550, 1885; C. 2:478; G.1071.

R. parviflora var. muralis Clarke, loc.cit.

Small, procumbent herbs. Leaves elliptic or oblong lanceolate. Flowers blue in short spikes; bracts dimorphic, the barren ones lanceolate, the fertile almost rounded. Capsule ovoid.

Noted among grasses of the lawns and banks of ponds; in all wet localities.

Flowers and Fruits: September to February.

Sabnis 753, 2471, 2910.

Throughout India; Ceylon.

Rungia repens (Linn.) Nees in Wall., Pl. As. Rar. 3:110, 1832 & in DC. Prodr. 11:472, 1847; Wight, Icon. t.465; FBI. 4:549; C. 2:480; G.1070.

Justicia repens Linn. Sp.Pl. 15, 1753; Gr.165.

A prostrate or decumbent herb, often rooting at the nodes. Leaves elliptic to lanceolate. Flowers deep blue violet, enclosed in conspicuously hyaline winged bracts, in a terminal, cylindric, spike. Capsules hairy.

Commonly spreading in patches on moist grassy banks of ponds and rivers.

Flowers and Fruits: October to February.

Sabnis 954, 2793, 2965.

Throughout India; Ceylon.

Dicliptera Juss. (nom.cons.)Dicliptera verticillata (Forsk.) Christens. in Dansk.

Bot. Arkiv. 4(3)Ell, 1922; Sant. 290 (in Appendix);
Chavan & Oza, Fl. Pavagadh, 182.

Dianthera verticillata Forsk. Fl. Aeg.-Arab. 9, 1775.Dicliptera micranthes Nees in Wall., Pl. As. Rar.

3:112, 1832; FBI. 4:553; C.2:481; Santapau,
loc.cit. 79.

Much branched, erect or suberect herbs. Leaves
ovate or elliptic. Flowers white, in axillary clusters.
Capsule pubescent at the apex.

Noted in clumps near hedges and on the banks of a
nallah. In summer, leafless plants with fruits observed;
not common.

Flowers and Fruits: November to April.

Sabnis 2868, 3122.

Konkan, Gujarat, Sind, W. Peninsula, Central India,
Chota Nagpur, Bihar; Trop. Africa.

Justicia Linn.

Erect undershrubs; calyx 5-partite. gendarussa

Erect or prostrate herbs; calyx lobes 4:

Spikes cylindric; bracts and bracteoles
as long as or longer than the calyx
lobes. procumbens

Spikes linear; bracts and bracteoles
shorter than the calyx lobes, all
scarious-margined:

Bracts and bracteoles about
2.5 mm. long, fairly densely
hairy. prostrata

Bracts and bracteoles scarcely
1.2 mm. long, more or less
glabrous, except for a bunch of
hairs at the apex. diffusa

Justicia gendarussa Burm. Fl. Ind. 10, 1768; FBI. 4:532;
C.2:492; G.1079; Santapau, loc.cit. 91.

Gendarussa vulgaris Nees in Wall., Pl. As. Rar.3:104,
1832 & in DC. Prodr. 11:410, 1847; Wight, Icon.
t.468.

Small shrubs. Leaves linear lanceolate. Flowers
purplish-white, in a spike.

Grown as a hedge plant in gardens.

Flowers: March - April.

Sabnis 1103.

Probably a native of China, often planted as
hedge in India; Burma, Ceylon, Malacca, Malaya,
Philippines.

Justicia procumbens Linn. Sp.Pl. 15, 1753; FBI. 4:539;
C. 2:491; G. 1080; Santapau, loc.cit. 90.

Rostellaria procumbens Nees in Wall., Pl. As. Rar.
3:101, 1832; D. & G. 193.

Diffuse herbs. Leaves elliptic, lanceolate, linear.
Flowers bluish-purple; bracts and bracteoles linear or
nearly so.

Rarely observed in the field, on the banks of Harni
pond, Vishwamitri river and University campus.

Flowers and Fruits: August to February.

Sabnis 964a, 27.2.58, Vishwamitri banks;
Satakopan, Harni pond; Joshi, Univ. Area.

W. Peninsular India; Ceylon, Malaya, Australia.

Justicia prostrata (Clarke) Gamble, in Fl. Madras 1081,
1924; Santapau, loc.cit. 88; Shah in Ind.
For. 89(4): 289, 1963.

J. diffusa var. prostrata Clarke in FBI. 4:538, 1885.
C. 2:490.

Prostrate herbs. Leaves rounded or ovate to
lanceolate. Flowers pinkish, in long and slender spikes;
bracts and bracteoles about 2.5 mm. long. Capsule
slightly hairy.

Although the availability of the plant at Pavagadh hill is well known, it is mentioned here on the authority of Shah, loc.cit.

Flowers: November to May.

W. Peninsular India, S. India; Ceylon.

Justicia diffusa Willd. Sp.Pl. 1:87, 1789; FBI. 4:538;
C. 2:489; G. 1081; Santapau, loc.cit. 87.

Rostellaria diffusa Nees in Wall., Pl. As. Rar. 3:100,
1832; D. & G. 193.

An erect herb. Leaves ovate-lanceolate, obtuse or acute. Flowers purple in a narrow terminal spike. Capsule glabrous, pointed.

Noted among grasses under the shade of trees.

Flowers and Fruits: October to February.

Sabnis 2354, 2355.

From Punjab and Sind to W. Peninsula; Ceylon, Burma, Siam.

Adhatoda Nees.

Adhatoda vasica Nees in Wall., Pl. As. Rar. 3:103, 1832 &
in DC. Prodr. 11:387, 1847; FBI. 4:540; C. 2:492;
G. 1082; Santapau, loc.cit. 92.

Justicia adhatoda Linn. Sp.Pl. 15, 1753; Roxb. Fl.

Ind. 1:126; Gr. 164; Bot. Mag. t.861.

Tall shrubs. Leaves large, lanceolate, acuminate.
Flowers white with rose streaks in the throat, in a
close spike.

Planted in gardens; not at all wild.

Flowers: October to April.

Sabnis 1369.

Throughout India, often cultivated; Ceylon,
Singapore, Malaya.

Rhinacanthus Nees.

Rhinacanthus nasuta (Linn.) Kurz in JASB. 39: 79, 1870;

Merr. Enum. 3:488; Santapau, loc.cit. 92;

Sant. 186; Shah in Ind. For. 89(4): 289.

Justicia nasuta Linn. Sp.Pl. 16, 1753.

Rhinacanthus communis Nees in Wall., Pl.As. Rar. 3:109,

1832 & in DC. Prodr. 11:442; FBI. 4:541; Wight,

Icon. t.464; C. 2:494; G. 1083.

An undershrub. Flowers white, on the divaricate
branches of a very lax, terminal panicles. Capsule about
2 cm. long, narrow, pointed, velvety pubescent.

Probably cultivated; not observed in a wild state.
Shah, loc.cit. reports its occurrence in Baroda.

Flowers: October to January.

Throughout India, cultivated; perhaps wild in the Deccan Peninsula; Ceylon, Straits settlements, Java, Madagascar, Trop. Africa.

Peristrophe Nees.

Peristrophe bicalyculata (Retz.) Nees in Wall., Pl. As.

Rar. 3:113, 1832; FBI. 4:554; C. 2:495; G.1084.

Dianthera bicalyculata Retz. in Act. Holm. 297, t.9, 1775.

A erect herb or undershrub. Stems angular. Leaves ovate, glabrous above. Flowers pink in trichotomously branched, lax, spreading panicles. Capsules pointed, narrowed into the stalk.

A very common weed of all waste places; abundant on the top of the 'Vav' walls and footpaths and under shade of trees on less used stony pathways in the L.V. Palace compound. In Summer leafless, dried stumps are noted in a number of localities.

Local name: Kali Anghedi

Flowers and Fruits: September to May

Sabnis 508, 879, 2454, 3512.

Throughout India and Trop. Africa.

Sambhezia nobilis Hook. f. Bot.Mag. t.5594; C.2:496;
Bailey, Man. Cult. Pl.920.

Elect undershrub. Leaves oblong-ovate, shortly petiolate, tapering at base, abruptly acuminate, sometimes variegated with yellow. Flowers 5 cm. long, showy, golden yellow, in long spikes, subtended by bright red or variegated bracts.

A native of Ecuador, cultivated as an ornamental in a few gardens.

Flowers: March to June.

Sericocalyx scaber (Nees.) Bremek. in Verh. Nederl. Akad. Wet. II, 41(1):163, 1944; Phatak & Joshi, JBNHS. 55(2): 383, 1958.

Strobilanthes scaber Nees in Wall., Pl.As.Rar. 3:84, 1834; Bot.Reg. 27:t.32, 1841; FBI. 4:446.

A hairy shrub. Leaves lanceolate, narrowed at the base, crenate. Flowers yellow with a brownish purple tinge in the tube. Capsule 12-14 mm. long, 4-seeded.

A native of India and Burma; cultivated or rarely as an escape.

Flowers: February to April.

VERBENACEAE

1. Inflorescence racemose:
 2. Flowers in short, capitate, ovoid or cylindric spikes:
 3. Creeping herbs; fruits dry.. . . . Phyla
 3. Shrub or undershrubs; fruits fleshy. Lantana
 2. Flowers in elongate, lax or dense spikes or racemes:
 4. Woody climbers; calyx much longer than the corolla.. . . . Petrea
 4. Erect herbs, undershrubs or shrubs; calyx shorter than the corolla:
 5. Flowers sessile:
 6. Inflorescence a very long, slender spike. Stachytarpheta
 6. Inflorescence not as above.... Verbena
 5. Flowers pedicellate, in loose, panicled racemes. Duranta
1. Inflorescence cymose, centrifugal:
 6. Fruit a dehiscent capsule. Nyctanthes
 6. Fruits a drupe or drupe-like, indehiscent:
 7. Corolla regular; stamens equal..... Tectona

7. Corolla 2-lipped; stamens didynamous:

8. Leaves digitately compound. Vitex

8. Leaves simple:

9. Fruit with one, normally
4-celled pyrene. Gmelina

9. Fruit with four, 1-seeded
pyrenes:

10. Corolla tube slender;
Fruits exserted, usually
succulent. Clerodendrum

10. Corolla tube windened upwards;
Fruits dry, included in
the red calyx. Holmskioldia

Phyla Lour.

Phyla nodiflora (Linn.) Greene in Pittonia 4:46, 1899;
Sant. 188; Maheshwari, 276; Chavan & Oza, Fl.
Pavagadh, 185.

Verbena nodiflora Linn. Sp.Pl.20, 1753.

Lippia nodiflora A. Rich in Michaux, Fl. Bor.
Amer. 2:15, 1803; FBI; 4:563; C.2:499; Wight,
Icon. t.1463.

A creeping herb, rooting at the nodes. Leaves
spathulate to obovate, cuneate, entire below, usually
irregularly dentate above. Flowers pink-purple to white
in cylindric or ovoid spikes.

A very common weed of grassy slopes of the banks of ponds, puddles and rivers, where it forms carpets; also as a weed in cultivated fields.

Local name: Ratveliyu

Flowers and Fruits: July to February or even later under favourable conditions.

Sabnis 593, 1168, 2902.

Throughout India; Ceylon, Africa and most tropical and subtropical regions.

Lantana Linn.

Lantana camara Linn. var. aculeata Moldenke in Torreya 34:9, 1934; Sant.187; Maheshwari, 277; Chavan & Oza, Fl. Pavagadh, 186.

L. aculeata Linn. Sp.Pl. 627, 1753; Gr.156; D. & G. Suppl. 68.

L. camara auct. (non Linn.):FBI.4:562; C.2:498.

A bushy shrub, with prickly stem. Leaves ovate, ovate oblong, acute, crenate serrate. Flowers variously coloured, usually orange yellow, in short, capitate spikes. Fruit drupaceous, shining black.

Noted in a wild state along the banks of Vishwamitri, in roadside hedges as well as to the crevices of old walls, where it shows luxuriant growth.

Flowers and Fruits: Almost throughout the year.

Sabnis 576, 1095, 3239.

A native of Trop. America, running wild in many parts of India and Ceylon.

var. hybrida Moldenke: Bailey.Man.Cult.Pl.838.

This is the dwarf garden form with yellow flowers, commonly cultivated in gardens.

Petrea Linn.

Petrea volubilis Linn. Sp.Pl.626, 1753; Merr. Enum 3:381; C.2:518; Bor & Raizada 141, Pl.54.

A woody climber, with ovate or lanceolate, scabrous leaves. Flowers, with persistent purplish blue calyx and deciduous, violet corolla, in terminal, long racemes.

Native of Trop. America; occasionally cultivated in garden for the exquisite beauty of the flowers.

English name: Purple Wreath.

Local name: Nilambha

Flowers: January to April.

Sabnis 1170, 1193.

Stachytarpheta Vahl.

Stachytarpheta urticaefolia (Salisb.) Sims. in Bot.Mag.
t.1848, 1816; Raizada in Ind.For.92(5):324, 1966.

Cymburus urticaefolius Salisb. Parad. Lond. 53,
1805-1807.

Stachytarpheta indica auct. (non Vahl 1804);
FBI. 4:564; C.2:501.

An erect shrub. Leaves ovate, dentate. Flowers
blue, in long, terminal, slender, bracteate spikes.

Planted in gardens; not noted in a wild state.

Flowers and Fruits: July to November.

Sabnis 1621, 2231.

A native of Trop. America, cultivated and
often running wild in many parts of the country.

Verbena Linn.

Verbena bipinnatifida Schau. in DC. Prodr. 11:553, 1847;
Bailey, Man. Cult. Pl.840; Maheshwari, 278.

A prostrate herb with ascending stem. Leaves divided
into linear divisions. Flowers bluish-purple in dense,
capitate heads or spikes.

A common plant of the garden beds.

Flowers: September to April.

Sabnis 1165.

Duranta Linn.

Duranta repens Linn. Sp.Pl. 637, 1753; Merr. Enum. 3:38;
Bailey, Man. Cult. Pl. 843; Maheshwari, 279.

D. plumieri Jacq. Select. Am. 186, t.176, 1753;
FBI. 4:560; C.2:518.

An evergreen, bushy shrub. Leaves obovate, oblong lanceolate, entire or serrulate. Flowers light blue, in axillary and terminal racemes, followed by small, fleshy orange berries.

A native of S. America and W. Indies, grown as a hedge plant in gardens.

Flowers and Fruits: Major part of the year.

Sabnis 837a.

Nyctanthes Linn.

Nyctanthes arbor-tristis Linn. Sp.Pl. 6, 1753; FBI.3:603;
C.2:176; Sant.128; Airy Shaw in Kew Bulletin,
271-272, 1952; Sant in Kew Bulletin, 273-276, 1952.

A shrub or a small tree. Leaves ovate, acuminate, scabrous. Flowers white with a orange-red colour in the tube, fragrant, in terminal cymes. Capsule compressed, orbicular.

Planted in gardens or in front of houses and temples for the fragrant flowers; always cultivated, never wild.

Local name: Parijataka

Flowers and Fruits: September to December.

Sabnis 1574, 3016.

Cooke, l.c. 177 remarks - "It is doubtful if this plant is truly wild in the Bombay Presidency". Dalzell and also Woodrow have seen it wild in the Satpura Forests in Khandesh. Although the plant is cultivated in Baroda and many parts of Gujarat, I have seen it in a truly wild condition in the scrub forests at Derol Jagir, near Khedbrahma, N. Gujarat.

Tectona Linn. f. (nom.cons)

Tectona grandis Linn. f. Suppl.151, 1781; FBI. 4:570; C.2:503; Sant.188; Maheshwari, 280; Chavan & Oza, Fl. Pavagadh, 186.

A large, deciduous tree. Leaves large, elliptic or obovate, acute or acuminate, tomentose beneath. Flowers

white in di- or trichotomously branched panicles. Drupes almost globose, enclosed in the inflated, bladdery calyx.

Planted at few places; not at all wild.

Local name: Sag.

English name: Teak

Flowers and Fruits: September to November.

Local uses: An important timber tree.

Sabnis 771a.

Throughout India in the deciduous forests especially in Central and W. Peninsular India; Burma, Malay Peninsula, Java, Sumatra.

Vitex Linn.

Vitex negundo Linn. Sp.Pl.638, 1753; FBI.4:583; C.2:508; Wight, Icon. t.519; Sant.189; Maheshwari, 281; Chavan & Oza, Fl. Pavagadh, 187.

A shrub or small tree. Leaves digitately compound, 3-5-foliolate; leaflets lanceolate, acuminate. Flowers bluish-purple. Fruit a drupe.

Planted in gardens; occasionally noted wild.

Local name: Nagod, Nirgundi.

Flowers and Fruits: September to April.

Sabnis 835.

Throughout India, cultivated or wild; Ceylon,
Afghanistan, Philippines.

Gmelina Linn.

Small trees, unarmed. arborea

Shrubs:

Flowers yellow; bracts small. asiatica

Flowers yellow; bracts large,
membranous, purple-veined. philippensis

Gmelina arborea Roxb. Hort. Beng. 46, 1814, nom.nud.
& Pl. Cor. 3:42, Pl.246, 1815; FBI.4:581;
C.2:504; Sant.189.

A small tree. Leaves broad ovate, acuminate.
Flowers brownish yellow, in paniculate cymes. Drupes
pyriform.

A tree planted in the Univ. Bot. garden.

Local name: Sevan

Flowers and Fruits: March - April.

Throughout India; Ceylon, Malayan and Philippine
Islands.

Gmelina asiatica Linn. Sp.Pl. 626, 1753; FBI.4:582;
Gr.158; C.2:505.

A bushy shrub. Leaves small, ovate or elliptic, obscurely lobed. Flowers yellow; calyx cup-shaped, truncate; corolla 2-lipped, tube narrow below, curved and inflated above.

Planted near the Faculty of Science building.

Flowers: Major part of the year.

W. Peninsular India (doubtfully wild), S. India; Burma, Ceylon.

Gmelina philippensis Cham. in Linnaea 7:109, 1832;
Merr. Enum. 3:399; Bor.Man.Ind.For.Bot.302;
Maheshwari, 282.

G. hystrix Schult. ex Kurz in JASB. 39:181, 1870;
FBI. 4:582; C.2:505.

A spinous shrub. Leaves elliptic, cuneate or rhomboid at ends. Flowers yellow, in pendulous panicles consisting of small cymes, subtended by large, membranous, purple veined bracts.

Occasionally planted in gardens for characteristic, striking inflorescences.

Flowers: April - November.

Sabnis 1173, 2418.

A native of Philippines and Siam, cultivated in the tropics.

Clerodendrum Linn.

1. Corolla tube 5 cm. long or less:
 2. Plants climbing; flowers crimson..... splendens
 2. Shrubs or small trees:
 3. Calyx truncate or very shortly toothed. inerme
 3. Calyx distinctly lobed or dentate:
 4. Calyx with peltate glands:
 5. Fruits shining black, seated upon the enlarged, fleshy, red calyx. infortunatum
 5. Calyx in fruit not as above; corolla double..... fragrans
 4. Calyx without peltate glands; flowers in dichotomous panicles...phlomidis
 1. Corolla tube more than 5 cm. long; flowers white. indicum

Clerodendrum splendens G. Don. in Edinb. N. Phil.

Journ. 11:349, 1824; Bailey, Stand. Cycl. Hort.
1:800; Maheshwari, 284.

A climbing shrub. Leaves oblong orbicular, entire, coriaceous, acuminate. Flowers crimson, in dense, many flowered cymes. Drupes black.

Occasionally grown as an ornamental in gardens,
along trellises.

Flowers and Fruits: February to May.

Sabnis 12.3.64, University campus.

Native of Trop. Africa, now grown in gardens
in India.

Clerodendrum inerme (Linn.) Gaertn. Fruct. 1:271, 1788;
FBI.4:589, Gr.157; D. & G.200; C.2:511; Merr.
Enum. 3:401; Bor & Raizada 146, f.92.

A straggling, scandent shrub. Leaves variable,
glabrous, somewhat fleshy. Flowers white in 3-flowered
cymes; corolla tube slender; filaments purple-red,
exserted.

A common hedge plant.

Local name: Vilayati Mendi

Flowers: August to January or even later.

Indigenous to the seacoast of India extending
to Polynesia.

Clerodendrum infortunatum Linn. Sp.Pl. 637, 1753;
FBI.4:594; Gr.157; D. & G.200; Wight, Icon.
t.1471; C. 2:513.

A small, erect shrub with hairy stem. Leaves large, ovate, cordate, opposite, hairy. Flowers white tinged with red in large terminal panicles. Drupes black, shining, seated on the enlarged, fleshy, red calyx.

Occasionally planted in gardens under the shade of trees.

Flowers and Fruits: March to May.

Sabnis 1096, 1161.

Throughout India, cultivated or wild as a weed of the undergrowth in Sal forests.

Clerodendrum fragrans Vent. Jard. Malm. t.70, 1804;
C.2:514; Bailey, Man. Cult. Pl.845; Bor &
Raizada 149, f.94.

An erect shrub. Leaves broadly ovate, cordate or truncate at the base, dentate. Flowers white or rose, fragrant, in many flowered, terminal, compact, subsessile panicles; corolla double. Drupes with accrescent calyx at the base.

Occasionally cultivated in cool and shady corners in gardens.

Local name: Hazari Mogro, Marwadi Mogro.

Flowers and Fruits: February-May and also during monsoon.

Sabnis 1073.

Indigenous to China, cultivated or wild throughout India and most parts of the tropics.

Clerodendrum phlomidis Linn. f. Suppl. 292, 1781;
FBI.4:590; Gr.157; D. & G.200; Wight, Icon.
t.1473; C.2:511; Maheshwari, 283.

A hardy shrub. Leaves ovate or rhomboidal, crenate, wavy or entire. Flowers white; in terminal and axillary, dichotomous cymes. Drupes black.

A very common plant of the hedges along roadsides; also noted as showing luxuriant growth in the cracks and crevices of old walls; also in the ravines forming thickets.

Local name: Arani

Flowers and Fruits: September to May.

Sabnis 2449, 2942.

Throughout the drier parts of India from the Punjab and Bengal to S. India and Ceylon.

Clerodendrum indicum (Linn.) Kuntze, Rev.Gen.586, 1891;
Bailey, loc.cit.845; Maheshwari, 284.

Siphonanthus indica Linn. Sp.Pl. 109, 1753.

Clerodendrum siphonanthus R. Br. in Ait. f. Hort.
Kew. 4:65, 1812; Bor & Raizada 144, f.90.

A tall shrub. Stems hollow. Leaves narrowly lanceolate, entire or sinuate. Flowers white in lax, terminal panicles; corolla tube very long, 8 cm. or more. Nutlets 4, in a persistent, enlarged calyx.

Planted in the University campus for the beautiful flowers.

Flowers and Fruits: September to November.

Joshi, University campus.

Common in many parts of India and Burma extending to Malaya, Indo-China and Java; often cultivated.

Holmskioldia Retz.

Holmskioldia sanguinea Retz. Obs. 6:31, 1791; FBI. 4:596;
Bor & Raizada 142; Bailey, loc. cit. 842;
Maheshwari, 285.

An erect, woody shrub. Leaves ovate, acuminate, crenate. Flowers red-orange, in axillary cymes; calyx accrescent, petaloid. Drupes obovoid.

Rarely cultivated for the beautiful flowers.

Flowers: January to March.

Sabnis 17.2.64, Univ. Bot. gardens.

Native of sub-tropical Himalayas, now cultivated in gardens throughout India.

LABIATAE (LAMIACEAE)

1. Stamens 4, all perfect, declinate; anther cells confluent:

2. Corolla distinctly 2-lipped:

3. Lower lip of corolla not longer than the upper lip:

4. Fruiting calyx deflexed, the upper lobe widest, large, ovate, recurved, the margins decurrent on the tube. Ocimum

4. Fruiting calyx suberect or declinate, the upper lobe broader than the others, the margins not decurrent on the tube. Moschosma

3. Lower lip of corolla longer than the upper lip; filaments connate at the base round the style. Coleus

2. Corolla obscurely 2-lipped, with two upper lobes, flat, similar and subequal to two lateral; all about as long as the abruptly deflexed, saccate, lower lip with thickened margins and much contracted base. . . . Hyptis

1. Stamens erect, spreading or ascending:

5. Perfect stamens 2. Salvia

5. Perfect stamens 4, didynamous:

6. Upper lip of corolla short,
nearly flat. Anisomeles
6. Upper lip of corolla hooded and
densely woolly:
7. Lower lip of corolla longer
than the upper. Leucas
7. Lower lip of corolla shorter
than the upper. Leonotis

Ocimum Linn.

Calyx hairy within:

Fruiting calyx 3 mm. long and corolla
6 mm. americanum

Fruiting calyx 6 mm. long and corolla
10-12 mm. basilicum

Calyx glabrous within:

Pedicels as long as or longer than calyx;
2 lower calyx teeth longer than the
upper lip. sanctum

Pedicels shorter than calyx; lower
calyx teeth shorter than the upper
lip gratissimum

Ocimum americanum Linn. in Cent. Pl. 1:15, 1755;
Saht.192; Chavan & Oza, Fl. Pavagadh, 189.

O. canum Sims in Bot. Mag. t.2452, 1824; FBI.4:607;
C.2:52; Mukerjee in RBSI. 14(1): 17, 1940.

An erect, herbaceous, aromatic annual, 30 to 60 cm. tall. Flowers distinctly bilabiate, white, arranged in whorls on an erect, lax inflorescence; bracts small with ciliate margins. Nutlets black, ellipsoid.

A common weed of cultivated fields as well as on waste places.

Local name: Ran Tulsi

Flowers and Fruits: September to March.

Sabnis 939, 1433, 3480.

Plains and lower hills of India - from Bengal, Bihar, C. India to Deccan and W. Peninsula; Ceylon, Java, W. Asia, Trop. Africa, Madagascar, cultivated in America.

Ocimum basilicum Linn. var. thrysiflora Benth. Lab. Gen. & Sp. 5, 1833; FBI. 4:608; C.2:523.

A small, much branched herb, with purple, 4-angled stem. Leaves opposite, ovate, acute. Flowers pink or purple, in whorls, closely arranged on the axis.

Commonly cultivated in a number of gardens.

Local name: Damaro, Sabjo.

Flowers and Fruits: August to December.

Cultivated throughout tropical and hotter India;
Malacca, Ceylon, W.Asia, Africa and Pacific Islands.

Ocimum sanctum Linn. Mant. 1:85, 1767; FBI. 4:609;
C.2:521; Mukerjee, loc.cit. 19; Sant. 192.

Much branched herbs, with purplish stems. Leaves pubescent, elliptic oblong, obtuse or acute, entire or serrate, peculiarly scented. Flowers white. Nutlets 4, smooth, surrounded by persistent calyx.

The famous, sacred 'Tulsi'; cultivated and not wild.

Flowers and Fruits: All round the year.

Sabnis 1445.

Cultivated throughout India; Ceylon, Malay Archipelago, Australia, W. Asia, Arabia.

Ocimum gratissimum Linn. Sp.Pl. 1197, 1753; FBI.4:608;
C.2:522; Mukerjee, loc.cit.20; Maheshwari, 287;
Chavan & Oza, Fl. Pavagadh, 189.

An erect, much-branched shrub. Leaves ovate, acute; cuneate at base, crenate serrate. Flowers creamy white or yellow. Nutlets subglobose, brown.

Noted in hedges and on the borders of cultivated fields; not common.

Local name: Aavchi bavchi

Flowers and Fruits: September to March.

Sabnis 2245.

Doubtfully indigenous, but cultivated throughout India; Burma, Ceylon, Java, Trop. Africa and America (native ?)

Moschosma Reichb.

Moschosma polystachyum (Linn.) Benth. Wall. Pl. As.

Rar. 2:13, 1831; FBI.4:612; C. 2:527.

Ocimum polystachyon Linn. Mant. 2:567, 1771.

Erect, much branched annual, with sharply quadrangular stem. Leaves ovate, acuminate, irregularly crenate-serrate. Flowers pinkish in large, paniculate racemes. Nutlets smooth, brown.

A ~~Weed~~ of roadside waste places, rarely in the cultivated fields; not common; noted during monsoon.

Flowers and Fruits: September to December.

Sabnis 2464, 3515.

Bengal, Bihar, W. Peninsula, S. India in the plains.

New guinea; Java, Borneo, Philippines; Malaya, China, Burma, Ceylon, Trop. Africa, Australia.

Coleus Lour.

Leaves thick, succulent, aromatic. amboinicus

Leaves not as above, variously coloured
with yellow, dull red and purplish. blumei

Coleus amboinicus Lour. Fl. Cochinch. 2:372, 1790;
C.2:531.

C. aromaticus Benth. in Wall. Pl.As.Rar.2:15, 1831;
FBI. 4:625; Prain, Beng. Pl.846.

Erect pot herbs. Leaves thick, succulent, aromatic.
Flowers pale-purple.

Cultivated in pots and kept under shade. The
leaves are edible.

Flowers: September to March.

Coleus blumei Benth. Lab.Gen. & Sp. 56, 1833; C.2:531;
Bailey, Man. Cult. Pl.864.

"Probably an assemblage of forms". Leaves ovate,
sharply and near regularly toothed, in some forms
laciniate, long acuminate, variously coloured with
yellow, dull red and purplish. Flowers blue or whitish.

Flowers: August to December.

var. verschaffeltii Lem.; C.2:531; Bailey, loc.cit. 865.

Leaves more brilliantly coloured, acute, truncate or cordate at base, irregularly cut, dentate with rounded teeth, giving the margin a crispy effect.

Hyptis Jacq.

Hyptis suaveolens (Linn.) Poit. in Ann. Mus. Par. 7:472, t. 29, f. 2, 1806; Mukerjee, loc. cit. 63; Sant. 195.

Ballota suaveolens Linn. Syst. (ed. 10) 1100, 1759.

A medium sized herb or undershrub, with hairs scattered all over. Leaves broadly ovate, sinuate and serrulate, hairy on both the surfaces. Flowers blue purple, closely packed in axillary clusters; calyx equally 5-toothed, 9-10 ribbed; corolla obscurely 2-lipped, hairy outside; tube cylindric, widened above; lobes subequal; perfect stamens 4, declinate, included, inserted on the corolla tube; filaments hairy; ovary 4-lobed, 4-celled, with one ovule in each cell. Mature nutlets generally 2, deep brown.

A native of tropical America and West Indies now running wild in many parts of India. In Baroda it has not spread much and is apparently restricted to a few spot in the Gorwa Industrial estate, where it was noted on rubbish heaps and along the banks of nallah carrying sewage.

Flowers and Fruits: September to February.

Sabnis 3555, 3556.

Salvia Linn.

Flowers deep scarlet. coccinea

Flowers violet-blue. farinacea

Salvia coccinea Juss. ex. Murr. in Commentat. Gotting.
1:86, t.1, 1779; D. & G. Suppl. 67; Prain, Beng.
Pl.859; C.2:558; Bailey, loc.cit. 858.

Slender herbs or undershrub. Leaves ovate or
cordate, crenate. Flowers deep scarlet in distant whorls.

Occasionally planted in gardens for the beautiful
flowers.

Flowers: Monsoon and post-monsoon period.

A native of Central and S. America.

Salvia farinacea Benth. Lab. Gen. & Sp. 274, 1833;
C.2:559; Bailey, loc.cit. 858.

A small herb. Leaves ovate lanceolate. Flowers
lavendar blue in terminal racemes; calyx covered with
dense, white pubescence.

Cultivated in the University Botanical gardens and
the L.V. Palace compound.

Flowers: September to May.

Sabnis 1258.

A native of Mexico.

Anisomeles R. Br.

Anisomeles indica (Linn.) Kuntze, Rev.Gen.512, 1891;
Mukerjee, loc.cit.152.

Nepeta indica Linn. Sp.Pl.571, 1753.

Anisomeles ovata R.Br. in Ait.f.Hort.Kew. 3:364, 1811;
FBI.4:672; C.2:543; Wight, Icon.t.865.

An erect herb or undershrub. Stems 4-angled, woolly hairy. Leaves ovate, cordate, acute, dentate-crenate. Flowers light purple with deep blue lower lip, in many flowered axillary whorls, forming a spicate inflorescence. Nutlets 4, black, smooth and polished.

A weed of waste places, noted in the hedges or under the shade of trees in gardens as well as on roadside and ravines; fairly common, though not abundant.

Local name: Chodharo

Flowers and Fruits: September to December, rarely even in the hot months.

Sabnis 711, 985, 3278.

Throughout India; Singapore, Ceylon, Malay Archipelago, China, Philippines.

Leucas R. Br.

Flowers usually 2 (rarely more) in the axils;
plants procumbent. biflora

Flowers in dense, globose whorls:

Whorls terminal only. cephalotes

Whorls axillary and terminal:

Mouth of the calyx much produced
below. urticaefolia

Mouth of the calyx produced above.... aspera

Leucas biflora R.Br.Prodr. 504, 1810; FBI.4:683;
C.2:553; G.1150; Mukerjee, loc.cit.180;
Wight, Icon. t.866.

Prostrate or straggling herb. Leaves ovate, elliptic,
pubescent, crenate serrate. Flowers white, usually 2
in the axils; calyx almost straight, teeth 10, erect.

Noted straggling below the thickets formed by thorny
bushes in the ravines; also in hedges along roadside;
not common, though locally abundant in the Bhimpura
ravines.

Flowers and Fruits: August to February.

Sabnis 2568, 3279.

W. Peninsular India and Ceylon.

Leucas cephalotes Spreng Syst. 2:743, 1825; FBI.4:689;
C.2:549; Mukerjee, loc.cit.168; Wight, Icon.
t.337.

An erect, hairy, annual herb. Leaves ovate-lanceolate, crenate serrate. Flowers white in dense, globose terminal whorls; the uppermost leaves coming out from the whorls. Nutlets dark brown smooth.

Noted on the grassy slopes or sandy soils in the ravines at Vasad and Bhimpura. At both the places, the plant is abundant.

Flowers and Fruits: August to October.

Sabnis 3242, 3301.

Himalayas, Punjab, Bengal, Assam, W. Peninsula; Afghanistan.

Leucas urticaefolia R.Br.Prodr. 504, 1810; FBI.4:680;
C.2:547 (urticifolia); Mukerjee, loc.cit.166;
Maheshwari, 290; Wight, Icon. t.1451.

Erect, hairy herb. Leaves ovate, coarsely dentate. Flowers white, in many flowered, dense, distant globose whorls. Nutlets obovoid oblong, trigonous, brown.

Isolated specimens observed along the banks of Vishwamitri, in the L.V. Palace compound or near Harni village; not common nor abundant.

Flowers and Fruits: September to December.

Sabnis 804, 2474.

Bengal, Punjab, W. Peninsula, S. India;
Baluchistan, Arabia, Abyssinia.

Leucas aspera (Willd.) Spreng. Syst. 2:743, 1825;
FBI. 4:690; C.2:548; G.1150; Mukerjee, loc.cit.
166; Maheshwari, 290, 290; Chavan & Oza, Fl.
Pavagadh, 191.

Phlomis aspera Willd. in Link, Enum. Pl.Hort.Berol.
2:621, 1822.

A small annual 15 to 50 cm. high, braching from
the base. Leaves variable, linear to elliptic, subentire
to crenate. Flowers white, in terminal and axillary
whorls. Nutlets oblong, brown.

A common weed of cultivated and fallow fields;
also on the sandy soils of the ravines at Bhimpura.

Flowers and Fruits: August to March.

Sabnis 1966, 3281, 3481.

Throughout India in the plains; Mauritius,
Java, Philippines.

Leonotis Pers.

Leonotis nepetaefolia (Linn.) R.Br. in Ait.Hort.Kew (ed.2)
3:409, 1811; FBI.4:691; C.2:555('nepetifolia');
G.1155; Mukerjee, loc.cit.185; Wight, Icon. t.867.

Phlomis nepetaefolia Linn. Sp.Pl.586, 1753.

Tall, erect herbs or undershrubs. Leaves ovate, coarsely serrate. Flowers orange coloured in dense globose whorls round the stem. Nutlets oblong obovoid.

Noted in clumps on waste places in the L.V. Palace compound, Sundarpura-Shahapura during monsoon. Tall, leafless, erect plants with dry ball-like fruit clusters are observed during summer.

Flowers and Fruits: October to March.

Local uses: The plant is used in the treatment of certain skin diseases; The ball like fruiting clusters are sold on the footpaths for their medicinal properties.

Sabnis 2376, 2498.

Throughout the hotter parts of India, cultivated and naturalized; Ceylon, Trop. Asia, Africa and America.

PHYTOLACCAEAE

Rivina Linn.

Rivina humilis Linn. Sp.Pl.121, 1753 ; Bailey, Man.Cult.Pl.359 & Cycl.Hort.2966, f.3412; Walter in Pfreich. 39:102, f.30.

A small, erect annual. Leaves 5-10 cm. long, dark green, glabrous. Flowers white or with a pink tinge, in terminal and axillary racemes. Berries red-black.

Rarely cultivated but often noted as an escape in gardens in extremely cool, shaded places.

English name: Rouge-plant.

Flowers and Fruits: February to April.

Sabnis 1092, 1093.

Native of tropical and subtropical America, but introduced into Asia and Africa.

NYCTAGINACEAE

Leaves alternate; flowers subtended by large, coloured bracts; plants woody. Bougainvillea

Leaves opposite; bracts not coloured; plants herbaceous:

Flowers showy, in calyx-like involucre of bracts. Mirabilis

Flowers small, in heads or umbels; bracts minute. Boerhavia

An erect herb or undershrub. Flowers red, yellow or purple, showy, enclosed in a calyx-like involucre of bracts.

A common ornamental herb of private and public garden. The flowers open in the afternoon.

Local name: Gulbas.

English name: Four O'clock plant.

Flowers: September to April.

Sabnis 1269.

A native of Trop. America, cultivated throughout the tropics.

Boerhavia Linn.

Flowers in distant whorls racemosely arranged on a slender rachis; fruit with a large gland at the crown. verticillata

Flowers, in small umbels, sessile or with pedicels; fruit glandular along the ribs, not at the crown:

Leaves in unequal pairs; flowers smaller, in heads. diffusa

Leaves in nearly equal pairs; flowers larger, in long-pedicelled umbels. chinensis

Boerhavia verticillata Poir. in Lamk. Encycl. Method.

5:56, 1804; FBI.4:710; C.2:564.

B. stellata Wight, Icon. t.875; D. & G.213.

B. scandens Grah. Cat. 167 (non. Linn.).

A climber among roadside, bushy hedges. Leaves ovate, with sinuate margins. Flowers pink in distant whorls arranged racemosely on a slender rachis; stamens not much exserted. Fruit with a large gland at the crown.

Rarely noted among hedges on way to Bhimpura.

Flowers and Fruits: September to October.

Sabnis 2608.

In the drier parts of Punjab, Sind, Gujarat and W. Peninsular India; Afghanistan, Baluchistan, and Westward to Syria and Trop. Africa.

Boerhavia diffusa Linn. Sp.Pl.3, 1753; C.2:563; Sant.196; Maheshwari, 194.

B. repens Linn. Sp.Pl. 3, 1753; FBI. 4:709.

B. procumbens Roxb. Fl.Ind. 1:146, 1820; Wight, Icon. t.874.

Prostrate, spreading herb; nodes swollen. Leaves opposite, unequal in pairs. Flowers pink or rose in umbellate heads; stamens not or slightly exserted.

A very common weed of waste places along roadsides, lawns, cultivated fields and in the cracks of dilapidated walls.

Local name: Satodi, Punarnava

Flowers and Fruits: Major part of the year.

Sabnis 606, 1129, 3208.

Throughout India, especially in the drier regions; Ceylon, Trop. & subtropical Asia, Africa and America.

Boerhavia chinensis (Burm. f.) Druce in Rep.Bot.Exch.Cl. Brit. Isles, 1913(3):415, 1914; Raizada in Ind. For. 92(5): 303, 1966.

Valeriana chinensis Burm. f. Fl.Ind. 15, t.6, f.3, 1768.

Boerhavia repanda Willd. Sp.Pl. 1:22, 1797; FBI.4:709; C.2:564.

A diffuse, straggling, robust herb. Leaves larger, opposite, nearly equal in pairs. Flowers pink-rose in long pedicelled umbels; stamens very much exserted.

A fairly common weed, preferring sheltered places along the hedges.

Local name: Satodi, Punarnava

Flowers and Fruits: September to January.

Sabnis 2404, 3474, 3499.

Throughout India; Ceylon, Baluchistan.

AMARANTHACEAE

1; Leaves alternate:

2. Staminal nodes interposed with stamens
or forming a hypogynous cup. Aerva

2½ Staminal nodes absent:

3. Ovary 2 to many-ovulate. Celosia

3. Ovary 1-ovulate:

4. Flowers bisexual, pink; fruit
a crustaceous nut. Digera

4. Flowers unisexual or
polygamous; fruit indehiscent
or circumsciss. Amaranthus

1. Leaves opposite or clustered:

5. Anthers 1-celled:

6. Flowers in terminal heads; stigma
bifid. Gomphrena

6. Flowers in axillary heads; stigma
usually capitate. Alternanthera

5. Anthers 2-celled:

7. Stamens with interposed,
fimbriate staminal nodes. Achyranthes

7. Stamens without staminodes:

8. Flowers perfect, in spikes. . . . Nothosaerva8. Flowers clustered, one perfect
surrounded by several imperfect
ones with hooked bristles, on
long spikes. PupaliaAerva Forsk. (nom. cons.)Spikes all axillary; flowers unisexual
and bisexual. lanataSpikes axillary and terminal; flowers
unisexual; dioecious. persicaAerva lanata (Linn.) Juss. in Ann.Mus.Par.2:131,1808;
FBI.4:728; C.2:578; Sant.198; Maheshwari, 294.Achyranthes lanata Linn. Sp.Pl.204, 1753 (non Celosia
lanata Linn. ibid. 205.)Erect or suberect herb. Stem and branches covered
with soft, wooly pubescence. Leaves elliptic, obovate
or suborbicular, obtuse or acute, white-woolly beneath.
Flowers greenish white or white, polygamous in dense,
axillary spikes. Seeds black.A very common weed of all waste places, along roadsides,
hedges and ravines; also noted as a weed in Tobacco as

well as in the crevices of old walls.

Local name: Kapuri Madhuri.

Flowers and Fruits: All throughout the year.

Sabnis 625, 1513, 2711.

Throughout India; Ceylon, Arabia, Trop.Africa,
Java, Philippines.

Aerva persica (Burm.) Merr. in Phil.Journ.Sci.10:348,
1921; Schinz in Pfam. (ed.2) 16C:51; Sant.198..

Iresine persica Burm. Fl.Ind. 212(err.typ.312), 1768.

Aerva tomentosa Forsk. Fl. Aegypt.-Arab. 122 & 727,
1775; Maheshwari, 294.

A. javanica Juss. in Ann.Mus.Par.2:131, 1803;
FBI.4:727; C.2:577; Wight, Icon. t.876.

An erect, bushy shrub. Stems covered with stellate
tomentum. Leaves linear, linear oblong or lanceolate,
greenish-white. Flowers unisexual, in dull white-woolly
spikes forming leafless, terminal panicles.

A rare plant of the elevated banks of river Mahi at
Vasad. A solitary specimen was observed near the Motibaug
Cricket ground.

Flowers and Fruits: December to March.

Sabnis 976, 3061.

Punjab, Sind, Gujarat, Deccan, Central India,
W. Peninsula; Ceylon, Arabia, Trop. Africa, Cape de
Verde Islands.

Celosia Linn.

Flowers in white or pink, dense,
unbranched spike. argentea

Flowers in red or yellow, branched
spikes, forming a cockscomb. cristata

Celosia argentea Linn. Sp.Pl.205, 1753; FBI.4:714;
Wight, Icon. t.1767; C.2:570; Sant.196;
Maheshwari, 295.

An erect, glabrous herb. Leaves linear, ovate-
lanceolate. Flowers white or pink, in dense, conical or
oblong, terminal spikes. Capsule ellipsoid.

A weed of some winter crops; not very common.

Local name: Lanpadi

Flowers and Fruits: November to February.

Sabnis 924, 3043.

Common throughout India; Ceylon, Trop. Asia,
Africa and America.

Celosia cristata Linn. Sp.Pl.205, 1753; FBI.4:715;
C.2:571; Maheshwari, 295.

An erect herbaceous annual, cultivated in beds for the red or yellow branched spikes fasciating to form a cookscomb.

Grown as an ornamental herb in gardens throughout the tropics.

Flowers: December to February.

Sabnis 10.2.58, Univ.Bot.garden; 18.12.59,
Science Faculty lawns.

Digera Forsk.

Digera muricata (Linn.) Mart. in Beitr. Amar. No.2:77, 1825; Baker in Fl.Males. I,4:80; Chavan & Oza, Fl.Pavagadh, 198.

Achyranthes muricata Linn. Sp.Pl. (ed.2) 295, 1762.

A. alternifolia Linn. Mant. 50, 1767.

Digera lalternifolia (Linn.) Aschers. in Schwfth. Beitr. Fl.Aethiopiens 180, 1867; Maheshwari, 295.

D. arvensis Forsk. Fl.Aegypt.-Arab.65, 1775;
FBI.4:717; C.2:572.

A herb with spreading or erect branches, sometimes even more than 1 meter tall. Leaves variable, ovate,

elliptic or lanceolate, alternate. Flowers pink or rose in lax, axillary spikes.

A common weed of a variety of habitats; noted on lawns, roadsides, cultivated fields and even waste places.

Local name: Kanjero.

Flowers and Fruits: July to March or even up to May under the shade of trees in moist, cool places.

Sabnis 963, 1512, 2738.

N.W. Provinces, Sind, Gujarat, Deccan, Carnatic, Bengal; Ceylon, Afghanistan, Baluchistan, Arabia, N. Africa.

Amaranthus Linn.

Bracteoles awned, equalling or exceeding the sepals; fruits circumsciss:

Stamens 5; sepals 5:

Leaf axils with spines. spinosus

Leaf axils not spinous. hybridus subsp.
cruentus var.
paniculatus

Stamens 3; sepals 3. tricolor

Bracteoles acute, hardly awned, shorter than the sepals; fruits usually indehiscent:

Fruit rugose; stamens 3. viridis

Fruit not rugose; stamens 2. tenuifolius

Amaranthus spinosus Linn. Sp.Pl.991, 1753; FBI.4:718;
C.2:573; Wight, Icon. t.513; Sant.197.

An erect, herbaceous annual. Spines present in the leaf axils. Leaves ovate or lanceolate. Flowers in terminal and axillary panicles.

A very common weed of waste places, as well as in cultivated fields and also in the crevices of old walls.

Local name: Kantalo Dabho

Flowers and Fruits: In monsoon; also in summer.

Sabnis 574, 944, 2875, 3580.

Throughout India in waste places, rubbish heaps and fields; Ceylon and many tropical countries.

Amaranthus hybridus Linn. Subsp. cruentus Thell. var. paniculatus Thell. in Aschers. & Graebn. Syn. 5(1):247, 1914; Sant.197; Maheshwari, 296.

A. paniculatus Linn. Sp.Pl.1406, 1763; FBI.4:718;
C.2:573.

A. frumentaceous Buch.-Ham:Wight, Icon. t.720.

Tall, stout herbs. Leaves ovate, ovate lanceolate. spikes dense, reddish or yellow, in panicles.

Noted as an escape in chilly and Lucerne fields; rarely cultivated.

Local name: Rajgaro

Flowers and Fruits: December to February.

Sabnis 20.2.58, Padra Road; 18.1.61, Lucerne fields, Atladra.

Cultivated for its grain, which forms the staple food of poorer classes of the hill tribes in many parts of India; cultivated or as an escape in E. and W. Asia and Africa.

Amaranthus tricolor Linn. Sp.Pl.989, 1753; Merr. Enum. 2:128; Sant.197; Maheshwari, 297.

A. gangeticus Linn. Syst. 1268, 1759; FBI.4:719; C.2:574.

A. polygamus Linn. Amoen. Acad.4:294, 1759.

A. melancholicus Linn. Sp.Pl.989, 1753.

A. oleraceus Willd. Sp.Pl.4:386, 1805 (non Linn.); Wight, Icon. t.715.

An erect, branching, stout herb. Leaves variable, rhomboid or deltoid ovate. Flowers in axillary clusters forming long, distantly interrupted spikes. Capsules ovoid, rugose.

Noted on waste places on the University campus.

Flowers and Fruits: September to November.

Sabnis 3497, 3498.

Throughout India; Ceylon, Trop.Africa, Asia,
America.

Amaranthus viridis Linn. Sp.Pl. (ed.2) 1405, 1763,
quoad descr. et Herb. Linn., excl. ref. Bauhin et
Tournefort; FBI.4:720; C.2:575; Sant.197; Merrill
in Amer. Journ. Bot.23:611, 1936; Van Steenis in
Fl.Males. I.4:594, 1954; Chavan & Oza, Fl.
Pavagadh, 196.

Erect herbs. Leaves long-petioled, ovate, truncate
or cuneate at the base. Flowers greenish white.

On moist soils of waste places and cultivated fields.

Local name: Dhimdo

Flowers and Fruits: August to February

Sabnis 556, 2204.

Throughout India; Ceylon, All tropical countries.

Amaranthus tenuifolius Willd. Sp.Pl.4:381, 1805;
FBI.4:722; Wight, Icon. t.718; C.2:576; Shah in
Ind. For. 89(4):290.

Prostrate herb. Leaves oblanceolate oblong, rounded,
often notched at the apex. Flowers in axillary clusters;
stamens 2.

Shah, loc.cit reports its occurrence in Baroda. I
have not seen it in the field.

Flowers and Fruits: December to March.

Bengal, Punjab, W. India; Trop.Africa.

Gomphrena Linn.

Flowers red, crimson or deep purple, in
globose heads; plants cultivated. globosa

Flowers white or dirty white in ovoid or
cylindrical spikes; plants wild. celosioides

Gomphrena globosa Linn. Sp.Pl.224, 1753; FBI.4:732;
C.2:584; Sant.200; Bailey, Man.Cult.Pl.356,
f.58 B.

An erect, branching annual. Leaves oblong to
elliptic or somewhat obovate. Flowers red-crimson or
deep purple, in globose terminal heads; heads subtended
by 2 leafy bracts.

Probably a native of American tropics, now widely
cultivated in flower beds in gardens.

English name: Globe Amaranth, Gentleman's
Button.

Flowers: September to February.

Sabnis 2.10.57, University gardens; 21.2.61,
Public Park.

Gomphrena celosioides Mart. in Nov.Act.Nat.Cur.13:301;
 1826; Sant.200; Sandwith in Kew Bulletin 29, 1946;
 Raizada in JBNHS. 48:675; Hair & Hair in Bull.
 Bot. Surv. Ind. 5(3 & 4): 220.

A prostrate, spreading herb. Stems white hairy.
 Leaves oblong elliptic to spatulate, with long, white
 hairs on the under surface. Flowers white in globose,
 ovoid or cylindrical, terminal spikes subtended by two
 bracts. Fruits enclosed in the perianth.

Noted in a variety of habitats such as roadsides,
 lawns, cultivated fields, old walls and all other waste
 places.

Very common and abundant everywhere.

Flowers and Fruits: All the year round.

Sabnis 888, 951, 2196.

An introduced weed, native to S. Brazil, Paraguay,
 Uruguay and Argentina, spreading rapidly in India and
 is a troublesome weed in various parts of the country.

Alternanthera Frosk.

Inflorescence spinous; leaves nearly
 circular. pungens

Inflorescence not spinous:

Leaves peculiarly spatulate, broad
at the apex and margins decurrent along
the petiole. paronychioides

Leaves linear oblong, elliptic or
oblanceolate. sessilis

Alternanthera pungens H.B. & K. Nov. Gen. & Sp.2:206,
1818; Melville in Kew Bulletin 174, 1958.

A. echinata Sm. in Rees, Cyclop. 39: Suppl., No.10,
1819.

A. repens Link. Enum. Pl.Hort.Berol. 1:154, 1821
(non J.F. Gmel. 1791); Sant.200; Baker in Fl.
Males. I,4(2):91; Van Steenis in Fl.Males.I,
5:554-55, 1958.

Prostrate, spreading herb, rooting at the nodes.
Leaves almost orbicular, with a sharp point at the tip.
Flowers in axillary heads; perianth segments spiny;
stamens 5.

Noted growing in dense patches on lawns or banks of
ponds among short grasses especially during monsoon.

Flowers and Fruits: September to February.

Sabnis 714, 2706.

A tropical American weed introduced into this
country towards the beginning of the century and has

spread all over peninsular India and also recently reported from the upper gangetic plain and Punjab plain.

Alternanthera paronychioides St.Hill.Voy.Bres. 11:439, 1833; Santapau in JBNHS. 54:476-477, 1956; Nair & Nair in Bull.Bot.Surv.Ind. 5(3-4):219.

A prostrate, hairy herb, rooting at the nodes. Leaves opposite, peculiarly spatulate. Flowers white, in axillary clusters or heads; perianth segments 5, with long, white hairs at the back, unequal; stamen 5; ovary 1-celled, 1-ovulate.

Noted forming patches on the wet banks of ponds and puddles during monsoon; not common.

Flowers and Fruits: September to October.

Sabnis 1053, 1861, 2586.

A tropical American weed, so far reported from the upper Gangetic plain, Punjab plain, Bombay Presidency and South India.

Alternanthera sessilis (Linn.) DC.Cat.Hort.Monsp. 77, 1813; Melville in Kew Bulletin. 172, 1958; Maheshwari, 299; Chavan & Oza, Fl.Pavagadh, 2004

Gomphrena sessilis Linn. Sp.Pl.225, 1753.

Alternanthera repens J.F. Gemel.Syst.Nat.2:106, 1791.

A. triandra Lamk. Encycl. 1:95, 1783; C.2:584.

Prostrate or suberect herbs, often rooting at the nodes. Leaves linear oblong, elliptic or oblanceolate, glabrous. Flowers white in dense, axillary, globose heads.

A marsh loving plant found in damp places near the banks of ponds and rivers, sometimes even entering water; also on wet lawns during monsoon; as a weed in crops fields.

Local name: Jal Jambuo; Panini Bhaji

Flowers and Fruits: July to April.

Sahnis 518, 2269.

Throughout the warmer parts of India in damp places; Ceylon and all warm countries.

Achyranthes Linn.

Achyranthes aspera Linn. var. porphyristachya Hook. f.
in FBI.4:730, 1885; Sant.199; Maheshwari, 299;
Chavan & Oza, Fl. Pavagadh, 196.

A. porphyristachya Wall.Cat. 6925, 1832.

A. aspera Cooke, Fl. Bomb. Pres. 2:580, pro parte.

An erect herb or undershrub. Leaves ovate, acute or acuminate. Flowers greenish white, with a pink tinge, in long terminal spikes. Bracts and bracteoles, persistent, spiny. Utricle oblong.

A variable plant, depending upon the habitat conditions. It is a common weed of waste places during monsoon. It forms pure stands under the shade of trees; also observed in cultivated fields and on old walls.

Local name: Aghedo.

Flowers and Fruits: August to April.

Sabnis 883, 1352, 2590.

Throughout India; Ceylon, Trop.Asia, Africa, Australia and America.

Nothosaerva Wight

Nothosaerva brachiata (Linn.) Wight, Icon. 6E1, 1853;
FBI.4:726; C.2:580; G.1175; Maheshwari, 299;
Chavan & Oza, Fl. Pavagadh, 198.

Achyranthes brachiata Linn. Mant. 1:50, 1767.

Illecebrum brachiatum Linn. Mant. 2:213, 1771.

Pseudanthus brachiatus Wight, Icon. 5: t.1775 (excl. analyses) & 6:t.1776 bis. f.B.

An erect herb, with spreading branches. Leaves elliptic or lanceolate, acute, membranous, opposite. Flowers white, in small, dense, axillary spikes.

Noted in moist localities; not very common.

Flowers and Fruits: October to December.

Sabnis 872, 3523.

North & W. Peninsular India; Burma, Ceylon, Mauritius, Trop. Africa.

Pupalia Juss. (nom. cons.)

Pupalia lappacea (Linn.) Juss. in Ann.Mus.Par.2:132, 1803; Moq. in DC. Prodr. 13(2):331; FBI.4:724; C.2:583.

Achyranthes lappacea Linn. Sp.Pl.204, 1753.

A straggling undershrub. Leaves opposite, elliptic ovate, softly tomentose. Flowers in distinct clusters forming long spikes. Fruits with glabrous hooked awns.

Noted in hedges along roadsides.

Local name: Dholo Jipto.

Flowers and Fruits: August to April.

Sabnis 646, 2091, 2616.

W. Trop. Himalaya, Punjab, Bihar, W.Peninsula; Trop. Asia and Africa.

CHENOPODIACEAE

Flowers usually bisexual:

Roots tuberous; cultigens. Beta

Roots not tuberous; plants wild. Chenopodium

Flowers unisexual, the plants monoecious
or dioecious:

Stigmas 2; fruit between 2 large,
flat bracts. Atriplex

Stigmas 4 or 5; fruit enclosed in a
carpel-like body formed of the
bracts. Spinacia

Beta Linn.

Beta vulgaris Linn. Sp.Pl.222, 1753; FBI. 5:5; C.2:595;
Bailey, Man.Cult. Pl.353.

A glabrous herb, with a napiform, tuberous, storage
root. Leaves mostly basal. Flowers greenish in
panicles.

Rarely cultivated during the winter season. The
roots are eaten raw as salad.

English name: Beet

Flowers: January to February

Sabnis 12.11.63, Jail compound; 21.1.64, Padra Road.

Chenopodium Linn.

Chenopodium album Linn. Sp.Pl.219, 1753; FBI.5:3;
C.2:586; Maheshwari, 302.

An erect, green, herbaceous annual; Leaves very variable, toothed or lobed, rhomboid or deltoid-ovate to elliptic oblong, thick and fleshy. Flowers greenish in terminal and axillary clusters, forming compact spikes.

A very common weed of winter crops; also abundant on waste lands or any moist situation.

Local name: Chilni Bhaji.

Flowers and Fruits: January to May.

Sabnis 557, 908, 2028.

Throughout India and almost everywhere.

Atriplex Linn.

Atriplex hortensis Linn. Sp.Pl.1053, 1753; FBI.5:6;
C.2:588; Bailey, loc.cit.354.

Stout, erect succulent often tinged with red. Lower leaves deltoid ovate, upper ovate lanceolate. Flowers in short, paniced spikes or clusters.

Rarely cultivated but mostly wild in other field crops, during winter and summer.

Local name: Palakhni Bhaji, Chandanbatva.

Flowers and Fruits: December to April

Sabnis 4.4.58, Sewage Disposal area.

Cultivated throughout India and also in Europe.

Spinacea Linn.

Spinacia olderacea Linn. Sp.Pl.1027, 1753; FBI.5:6;
C.2:595; Bailey, loc.cit.354.

Erect, annual herb. Stems succulent reddish. Lower leaves long petioled, variously lobed. Staminate flowers in spikes; the pistillate in clusters.

Occasionally cultivated for the leaves which are used as a vegetable at Chhani and Padra.

English name: Garden spinach.

Local name: Palakh; Sag.

BASELLACEAE

Basella Linn.

Basella rubra Linn. Sp.Pl.272, 1753; FBI.5:20;
C.2:594.

B. alba Linn. Sp.Pl.272, 1753.

A succulent, twining shrub. Leaves ovate, cordate, more or less succulent. Flowers pinkish in axillary spikes. Perianth fleshy. Utricle black, ovoid.

Grown along hedges or trellises for the leaves used as a vegetable.

Local name: Poi, Chakwat.

Flowers and Fruits: October to February.

Throughout India, wild or cultivated; Ceylon, Trop. Asia and Africa.

POLYGONACEAE

Habit climbing. Antigonon

Habit erect or prostrate, but not climbing:

Perianth 4 to 5 merous, segments not toothed; stigmas capitellate. Polygonum

Perianth in two whorls, 3-merous, inner segments toothed and enlarged; stigmas fimbriate. Rumex.

Antigonon Endl.

Antigonon leptopus Hook. & Arn. Bot. Beech. Voy. 308, t.69, 1841; C.3E10: Bor & Raizada, 265; Bailey, loccit. 351; Maheshwari, 307.

An extensive climber. Leaves ovate, acute to acuminate. Flowers pink or rose in long racemes, the peduncles of which terminate into tendrils. Fruit enclosed in the stiff, persistent perianth.

Commonly planted ⁱⁿ gardens, along trellises and on roof tops; also noted at few places as an escape.

English name: Coral Creeper, Ice-cream creeper.

Flowers and Fruits: September to May.

Sabnis 1239, 3209.

Indigenous to South America, now largely cultivated in gardens throughout the country.

Polygonum Linn.

Prostrate herb; leaves small; flowers in axillary clusters. plebeium

Erect herb; leaves larger, lanceolate; flowers in terminal, spicate inflorescence.... barbatum

Polygonum plebeium R.Br. Prodr. 420, 1810; FBI.5:27; C.3:4; Sant.201; Maheshwari, 305; Chavan & Oza, Fl. Pavagadh, 201.

A prostrate, spreading herb. Leaves small oblong, linear; stipules hyaline short. Flowers pink or rose

solitary or few together, axillary.

A typical weed of dry pond or ditch beds; also noted on wet sandy banks of rivers. The plant is very variable and shows different forms depending upon the habitat.

Local name: Zinko Okhrad.

Flowers and Fruits: November to June.

Sabnis 932, 1014.

Throughout tropical and subtropical India.

Afghanistan Trop. Asia, Java, Philippines, Australia, Madagascar, Egypt, Trop. and S. Africa.

Polygonum barbatum Linn. Sp.Pl.362, 1753; FBI.5:37;

Subramanyam in Aquat. Angios. 43, f.28.

An erect, herbaceous plant. Leaves lanceolate; stipules ocreate with long, fimbriate, ciliae on the ocreae. Flowers pink in terminal, spicate inflorescence.

Very rare in the area; apparently restricted to river banks at Shahapura, where it grows as an amphibious hydrophyte in the sluggish waters; not so far observed anywhere else.

Flowers and Fruits: November to May.

Sabnis 2955, 2956.

The plant is not listed in the Cooke's Flora of the Bombay Presidency.

Throughout the hotter parts of India from Assam to Indus, South India, Laccadives, North and South Andamans; Burma, Ceylon.

Rumex Linn.

Rumex dentatus Linn. Mant.2:226, 1771; FBI.5:59; C.3:10; Maheshwari, 307.

An erect, herbaceous annual. Stems ribbed, red. Radical leaves much longer than cauline ones, oblong, obtuse, rounded or cordate. Flowers greenish, in leafy or leafless whorls or clusters, arranged racemosely; inner perianth segments much enlarged, with irregularly dentate margins. Fruit an acutely trigonous nut.

A rare, though locally very abundant weed of cultivated fields, which are supplied with ample sewage water for irrigation. A few plants noted on the muddy banks of Vishwamitri river.

Flowers and Fruits: January to April.

Sabnis 1982, 1983.

Sind, Konkan, S.M. Country, Bengal, Assam.

Coccoloba uvifera Linn. Syst. (ed.10) 1007, 1759

Bailey, loc.cit. 351.

A shrub or a small tree. Leaves large, orbicular; stipules ocreate. Flowers white in dense racemes.

Fruits resembling bunches of grapes.

Flowers and Fruits: February to June.

A native of W. Indies, very rare in local gardens.

Muehlenbeckia platyclada (Muell;) Meisn, in Bot. Zeit.

23:313, 1865 ("platyclados"); C.3:11; Sant.202.

Coccoloba platyclada Muell. in Bot.Mag. t.5282, 1863.

A glabrous, woody herb. Branches (phylloclades) flattened, green leaf-like bearing small leaves and flowers in fascicles at the nodes.

Cultivated in pots in Univ. Bot.garden.

A native of solomon Isles.

ARISTOLOCHIACEAE

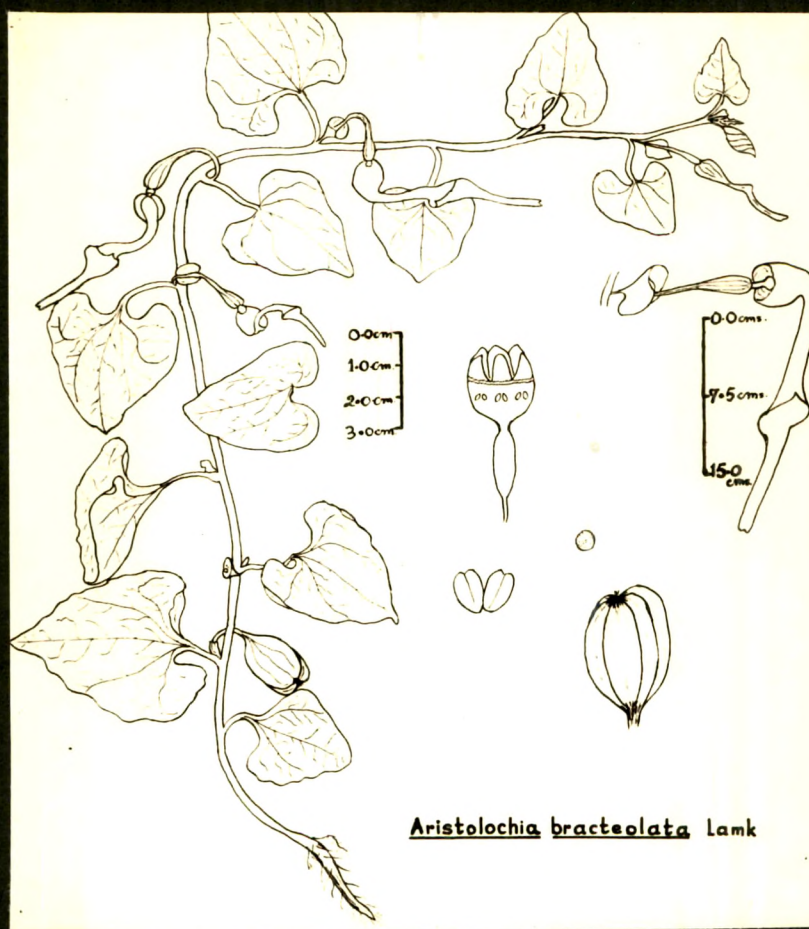
Aristolochia Linn.

Prostrate herb; plants wild. bracteolata

Climbing shrub; plants cultivated. elegans

Aristolochia bracteolata Lamk. Encycl. 1:258, 1783;

Andrews, Fl. Pl. Anglo-Egypt. Sudan 1:21, f.17, 1950; Santapau & Wagh in Bull. Bot. Surv. India, 5:105; Chavan & Oza, Fl. Pavagadh, 202.



A. bracteata Retz. Obs. Bot. 5:29, 1789; FBI. 5:75;
C.3:16.

A prostrate herb. Leaves simple, broadly ovate or somewhat reniform. Flowers axillary, solitary on short pedicels with foliaceous bracts near the bases, dark purple, tubular with trumpet-shaped mouths. Capsules oblong-ellipsoid, ribbed.

A weed of waste places in the Bhukhi Nallah; also forming patches on the elevated banks of river Vishwamitri, below the hanging bridge on camp road.

Plate No. 26

Local name: Kidamari.

Flowers and Fruits: August to September.

Sabnis 704, 705, 1682.

Bengal, W. Peninsula and South India; Trop.

Africa, Arabia, Ceylon.

Aristolochia elegans Mast. in Gard. Chron. 2:301, 1885.

Merr. Enum. 2:119; C.3:18; Bor & Raizada 26, f.22;

Bailey, loc.cit. 346; Maheshwari, 308.

A glabrous, climbing shrub. Leaves long-petiolate, broadly kidney shaped, cordate at base, obtuse or rounded at the apex. Flowers axillary, solitary, white or cream outside, blotched with purplish-black inside, resembling a swimming duck.

Grown as an ornamental climber in a few gardens along trellises.

Local name: Batakvel

Flowers : August - September.

Sabnis 614.

A native of Rio de Janeiro in Brazil, now cultivated throughout the tropical and temperate regions of the globe.

PIPERACEAE

Peperomia Ruiz & Pav.

Peperomia pellucida (Linn.) H.B. & K. Nov. Gen.1:64, 1815;
C.3:21; Sant.203.

Piper pellucidum Linn. Sp.Pl.30, 1753.

A weak, procumbent, succulent herb. Leaves membranous, 5-7 nerved, ovate, cordate, acute. Flowers in slender, terminal or leaf-opposed spikes.

Flowers: February - May.

Sabnis 3629.

Probably a recent introduction to the flora of Baroda. Noted wild in cool, wet, shaded corner near Navlakhi Vav, L.V. Palace compound; also in a similar

type of habitat in the Public Park Nursery.

It is a native of S. America, now quite naturalized in some parts of India.

PROTEACEAE

Grevillea R.Br. (nom.cons.)

Grevillea robusta A. Cunn. in R.Br.Prot.Nov.24, 1830;
Sant.206; Bailey, loc.cit.345; Maheshwari,308.

A tall, robust tree. Leaves bi-or tripinnate.
Leaflets pinnatifid. Flowers orange-yellow, in one-sided,
showy racemes.

Planted in some gardens for the attractive foliage
and flowers.

English name: Silk Oak

Flowers: January to April.

Sabnis 1297.

A native of Australia in Queensland and New South
Wales; planted in gardens in India.

LORANTHACEAE

Dendrophthoe Mart.

Dendrophthoe falcata (Linn.) Etting. in Denkschr. Akad. Wissen. Math. - Naturw Cl. 32:52, 58, t.13, f.14, 1872; Sant.208; Chavan & Oza, Fl. Pavagadh, 203.

Loranthus falcatus Linn. f. Suppl. 211, 1781.

L. longiflorus Desr. in Lamk. Encycl. 3:598; 1789; FBI.5:214, C.3:42; Wight, Icon. t.302.

A partial parasite. Leaves elliptic, oblong or linear, thick and coriaceous. Flowers white or white with a greenish tinge, rarely orange.

Commonly noted on Mangifera indica, Cordia sp. Cassia renigera, etc.

Local name: Vando

Flowers and Fruits: December to May.

Sabnis 1226, 1227.

More or less throughout India; Ceylon.

SANTALACEAE

Santalum album Linn. Sp.Pl.349, 1753; FBI.5:231; C.3:49; Chavan & Oza, Fl. Pavagadh, 204.

A small tree, supposed to be a root parasite. Leaves elliptic ovate. Flowers purple to chocolate brown, not scented, in axillary, paniculate cymes. Fruit a black drupe.

Commonly planted in gardens.

Local name: Chandan, Sukhad.

Flowers and Fruits: December to April, rarely in monsoon.

Sabmis 621, 1244.

Indigenous to Deccan Peninsula; cultivated elsewhere.

EUPHORBIACEAE

1. Plants climbing. Dalechampia
1. Plants prostrate or erect, not climbing:
 2. Flowers in cyathia:
 3. Involucre regular. Euphorbia
 3. Involucre irregular, protuberant on one side of base. Pedilanthus
 2. Flowers not in cyathia:
 4. Cells of ovary 1-ovuled; juice sometimes milky:

- 5. Petals present in one or both sexes,
or if absent, calyx petaloid:
 - 6. Flowers in androgynous, 2-3-
chotomous cymes. Jatropha
 - 6. Flowers in androgynous spikes or
racemes:
 - 7. Seeds non-strophiolate. Chrozophora
 - 8. Seeds with a white, spongy
cap. Croton
- 5. Petals absent in both the sexes:
 - 8. Stamens many; capsules prickly.... Ricinus
 - 8. Stamens few; capsules not
prickly. Acalypha
- 4. Cells of ovary, 2-ovuled, juice very
rarely milky:
 - 9. Disk present in the female and
often in male flowers:
 - 10. Male flowers with a large,
2 to 3-fld pistillode. Securinega
 - 10. Male flowers without a
pistillode:
 - 11. Fruit a dry capsule; herbs... Phyllanthus
 - 11. Fruit a berry; shrubs or
trees:
 - 12. Fruit small, fleshy,
dark purple. Kirganelia
 - 12. Fruits larger, fleshy,
pale yellow. Embllica

9. Disk absent in both male and
female flowers:

13. Style arms much dilated. . . . Putranjiva

13. Styles and style arms
slender. Melanthesa

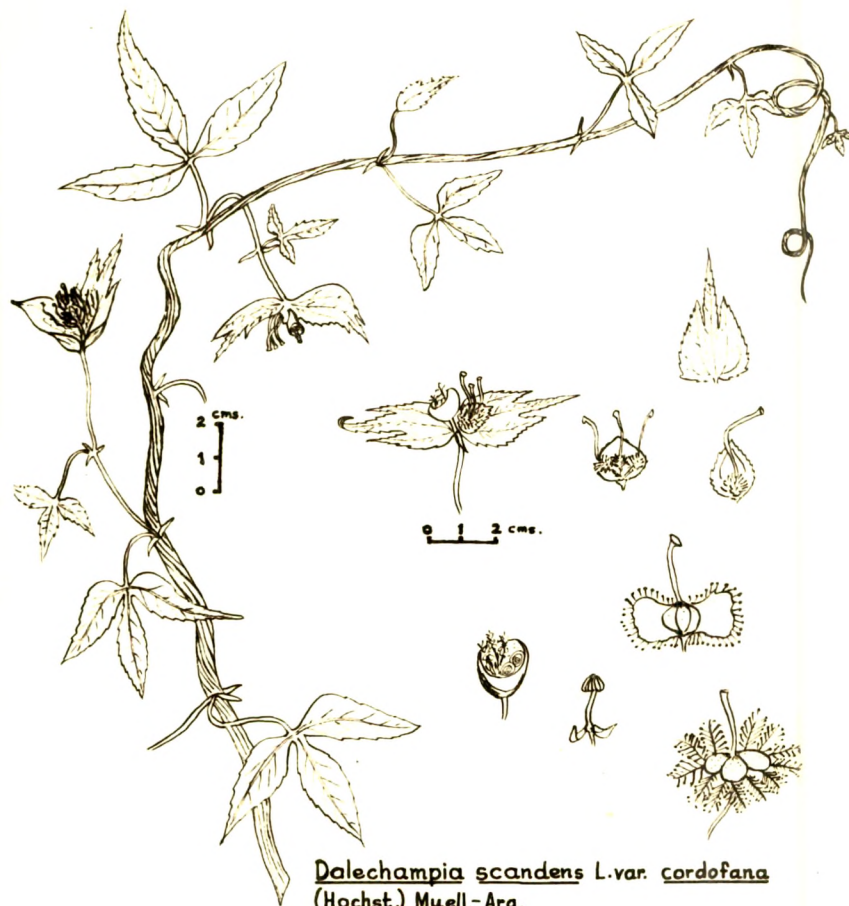
Dalechampia Linn.

Dalechampia scandens L.Sp.Pl.1054, 1753 var. cordofana
(Hochst.) Miill.Arg.in DC. Prodr. 15(2): 1245,
1866; Prain in Fl.Trop.Afr. 6(1): 954, 1913;
Pax & Hoffmann in Pfreich. 68(Dalechampiaeae):34,
1919. Chavan, Sabnis and Bedi in Curr. Sci.31:
115, 1962.

D. cordofana Hochst. in Rich. Tent.Fl.Abyss.2:244,
1851.

D. scandens var. parvifolia Miill. Arg. in DC.Prodr.
15(2): 1245, 1866.

A slender twiner. Stems striate, sparsely hairy.
Leaves alternate, stipulate, usually deeply 3-lobed,
sometimes up to the middle only; middle lobe largest
(6.4-7 cm.) and lateral lobes (5.1-5.4 cm.) smaller,
serrulate, oblique, forming a cordate base. Flowers in
androgynous heads on long peduncles, subtended by two
yellowish green, conspicuous involucral bracts, (3-3.1 cm.)
which are trilobed, prominently veined and serrulate.



Dalechampia scandens L. var. *cordofana*
(Hochst.) Muell.-Arg.

Inflorescence head consists of 3 female flowers and a number of male flowers enclosed in a separate involucre with a sticky gland at the back; male flowers stalked, calyx 4-6 partite, anthers raised on a central column; female flowers sessile with glandular calyx which persists and enlarges in fruit; style slender, erect (.8 - .9 cm.), stigma 1 mm., flat. Fruit stalked, (stalk .9-1 cm.) 3-celled with one seed in each cell; calyx persistent (.9-1.1 cm.) with gland-tipped branches and bristles all over, bristles give an irritating sensation; seeds rounded-oval, creamish yellow, not hard, 2.5-3 mm.

Plate No. 27

Flowers: July to September

Fruits: August to October.

Sabnis 3290, 3307.

Western India; North, S.W. and Tropical Africa.

The plant has not been recorded by any of the previous workers and hence can be considered as a new record for India.

Dr. G. Taylor, the former Director of the Royal Botanic Garden, Kew, England in a personal communication writes "The plant is widespread in Tropical Africa, from where possibly it has been introduced in India".

Further on he adds - "You may be interested to know that a few fragments, which were not previously identified to species but match your specimen exactly, were sent by Dalzell in 1866 from eastern Kathiawar". While writing about the identification of same plant, Prof. M.B. Raizada, the former Head, Division of Forest Botany, FRI, Dehra Dun remarks: "The plant comes very near D. indica Wt. but is not typical of the same".

These very comments, coming as they do from such eminent systematists, created in my mind a doubt about the authenticity of D. indica Wt. reported by some of the previous workers from Kathiawar. In an attempt to solve the riddle, herbarium specimens of the said plant were obtained from a herbaria in Cutch and Kathiawar. A few specimens were also collected by one of our M.Sc. students from Palitana in Kathiawar (Saurashtra). After critical examination of all this plant material, we are inclined to conclude that D. indica Wt. does not at all occur in Cutch or Kathiawar and that whatever has so far been published under that name is referable to D. scandens L. var. cordofana (Hochst.) Muell.-Arg.

Taking into consideration the confusion that exists regarding the identity of Dalechampia of this part of the country, a key based on obvious external morphological character is presented here.

- Leaves trifoliolate, leaflets shortly
petiolate. indica
- Leaves simple, deeply 3-lobed, sometimes to
the middle only. scandens var.
cordofana

Euphorbia Linn.

1. Cultigens; not at all wild:
 2. Plants armed with stipular spines:
 3. Small, woody shrubs; flowers
crimson. mili
 3. Erect shrubs or trees; flowers
yellowish. neriifolia
 2. Plants unarmed:
 4. Leaves small, inconspicuous, very
deciduous. tirucalli
 4. Leaves not as above:
 5. Upper leaves uniformly bright
red. pulcherrima
 5. Upper leaves blotched with
red and white. heterophylla
1. Plants not cultigens, but wild:
 6. Involucre with a single, large gland. geniculata
 6. Involucral glands not large:
 8. Involucral glands 2-horned; leaves
alternate to opposite. dracunculoides

- 8. Involucral gland without a petaloid limb, or the limb not conspicuous:
 - 9. Erect or ascending herbs; leaves up to 35 mm. long. hirta
 - 9. Prostrate herbs; leaves less than 12 mm. long:
 - 10. Stems hairy:
 - 11. Capsules pubescent all over. thymifolia
 - 11. Capsules pubescent at the angles, glabrous elsewhere. prostrata
 - 10. Stems glabrous, or nearly so; capsules glabrous all over.... bombaiensis

Euphorbia milii. Ch-des-Moulins in Bull.Hist.Nat.Soc.
Linn. Bordeaux 1:27-30, Pl.1, 1826; Croizat in
JAA. 21:506, 1940; Bailey, Man. Cult. Pl.617.

E. splendens Boj. ex Hook. in Bot.Mag. t.2902, 1829;
C.3:66.

Small, woody shrubs, armed with straight spines.
Leaves spatulate or obovate. Cyathia, subtended by 2
hemispheric, apiculate, bright red-crimson bracts, and
arranged in dichotomous cymes.

A native of Madagascar, grown as an ornamental
along with other succulents.

Flowers: All the year round.

Sabnis 12.4.58, Univ.Bot.garden; 2.12.60, L.V.

Palace compound, and also in a number of gardens in
rockeries or in pots.

Euphorbia neriifolia Linn. Sp.Pl.451, 1753; FBI.5:255;
C.3:59; Sant.213; Santapau in Bull.Bot.Soc.
Bengal 8:7; Chavan & Oza, Fl. Pavagadh, 206;
Maheshwari, 311.

An armed shrub. Leaves oblanceolate, acute,
deciduous. Involucres of the cyathia yellowish.

Commonly planted as a protective hedge bordering
the fields and gardens.

Local name: Thor

Flowers and Fruits: December to May.

Sabnis, Wet preservation, Botany Museum.

More or less throughout India; Burma.

Euphorbia tirucalli Linn. Sp.Pl.452, 1753; FBI.5:254;
C.3:66; G.1272 & 1276; Santapau, loc.cit.5.

A shrub or a small tree, with a crown of succulent,
cylindric, smooth branches. Leaves very small,
inconspicuous, very deciduous.

Noted in hedges; cultivated.

English name: Milk bush.

Local name: Kharsaniyo Thor.

Flowers: August - September; rarely noted.

Sabnis 1386.

A native of S. Asia.

Euphorbia pulcherrima Willd. ex klotz in Otto & Dietr.

Allgem. Gartenz. 2:27, 1834; FBI. 5:239; C.3:66;

Maheshwari, 311; Bailey, loc.cit.618.

Poinsettia pulcherrima R. Grah. in Edinb. N.Phil.

Journ.20:412, 1836; Bor & Raizada 171, Pl.60,61.

An attractive, garden shrub. Flowers in cyathia, subtended by the upper, bracteal leaves, which are bright red or crimson-scarlet. Cyathia arranged in cymes. Involucres with a large, yellow gland on one side.

A native of Mexico and Central America, commonly planted in gardens.

English name: Poinsettia

Flowers: November to March.

Euphorbia heterophylla Linn. Sp.Pl.453, 1753; C.3:66;

Bailey, loc.cit.618.

A small garden shrub. Leaves variable, ovate to linear, sinuate-toothed or panduriform, blotched with red, white or pink at base. Flowers in cyathia.

A native of E. and Cent. America to Peru,
Commonly planted in gardens.

English name: Mexican Fire plant.

Flowers: September to March.

Euphorbia geniculata Orteg. Nov.Pl.Hort.Matrit.

Dec.18, 1797; FBI.5:239; C.3:66; Maheshwari, 312;
Nair & Nair in Bull.Bot.Surv.Ind. 6(1):69.

An erect, annual herb. Leaves elliptic lanceolate
to ovate, v very variable. Flowers in cyathia.
Involucres 5-lobed with one, conspicuous, lateral gland.
Capsule usually 3-celled.

Noted on moist soils of the artificially irrigated,
vegetable crop-fields; not common, though locally
abundant in the L.V. Palace compound.

Flowers and Fruits: May to February.

Sabnis 1499, 3151.

A native of tropical and subtropical America,
now naturalized in various parts of the country.

Euphorbia dracunculoides Lamk. Encycl. Method. 2:428,
1788; FBI.5:262; C.3:59; Maheshwari, 312;
Chavan & Oza, Fl.Pavagadh, 207.

An erect annual, apparently dichotomously much-branched. Leaves alternate to opposite, sessile, linear to linear-lanceolate. Flowers in cyathia, situated on a short stalk in the fork of the branches. Capsules glabrous; seeds strophiolate.

A rare weed found in the wheat fields; abundant only after the harvest in the fallow fields.

Flowers and Fruits: November to April.

Sabnis 2365...2368.

Throughout India in the plains and low hills;
Arabia, Trop. Africa.

Euphorbia parviflora Linn. Syst. (ed.10) 1047, 1759;
Roxb. Fl.Ind.2:472; Sant.216; Santapau, loc.cit.
13; Chavan & Oza, Fl. Pavagadh, 207.

E. hypericifolia Linn. Sp.Pl.454, 1753, pro parte
tantum; FBI.5:249, pro parte.

E. hypericifolia var. parviflora Prain, Beng. Pl.2:
924, 1903; C.3:63.

Erect or decumbent herbs. Leaves opposite, elliptic oblong, often serrulate. Cyathia axillary, stalked, bordered by a conspicuous, pink limb; glands petaloid, pink. Capsules pubescent; seeds 4-angled.

A weed of roadside or cultivated fields, observed during monsoon.

Flowers and Fruits: September - October.

Sabnis 726, 3372.

Throughout the hotter parts of India; Ceylon,
Tropics generally.

Euphorbia hirta Linn. Sp.Pl.454, 1753; G.1271 & 1275;
Sant.214; Santapau, loc.cit.15; Chavan & Oza,
Fl. Pavagadh, 207.

E. pilulifera anct. (non Linn.); FBI. 5:250;
C.3:64.

E. pilulifera var. hirta Thellung in Aschers. &
Graebn. Syn. 7:425, 1916.

An erect or decumbent herb. Stems and branches
clothed with yellow brown hairs. Leaves obliquely
elliptic or lanceolate; green or reddish or blotched with
green and red, margins serrulate.

A very common roadside weed among grasses; also in
the cultivated crop fields and on old walls.

Local name: Nagala Dudheli

Flowers and Fruits: All round the year.

Sabnis 596, 950, 2171, 3024.

Throughout the hotter parts of India; Ceylon,
most tropical and subtropical countries.

Euphorbia thymifolia Linn. Sp.Pl.453, 1753; FBI.5:252;
G.3:64; Sant.215; Santapau, loc.cit. 16;
Maheshwari, 313; Chavan & Oza, Fl.Pavagadh,208.

E. prostrata Graham, Cat.179, 1839 (non.Ait.)

A prostrate herb. Leaves oblong, crenulate, oblique at base. Capsules pubescent all over.

The plant resembles E. prostrata Ait., but can be differentiated from it with the help of the characters provided in the key to the species of Euphorbia.

Noted growing in patches on moist soils on the pond banks and lawns.

Flowers and Fruits: July to October.

Sabnis 597, 598.

India; Ceylon and all hot countries except Australia.

Euphorbia prostrata Ait.Hort.Kew 2:139, 1789; FBI.5:266;
G.1272 & 1276; Santapau in JBNHS.46:380 and
loc.cit.16; Maheshwari,313; Chavan & Oza, Fl.
Pavagadh,208.

Small, prostrate herbs. Leaves oblong, oblique at base, minutely serrate at the apex. Capsule hairy on the angles of the cocci.

Noted on the lawns; not at all common.

Flowers and Fruits: December to April

Sabnis 24846. ,

A native of W. Africa and the Mauritius, which has spread to Deccan and Carnatic, Upper gangetic plain and recently to Bombay and the Punjab plain.

The plant is not mentioned by Cooke. For a detached description, please refer to Santapau, 11.cc.

Euphorbia bombaiensis Santapau in Bull.Bot.Soc.Beng.

8:17, 1954; Chavan & Oza, Fl.Pavagadh, 208.

E. microphylla Heyne in Roth, Nov. Fl.Sp.229, 1821

(non Lamk. 1786); FBI.5:252; C.3:65; G.1272 & 1276; Sant.215.

E. thymifolia var. microphylla Thellung in Ascher. &

Graebn. Syn. 7:475, 1916.

E. uniflora D. & G.227, 1861 (non Roxb.)

Prostrate herbs. Leaves elliptic or obovate, rounded or emarginate, oblique. Capsule glabrous.

Noted in patches on the wet banks of ponds or on lawns among grasses and in cultivated fields.

Flowers and Fruits: July to March.

Sabnis 2883.

Bengal, Bihar, Tirhut, W. Peninsula; Java.

Pedilanthus Neek.

Pedilanthus tithymaloides (Linn.) Poit. in Ann.Mus. Hist.
 Nat.Paris 19:390, t.19, 1812; FBI.5:239;
 C.3:124.

Euphorbia tithymaloides Linn. Sp.Pl.453, 1753;
 D. & G. Suppl.76.

A succulent shrub about 1 meter tall. Leaves fleshy.
 Involucre scarlet-red, slipper-shaped.

Commonly planted along borders of gardens.

Local name: Velati kharsani

Flowers: February to May; fruits not observed.

Sabnis 1196.

A native of South America.

Jatropha Linn.

A small tree. curcas

Shrubs:

Stem much swollen at the base. podagrica

Stem not swollen at the base:

Leaves palmately lobed. gossypifolia

Leaves panduriform. panduraefolia

Jatropha curcas Linn. Sp.Pl.1006, 1753; FBI.5:383;
 C.3:95; Sant.220.

A small tree. Leaves large, angled or lobed.
Flowers yellowish green.

Planted at a few places on the outskirts of
villages; not noted in a wild state.

Local name: Ratanjot

Flowers and Fruits: October to April.

Sabnis 7.3.61, Vasad; 24.10.62 Undhera.

Native of Trop. America.

Jatropha podagrica Hook. Bot.Mag. t.4376; C.3:95;
Sant.220; Bor & Raizada, 173, f.107.

A small shrub with the stem swollen at the base.
Leaves large, peltate, 3 to 5-lobed. Flowers red or
scarlet, in cymose inflorescences on a elongated, succulent,
light green peduncle; branches and pedicles red. Capsule
ellipsoid, green.

Grown in the University Botanical garden.

Flowers and Fruits: September to May.

Indigenous to Panama, now in gardens throughout
India.

Jatropha gossypifolia Linn. Sp.Pl.1006, 1753; Merr.
Enum. 2:449; FBI.5:383; C.3:94; Bor & Raizada
175, f.108, Pl.64.

A much branched, glandular shrub. Leaves 3 to 5-lobed, reddish brown in colour. Flowers deep red in terminal cymes. Capsules oblong, 3-lobed.

Rarely planted along the hedges, more commonly as an escape from cultivation on waste places in the public park area, Mohmad Wadi and Navlakhi.

Flowers and Fruits: September to April.

Sabnis 562, 1338.

Native of Brazil, cultivated or naturalized in many parts of India, Burma and Trop. Africa.

Jatropha panduraefolia Andr. Bot. Rep. 4:t.267, 1799;
C.3:95; Bor & Raizada 174, Pl.62; Maheshwari, 314.

A small, erect shrub. Leaves panduriform, distantly toothed below and abruptly acuminate at tip. Flowers scarlet red, in terminal cymes. Capsules purplish-green.

Planted in the University Botanical garden.

Flowers and Fruits: October to April.

Native of Cuba or W. Indies, now cultivated in the tropics of both hemispheres.

Chrozophora Juss. corr.Benth. & Hook.f.(non.cons.)

Plants erect. rottleri

Plants prostrate. prostrata

Chrozophora rottleri (Geis.) Juss. ex Spreng.Syst.3:850,
1826; Pax & Hoffm. in Pfreich. 57:19; G.1316;
Sant.221.

Croton rottleri Geis. Crot. Monogr. 57, 1807.

C. plicatum Roxb. Hort.Beng.69, 1814, nom.nud. & Fl.
Ind. 3:681, 1832; Gr.182 (non Vahl.)

Chrozophora plicata Voigt, Hort.Sub.calc.156, 1846;
D. & G.233; C.3:104 (non A.Juss.)

C. plicata l Hook. f. in FBI. 5:409, 1887.

An erect, annual, woody herb. Leaves variable, hairy,
obscurely 3-lobed, ovate-orbicular; upper leaves
conspicuously wrinkled or with crisped margins. Flowers
yellowish, in elongate, densely stellately hairy racemes.
Capsules clothed with stellate hairs.

Noted as a weed in the fallow and cultivated
fields as well as on the sandy banks of rivers.

Flowers and Fruits: October to June.

Sabnis 2369, 3026.

Throughout India in the drier parts; Westward to Spain and N. Africa.

Phrozophora prostrata Dalz. in D. & G. 223, 1861;
C.3:105 (excl. Sp. afric.); G.1316; Sant.221.

C. plicata 3 Hook. f. in FBI.5:410, 1887.

C. plicata Pax & Hoffm. loc.cit. 19, pro parte;
non Juss.

A prostrate, stellately woolly herb. Leaves broadly ovate or orbicular, wrinkled, finely pubescent and with some stellate hairs, above and densely stellately woolly beneath. Flowers yellowish in short, axillary racemes. Capsules densely stellately woolly.

A typical inhabitant of the dry beds of ponds, puddles and ditches; also noted as a weed in Tobacco fields.

Local name: Betho Okhrad.

Flowers and Fruits: October to June.

Sabnis 948, 1052.

Throughout India in the drier parts; N. Africa.

Croton Linn.

Croton bonplandianum Baill. in Adans. 4:339, 1864;
Croizat in JBNHS. 41:573; Maheshwari, 315;
C.bonplandianus (Sphalm.)Muell.-Arg. in De.
Prodr. 15(2): 671, 1866.

C. sparsiflorum (C.sparsiflorus sphalm.) Morong.
 (sphalm. auct.Indic.Morung') in Ann. N.Y.Acad.
 Scā. 7:221, 1893; Haines, Bot.Bih. & Or. 2:105;
 G.1316.

An erect, much-branched herb. Stems clothed with trichomes. Leaves ovate-lanceolate, serrate, with 2 glands at base. Flowers unisexual, on a terminal androgynous spike. Male flowers at the top, small, pale white; female flowers below, with 2 extra-floral glands at the base of pedicels. Capsule 3-angled, stellately hairy; seeds shining, with a white, spongy cap.

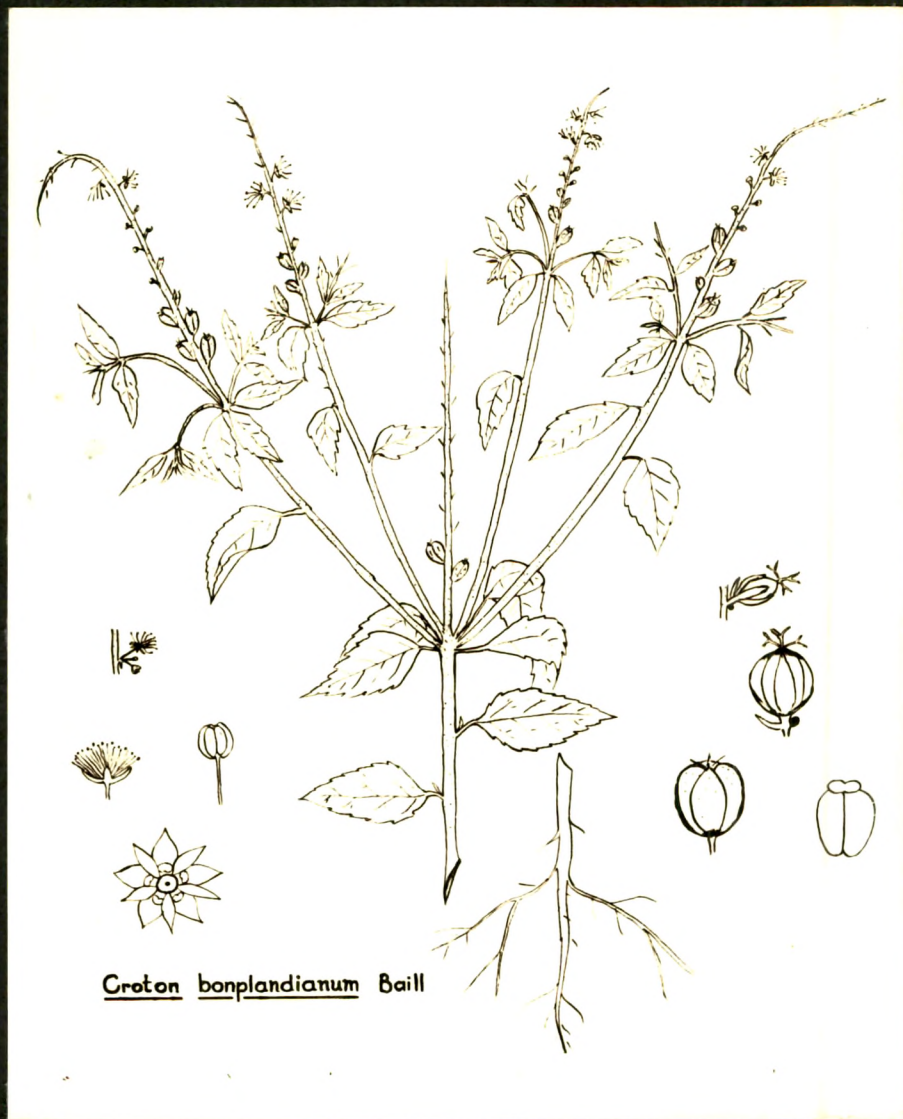
A recently introduced weed in the area. It has not spread much and is restricted to roadside waste places in the Gorwa Industrial estate area along with Hyptis suaveolens (Linn.) Poit. It is quite likely that it might spread everywhere in years to come.

Plate No. 28

Flowers and Fruits: September - October.

Sabnis 2554, 3561;

A native of Paraguay in South America, which is spreading fast from Bengal, Bihar, Orissa, Assam, S. India to W. India and northwards to Delhi, and other places.



Croton bonplandianum Baill

Ricinus Linn.

Ricinus communis Linn. Sp.Pl.1007, 1753; FBI.5:457;
C.3:125; Sant.224; Maheshwari,316.

A shrub or a small tree. Leaves palmately lobed, peltate. Flowers in racemes. Male flowers at the upper portion; stamens many; Female flowers below. Capsules (regma) 3-lobed, echinate. Seeds oblong, mottled.

The famous castor plant is cultivated in many gardens and in fields.

English name: The castor oil plant.

Local name: Davelo, Erando.

Flowers and Fruits: October to March.

Sabnis 1561, 3210.

Probably a native of Africa, cultivated or naturalized throughout India near human habitations.

Acalypha Linn.

Wild herbs:

Inflorescence bracts shortly dentate,
truncate, leafy; capsules hispid... . indica

Inflorescence bracts fimbriate, bell-
shaped; capsules glabrous. ciliata

Garden shrubs:

- Leaves green. hispida
 Leaves mottled with red or purple
 or perfectly red or brown. wilkesiana

Acalypha indica Linn. Sp.Pl.1003, 1753; FBI.5:416;
 C.3:108; Wight, Icon. t.877; Maheshwari, 316;
 Chavan & Oza, Fl. Pavagadh, 213.

A. spicata Forsk. Fl. Aegypt.-Arab.160, 1775.

An erect annual herb. Leaves ovate or rhomboid-ovate, acute, cuneate at the base, crenate-serrate, long-petioled, forming a mosaic. Flowers in lax, axillary, androgynous spikes; male flowers at the top and female below; female flowers subtended by leafy bracts. Capsules enclosed in the bracts; seeds ovoid, pale brown, shining.

A common weed of all waste places especially during the monsoon; also noted in the crevices of the brick walls.

Local name: Vichhi Kanta

Flowers and Fruits: July to November

Sabnis 772, 1627.

Throughout India; Ceylon, Trop.Africa, Philippines.

Acalypha ciliata Forsk. Fl. Aegypt.-Arab.162, 1775;
 FBI.5:417; C.3:109; Trimen, Fl.Ceylon 4:59;
 Chavan & Oza, Fl. Pavagadh, 214.

An erect herb. Leaves alternate, long petioled, finely serrate, acuminate. Flowers in axillary, androgynous spikes; male flowers at the top, minute, sessile; female crowded at the base, subtended by large, veined, fimbriate bracts. Capsules concealed in the bract.

A common weed of waste places all over, although not as common as the previous one; occupying large areas under the thick canopy of Banyan trees in the Navlakhi area.

Flowers and Fruits: September to November.

Sabnis 774, 2246.

More or less throughout India; Ceylon, Arabia, Trop. Africa.

Acalypha hispida Burm. f. Fl.Ind.303, t.61, f.1, 1768
(not of Willd. nor Blume); FBI. 5:417; C.3:110;
Bailey, Man. Cult. Pl.621.

A tall shrub. Leaves broadly ovate, serrate, cordate at the base, green and membranous. Flowers in long, pendulous red spikes (catkins).

A native of New Guinea, planted in gardens as an ornamental shrub.

Flowers: February to June.

Sabnis 19.4.58, Nazarbaug garden; 21.5.60,
Public Park.

Acalypha wilkesiana Muell.-Arg. in DC.Prodr.15:818, 1866;
C.3:110; Bailey, loc.cit.622.

A tall shrub. Leaves broadly ovate, cordate, acuminate, crenate, variously mottled with shade of red and purple or the leaves are perfectly red or brown. Flowers bright red, in slender, pendulous catkins.

Planted in the gardens as an ornamental shrub. Bailey, loc.cit, mentions a few horticultural varieties, based mainly on the colour character of the leaf, of which var. macafeana and var. macrophylla N. Taylor have been under cultivation in the local gardens.

Flowers: September to May.

Sabnis 776, 1532.

Native of Fiji Islands.

Securinega Juss. (nom.cons.)

Securinega virosa (Roxb. ex Willd.) Pax & Hoffm. in Pfam. (ed.2) 190:60, 1931; Sant.217.

Phyllanthus virosus Roxb. ex Willd. Sp.Pl.4:578, 1805.

Flueggea microcarpa Bl.Bijdr. 580, 1826: FBI.5:328; C.3:77.

An erect, unarmed, dioecious shrub. Leaves variable, obovate, obcordate or elliptic ovate. Flowers greenish yellow in clusters; male flowers many, females 1-5 or more. Fruits globose, white, with a fleshy pericarp.

Noted in the ravines and along the railway track near Vasad; Near Vishwamitri banks, Jail Road; not cultivated.

Flowers and Fruits: September to February

Sabnis 3326, 3327.

Throughout India; China, Malay Islands, Australia, Trop. Africa.

Phyllanthus Linn.

Stipules simple, not peltate. fraternus

Stipules peltate:

Filaments free; leaves oblong. simplex

Filaments United into a column;
leaves obovate, cuneate at base. maderaspatensis

Phyllanthus fraternus Webster in Contrib. Gray Herb.
no.176. 53, 1955; Sant.290; Maheshwari,320.

P. niruri Hook. f. in FBI.5:298; C.3:84; Wight,
Icon. t.1894, auct. non Linn.

A small, erect herb, with spreading branches. Leaves simple, oblong, distichous. Flowers pale yellow or yellowish white, axillary, hanging down below the branchlets. Capsule globose, smooth; seeds trigonous, pale brown, longitudinally ribbed.

A very common weed of lawns, waste places and cultivated fields; also observed in the cracks and crevices of old walls.

Common and abundant everywhere.

Local name: Bhonya Amlī

Flowers and Fruits: July to March.

Sabnis 601, 1666, 3030.

Throughout India; Ceylon, tropics generally.

Phyllanthus simplex Retz. Obs. 5:29, 1789; FBI.5:295; C.3:83; D. & G.234; Maheshwari, 319; Chavan & Oza, Fl. Pavagadh, 210.

Prostrate or ascending herbs. Leaves linear-oblong, distichous. Stipules peltate. Flowers unisexual, females borne below the males. Capsule globose, rough.

Noted among low grasses along roadside and banks of puddles; not common.

Flowers and Fruits: August to October.

Sabnis 2511, 2512.

Throughout India; Ceylon, Malay Islands, China,
Pacific Islands.

Phyllanthus maderaspatensis Linn. Sp.Pl.982, 1753;
FBI.5:292; C.3:82; G.1289; Wight, Icon. t.1895,
f.3; Sant.218.

Prostrate, ascending or erect herbs. Leaves obovate,
cuneate. Stipules peltate. Male flowers greenish
white to pale yellowish in clusters, females larger,
solitary, shortly pedicellate. Capsule globose, 3-lobed;
seeds trigonous, muriculate in fine lines.

Noted along roadside among grasses during monsoon.

Flowers and Fruits: August to October.

Sabnis 2513, 3370.

In the drier regions of India; Ceylon, Trop.
Africa, Arabia, Java, China, Australia.

Kirganelia Baill.

Kirganelia reticulata (Poir.) Baill. Etud.Gen.Euph. 613,
1858; G.1294; Sant.219.

Phyllanthus reticulatus Poir. in Lamk. Encycl. 5:298,
1804; FBI.5:288; C.3:81.

Anisonema multiflora Wight, Icon. t.1899, 1852;
D. & G.234.

A large, glabrous shrub. Leaves oblong, elliptic. Male flowers in fascicles, females solitary. Berry globose, smooth, fleshy, purple.

Noted wild in hedges, on the elevated banks of rivers and in ravines.

Local name: Kamboi.

Flowers and Fruits: July to March.

Sabnis 561, 3347.

Throughout Trop. India; Ceylon, Trop. Africa, China, Malay Islands.

Emblica Gaertn.

Emblica officinalis Gaertn. Fruct. 2:122, 1791; Wight, Icon. t.1896; G.1295; Sant.219.

Phyllanthus emblica Linn. Sp.Pl.982, 1753; FBI.5:289; C.3:81.

A small or middle sized tree. Leaves small, linear, oblong, distichous. Flower greenish yellow in axillary fascicles on the leaf-bearing branchlets; male flowers many, on short, slender pedicels; female flowers few subsessile. Fruits fleshy, globose, pale yellow.

A tree commonly cultivated for its edible fruits; also planted in some gardens.

Local name: Amla

Flowers and Fruits: March to January.

Throughout Trop. India; Ceylon, China, Malay Islands.

Putranjiva Wall.

Putranjiva roxburghii Wall. Tent. Fl. Nepal. 61, 1826;
FBI. 5:336; C.3:86; G.1311; Wight, Icon. t.1876;
Sant.219.

Small or medium sized, evergreen trees. Leaves coriaceous, elliptic oblong, serrulate. Flowers yellowish, unisexual; male flowers in dense, axillary clusters; female flowers 1-3, stigma large, fan-shaped. Drupes ellipsoid.

Planted in gardens.

Local aname: Putranjiva.

Flowers and Fruits: November to May.

Sabnis 1119, 1222.

Throughout Trop. India, wild and cultivated; Ceylon.

Melanthesa Blume

Melanthesa rhamnoides (Retz.) Bl. Bijdr. 591, 1826;
Wight, Icon. t.1898; Maheshwari, 319.

Phyllanthus rhamnoides Retz. Obs. 5:30, 1788.

Breynia rhamnoides Muell.-Arg. in DC. Prodr. 15:440,
1866; C.3:79.

A large or small shrub. Leaves elliptic, distichous; stipules subulate. Flowers greenish yellow; male flowers usually in clusters; females solitary. Fruits red or purple, fleshy, smooth, globose.

Planted for hedges in gardens; now apparently wild in a few places in the L.V. Palace compound.

Flowers and Fruits: July to April.

Sabnis 1099, 2081.

Throughout Trop. India; Ceylon, China, Malay Islands, philippines.

Cicca acida (Linn.) Merr. Interpr. Herb.Amb.314, 1917;
Sant. 219.

Averrhoa acida Linn. Sp.Pl.428, 1753.

Cicca disticha Linn. Mant. 1:124, 1767.

Phyllanthus distichus Muell.-Arg. in DC. Prodr.
15(2):413, 1866; FBI.5:304; C.3:85.

P. acidus Skeels:Bailey, Man. Cult. Pl.619.

A small tree. Older branches with large scars where foliage-branches have fallen. Leaves distichous, obliquely ovate, acute. Flowers small, reddish,

clustered along a rachis on the old wood. Fruit a berry up to 1.5 cm. diam., edible.

Rarely cultivated in gardens. The fruits are used for pickles.

English name: Gooseberry tree.

Local name: Rai Amla, Khata Amla.

Flowers and Fruits: March - April onwards.

Sabnis 1503.

A native of Malay Islands and Madagascar.

Codiaeum variegatum Blume, Bijdr. 606, 1825; FBI. 5:399; C.3:125.

Croton variegatum Linn. Sp.Pl. (ed.3) 1424, 1764.

With its many horticulture varieties, It forms a group of cultivated plants, which goes under the name of 'crotons'. The varieties are based on leaf character, which is very variable and displays a variety of forms and combinations of colour variegation.

These shrubs are commonly grown in the gardens for the ornamental foliage. Flowering has been observed usually in the summer season.

Sabnis 1125, 1534.

Native of Molucca Islands.

Sapium insigne Benth. var. malabaricum (Wight)
Hook. f. in FBI. 5:472, 1885; Sant.223.

Falconeria malabarica Wight, Icon. t.1866.

Sapium insigne Cooke 3:121.

A large, handsome tree, with a thick milky latex.
Leaves crowded at the end of branches. Flowers unisexual,
in spikes.

Rarely cultivated in the gardens.

Flowers: April.

Sabnis 1127.

Trewia nudiflora Linn. Sp.Pl.1193, 1753; FBI.5:423;
C.3:111.

A large tree. Bark grey. Leaves ovate, entire
acuminate. Flowers unisexual. Fruit woody, globose.

A tree planted in the University Botanical garden.

Flowers and Fruits: Summer.

Sabnis 10.4.58; Joshi 339.

ULMACEAE

Holoptelea Planch.

Holoptelea integrifolia (Roxb.) Planch. in Ann.Sc.Nat.
(ser.3) 10:259,1848; FBI.5:481, Wight, Icon.
t.1968; C.3:127.

Ulmus integrifolia Roxb. Pl. Cor.1:56, t.78, 1798.

A medium sized, deciduous tree. Leaves broadly ovoid or ovate, acuminate. Flowers greenish, in fascicles at the scars of fallen leaves. Fruit a samara, orbicular, with reticulately veined wings.

Planted at a few places. The tree is leafless when fruiting.

Local name: Kanajo; Kanaji.

Flowers and Fruits: February to April.

Sabnis 1251.

More or less throughout India, especially in the deciduous forests; Ceylon, Cochinchina.

URTICACEAE

Plants erect, stinging. Fleurya

Plants creeping, not stinging. Pilea

Fleurya Gaud.

Fleurya interrupta (Linn.) Gaud. in Bot. Freye. Voy. 497, 1826; FBI.5:548; Wight, Icon. t.1975; C.3:131.

Urtica interrupta Linn. Sp.Pl.985, 1753.

Erect, herbaceous annual, reaching a height of 1 meter. Stems furrowed, with scattered, stinging hairs. Leaves ovate, acuminate, crenate-serrate, cordate or shortly cuneate at base. Flowers greenish arranged in cymes distantly placed on a slender rachis.

A troublesome plant, not common in the area, but for a few cool, shaded places in the Navlakhi area of the L.V. Palace compound. A small colony of these plants was observed near the Yavateshwar compound on the banks of river Vishwamitri.

While studying the entire plant with the root system, a cluster of underground, cleistogamous flowers was observed.

Occurrence of cleistogamy in Urticaceae, to the best of my knowledge, has not been reported so far.

Flowers and Fruits: September to October.

Sabnis 2295, 2296.

India: Bihar, Bengal, Assam, W. Peninsula;
Ceylon, Malay and Pacific Islands, China, Abyssinia.

Pilea Lindl.

Pilea microphylla (Linn.) Liebm. in Vidensk. Selsk. Skr.
(5)2:296, 1851; C.3:160; Sant.227.

Parietaria microphylla Linn. Syst. (ed.10) 1308,
1759.

Pilea muscosa Lindl. Coll. Bot. t.4, 1821; F.B.I.5:551.

A small, succulent, creeping herb. Leaves small, of two sizes. Flowers minute, on short-stalked clusters; staminate flowers open forcibly discharging a cloud of pollen.

Cultivated in pots and baskets for its decorative foliage.

Flowers: November to April.

Sabnis 1163.

Native of S. America, becoming naturalized in India.

Pellionia pulchra N.E. Brown, in Gard. Chron. 2:712,
1882; C.3:160.

A creeping, succulent herb, grown in hanging baskets in the University Botanical garden for its beautifully variegated leaves. It flowers in September or later up to November. It is a native of Cochinchina.

MORACEAE

1. Flowers on or inside fleshy receptacles:

2. Flowers crowded on the outside of
oblong or irregularly globose, large
receptacles. Artocarpus

2. Flowers inside a closed receptacle. . . Ficus
1. Flowers not on or inside large, fleshy
receptacles, but in dense spikes or heads:
- . 3. Perianth not fleshy in fruit. Streblus
3. Perianth fleshy in fruit:
4. Male and female flowers in
separate, similar, short, small
catkin like spikes. Morus
4. Male flowers in cylindrical
spikes; female ones in dense,
globular, short stalked, small
heads. Broussonetia

Artocarpus J.R. & G.Forst. (nom. cons.)

Fruits tubercled, very large. heterophyllus

Fruits smooth, not large. lakoocha

Artocarpus heterophyllus Lamk. Encycl. 3:210, 1789;
Bailey, Man. Cult. Pl.338.

A. integrifolius auct. (non Linn. f.); C.3:158.

A large tree, planted in a few gardens for the
large, edible fruits, hanging on short stalks from the
trunk and larger branches.

English name: Jackfruit

Local name: Phanas

Flowers and Fruits: November to March.

Believed to be indigenous to Western Ghats.

Artocarpus lakoocha Roxb. Fl. Ind. 3:524, 1832; FBI.5:543;
C.3:158; Maheshwari, 322.

A large tree, with a spreading crown. Fruit clusters lobulate, nearly smooth, yellow when ripe.

Only one tree planted in the Univ. Bot. garden.

Flowers and Fruits: March to June

Sabnis 10.3.58, Univ. Bot. garden

Sub-himalayan tracts and outer hills, Khasia,
W. Peninsula; Burma, Ceylon, Malay Peninsula.

Ficus Linn.

Leaves cupuliform. krishnae

Leaves not cupuliform, but broad ovate;
elliptic, lanceolate to obovate:

Receptacles sessile:

Large trees:

Leaves thick, apex obtuse
petioles short. benghalensis
Leaves not thick, acuminate,
petioles long, slender. religiosa

Small trees. infectoria

Receptacles stalked:

Leaves mostly opposite; receptacles
hispid, on short branches. hispid

Leaves alternate:

Receptacles clustered on short,
leafless branchlets. glomerata

Receptacles solitary or paired,
axillary. carica

Ficus krishnae C. DC. in Bot.Mag. t.8092, 1906;
Benthall, Trees Calc.416; Maheshwari,324.

A small tree. Leaves cupuliform, long-petioled.
Not observed in flowers and fruits.

Planted in the public park and University Botanical
garden.

Local name: Makhan Katori.

Flowers: Not observed by me.

For a discussion on the taxonomic status of the
plant please refer to Benthall, l.c.

Ficus benghalensis Linn. Sp.Pl.1059, 1753; FBI.5:499;
C.3:145; Sant.228.

Urostigma bengalense Gaspar, Nov.Gen.Fic. 7, 1844;
Wight, Icon. t.1989.

A large, evergreen tree, sending aerial roots from the branches. Leaves ovate to elliptic, coriaceous. Receptacles red, globose.

A very common avenue tree; also planted in lawns and garden for the excellent shade it provides; young seedlings are often noted in the cracks and crevices of old walls of dilapidated buildings.

English name: Banyan Tree.

Local name: Vadnu jhad.

Flowers and Fruits: October to April.

Sabnis 1228.

"Really wild only in the sub-himalayan forests and on the lower slopes of hill ranges in S. India"; elsewhere planted for shade.

Ficus religiosa Linn. Sp.Pl. 1059, 1753; FBI.5:513;
King, Sp. Ficus 55, t.67A; C.3:149; Sant.229.

Urostigma religiosum Gasp. Ric. Caprif.82, t.7,
ff.1-5, 1845; Wight, Icon. t.1967.

A large tree. Leaves ovate, cordate, acuminate, shining. Receptacles depressed-globose, dark purple when ripe.

A sacred tree for Hindus. It is planted along roadsides and near temples. Young leaves which are red in colour, appear in the beginning of summer; small seedlings commonly noted on old walls.

Local name: Pimplo

Flowers and Fruits: October to April.

Sabnis 3584.

"...truly wild in the Sub-himalayan forests, in Bengal and in Central India"; elsewhere planted.

Ficus infectoria Roxb. Fl.Ind.3:551, 1832; Wight, Icon. t.665; C.3:151.

A small tree; observed at Navlakhi, L.V. Palace compound and on Baroda - Nimetta road. It is provisionally mentioned here because I have not been able to ascertain its identity due to paucity of material.

Flowers and Fruits: April.

Sabnis 1327.

Plains and lower hills, more or less throughout India; Ceylon, Malaya.

Ficus hispida Linn. f.Suppl. 442, 1781; FBI.5:522; C.3:154; King, loc.cit. 116, tt.154-155; Sant.230.

F. oppositifolia Willd.: Gr.191; Wight, Icon. t.638.

Shrubs. Leaves usually opposite, hispid, elliptic ovate, entire or toothed. Receptacles hispid on short branches.

Small seedlings and even full grown shrubs observed on waste places and in the crevices of old walls.

Flowers and Fruits: December to May.

Sabnis 1441.

More or less throughout India; Ceylon, Burma, China.

Ficus glomerata Roxb. Pl. Cor. 2:13, t.123, 1798; FBI.5:535; C.3:154; King, loc.cit.173, t.218A; Sant.230.

A tree, rarely planted in gardens or on the outskirts of villages. Receptacles in clusters on the trunk and main branches.

Local name: Umardo

Flowers and Fruits: January to July or even later.

Sabnis 21.2.58, Univ. campus; 2.1.59, Harni.

Throughout India; Ceylon.

Ficus carica Linn. Sp.Pl.1059, 1753; C.3:155; Bailey, Man. Cult. Pl.339.

A small bushy tree. Leaves broad ovate to almost rounded or 3 to 5-lobed, cordate. Receptacles solitary or paired, axillary, globose or pear-shaped.

A few trees planted in the L.V. Palace compound.
Fruits edible.

English name: Fig tree.

Local name: Anjir

Flowers and Fruits: February to June

Sabnis 1466.

Indigenous to Syria and Palestine, cultivated in India, Afghanistan, Baluchistan, S. Europe.

Streblus Lour.

Streblus asper Lour. Fl. Cochinch. 2:615, 1790;
FBI.5:489; C.3:141; Talb.2:502, t.516.

Epicarpurus orientalis Blume, Bijdr. 488, 1825;
D. & G. 240; Wight, Icon. t.1961.

A large shrub or a small tree, with crooked trunk. Leaves elliptic, obovate, acute or acuminate, rough like sandpaper. Flowers unisexual; male in shortly pedunculate, globose heads; female solitary on axillary, fascicled pedicels. Fruit yellow, loosely enclosed in the enlarged perianth.

Common along roadside hedges and on the elevated banks of rivers; also planted in garden for the thick hedge it provides.

Local name: Sarero; Kharoti.

Flowers and Fruits: November to April or even later.

Sabnis 514, 2830.

Drier parts of India; Ceylon, Malay Islands, Cochinchina, China, Siam.

Morus alba Linn. Sp.Pl.986, 1753; FBI.5:492; C.3:159; Maheshwari, 328; Bailey, Man.Cult. Pl.337.

A small tree. Leaves broad ovate, dentate or lobed, cordate. Male and female spikes short, small, catkin like. Fruit a small, oblong, dark purple to red sorosis, edible.

Planted in gardens and nurseries.

English name: The white Mulberry.

Local name: Setur.

Flowers and Fruits: February to April.

Sabnis 21.4.58, Univ. Bot. garden.

A native of N. & W. Asia, but cultivated in N. India, N.W. India and Kashmir.

Broussonetia papyrifera Vent. Tabl. Regn. Veget. 3:547;
1799; FBI. 5:490; Bailey, Man. Cult. Pl. 337;
Maheshwari, 329.

A tall, handsome tree. Leaves obliquely ovate or oblong, entire or lobed, serrate. Male spikes cylindrical; female spikes globular, short stalked.

Native of Malaya, China and the Pacific Islands, rarely planted in the gardens.

English name: Paper Mulberry.

Flowers and Fruits: March to May.

Sabnis 10.3.58, Univ. Bot. garden; 21.4.60,
Public Park Nursery.

CASUARINACEAE

Casuarina equisetifolia ("equisetifolia") Linn. Amoen. Acad.
4:143, 1759; FBI. 5:598; C. 3:161; Sant. 232.

A tall tree. Branchlets cylindric, jointed, internodes ribbed. Leaves reduced to scales, arranged in whorls. Male spikes cylindric; female flowers in globose or ovoid heads. Nutlets thin, winged.

Commonly planted in garden, also as a hedge plant.

Local name: Vilayati sharu

Flowers and Fruits: August to February

India: east side of the Bay of Bengal from Chittagong southwards, elsewhere planted; Native of Malay Archipelago, Australia, Pacific.

CERATOPHYLLACEAE

Ceratophyllum Linn.

Ceratophyllum demersum Linn. Sp.Pl.992, 1753; FBI.5:639; C.3:165; Sant.232; Subramanyam in Aquat. Angios.52.

C. verticillatum Roxb. Fl.Ind. 3:624, 1832.

A slender, submerged, free floating rootless, much branched aquatic herb. Leaves whorled, divided into filiform segments. Male and female flowers solitary.

Common in the stagnant and shallow waters of ponds, ditches and rivers; submerged and free floating below the water surface covered over with Lemna, Azolla and Microcystis (Alga.)

Flowers and Fruits: October to March.

Sabnis 1012, 1013.

Throughout India and the Andamans in shallow waters.

CLASS II. MONOCOTYLEDONES

HYDROCHARITACEAE

Stems branched, leafy:

Leaves mostly whorled; stamens 3; style
undivided. Hydrilla

Leaves mostly alternate; stamens 2;
style notched. Nechamandra

Stemless or with stolons; leaves radical:

Leaves without a distinct petiole,
linear, grass-like. Vallisneria

Leaves distinctly petioled, mostly
broad, not grass-like. Ottelia

Hydrilla Rich.

Hydrilla verticillata (Linn.f.) Royle, Ill.Bot.Himal.
t.376, 1839; FBI.5:659; C.3:170; Hartog in
Fl.Males. I,5:385, f.1, 1957; Subramanyam in
Aquat.Angios.55, f.37.

Serpicula verticillata Linn.f.Suppl.416, 1781.

A slender, much-branched submerged aquatic..

Leaves generally whorled, oblong-linear, apiculate.

Male flowers small, shortly pedicelled, solitary, in a

spathe. Female flowers sessile, solitary, in a bifid, membranous spathe.

Very common and abundant in stagnant or sluggish waters of rivers, ponds and ditches; also grown in aquaria as a good oxygenator.

Flowers and Fruits: October to April.

Sabnis 559, 855, 1015.

Throughout India; Central Europe, Mauritius, Madagascar, Trop. Asia and Australia.

Nechamandra Planch.

Nechamandra alternifolia (Roxb.) Thw. Enum. Pl. Zeyl. 332, 1864; Subramanyam & Balakrishnan in Bull. Bot. Surv. India 3(1):23-24; Subramanyam, loc. cit. 56, f. 38.

Vallisneria alternifolia Roxb. Hort. Beng. 71, 1814, nom. nud. & Pl. Cor. 2:t. 165, 1802 & Fl. Ind. 3:750, 1832; Wight, Icon. t. 11.

Lagarosiphon roxburghii (Planch.) Benth. in Benth. & Hook. f. Gen. Pl. 3:451; 1883; FBI. 5:659; C. 3:170.

A slender, submerged aquatic. Leaves long, linear, alternate. Male spathes axillary, sessile, paired. Female flowers solitary, axillary, sessile; ovary long, stigma 6-lobed, papillose.



Nechamandra alternifolia (Roxb.) Thw.

In small pools and ditches near the Harni and Timbi tanks.

Plate No. 29

Flowers and Fruits: September to November.

Sabnis 1738, 2777.

Throughout India; Ceylon, Trop.Asia.

For a discussion on nomenclature of the said plant, please refer to Subramanyam, l.c.

Vallisneria Linn.

Vallisneria spiralis Linn. Sp.Pl.1015, 1753; FBI.5:660; C.3:171; Sant.233; Chavan & Sabnis in JIBS. 40(1):127; Bailey, Man.Cult.Pl.132; Subramanyam, loc.cit.57, f.39.

Submerged, stoloniferous, dioecious herbs. Leaves radical, linear, ribbon shaped. Male spathes shortly peduncled, containing many, pedicelled male flowers. Female flowers solitary, borne on a spirally coiled peduncle and covered by a spathe at the base of the ovary; styles 3, split into broad stigmatic lobes, hairy on the inner surface.

A fairly common aquatic weed, abundant only at a few places such as the shallow, sluggish waters of Mahi,

near Vasad; also commonly grown in aquaria.

Flowers and Fruits: November to May.

Sabnis 986, 2960.

Throughout India; Westward to Spain and in warm regions of the world.

Ottelia Pers.

Ottelia alismoides (Linn.) Pers.Syn.Pl.1:400, 1805;
FBI.5:662; C.3:173; Hartog, loc.cit.398, ff.10-11;
Subramanyam, loc.cit. 61, f.43.

Stratiotes alismoides Linn. Sp.Pl.1:535, 1753.

Submerged or floating aquatic herbs. Submerged leaves narrow or oblong and the floating ones oblong-orbicular, cordate or rounded at the base, with undulate margins. Flowers white with a yellow tinge, bisexual, solitary, in a long-peduncled, wavy-winged, persistent spathe.

The plant has been observed only in a small temporary pool in the panigate area; not observed elsewhere.

Plate No. 30

Flowers and Fruits: October to December.

Sabnis 1934, 3392.



Ottelia alismoides Linn.

Throughout India; Ceylon, Trop. Asia, Australia.

ORCHIDACEAE

Plants epiphytic. Aerides
Plants terrestrial. Zeuxine

Aerides Lour.

Aerides maculosum Lindl. in Bot.Reg. t.58, 1845;
FBI.6:45; C.3:203; Blatt. & McC. in JBNHS.35:
490; Sant.237; Santapau & Kapadia in JBNHS.
54:220, cum. fig., 1956 & ibid. 58:64-65, t.30,
1961; Chavan & Oza, Fl. Pavagadh, 220.

An epiphytic orchid. Leaves thick, linear-oblong.
Flowers violet-rose coloured, in panicled racemes.

The plants have been brought from Pavagadh hill
and cultivated in the University Botanical garden.

Flowers: July - August, not regular but
intermittent.

Sabnis 25.7.58, Univ. Bot. garden.

Konkan, S.M. Country, W. Ghats, Chota Nagpur,
Gujarat, Madras Presidency.

Zeuxine Lindl. Corr. Roep.

Zeuxine strateumatica (Linn.) Schltr. Orch. Deutsch.
N. Guin. 77, 1911; Hottum. Fl.Males. 1:131;
Maheshwari, 332; Shah in Ind.For.89(4):290.

Orchis strateumatica Linn. Sp.Pl.943, 1753.

Zeuxine sulcata Lindl. Gen. & Sp. Orch.485, 1840;
FBI.6:106; C.3:213.

A small terrestrial herb, 5-10 cm. tall. Leaves linear, acuminate, passing into linear bracts. Flowers pink, in dense racemes. Capsule ellipsoid.

Rare; amongst grasses, where it probably escapes notice because of the small size.

I have not observed the plant in the field. Shah, loc.cit. records its occurrence in Baroda. Shah's specimen of the said plant, deposited in the Blatter's Herbarium, Bombay is a depauperate one and does not in any way help in the identification of the plant. However, the plant is listed here on his authority.

Flowers and Fruits: Monsoon.

Throughout India; Ceylon, China, Japan, Java, Afghanistan, Philippines.

ZINGIBERACEAE

Flowers in dense spikes. Costus

Flowers in large panicles. Alpinia

Costus Linn.

Costus speciosus (Koenig) Smith in TLS. 1:249, 1800;
FBI.6:249; C.3:243; Wight, Icon.t.2014.

Banksia speciosa Koenig in Retz. Obs. 3:75, 1783.

Erect plants. Leaves cauline, subsessile, oblong or oblanceolate, acute, glabrous above and silky pubescent beneath. Flowers large, white, in dense spikes; petals white, yellow in the centre, crisped. Capsule subglobose, trigonous.

An ornamental plant cultivated in the University Botanical garden.

Flowers and Fruits: September to December.

Sabnis 2316.

More or less throughout India; Ceylob, Malay Islands.

Alpinia Roxb. (nom.cons.)

Alpinia speciosa (Wendl.) K. Schum. Fl.Kaiser-Wilhelmsl. 29, 1887 & in Bot.Jahrb. 15:418, 1893; Bailey, Man.Cult.Pl.289; Maheshwari, 333.

Zerumbet speciosum Wendl. Sert.Hanov.4:3, t.19, 1798.

Alpinia nutans Roscoe in Sm.Exot.Bot.2:93, t.106, 1805 & in TLS. 8:346, 1807; FBI.6:256; C.3:245.

An erect, herbaceous plant. Stems leafy. Leaves oblong-lanceolate or elliptic lanceolate, glabrous, shining. Flowers waxy, white, with yellow-purple tinge in the throat, in large, often nodding, panicles.

Occasionally cultivated in cool, shaded places in gardens.

Flowers: March - May.

Sabnis 25.4.58, L.V.Palace quadrangles.

A native of Eastern Himalaya, Burma, Malay Peninsula, now grown in gardens in many parts of the country.

· CANNACEAE

Canna Linn.

Canna falcata Salisb.Icon.Stirp.rar.t.2, 1791; Kranzlin in Pfreich.56:49,f.9; Bailey, Man.Cult.Pl.291 & Cycl.Hort.656; Sant.291.

Ornamental herbs. Flowers bright red, yellow or variegated. Very common in the garden beds everywhere.

Flowers: Almost all the year round.

Sabnis 1091.

An American introduction in Indian gardens.

MUSACEAE

Musa Linn.

Musa paradisiaca Linn. Sp.Pl.1043, 1753; Moore in Baileya 5:185, 1957; Maheshwari, 332.

M. paradisiaca Linn. subsp. sapientum (Linn.) K.
Schum. in Pfreich 4(45):20, 1900; C.3:249.

M. paradisiaca Linn. var. sapientum Kuntze, Rev.
Gen.2:692, 1891; Bailey, loc.cit.286.

M. sapientum Linn. Syst.1303, 1759; FBI.6:262.

A large tree-like, stoloniferous herb. Stems false, formed by the large, sheathing leaf-bases. Leaves large, oblong. Spikes drooping. Bracts many-flowered, deciduous. Fruits oblong, yellowish-green when ripe, sweet and edible.

Planted in orchards or near houses on damp, moist soils. The flowers are used as vegetable and the edible fruits are sold in the market.

It grows well in the area. Plantations are observed in Chhani and Padra area.

Local name: Kelan

English name: Banana

Flowers and Fruits: April to October.

Sabnis 1590.

Throughout the tropics; cultivated.

AMARYLLIDACEAE

Ovary superior. Allium

Ovary inferior:

Corona absent; no scales or teeth
between the filaments:

Flowers several together. Crinum

Flowers usually solitary. Zephyranthes

Corona present, large, conspicuous,
formed of the expanded filaments,
often connate at the base into a tube. Pancratiun

• Allium Linn.

Leaves cylindric, usually hollow. cepa

Leaves flat, not hollow. sativum

Allium cepa Linn. Sp.Pl.300, 1753; FBI.6:337; C.3:384;
Bailey, Cycl. Hort. 248.

Bulbs large and rounded. Leaves radical, cylindrical, hollow. Flowers numerous, white, in dense umbels subtended by 2 or 3 bracts.

Cultivated as a winter crop at a number of places.

Local name: Doongali, Kanda.

English name: Onion.

Flowers: December to April.

Allium sativum Linn. Sp.Pl.296, 1753; FBI.6:337; C.3:284;
Bailey, Cycl. Hort. 248.

Bulbs smaller, consisting of bulblets enclosed in a white or pinkish, membranous envelope. Leaves flat. Flowers white or pinkish, in lax umbels on a long scape, often displaced by bulbils.

Cultivated as a winter crop.

Local name: Lessan.

English name: Garlic.

Flowers: November to March.

Crinum asiaticum Linn. Sp.Pl. 292, 1753; FBI. 6:280;
C.3:256; Bailey, Man. Cult. Pl. 253.

Herbs with large bulbs. Leaves basal, dark green.
Flowers white, many, in an umbel subtended by bracts;
scapes solid.

Planted in gardens in lawns or near hedges.

Local name: Nagdaman.

Flowers: August to November.

Sabnis, wet preservation, Botany Museum.

A native of Trop. Asia.

Zephyranthes Herb.

Zephyranthes rosea Lindl. in Bot. Reg. t.821; Bailey, Man.
Cult. Pl. 254 & Cycl. Hort. 3543.

Bulbous herbs. Leaves basal, linear. Flowers rose-
red, pink or yellow, one to each scape. Capsules nearly
globose.

Cultivated in pots and also occurring wild on lawns during monsoon.

Flowers and Fruits: July to October.

A native of Cuba.

Pancratium Linn.

Pancratium tortuosum Herb. in Ann. Nat. His. ser. I,
4:28, 1840; Bailey, Cycl. Hort. 2448.

A bulbous herb. Leaves flat, linear-lanceolate. Flowers white on long scapes in umbels; bracts spathaceous; filament bases uniting to form a membranous, conspicuous corona; anthers versatile. Capsule subglobose.

Planted in garden for the ornamental flowers.

Flowers: August - September.

Flowers: August - September.

Sabnis 10.10.58, Arts Faculty lawns.

A native of Arabia and Egypt.

AGAVACEAE

Ovary inferior:

Flowers regular, in paniculate
inflorescences. Agave

Flowers slightly irregular in
racemose inflorescences. Polianthes

Ovary superior:

Foliage erect; plants stemless. Sansevieria

Foliage divergent to spreading, plants
with stems:

Leaves stiff, ending in a
sharp point. Yucca

Leaves not as above. Dracaena

Agave americana Linn. Sp.Pl.323, 1753; Bailey, Man
Cult.Pl.239. & Cycl.Hort.234, ff.139, 140.

Acaulescent plants with stiff, heavy persistent
leaves in basal rosettes and towering panicles of
relatively small flowers borne on stout scapes.

Planted in public park and in L.V. Palace compound
as ornamentals in lawns and in hedges.

Sabnis 26.4.58, L.V. Palace compound.

Polianthes Linn.

Polianthes tuberosa Linn. Sp.Pl.316,1753; C.3:260;
Bailey, loc.cit.239 & Cycl.Hort.2731, f.3093.

Tuber-bearing herbs. Leaves basal and cauline.
Flowers white, fragrant, in pairs in an open spike.

Local name: Gulchhabu.

Flowers: July to November.

Sabnis 10.10.58, Univ. Bot. garden

Possibly a native of Andes in S. America.

Sansevieria Thunb.

Leaves flat, pale green with transverse
bands of dark green. zeylanica

Leaves terete or cylindrical, quite solid.... cylindrica

Sansevieria zeylanica Willd. Sp.Pl.2:159, 1799;
C.3:252; Bailey, loc.cit.240.

Planted in pots and beds for decoration. Flowers
greenish white, in long racemes.

Flowers: September to January.

A native of India and Ceylon.

var. laurentii Hort., a native of Trop. Africa, is often
cultivated.

Sansevieria cylindrica Boj.Hort.Maurit.349, 1837;
C.3:253.

Native of Trop. Africa, planted in beds near buildings.
Flowers cream-white, in long racemes.

Flowers: October

Yucca Linn.

Yucca gloriosa Linn. Sp.Pl.319, 1753; C.3:283; Bailey,
Mañ.Cult.Pl.241; Maheshwari,334.

Trunk short. Leaves clustered in a rosette fashion,
stiff and sharp-pointed. Flowers greenish white, bell-
shaped, drooping, on the branches of a terminal paniculate
inflorescence.

A rare plant, planted in gardens as an ornamental.
It flowers at intervals of several years.

English name: Adam's Needle.

Flowers: August to September.

Sabnis 8.8.59 (near Lady common Room, Faculty of
Arts)

A native of W. Indies.

Dracaena Linn.

Numerous horticultural forms of Dracaena or may be
even Cordyline are met with in local gardens. They are

impossible of a closer scrutiny because of the paucity of flowering material, But Dracaena draco Linn. and Cordyline terminalis Kunth. var. ferrea Baker have been observed in many private and public gardens.

DIOSCOREACEAE

Dioscorea Linn.

Dioscorea bulbifera Linn. Sp.Pl. 1033, 1753; Wight, Icon. t.878; C.3:265; Santapau in JBNHS. 49:628, 1950; Sant.250; Maheshwari, 335; Chavan & Oza, Fl. Pavagadh, 223.

D. sativa Thunb. Fl. Jap. 151, 1784 (non Linn.);

An extensive climber with long, tuberous roots, Stems with a small, axillary bulbils. Leaves ovate, cordate, with an acuminate apex. Flowers white-creamy. Capsules oblong, with a truncate or subcordate base, hanging in a bunch on long peduncles.

Noted on hedges; not common, probably cultivated for the tubers, which are edible.

Flowers and Fruits: September - October.

Sabnis 3505, 3506.

Throughout India; Ceylon.

LILIACEAE

Leaves succulent, with spiny teeth on the
margins. Aloë

Leaves not as above:

Habit climbing:

Leaves with coiled, tendrillar
apices. Gloriosa

Leaves absent or reduced; stems
modified into needle-shaped
cladodes. Asparagus

Habit erect; flowers racemosely
arranged. Asphodelus

Aloë Linn.

Aloe barbadensis Mill. Gard.Dict. n.2, 1768; Bailey, Man.
Cult.Pl.209; Maheshwari, 335.

A. perfoliata var. vera Linn. Sp.Pl.320, 1753.

A. vera (Linn.) Webb & Berth. (non Mill.)

An acaulescent plant with a rosette of erect,
spiny-edged, thick, succulent leaves. Flowers yellowish-
green in racemes.

Grown in gardens as a pot-plant for its succulent
leaves. Mucilaginous juice obtained from the leaves is
used in the preparation of 'Manjā', specially made for

kite flying on the 'Sankranti' day.

Flowers: March - April.

Sabnis 10.3.58 (Univ.Bot. garden); 21.4.59
(Kirtimandir garden)

A native of Mediterranean region, now introduced
throughout the tropics.

Gloriosa Linn.

Gloriosa superba Linn. Sp.Pl.305, 1753; FBI.6:358;
C.3:274; Wight, Icon. t.2047; Sant.252.

Methonia superba Dalz. & Gibs., Bomb. Fl.205, 1861.

A tall, herbaceous or woody climber. Leaves ovate-lanceolate, sessile, apices tendrillar and coiled. Flowers solitary, axillary or corymbose at the end of branches; perianth segments crisped, wavy, yellow with a mixture of red or orange. (The colour of flower is variable and depending upon the stage of maturity.)

Plate No. 31.

Local name: Vadhvadhio, Vachanag.

Flowers and Fruits: September to November.

Sabnis 730, 2613.

Throughout Trop. India; Ceylon, Trop. Africa;
Malacca, Cochinchina.



Gloriosa superba Linn.

Asparagus Linn.

Asparagus racemosus Willd. Sp.Pl.2:152, 1799; FBI.6:316;
Parker, For.Fl.520; Maheshwari, 336.

A straggling or climbing, much branched, spinous shrub. Cladodes 2-6 together, narrowly oblong-linear, falcate. Flowers small, white, in simple or branched racemes. Berries globose.

Cultivated in gardens and rarely wild, climbing on Banyan trees in the Navlakhi area.

Local name: Satawari

Flowers and Fruits: September to November.

Sabnis 20.11.59, Navlakhi.

Asphodelus Linn.

Asphodelus tenuifolius Cav. in An.Cienc.Nat.3:46, t.27,
f.2, 1801; FBI.5:332; C.3:279; Maheshwari, 337.

An acaulescent herb. Leaves cylindrical, hollow. Scapes simple or branched in the upper part. Flowers whitish with purple streaks, in lax racemes. Capsule globose, loculicidal; seeds black, rugose.

A common weed of the winter crops, especially chilly and lucerne.

Flowers and Fruits: January to April.

Sabnis 2001.

Throughout India in fields; westward to the
Canary Islands.

Ruscus aculeatus Linn. Sp.Pl.1041, 1753. ; Bailey,
Cycl.Hort.3038, f.3511.

A small shrub with ovate cladodes, generally grown
in pots in the Univ. Bot. garden.

PONTEDERACEAE

Perianth actinomorphic; petioles not enlarged
to form floats. Monochoria

Perianth distinctly zygomorphic; petioles
swollen into floats. Eichhornia

Monochoria Presl

Monochoria vaginalis (Burm.f.) Presl|ex Kunth, Enum.
4:134, 1843; FBI.6:363; C.3:286; Backer in
Fl.Males. I, 4:256, 598, 1951; Subramanyam,
Aquat. Angios. 69, f.47.

Pontederia vaginalis Burm. f. Fl.Ind.80, 1768.

An amphibious or floating aquatic herb. Leaves
variable, ovate to ovate-lanceolate, generally acuminate.

Inflorescence peduncles emerging from the sheaths of upper leaves. Flowers blue-pink in racemes. Fruits oblong; seeds longitudinally ribbed.

Noted in roadside pools and ditches, sometimes monopolising the water surface to the exclusion of everything else; also in the flooded rice fields.

Flowers and Fruits: August to November.

Sabnis 677, 2732.

Throughout India, Ceylon, Singapore, Malay Islands, China, Japan, Trop. Africa.

Eichhornia Kunth (nom. cons.)

Eichhornia crassipes (Mart.) Solms in DC.Mon.Phan. 4:527, 1882; Merr.Enum.1:200; Backer in Fl.Males. I, 4:259, ff.2-3, 1951; Subramanyam, loc.cit.70, f.48; Maheshwari, 338.

Pontederia crassipes Mart. Nov. Gen. Sp.9, t.4, 1823.

A floating herb, profusely rooting at the nodes. Leaves radical, rosette-forming, broadly ovate to elliptic spathulate, with the petioles swollen to form floats. Flowers violet blue in many flowered spikes.

An attractive, aquatic herb, which is cultivated in a few gardens as an ornamental; not wild anywhere in the area.

English name: Water-hyacinth.

Flowers: October - November.

Sabnis 10.10.58 (Univ.Bot. garden.); 12.11.60
(near University office building)

A native of Brazil, which has spread in many countries such as America, Australia, Java, Siam, Burma and India, especially in the east and South.

COMMELINACEAE

Plants wild:

Perfect stamens 3; 1-3 staminodes:

Cymes enclosed in spathaceous
bracts. Commelina

Cymes panicled; bracts not
spathaceous. Murdannia

Perfect stamens 6; staminodes 0;
filaments densely bearded. Cyanotis

Plants cultivated:

Weak, decumbent plants; leaves 3-8 cm.
long, variegated above and purple
beneath. Zebrina

Erect, short stemmed herbs; leaves
15-30 cm. long, green above and
purple beneath. Rhoeo

Commelina Linn.

Capsule usually 5-seeded:

Seeds closely pitted. benghalensis

Seeds tuberculate and reticulate. nudiflora

Capsule usually 3-seeded:

Ovary 3-celled, 5-ovuled. forskalii

Ovary 3-celled, 3-ovuled. paludosa

Commelina benghalensis Linn. Sp.Pl.41, 1753; FBI.6:370;

C.3:291; Wight, Icon. t.2065; Sant.253;

Santapau, Fl. Purandh.134; Maheshwari,340.

Branched, diffuse herbs. Leaves broadly ovate to oblong, cuneate or cordate at the base. Flowers blue in spathes. Capsules usually 5-seeded; seeds closely pitted.

A monsoon herb, which persists in the post-monsoon period under favourable conditions.

Flowers and Fruits: September to November.

Sabnis 1714a.

Throughout India; Ceylon, China, Trop.Asia and Africa.

Commelina nudiflora Linn. Sp.Pl. 41, 1753 (non Linn.
Mant. 2:177); FBI. 6:369; C. 3:290; Sant. 253;
Santapau, Fl. Purandh, 134; Chavan & Oza, Fl.
Pavagadh, 226.

A diffuse annual, branches from the base. Leaves linear lanceolate with prominent sheaths. Flowers dark blue, in characteristic, boat shaped bracts. Capsules usually 5-seeded; seeds tuberculate and reticulate.

A common monsoon weed of lawns and roadsides; also as a weed in winter crops, where it is parasitized by Cuscuta chinensis Lamk.

Flowers and Fruits: July to March.

Sabnis 588, 1498.

Throughout India; Ceylon, Singapore, and many tropical and subtropical countries.

Commelina forskalii Vahl, Enum.2:172, 1806; FBI.6:371;
C.3:292; Maheshwari, 340; Shah in Ind. Forester.
89(4):290.

A diffuse herb, rooting at the nodes. Leaves linear or narrowly oblong, undulate. Flowers blue, in cymes enclosed in boat shaped spathe. Capsule 3-seeded; seeds smooth, subglobose.

A very rare plant apparently. Only once collected from the L.V. Palace area.

Flowers and Fruits: August (5.8.59)

Sabnis 2168...2170.

Western Peninsular India extending to some parts
of Central and North India; Trop. Africa.

Commelina paludosa Bl.Enum.2, 1827; Bakh.f. in Blumea
6(2):399, 1950; Chavan & Oza, Fl. Pavagadh, 226.

C. obliqua Buch.-Ham. in Don, Prodr. Fl.Nep.45,
1825, non Vahl, Enum.2:173, 1806; FBI.6:372;
C.3:293; Sant.254.

Erect or diffuse herbs. Leaves lanceolate or
elliptic-lanceolate, acute or acuminate, spathes crowded
in terminal heads; flowers blue. Capsule 3-seeded;
seeds smooth.

Rare; noted in the lawns of the University campus
and L.V. Palace compound.

Flowers and Fruits: September to October.

Sabnis 1679a., 9.9.58, University campus.

Throughout India; Ceylon, Malay Islands.

Murdannia Royle

Murdannia malabaricum (Linn.) Santapau in JBNHS. 52:658,
1955; Sant.254.

Tradescantia malabarica Linn. Sp.Pl.(ed.2) 412,
1762.

Commelina nudiflora Linn. Mant.177, 1767 (non Linn.1753).

Aneilema nudiflorum R.Br. Prodr.271, 1810; FBI.6:378;
C.3:298.

Murdannia nudiflorum Santapau in RBSI. 16(1):325,
1953; Chavan & Sabnis in JIBS. 40(1):124, 1961.

A slender annual, branched from the base. Leaves linear oblong, lanceolate. Flowers blue-purple. Capsules globose to subglobose, membranous.

A monsooni herb, found on the wet grassy banks of ponds and puddles and also as weed in the 'kharif' crops.

Flowers and Fruits: August to October.

Sabnis 1764, 3200.

Throughout India, Ceylon, China, Malay Islands.

Cyanotis D. Don (nom. cons.)

Cyanotis axillaris (Linn.) Schult.f.Syst.7:1154, 1830;
FBI.6:388; C.3:305; Chavan & Sabnis, loc.cit.
124; Sabnis & Pathak in Ind.Journ.Agron. 6(2):150,
1961.

Tradescantia axillaris Linn. Mant.321, 1771.

A trailing or erect, much branched annual. Leaves linear or linear-lanceolate. Flowers pinkish blue to purple, in cymes or fascicles in the inflated sheaths.

Capsule oblong-ellipsoid.

Noted in moist situations; on the wet grassy slopes of Vaidawadi canal and also in rice fields.

Flowers and Fruits: August to October.

Sabnis 1675a., 27.8.58, Sewage disposal area.

Throughout India; Ceylon, East Asia, Trop.
Australia.

Zebrina Schnizl.

Zebrina pendula Schnizl. in Bot.Zeit.7:870, 1849;
C.3:306; Sant.256; Bailey, Man.Cult.Pl.198.

Tradescantia zebrina Hort.ex Loud. Encycl.Pl.2,
Suppl.2:1340, 1855; D. & G. Suppl.94.

Weak, decumbent plants. Leaves variegated above and purple beneath. Flowers blue-purple.

A native of Mexico, grown in the garden rockeries or in hanging baskets.

Flowers: September - October.

Sabnis 10.10.58 (Univ.Bot. garden).

Rhoeo Hance

Rhoeo discolor (L'Hér.) Hance, in Walp.Ann.3:659, 1853;
C.3:306; Santapau, Fl.Purandh.135; Bailey,
loc.cit.199.

Tradescantia discolor L'Her. Sert.Angl. 8, t.12, 1788;
Gr.223; D. & G. Suppl.94.

Short stemmed, low herbs. Leaves green above and purple beneath. Flowers white, many, crowded in boat shaped bracts.

A native of Mexico and the West Indies, grown in the gardens in pots or on rocks under the shade of trees.

Flowers: October to April.

Sabnis 10.3.58 (Univ. Bot. garden).

PALMAE (ARECACEAE)

Leaves fan shaped, i.e. flabelliiform:

Stems dichotomously branched. Hyphaene

Stems not as above:

Inflorescence terminal, pyramidal... Corypha

Inflorescence axillary:

Small pot-palm; flowers

bisexual. Livistona

Tall, dioecious palms. Borassus

Leaves feather-like, i.e. pinnate:

Leaves bipinnate. Caryota

Leaves simply pinnate:

Lower leaflets spinescent. Phoenix

Lower leaflets not spinescent:

Stems more or less thickened
at the middle, whitish. Roystonea

Stems not as above:

Fruits large, 20 cm. and more
in diam., with edible, liquid
content. Cocos

Fruits small, not directly
edible. Elaeis

Hyphaene Gaertn.

Hyphaene indica Becc. in Aricoltura Coloniale II fasc.III,
1908; Blatter in JBNHS. 21:97.

Tall palms. Stems dichotomously branched. Leaves
fan-shaped. Fruits very hard.

A number of them are planted in public park as also
in the L.V. Palace compound for ornamental purposes.

Plate No. 32

English name: Indian Doum palm.

Flowers and Fruits: January to May.

Sabnis 20.5.58 (Public park)

Gujarat; Diu, Ahmedabad and probably all along
the western coast.



PLATE NO. - 32

Corypha Linn.

Corypha umbraculifera Linn. Sp.Pl.1187, 1753; FBI.6:428;
C.3:319; Woodrow, Gard. Trop.574.

A tall, majestic palm marked with horizontal rings of leaf scars. Leaves fan shaped, forming a crown at the top. Inflorescence pyramidal, terminal; flowers white or cream. Fruit a small drupe.

Only a few planted in the Makarpura palace garden. One of them was observed to be laden with flowers and fruits. The plant is said to be flowering only once in its life time.

English name: Talipot palm.

Flowers and Fruits: November to July.

Sabnis 1601, 1602.

W. Peninsular India, Ceylon, Burma, Andamans;
also under cultivation in the tropics.

Livistona R. Br.

Livistona chinensis R. Br. Prodr. 268, 1810; FBI.6:434;
C.3:320; Blatt. Palms 104, t.26; Bailey, Man.
Cult.Pl.168; Maheshwari, 341.

A small, stout palm with fan shaped leaves. It is commonly grown in big pots or tubs in gardens for decoration.

Sabnis, University campus.

A native of China and Japan.

Borassus Linn.

Borassus flabellifer Linn. Sp.Pl.1187, 1753; FBI.6:482;
C.3:321; Blatt.Palms 174-213, tt.38-39; Sant.257.

Tall, elegant palms. Leaves fan shaped. Flowers dioecious. Fruit a subglobose, brown drupe.

Cultivated as an avenue tree and also spontaneous on the banks of the river Vishwamitri.

English name: The palmyra palm.

Local name: Tad.

Local uses: The leaves are used for thatching, for mats etc. The plants are tapped for 'toddy'.
The fruits are edible.

Flowers and Fruits: February to May.

Sabnis 8.2.57 (Vishwamitri Banks)

A native of Tropical Africa, extending throughout India to Malayan Peninsula, Sumatra, Borneo, Celebes, Flores and the Molucca isles.

Caryota Linn.

Caryota urens Linn. Sp.Pl.1189, 1753; FBI.6:422; C.3:315;
 Blatt. Palms 339, t.57, f.48; Sant.256;
 Maheshwari, 342.

A tall palm. Leaves bipinnate; pinna cuneiform with a praemorse or jagged apex. Spadix very large; branches very long, pendulous. Fruits dark purple.

Planted in gardens for the sheer beauty of the foliage and horse-tail-like inflorescences.

English name: Fish tail palm.

Local name: Shivajata

Flowers and Fruits: Almost year round.

Sabnis 1578, 1579.

Very common in the evergreen forests of Konkan and N. Kanara; Nilgiris, Malabar, Orissa, sub-himalayan tracts from Nepal eastwards to Assam, Manipur; Upper Burma, Malaya and Ceylon.

Phoenix Linn.

Phoenix sylvestris (Linn.) Roxb. Hort.Beng. 73, 1814,
 nom.nud. & Fl.Ind. 3:787, 1832; FBI.6:425; C.3:311;
 Blatt.Palms 3, tt.2,3; Sant.257.

Elate sylvestris Linn. Sp.Pl.1189, 1753, pro parte.

Medium sized or stunted palms. Leaves pinnate; pinnae usually more than 2-ranked, rigid and sharp-pointed. Fruits oblong-ellipsoid, orange-yellow.

Growing wild in patches in moist, shaded places on the banks of rivers and nallahs; also along the railway tract.

Local name: Khajoori

Flowers and Fruits: March to May.

Sabnis 1580, 1599.

Local uses: The leaves are used for thatching. The plants are also tapped for 'Toddy'.

Tolerably common throughout India, wild or more often cultivated. In the Bombay Presidency, it is common on moist ground throughout the dry districts, usually along banks and in the beds of streams and watercourses.

Roystonea O.F. Cook.

Roystonea regia (H.B. & K.) O.F. Cook in Bull. Torrey Bot. Cl. 531, 1901; Bailey, loc.cit. 173; Maheshwari, 343.

Oreodoxa regia H.B. & K. Nov. Gen. & Sp. 1:305, 1815; Blatt. Palms 396, t. 73.

A graceful palm with whitish, bottle-like trunks.
Leaves pinnate.

A native of Cuba, planted in gardens along the roads, where it forms a beautiful avenue. Such avenues are met with in Jubilee gardens, Public park and Science Faculty lawns.

Cocos Linn.

Cocos nucifera Linn. Sp.Pl.1188, 1753; FBI.6:482; C.3:322;
Bailey, loc.cit. 175.

The famous 'coconut' palm is planted at a few places in the public and private gardens. The tree is put to numerous uses.

Probably a native of Cocos Island and the North Andamans.

Elaeis Jacq.

Elaeis guineensis Jacq. Select. Am. 280, 1763; Bailey, loc.cit. 175 & Cycl. Hort. 1107.

A short palm. Leaves pinnate. Flowers densely placed on long fingers in a close, hand-like cluster at the base of petioles compactly in the center of the crown.

The oil palm of Western Africa is planted as an ornamental palm in the Univ. Bot. garden and in front of L.V. Palace.

Flowers and Fruits: January to May

Sabnis 25.4.58 (L.V. Palace compound)

PANDANACEAE

Pandanus Linn. f. (nom.cons.prop.)

Pandanus fascicularis Lamk. Encycl. 1:372, 1785;
FBI.6:485; Maheshwari, 344.

P. odoratissimus Roxb. Fl.Ind. 3:738, 1832.

P. tectorius soland. ex Balf. f. in JLS. 17:63, 56,
1878; C.3:324.

A much branched, small, bushy tree with a number of props. Leaves arranged in a close spiral, margins and keels spinous toothed. Spathes pale yellow white. Male inflorescence sweet-scented; flowers stalked; stamens many.

Planted in gardens for the fragrant flowers.

Local name: Kevdo

English name: Screw Pine

Flowers: April - May.

Sabnis 20.4.58 (Univ.Bot. garden)

Sea-coast of the Indian Peninsula; Burma and the Andamans; often cultivated elsewhere.

TYPHACEAE

Typha Linn.

Typha angustata Bory & Chaub. Exp. Sc. Mor. 3(2):33, 1832;
FBI.6:489; Graebn. in Pfreich. 2:14, f.4F;
C.3:326; Sant.257; Maheshwari, 344.

T. elephantina Gr. 227, 1839 (non Roxb.)

An erect, sturdy, amphibious hydrophyte. Leaves somewhat semi-cylindric above the sheath. Spikes cylindric, dense, brown; the males and females separated by a considerable interval.

Common in marshes, on the banks of ponds and rivers.

Local name: Ghabajariyun

Flowers: September to March.

Sabnis 2522, 2523.

More or less throughout India; N. Asia, N. Africa.

ARACEAE

Free floating aquatics. Pistia

plants terrestrial, not aquatic:

Root climbers:

Leaves pinnately cut or perforated....Monstera

Leaves entire, ovate, more or less

cordate at the base. Scindapsus

Erect, rhizomatous herbs:

Leaves divided. Amorphophallus

Leaves undivided, peltate:

Leaves variously variegated. . . Caladium

Leaves not variegated. Colocasia

Pistia Linn.

Pistia stratiotes Linn. Sp.Pl.963, 1753; FBI.6:497;
C.3:328.

Free floating, stoloniferous, aquatic herbs with long hanging roots. Leaves in rosette like tufts, obovate, cuneate. Spathes small, axillary. Flowers unisexual.

Grown in garden ponds;not noted wild.

Flowers: September to December (Univ.Bot.garden)

Common in tanks throughout the Bombay State and India in general.

Monstera Adans.

Monstera deliciosa Liebm. in Kjoeb. Vidensk. Meddel.19,
1849; Bailey, Man. Cult. Pl. 183.

Extensive root climbers. Leaves dark green,
pinnately cut or perforated.

Grown in cool, shaded places in the University
Botanical garden and the L.V. Palace quadrangles.

Sabnis 28.5.58 (L.V. Palace quadrangle).

A Trop. American root climbing evergreen.

Scindapsus Schott.

Scindapsus aureus Engler in Pfreich. (Arac.-Monster.)
80, 1908; Bailey, loc.cit. 183.

Pothos aureus Lind.: Bailey, Cycl. Hort.2776, f.3159.

The common 'Pothos' of gardens. Cultivated in cool,
shaded places in garden baskets or even indoors for
beauty of the leaves. Flowers not observed.

A native of Solomon Isles, widely cultivated in the
oriental tropics.

Amorphophallus Bl. ex Decne. (nom.cons.)

Amorphophallus campanulatus (Roxb.) Bl. ex decne. in
Nouv. Ann. Mus. Par.3:366, 1834; FBI.6:513;
C.3:366.

Stemless herbs. Corms globose, depressed, dark brown. Leaves large, radical, twice bifid.

Cultivated for the corms, which are boiled and eaten as vegetable.

Local name: Suran.

Caladium Vent.

Caladium bicolor Vent.: Bailey, loc.cit. 188 & Cycl.Hort.
615.

Cultivated in pots in garden for their variegated foliage. Leaves ovate, sagittate, peltate, green blotched with red or brown.

Colocasia Schott

Colocasia esculenta (Linn.) Schott in Schott & Endl.
Melet. 1:18, 1832.

Cultivated for the edible, underground stems as also the leaves which are used as vegetable. Leaves large, peltate.

Local name: Alvi

English name: Arum.

LEMNACEAE

- Fronds with several roots. Spirodela
Fronds with one root. Lemna

Spirodela Schleid.

Spirodela polyrhiza (Linn.) Schleid. in Linnaea 13: 392;
tt.5,6, 1839; McCann in JBNHS. 43:156, 1942;
Subramanyam in Aquat. Angios. 77, 1962;
Maheshwari, 346.

Lemna polyrhiza Linn. Sp.Pl.970, 1753; F&E.6:557;
C.3:343; Biswas & Calder (2nd ed.) 101; Chavan &
Sabnis in JIBS 40(1): 127, 1961.

Small, gregarious aquatic plants. Fronds obovate to orbicular, thick, opaque, dark green above and purplish beneath, with several roots.

A fairly common aquatic, floating on the surface of rivers, ponds and puddles and even in the stagnant waters of the rice fields.

Flowers: Rarely observed (7.4.58, Vishwamitri banks)

Sabnis 571, Also wet preservation, Botany Museum.

More or less throughout India; temperate and tropical regions throughout the globe.

Lemna Linn.

Lemna gibba Linn. Sp.Pl.970, 1753; FBI.6:556; C.3:343;
Chavan & Sabnis in JIBS. 40(1):127, 1961.

Small, floating aquatic. Fronds suborbicular to obovate, each with a single root.

Not as common as the previous one, though observed on water surface of rivers, pond and puddles.

Flowers: November to January, rarely observed.

Sabnis, wet preservation, Botany Museum.

Cosmopolitan in distribution.

ALISMATACEAE

Carpels crowded on a minute receptacle;
achenes swollen. Limnophyton

Carpels inserted on a large, globular or
oblong receptacle; achenes more or less
compressed.. . . . Sagittaria

Limnophyton Miq.

Limnophyton obtusifolium (Linn.) Miq. Fl. Ind. Bot. 3:242,
1855; FBI. 6:560; C. 3:345; Subramanyam, loc. cit.
86, Pl. 3, f. 52.

Sagittaria obtusifolia Linn. Sp. Pl. 993, 1753.

A scapigerous erect herb. Leaves all radical, sagittate with acute or rounded tips. Flowers white in whorls arranged racemosely on a stout, angular scape, polygamous. Achenes in globose heads.

A very common, healthy, amphibious hydrophyte found all along roadside ditches and marshes.

Flowers and Fruits: September to December.

Sabnis 874, 1927.

Throughout India; Ceylon, Trop. Africa, Madagascar.

Sagittaria Linn.

Mature leaves hastate or sagittate;
achenes obliquely ovate, apiculate, wing
broad, entire or subcrenate. sagittifolia

Mature leaves broadly ovate, deeply cordate,
apex rounded; achenes surrounded by a broad,
blunt - spiny wing. guayanensis
ssp. lappula

Sagittaria sagittifolia Linn. Sp.Pl.2:993, 1753;
 FBI.6:561; C.3:345; Chavan & Sabnis in JIBS.
 40(1):127, 1961; Subramanyam, loc.cit.87.

A scapigerous herb, not as robust as Limnophyton
obtusifolium (L.) Miq. Leaves sagittate. Flowers white.
 Achenes flat and dorsally winged.

Noted at a number of places, though not abundant
 anywhere; in roadside ditches and banks of ponds and
 temporary pools.

Flowers and Fruits: September to February.

Sabnis 504.

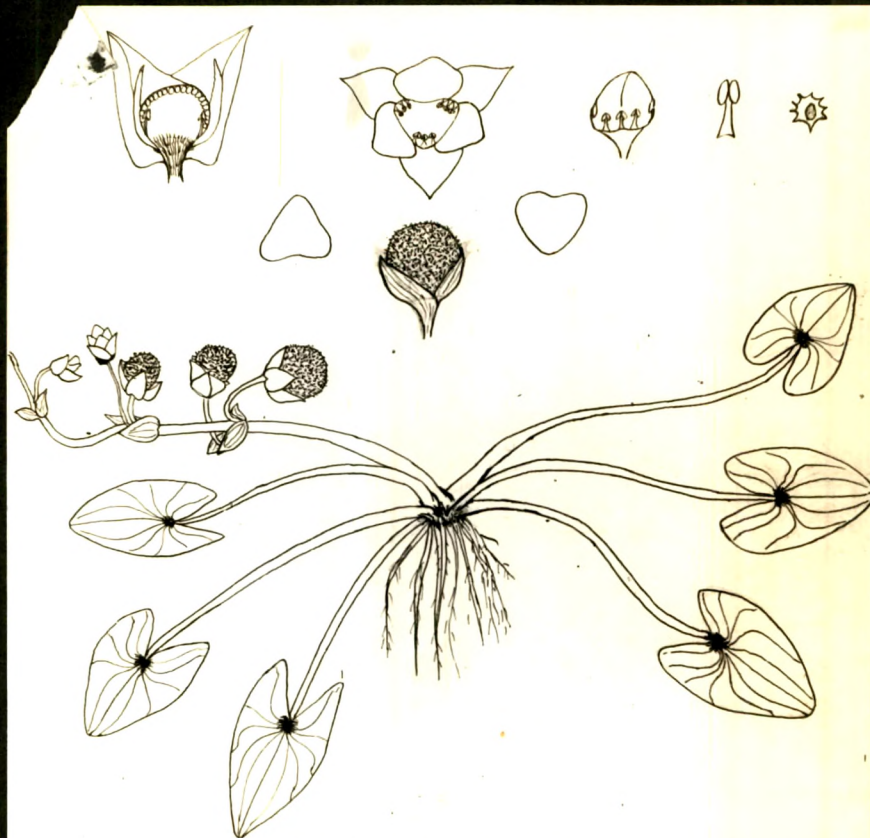
Throughout the plains of India; Europe, N. Asia,
 N. America.

Sagittaria guayanensis H.B.K. ssp. lappula (D.Don)
 Bogin in Mem. N.Y. Bot.Gard. 9:192, f.5, 1955;
 Subramanyam, loc.cit.87.

S. lappula D.Don, Prodr. Fl.Nep. 22, 1825.

S. guayanensis Hook. f. FBI. 6:561, 1893, pro parte,
 non H.B.K.

A floating aquatic herb. Leaves broadly ovate,
 deeply cordate, rounded at the apex. Flowers white.
 Achenes flat, surrounded by a broad, blunt-spiny wing.



Sagittaria guyanensis H.B.K. ssp. *lappula* (D. Don) Bogin.

Common in the Harni area after rains as a floating aquatic in the pond no.2 as well as in some temporary pools and rice fields.

Plate No. 33

Flowers and Fruits: September to November.

Sabnis 857, 1916.

The plant is not mentioned in the Cooke's Flora of Bombay Presidency.

Throughout the plains of India; Burma, Malay Islands, China, Trop. Australia.

BUTOMACEAE

Tenagocharis Hochst.

Tenagocharis latifolia (D. Don) Buchen. Abh. Naturw.

Ver. Bremen 2:2,3,6, 1868; van Steenis in Fl.

Males. I, 5:118, f.1, 1954; Subramanyam, loc.cit. 88, Pl.4, f.53.

Butomus latifolius D. Don, Prodr. Fl. Nep. 22, 1825.

Butomopsis lanceolata Kunth, Enum. Pl. 3:165, 1841;

FBI.6:562; C.3:347; Biswas & Calder (2nd ed.), 107; Chavan & Sabnis, loc.cit. 127.

Scapigerous herbs. Leaves elliptic - lanceolate, attenuated into a long petiole. Flowers white in many flowered umbels on scapes, usually longer than the



leaves. Follicles reticulately veined, tapering into short beaks.

Noted along the banks of ponds and on the soft, muddy soils of the rice fields.

Plate No. 34

Flowers and Fruits: September to November.

Sabnis 859, 1805.

Throughout the plains of India; Australia
Tropics of the old world.

APONOGETONACEAE

Aponogeton Linn. f.

Aponogeton natans (Linn.) Engl. & Krause in Pfreich 24:11,
1906; Subramanyam, Aquat. Angios. 92, Pl.5, f.54;
Maheshwari, 348.

Saururus natans Linn. Mant. 2:227, 1767.

Aponogeton monostachyon Linn. f. Suppl. 214, 1781;
FBI.6:564; C.3:348.

A floating, aquatic herb. Leaves variable, oblong to linear-oblong. Flowers pink or whitish pink, in dense spikes.

Noted in shallow, stagnant waters of canals and temporary pools during monsoon; also near the banks of ponds.

Flowers and Fruits: September to February.

Sabnis 957, 1867.

Throughout India; Ceylon, Trop. Asia, and
Australia.

POTAMOGETONACEAE

Potamogeton Linn.

Upper or all leaves floating. nodosus

All leaves submerged:

Leaves linear-oblong, crisped,
translucent. crispus

Leaves filiform. pectinatus

Leaves ovate-lanceolate, membranous,
perfoliate. perfoliatus

Potamogeton nodosus Poir. in Encycl. Meth.Bot. Suppl.4:
535, 1816; Dandy in JLS. 50:531, 1937;
Subramanyam, loc.cit.95.

P. indicus Roxb. Fl.Ind. 1:452, 1832; FBI.6:565; C.3:349;
Chavan & Sabnis in JISB. 40(1):128, 1961.

An aquatic herb with upper or all leaves floating.
Leaves lanceolate-elliptic. Spikes densely flowered,
above the water surface. Fruits 3-ribbed on the back.

In shallow, stagnant waters; not common or abundant.

Flowers and Fruits: August - September.

Sabnis 1650.

Throughout the plains of India; Ceylon, Malay Islands.

Potamogeton crispus Linn. Sp.Pl.126, 1753; FBI. 6:566;
C.3:350; Chavan & Sabnis, loc.cit.; Maheshwari, 349.

Submerged, aquatic herbs. Leaves linear-oblong, crisped, translucent, finely serrulate. Flowers in few-flowered spikes. Fruits oblique, ovoid.

In shallow, stagnant waters of ponds and canals; not at all common or abundant.

Flowers and Fruits: January to April.

Sabnis 998, 3430.

Plains of India and temperate Himalaya; North and South temperate and subtropical regions.

Potamogeton pectinatus Linn. Sp.Pl.127, 1753; FBI.6:567;
C.3:350; Subramanyam, loc.cit. 95, f.55, 1-3;
Maheshwari, 349.

A submerged hydrophytic herb. Stems slender, filiform, much-branched. Leaves filiform. Flowers minute in whorls on a slender peduncle.

Not common, though locally abundant at timbi, Ajwa and Harni ponds.

Flowers and Fruits: October to March.

Sabnis 959.

Plains of India ascending to the Himalayas;
Ceylon, almost cosmopolitan.

Potamogeton perfoliatus Linn. Sp.Pl.126, 1753; FBI.6:566;
C.3:349; Subramanyam, loc.cit.95, f.55, 4-5;
Graebner in Pfreich.31:92, f.21.

Submerged, aquatic. Leaves ovate-lanceolate,
membranous, perfoliate. Flowers in short, condensed
spikes. Drupelets obliquely ovoid.

Rare; Noted in sluggish waters of river at Shahapura.

Flowers and Fruits: November to May.

Sabnis 2957, 2958.

Throughout India extending to the Himalayas
and W. Tibet; Asia, Africa, N. America, Australia.

NAJADACEAE

Najas Linn.

Leaves very narrow, remotely toothed. minor

Leaves not very narrow, closely and
prominently toothed. marina var.
muricata

Najas minor All. Fl. Pedem. 2:221, 1785; FBI.6:569;
C.3:352; Rendle in Pfreich. 7:14.

A small, dichotomously branched, submerged, aquatic herb.

Noted at Sirsa-Varoshia in stagnant waters, in running waters of Vishwamitri near Kamnath temple and also in Timbi tank, near the banks.

Flowers and Fruits: Almost during all the seasons.

Sabnis, Wet Preservation, Botany Museum.

Throughout India; Ceylon and Old World generally.

Naias marina L. var. muricata (Del.) A.Br. ex K. Schum.
in Fl. Bras. 3(3):725, 1894, non Hartmann; Rendle
in Pfreich. 7:8.

N. muricata Del. Fl. Egypt. 281, t.50, f.1, 1812.

N. major All.: FBI.6:569.

More robust than the preceding species. Leaves prominently toothed, not narrow.

A submerged aquatic noted in running waters of Mahi and Vishwamitri; abundant in the stagnant waters of Timbi tank and Ajwa lake.

Flowers: September to January.

Sabnis, Wet preservation, Botany Museum.

Throughout India in fresh and brackish waters,
ascending to 2500 m. in W. Tibet; Ceylon, Trop.
Africa, Australia, Algiers, Egypt.

My personal thanks to Dr. K. Subramanyam,
Jt. Director, Botanical Survey of India for checking
the identity of the Najas species.

ERIOCAULACEAE

Eriocaulon Linn.

Eriocaulon quinquangulare Linn. Sp.Pl. 87, 1753; FBI.6:582;
C.3:361; Trimen 5:9.

A stemless herb of rice fields and wet places. Leaves
flat, membranous, radical. Flowers white, in globose
heads at the top of the scapes.

Flowers and Fruits: October to January.

Sabnis 1776, 1866.

Throughout India; Ceylon.

CYPERACEAE

(For artificial key to the identification of sedges
of Baroda and environs as well as detailed notes on their
habit, habitat and distribution, please refer to part II
of the thesis.)

The following sedges have been collected from Baroda and its environs during the course of this work.

1. Cyperus triceps (Rottb.) Endl.
2. C. brevifolius (Rottb.) Hassk.
3. C. pumilus Linn.
4. C. michelianus (Linn.) Link ssp. pygmaeus (Rottb.)
Aschers. & Graeb.
5. C. difformis Linn.
6. C. tenuispica Steud.
7. C. leucocephalus Retz.
8. C. arenarius Retz.
9. C. compressus Linn.
10. C. squarrosus Linn.
11. C. iria Linn.
12. C. iria Linn. var. parviflorus (Nees) Miq.
13. C. bulbosus Vahl.
14. C. pangorei Rotlb.
15. C. tegetum Roxb.
16. C. rotundus Linn.
17. C. rotundus Linn. ssp. tuberosus (Rottb.) Kukenth.
18. C. esculentus Linn.
19. C. exaltatus Retz.
20. C. flabelliformis Rottb.
21. Eleocharis atropurpurea (Retz.) Kunth.

22. E. acutangula (Roxb.) Schult.
23. E. dulcis (Burm.f.) Trin. ex Henschel.
24. Fimbristylis ovata (Burm.f.) Kern.
25. F. schoenoides Vahl.
26. F. argentea Vahl.
27. F. dichotoma (Linn.) Vahl.
28. F. dichotoma (Linn.) Vahl var. diphylla (Retz.) Koyama
29. F. ferruginea (Linn.) Vahl.
30. F. digitata Boeck.
31. F. woodrowii C.B. Clarke.
32. F. tenera Roem. & Schult.
33. F. falcata (Vahl) Kunth.
34. F. littoralis Gaud.
35. F. miliacea (L.) Vahl.
36. Bulbostylis barbata (Rottb.) Clarke.
37. Scirpus articulatus Linn.
38. S. supinus Linn.
39. S. roylei (Nees) Parker.
40. S. maritimus Linn.
41. S. strobilinus Roxb.
42. S. littoralis Schrad. var. subulatus (Vahl) Chiov.
43. S. squarrosus Linn.
44. Scleria tessellata Willd.

GRAMINEAE (POACEAE)

(For keys to the groups, tribes, genera and species of Gramineae, please refer to Bor's Grasses of Burma, Ceylon, India and Pakistan 1960. Proper key have been prepared to suit the purpose of this flora following Bor, but have not been included here merely to reduce bulk. The keys will, however, be included at the time of publication of this work.)

Coix Linn.

Coix lacryma jobi Linn. Sp.Pl.972, 1753; FBI.7:100; C.3:517; Bor.264.

An erect, glabrous herb. Florets unisexual in racemes. Female floret, at the base of the raceme, enveloped by hard, polished bracts, which are bluish-grey in colour. The male florets are on the top of the female, drooping, each subtended by a bract.

A marsh-loving plant found in association with Typha angustata at Nimetta Ajwa roadside and in certain marshy areas near timbi.

Flowers and Fruits: September - October.

Sabnis 1698, 1699.

A native of Trop. Asia, now widely distributed in the tropics.

Zea Linn.

Zea mays Linn. Sp.Pl.971, 1753; FBI.7:102; C.3:574;
Bor.270.

The maize plant or 'Makai' is cultivated in various parts of the area.

Flowers and Fruits: May to October.

A native of America, cultivated in all warm countries.

Chionachne R. Br.

Chionachne koenigii (spreng.) Thw., Enum. Pl.Zeyl. 357,
1864; Bor. 262.

Coix koenigii Spreng., Syst. 1:239, 1825.

Polytoca barbata (Roxb.) Stapf. in FBI.7:102; 1896;
C.3:519.

An annual grass. Stem smooth, nodes softly bearded. Racemes paniculate on slender peduncles; sheaths spathiform, awned. Male spikelets at the top of the female spikelets.

A very rare grass found on wet grounds and under the shade of tall trees at Nimetta and also temporary pools at Tatarpur and Mastupur.

Flowers: November. . .

Sabnis 1920, 1921.

Widely distributed in India, Ceylon and Burma,
but apparently absent in the dry north western parts.

Saccharum Linn.

Saccharum spontaneum Linn. Mant. Alt. 183, 1771;
FBI.7:118; C.3:465; Blatt. & McC. Bomb. Grasses 45;
Bor.214; Maheshwari, 371.

A tall perennial grass. Panicles silvery-white,
shining, quite elegant.

Noted on waste places along roadside as well as on
the banks of rivers and ponds.

Flowers and Fruits: August to February.

Sabnis 516, 3203.

Widely distributed in the warmer regions of
the Old World.

Saccharum officinarum Linn. Sp.Pl.54, 1753; FBI.7:118;
C.3:466; Blatt. & McC. loc.cit.46; Maheshwari, 371,
Bor.212.

The Sugar cane, sometimes cultivated in certain
parts of this area, especially the L.V. Palace compound.

Eulaliopsis Honda

Eulaliopsis binata (Retz.) C.E. Hubbard in Hook. Ic.Pl.
sub tab. 3262, 1935; Bor 158.

Andropogon binatus Retz., Obs.Bot.5:21, 1789.

Ischaemum angustifolium (Trin.) Hack. in DC. Monogr.
Phan. 6:241, 1889; FBI.7:129; C.3:478.

A tufted, perennial grass. Racemes 2-4 on axillary and terminal, filiform peduncles, erect or flexuous, golden or rusty villous.

A rare grass of roadsides near vasad; probably introduced.

Flowers: June

Sabnis 2501, 2502.

Widely distributed in Northern India extending to Burma, Siam, China and the Philippines.

Eulalia Kunth.

Eulalia trispicata (Schult.) Henr. in Blumea 3:453,
1940; Bor.157.

Andropogon trispicatus Schult., Syst.Veg.2:452, 1824.

Pollinia argentea Trin. in Bull. Acad. Sci.
Petersb. 1:71, 1836; FBI.7:111; C.3:467.

A tufted perennial. Racemes 6-12 or more 2.5-15 cm. long, lax; flexuous; pedicels of the spikelets densely silky villous.

On wet soils on the Nimetta Ajwa road.

Flowers and Fruits: September to November.

Sabnis 1704, 1705.

Throughout India in the plains and hills; Burma, Malayasia, Ceylon, Australia.

Ischaemum Linn.

Ischaemum indicum (Houtt.) Merrill in JAA.19:320, 1938.
var. indicum; Bor.180.

I. aristatum auct. non Linn. (1753).

An erect annual. Racemes 1 or 2, 2.5-10 cm. long; sessile and pedicellate spikelets closely pressed together; awns conspicuous.

Noted in waste places and fallow and cultivated fields.

Flores and Fruits: July to March.

Sabnis 1623, 2048.

Peninsular India and S.E. Asia generally.

Ischaemum rugosum Salisb. Icon.Strip.Rar. 1, t.1, 1791;
FBI.7:127; C.3:477; Bor.184.

An annual. Leaves linear, with scabrid margins.
Racemes 2, pale yellow at first, protected by leafy
sheath, spikelets up to 6 mm. long, sessile and pedicellate,
closely pressed together.

A variable plant of marshy places near Harni and
Nimetta.

Flowers and Fruits: September to November.
Sabnis 1751, 1752.

All over the plains and low hills of India,
Burma, Malaya, Siam to China, etc.

Apluda Linn.

Apluda mutica Linn. Sp.Pl.82, 1753; Bor.93.

A. aristata Linn. Amoen. Acad.4:303, 1756; Bor.
Fl.As. 5:431; Maheshwari, 369.

A. varia Hack. in DC. Monogr. Phan. 6:196, 1889;
FBI.7:150; C.3:474.

An erect annual grass. Inflorescence a panicle of
racemes or spikes, each one enclosed in a spathe.
Spikelets sessile and pedicellate.

Very common in hedges and bushes; also as a weed in some winter crops.

Flowers and Fruits: September to November.

Sabnis 1692.

Throughout India; S.E. Asia and as far as Australia.

Hackelochloa O. Kuntze

Hackelochloa granularis (Linn.) O. Ktze. Rev. Gen.Pl.776, 1891; Bor. 159.

Cenchrus, granularis Linn. Mant.2:575, 1771.

Manisuris granularis Linn. f. Nov.Gram.Gen. 40, 1779; FBI.7:159; C.3:473.

An erect, leafy annual. Inflorescence consisting of solitary, axillary racemes resembling a string of minute beads. Spikelets sessile and pedicellate.

Not common; on rocky or stony grounds, preferably under shade.

Flowers and Fruits: September - October.

Sabnis 1696.

Throughout the tropics.

Hemarthria R. Br.

Hemarthria compressa (Linn.f.) R. Br. Prodr.207, 1810;
Bor.161.

Rottboellia compressa Linn. f. Suppl. 114, 1781;
FBI.7:153; C.3:470.

A hygrophilous perennial. Racemes erect, straight; joints of the rachis thickened by the fusing of the pedicels; spikelets sessile and pedicellate.

Not at all common; noted in water channels near Sevasi and on marshy borders and shallow waters of the pond at Harni.

Flowers and Fruits: August to October.

Sabnis 2150.

Throughout the hotter parts of India, ceylong
Burma and Malayasia.

Ophiuros Gaertn. f.

Ophiuros megaphyllus Stapf ex Haines, Bot.Bihar and
Orissa, 1058, 1924; Bor.199.

O. corymbosus of FBI.7:160, 1896, pro parte; C.3:468.

Perennial grass. Leaves linear lanceolate, hairy above, glabrous beneath, margins spinulose. Spikes slender, long, often in dense, corymbose fascicles.

Along the roadside and banks of temporary pools;
rare.

Flowers and Fruits: October to December.

Sabnis 1922.

Sorghum Moench (nom.cons.prop.)

Sorghum halepense (Linn.) Pers. Syn. 1:101, 1805;
Blatt. & McC.Bomb.Grasses 55, t.37; Bor.Gr.
U.P.200, t.60 & Bor.222.

Holcus halepensis Linn., Sp.Pl.1047, 1753.

Andropogon halepensis Brot. Fl.Lus. 1:89, 1804;
FBI.7:182; C.3:502.

A tall, robust, perennial grass. Inflorescence
a compound panicle.

Noted forming tussocks on waste lands or on muddy
soils of the river banks along with Saccharum spontaneum
Linn.

Flowers and Fruits: July to April.

Sabnis 1964.

Widely distributed in India and in most warm
parts of the earth; cultivated in America.

Sorghum vulgare Pers. Syn. 1:101, 1805; Blatt. & McC.
Bomb. Grasses 58.

Andropogon sorghum Brot.Fl.Lus. 1:88, 1804;
FBI.7:183; C.3:511.

The 'great millet' or 'jowar' is cultivated at
a few places in the area for the grain.

Chrysopogon Trin.

Chrysopogon fulvus (Spreng.) Chiov., Fl.Somala 1:327,
1929; Bor 116; Maheshwari, 401.

Pollinia fulva Spreng. Pugill. 2:10, 1815.

Andropogon monticola Roem. & Schult., Syst.Veg.
2:665, 1827; FBI.7:192; Trimen 5:236; C.3:505.

A tall, densely tufted perennial. Panicles open;
rachis slender, branches capillary, whorled.

On dry or water-logged soils on Nimetta-Ajwa road.

Flowers and Fruits: August to October.

Sabnis 1702, 1703.

Tropics of Asia and East Africa.

Vetiveria Lem.-Lisanc.

Vetiveria zizanioides (Linn.) Nash in Small, Fl.South-
east U.S. 67, 1903; Blatt. & McC.Bomb. Grasses
65, t.40; Bor.258; Maheshwari, 402.

Phalaris zizanioides Linn., Mant. Pl.2:183, 1771.

Andropogon squarrosus Hk.f. in FBI.7:186, 1896
(non Linn. f.)

A tall, perennial grass. Inflorescence a panicle of racemes appressed to the main axis; spikelets sessile, linear-lanceolate.

Noted on the margins of ponds or temporary pools; not cultivated.

Local name: Khus

Flowers and Fruits: August to October.

Local uses: The sweet scented roots are used for making curtains.

Sabnis 2533.

India, Burma, Ceylon, S.E. Asia to Trop.Africa.

Capillipedium Stapf.

Capillipedium assimile (Steud.) A. Camus in Lecomte,
Fl.Gen. de l' Indo-Chine 7:314, 1922; Bor.110.

Andropogon assimilis Steud. in Zoll., Syst.Verz.
58, 1854 & in Syn.Pl.Glum.1:397, 1854;
FBI.7:179; C.3:501.

Annual. Stems hard, smooth. Spikelets in lax panicles.

In the crevices of the walls of old water reservoir and also on sandy gravels at Nimetta and surrounding villages.

Flowers and Fruits: February to May.

Sabnis 2052.

A very common grass in India, Burma, Siam, China, Japan.

Pseudanthistiria (Hack.) Hook. f.

Pseudanthistiria hispida Hook. f., FBI.7:219, 1896;
C.3:512; Chavan & Mehta in JMSU. 7(2):74, 1958;
Bor.203.

An annual. Stems 25-50 cm. high, polished; nodes glabrous. Leaves narrow, spinulose on the margins. Panicles leafy; branches slender, filiform, each bearing a single raceme clothed by a proper spathe; spathes hirsute with bristles. Spikelets sessile and pedicellate with awns.

Infrequent on barren soils at Danteshwar.

Flowers and Fruits: September - October.

Sabnis 1757.

Bombay, Gujarat, Madhya Pradesh.

Eremopogon (Hack.) Stapf.

Eremopogon foveolatus (Del.) Stapf in Prain, Fl.Trop.
Afr.9:183, 1917; Bor.148.

Andropogon foveolatus Del., M. Fl. d'Egypte 16,
t.8, f.2, 1812.

A densely tufted grass. Stems 25-50 cm. long;
nodes bearded. Inflorescence consisting of a solitary
raceme of sessile and pedicellate spikelets; spikelets
with long awns.

On sandy waysides and on the lawns of gardens.

Flowers and Fruits: August to October.

Sabnis 1723.

Drier parts of N.W., Central and S. India
extending up to northern and tropical Africa.

For detailed notes on the identity and
nomenclature of this plant, please refer to Bor,
loc.cit. 149.

Bothriochloa O. Ktze.

Bothriochloa pertusa (Linn.) A. Camus in Ann.Soc.Linn.
Lyon, 1930, n.s. 76:164, 1931; Bor 109.

Holcus pertusus Linn., Mant. Alt.301, 1771.

Andropogon pertusus (Linn.) Willd., Sp.Pl.4:922,
1806; FBI.7:173; C.3:497.

Slender, erect perennial. Nodes bearded. Racemes
subdigitately fasciculate, whitish or pale purplish;
joints and pedicels very much ciliate. Spikelets
sessile and pedicellate.

Noted as dominant in disturbed grassland associations
at Timbi and L.V. Palace compound.

Flowers and Fruits: September - October.

Sabnis 1680.

Eastwards from Arabia to S.E. Asia. Trop.Africa.

Dichanthium Willemet

Dichanthium caricosum (Linn.) A. Camus in Bull.Mus.
Hist.Nat.Paris 27:549, 1921; Bor.134.

Andropogon caricosus Linn., Sp.Pl. (ed.2) 1480,
1763; FBI.7:196; C.3:507.

Rare; on wet soils or in shade at Makarpura; not
so far observed elsewhere.

Flowers and Fruits: September

Sabnis 1721; 19.9.58, Makarpura.

India, Burma, Ceylon, extending to Malaya
and China.

Dichanthium annulatum (Forssk.) Stapf in Prain, Fl.

Trop. Afr. 9:178, 1917; Blatt. & McC. Bomb.
Grasses 94, t.62; Bor.Gr. U.P.116, t.25 &
Bor.133.

Andropogon annulatus Forssk., Fl.Aegypt.-Arab.173,
1775; FBI.7:196; C.3:508.

A very common grass, reaching a height of 50-75 cm.
It resembles Bothriochloa pertusa A. Camus but is
easily distinguished by the absence of the pit in
the lower glume.

Flowers and Fruits: September to December and
even later.

Local uses: An excellent fodder grass.

Sabnis 1683, 1684.

Widely distributed in India; Burma, Tropical
and North Africa.

Cymbopogon Spreng.

Cymbopogon martinii (Roxb.) Wats. in Atkins., Gaz.

N.W.Prov.Ind.392, 1882; Bor.129.

Andropogon martinii Roxb., Fl.Ind.1:280, 1820.

A. schoenanthas var. martinii Hook. f., FBI.7:204,
1896.

A tall, perennial grass, frequently occupying large areas especially during monsoon. Spikelets greenish or reddish.

Once cultivated for the aromatic essential oil now in a wild state on abandoned lawns and along roadsides in the L.V. Palace compound and Nimetta area.

Flowers and Fruits: August to May.

Sabnis 1256, 1838, 2084.

Very common in India and S.E. Asia generally.

Andropogon Linn.

Andropogon pumilus Roxb. Fl.Ind. 1:277, 1820; Bor.93.

A slender, annual grass. Leaves linear, finely acuminate.

Scattered individuals noted in pastures at Harni, Nimetta and Vasad.

Flowers: September - October.

Sabnis 3177.

Drier parts of India.

Iseilema Anderss.

Iseilema anthephoroides Hack. In DC., Monogr.Phan. 6:683, 1889; FBI.7:219; Achariyar, S.Ind.Gr.219, ff.169, 170; Bor 187.

An annual grass; noted on the margins of the temporary pools or on wet soils at Harni.

Flowers: July - October.

Sabnis 1607.

Bombay state, South India.

Iseilema laxum Hack. in DC., Monogr.Phan.6:862, 1889;
FBI.7:218; C.3:516; Achariyar, S.Ind.Gr.216,
ff.167, 168; Bor 188.

Erect, ascending or prostrate perennial. Inflorescence a long panicle consisting of fascicles of spikelets interspersed with spathe like bracts.

Noted on pond banks at Harni.

Flowers: September.

Sabnis 1753.

W., Central and S. India; Ceylon.

Iseilema prostratum (Linn.) Anderss. in Nov.Act.Soc.
Upsal.Ser.3, 2:251, 1856; Bor 188.

Andropogon prostratus Linn., Mant.Alt.304, 1771.

Iseilema wightii Anderss. in Nov.Act.Soc.Sci.
Upsal.Ser.3, 2:251, 1856; FBI.7:218; C.3:516.

Prostrate or ascending perennial. Panicles compound; spikelets 2-5 in a cluster subtended by spathes on a slender zigzag main rachis.

In marshes near Nimetta.

Flowers: September - October, rarely in summer.

Sabnis 2042.

Throughout India, Burma.

Themeda Forssk.

Themeda triandra Frossk., Fl.Aegypt.-Arab. 123 et 178, 1775; Bpr, Gr. U.P.208 & Bor. 254.

T. imberbis (Retz.) Cooke, Fl.Bomb. 3:513.

A tall perennial. Panicles branched, branches bearing capituliform, dense, distant fascicles of racemes; spathe lanceolate, bearded at the base, greenish or with red tinge.

A dominant, species of disturbed grasslands at Timbi, Nimetta and on abandoned lawns in the L.V. Palace compound.

Flowers and Fruits: September to March.

Sabnis 2484.

All warm and tropical regions of the Old World.

Themeda quadrivalvis (Linn.) O. Ktze., Rev.Gen.Pl.2: 794, 1891. var. quadrivalvis; Bor.252.

Andropogon quadrivalvis Linn. in Murr., Syst.Veg.
ed.13, 758, 1774.

Anthistiria ciliata Linn. f., Suppl. 113, 1781;
FBI.7:213.

Themeda ciliata (Linn.f.)Hack. in DC., Monogr.
Phan. 6:664, 1889; C.3:514.

A stout annual (?). Stems suberect, terete, glabrous.
Panicles suberect, bearing at equal distances, shortly
pedunculate clusters of racemes; spikelets brown-red.

Not common; noted at Nimetta and Harni.

Flowers: August to October.

Sabnis 1710, 2531.

Throughout India.

Heteropogon Pers.

Heteropogon contortus (Linn.) Beauv. ex Roem. & Schult.,
Syst.Veg. 2:836, 1817; Blatt. & McC. Bomb.
Gr.109, t.71; Bor 163; Maheshwari, 374.

Andropogon contortus Linn. Sp.Pl.1045, 1753;
FBI.7:199; C.3:510.

An erect or decumbent, tufted, slender perennial.
Inflorescence a single, terminal raceme or more often
several flowering branches. Spikelets closely imbricate,
lower awnless male or neuter, upper long-awned, female.

A very troublesome grass because of the twisted awns. It is a good fodder grass; fairly common in the area.

Flowers and Fruits: October to May.

Sabnis 1416, 2544, 3029.

Widely distributed in the tropics, ascending in the Himalaya to 2000 meters.

Rhynchelytrum Ness.

Rhynchelytrum repens (Willd.) C.E. Hubb. in Kew Bulletin 110, 1934; Bor 355.

Saccharum repens Willd., Sp.Pl.1:322, 1798.

An ornamental grass, cultivated in the University Botanical garden for the showy spikelets.

Flowers and Fruits: September to October.

Sabnis 1875.

Trop. and S. Africa, now introduced into most warm countries.

Panicum Linn.

Panicum trypheron Schult., Syst.Veg.2:244, 1824; Bor 331.

An erect or ascending, tufted annual. Leaves thin, flat, linear. Inflorescence a panicle of lateral racemes on which the spikelets are distantly attached. Spikelets pedicellate, ovoid, glabrous.

A very rare grass of marshes near Nimetta.

Flowers: September...

Sabnis 2542.

In the plains and hills of India extending into S.E. Asia.

Panicum sumatrense Roth ex Roem. & Schult., Syst.Veg. 2:434, 1817; Bor 701.

Panicum miliare Lamk. Tab; Encycl. Meth.Bot.1:173, 1791; FBI.7:46; C.3:456; Bor 329.

An annual grass. Leaves linear, flat, flaccid. Panicles very compound, contracted, erect or nodding. Spikelets solitary or in pairs, ellipsoid or ovate acute.

Usually cultivated but also wild and naturalized.

Flowers: February - March.

Sabnis 3171 ; 7.3.61, Vasad.

Cultivated in some parts of India; S.E. Asia, Malaysia.

Panicum antidotale Retz., Obs.Bot.4:17, 1786; FBI.7:52;
C.3:453; Bor 322.

A tall, perennial grass. Panicles compound,
pyramidal. Spikelets ovoid, acute, lax, though
crowded on the branchlets.

Usually cultivated but also wild and naturalized;
not common.

Flowers and Fruits: February to May.

Sabnis 1551, 3173.

N.W. India, Gujarat extending up to Madras;
Afghanistan, Persia.

Setaria Beauv. (nom.cons.)

Setaria verticillata (Linn.) P. Beauv. Ess.Agrost. 51,
1812; FBI.7:80; C.3:436; Blatt. & McC. Bomb.
Grasses 174; Bor 365.

An annual grass. Culms erect, with a conspicuous
channel on one side. Panicles spike-like, erect,
straight. Spikelets ellipsoidal.

In the shade of bushes and hedges in moist places.

Flowers and Fruits: September to April.

Sabnis 1425, 1708.

Widely distributed in the tropics and temperate
regions of the old world, introduced into America.

Setaria tomentosa (Roxb.) Kunth, Rev. Gram. 1:47, 1829;
Raizada in Ind. Forester 80:40, 1954; Bor 365;
Maheshwari, 379.

Panicum tomentosum Roxb. Fl. Ind. 1:303, 1820.

Setaria intermedia Roem. & Schult. Syst. 2:489,
1817; FBI. 7:79; C. 3:436; Blatt. & McC. Bomb.
Grasses 174.

An annual, with geniculately ascending culms.
Panicles lax, interrupted, bristly from base to apex.

A very common grass in hedges, on abandoned lawns
waste places and cultivated fields, preferably under
shade.

Flowers and Fruits: September to April.

Sabnis 928, 1669, 3519.

Plains and hills of India; Burma, Ceylon,
Malaysia and Polynesia.

Setaria pallide-fusca (Schumach.) Stapf & C.E. Hubb. in
Kew Bulletin 259, 1930; Bor 363.

Panicum pallide-fuscum Schumach. Beskr. Guin. Pl. 58,
1827.

A tufted annual. Spike erect, dense; branches
reduced to involucre bristles, supporting a solitary,
perfect spikelet.

Often confused with S. glauca (L.) Beauv.; found in waste situations near ponds, ditches etc.

Flowers: August (2.8.58)

Sabnis 1654.

Tropics of the Old World.

Eriochloa Kunth

Eriochloa procera (Retz.) C.E. Hubbard in Kew Bulletin 256, 1930; Bor 312; Chavan & Mehta in JMSU. 7(2):75, 1958.

Agrostis procera Retz. Obs.Bot.4:19, 1786.

Eriochloa polystachya Hook. f., FBI.7:20, 1896 (non H.B.K.); C.3:461.

"A tufted perennial on wet clayey cliffs." (Chavan & Mehta, loc.cit.) at Harni, Nimetta, Virod, Bhaniara.

Flowers and Fruits: September to November.

Sabnis 2.11.58, Virod Bhaniara.

Plains of India; Burma, Ceylon, S.E. Asia,
Trop. Africa.

Echinochloa Beauv.

Echinochloa colonum (Linn.) Link, Hort.Berol.2:209, 1833; Bor, Gr. U.P. 122 & Bor 308; Maheshwari, 393.

Panicum colonum Linn. Syst.Nat. (ed.10) 2:870,
1759; FBI.7:32; C.3:447.

An erect or ascending annual. Spikes sessile,
simple, distant, often appressed to the axis. Spikelets
globose-ovoid, crowded.

A common grass of wet situations along the banks
of ponds, puddles and roadside ditches and also in
cultivated fields.

Local name: Samo

Flowers and Fruits: September to February.

Sabnis 1646.

Trop. Asia and Africa.

Echinochloa crusgalli (Linn.) P. Beauv. Agrost.53,
1812; Bhatt & McC. Bomb. Grasses 150, t.95;
Bor 310; Maheshwari, 393.

Panicum crusgalli Linn. Sp.Pl. 56, 1753; FBI.7:30,
pro parte.

Noted in a wild state; only a few plants observed
at Vasad (7.3.61)

Sabnis 3175.

Throughout India; Ceylon, S.E. Asia, subtropical
Africa.

Oplismenus Beauv.

Oplismenus burmannii (Retz.) Beauv. Agrost. 54, 1812;
 FBI.7:68; Blatt. & McC. Bomb. Grasses 154,
 t.97; Bor 317.

Panicum burmannii Retz. Obs. Bot. 3:10, 1783.

Prostrate, slender annual. Leaves ovate-lanceolate.
 Spikes secund, close, in ~~the~~ short panicles.

Noted on cobbled or sandy pathways under the canopy
 of trees or under direct sunlight in the L.V. Palace
 compound.

Flowers and Fruits: August to November.

Sabnis 2363.

Widespread in the tropics of both hemispheres.

Oplismenus compositus (Linn.) Beauv. Agrost. 54, 1812;
 FBI.7:66; Blatt & McC. Bomb. grasses 152,
 t.96; Bor. Gra. U.P. 157, t.42A & Bor 317;
 Maheshwari 394. Shah in Ind. Forester.

A branching grass. Spikelets distant, in panicles
 with distant branches.

Not observed by me in the field; but included here
 on the authority of Shah, loc.cit.

Tropics of the Old and New Worlds.

Paspalidium Stapf.

Paspalidium flavidum (Retz.) A. Camus in Lecomte,
Fl. Gen. de l'Indo-Chine 7:419, 1922; Bor 333.

Panicum flavidum Retz. Obs.Bot. 4:15, 1786; FBI.7:
28; C.3:445.

A tufted annual. Spikes closely appressed to the axis, arranged in a panicle. Spikelets closely imbricate, ovate or elliptic.

Common in marshy places along the banks of ponds and canals.

Flowers and Fruits: August to March.

Sabnis 1676.

Tropical Asia.

Paspalidium geminatum (Forssk.) Stapf in Prain, Fl.
Trop.Afr. 9:583, 1920; Bor 333.

Panicum geminatum Forssk. Fl.Aegypt.-Arab.18, 1775.

P. fluitans Retz. Obs. Bot. 3:8, 1783; FBI.7:30;
C.3:446.

In marshy places among taller grasses at Nimetta and surrounding places.

Flowers: April

Sabnis 2050.

Trop. Africa and Asia.

Paspalum Linn.

Paspalum vaginatum Swartz, Prodr. Veg. Ind. Occ. 21, 1788;
Chavan & Mehta in JMSU. 7(2):76, 1958. Bor 340.

"A perennial, rooted in mud and forming mats in shallow waters of ponds and along river banks". In all marshy areas amidst tall vegetation.

Flowers: June - September.

Sabnis 1611.

Tropics and subtropics of the world.

Paspalum scrobiculatum Linn. Mant. Pl. 1:29, 1767; Fl. 7:10;
C. 3:460; Bor 340.

Occasionally cultivated on poorer soils for the grain, which is collected and eaten under the name 'kodru'.

Flowers: June.

Sabnis 2505.

Brachiaria Griseb.

Brachiaria eruciformis (J.E. Sm.) Griseb. in Ledeb,
Fl. Ross. 4:469, 1853; Bor 283,

Panicum eruciforme J.E. Sm. in Sibth et. J.E. Sm.,
Fl. Graeca 1:44, t. 59, 1806.

P. isachne Roth ex Roem. et Schult. Syst. Veg. 2:458,
1817; FBI.7:28; C.3:448.

An annual grass, geniculately ascending. Noted
in cultivated fields, lawns and waste places.

Flowers and Fruits: September to October.

Sabnis 1888.

India westwards to Spain and North Africa.

Brachiaria reptans (Linn.) Gard. et C. E. Hubb. in Hook.
Icones Pl. Subtab. 3363, 1938; Bor 285.

Panicum reptans Linn. Syst. 870, 1759.

A slender annual, ascending and rooting at the
nodes; noted commonly in hedges in shade.

Flowers and Fruits: May to September.

Sabnis 1480, 1747.

Tropics of the Old and New Worlds, Polynesia to
northern Australia.

Brachiaria ramosa (Linn.) Stapf in Prain, Fl. Trop.
Africa 9:542, 1919; Blatt. & McC. Bomb. Grasses
134, t.86; Bor 284; Maheshwari, 397.

Panicum ramosum Linn. Mant.Pl.29, 1767; FBI.7:36,
pro parte.

An annual, branching from the base; noted in moist
lawns during monsoon.

Flowers and Fruits: June to October

Sabnis 1673.

Tropics of the Old World.

Brachiaria distachya (Linn.) Stapf in Prain, Fl.Trop.
Afr.9:565, 1919; Bor 281; Maheshwari, 398.

Panicum distachyon Linn., Mant.Alt.183, 1771.

Digitaria distachya (Lin.) Pers., Syn. Pl.1:85,
1805.

A slender grass with hairy nodes. Leaves linear-lanceolate. Rarely noted along the banks of streams and nallahs, in the shade of taller vegetation.

Flowers and Fruits: September. . .

Sabnis 1728.

India, Burma, Ceylon and the Malayan region
to Australia.

Digitaria Heist ex Fabr.

Digitaria violascens Link, Hort. Berol. 1:229, 1827;
Chavan & Mehta in JMSU 7(2):75, 1958; Bor 307.

"Rare along the slopes of little elevations of
wet soils at Harni".

Flowers: 25.8.58, Harni Tanks.

Sabnis 1749.

Tropics of both hemispheres.

Digitaria stricta Roth ex Roem. et Schult., Syst.Veg.

2:474, 1817. var. stricta; Bor 305.

D. royleana (Nees) Prain, Beng. Plants, 1182, 1903;

C.3:459.

Paspalum royleanum Nees ex Thw., Enum. 358, 1864;

FBI.7:18.

A perennial grass. Inflorescence consisting of 9 or more spikes on a slender peduncle; rachis slender, narrowly winged.

Occasional in damp situations.

Flowers and Fruits: August - September.

Sabnis 1678.

Trop. Asia, including many parts of India, Burma, Ceylon.

Digitaria granularis (Trin. ex Spreng.) Henr., Monogr.

Gen. Digitaria, 302, 1950; Bor 301.

Paspalum granulare Trin. ex Spreng., Neue Entdeck.

2:47, 1821.

D. pedicellaris (Trin) Prain, Beng. Plants, 1182,

1903.

Paspalum pedicellare Trin. ex stend. in Hk.f.,
FBI. 7:19, 1896.

A small, slender grass. Leaves linear, finely acuminate. Spikes 3-10, alternately arranged on a slender peduncle; rachis capillary, pedicels filiform; spikelets very small.

Rare; on lawns and open grounds.

Flowers and Fruits: July to August

Sabnis 2311.

Trop. Asia.

Digitaria adscendens (H.B. & K.) Henrard in Blumea
1:92, 1934; Bor 298; Maheshwari, 389.

Panicum adscendens H.B. & K. Nov.Gen. & Sp.1:97,
1815.

An annual grass. Spikes 2 or more; spikelets bearded with soft, spreading hairs.

A very common grass, found in all types of habitat.

Flowers and Fruits: August to November.

Sabnis 1420, 2546.

Tropics of the Old World.

Alloteropsis Presl emend. Hitchc.

Alloteropsis cimbicina (Linn.) Stapf in Prain, Fl.

Trop.Afr. 9:487, 1919; Blatt. & McC. Bomb.

Grasses 129, t.83; Maheshwari, 387; Bor.276.

Milium cimbicinum Linn., Mant.Alt.184, 1771.

Axonopus cimicinus Beauv. Agrost. 12, 1812;

FBI.7:64; C.3:441.

Erect or decumbent, annual grass. Racemes spike-like, 4-5, borne on the top of slender peduncle.

In moist places and sometimes in the crevices of stony steps.

Flowers and Fruits: July to October.

Sabnis 1609.

Throughout India in the plains and lower foothills; Burma, Ceylon, Trop. Africa and Australia.

Pennisetum Rich.

Pennisetum typhoides (Burm.) Stapf & Hubbard in Kew

Bulletin 271, 1933; Bor 350.

Alopecurus typhoides Burm., Fl.Ind. 27, 1768.

The pearl millet or 'Bajri' commonly cultivated in various parts of the area.

Sabnis 2347; 27.10.59, L.V. Palace compound.

Cultivated in many parts of India and in
Trop. Africa.

Cenchrus Linn.

Cenchrus ciliaris Linn., Mant. Alt. 302, 1771; Raizada
in Ind. Forester 80:40, 1954; Bor 287;
Maheshwari, 377.

Pennisetum cenchroides Rich. in Pers. Syn. 1:72,
1805; C. 3:432; Achariyar, S. Ind. Gr. 118, f. 116.

A tufted grass. Racemes cylindric, pale purplish;
involucre of 2 series of bristles.

A common grass of waste places and cultivated
fields.

Flowers and Fruits: July to March.

Sabnis 1257, 2126.

Hotter and drier parts of India, Mediterranean
region, Trop. and S. Africa; introduced into
Australia and America.

Cenchrus setigerus Vahl, Enum. 2:395, 1806; Bor 290.

C. biflorus Hook. f. in FBI. 7:89, 1896 (non Roxb.);
C. 3:433.

An annual, tufted grass. Racemes cylindric.
Spikelets ovate-oblong, 2-flowered.

Occasionally noted on dry, sandy as well as on
wet soils in open situations.

Flowers and Fruits: March to July.

Sabnis 2055, 2124.

N.W. and W. India; widespread in north-east
Trop. Africa.

Cenchrus biflorus Roxb. Fl.Ind. 1:238, 1820; FBI.7:89;
Achariyar, S.Ind.Gr. 121; Blatt. & McC. Bomb.
Grasses 185, t.118; Bor 287; Maheshwari, 377.

C. catharticus Delile, Cat.Hort.Monsp.1838, 4, 1839
& in Linnaea 13:Litt.-Bericht.103, 1839;
FBI.7:90; C.3:433.

Erect or ascending grass. Raceme solitary, cylindric;
bristles spiny.

Common on waste ground and fallow fields.

Flowers and Fruits: February to May.

Sabnis 2053.

Upper gangetic plains and W. India; also in
Africa.

Pseudoraphis Griff.

Pseudoraphis spinescens (R.Br.) Vickery in Proc. Roy.
Soc. Queensl. 62(7):69, 1952; Bor 353;
Subramanyam, Aquat. Angios 110, f.61, 1962.

Panicum spinescens R.Br., Prodr. 193, 1810.

Chamaeraphis spinescens (R.Br.) Poir. in Lamk.
Encycl. 2:189, 1811; FBI.7:62; C.3:437;
Achariyar, S. Ind. Gr. 102, f.104.

Pseudoraphis aspera (Koen.) Pilger in Notizbl. Bot.
Gard. Berlin 10:210, 1928; Biswas & Calder,
Water & Marsh Pl. Ind. & Burma 128.

An aquatic grasses either floating on the water
or rooting in shallow waters. The culms are bearded
at the nodes. Sessile spikelet 4-6 mm. long; lemma
of the lower floret acuminate-aristate.

Found on the water surface of a few ponds and
puddles in this area.

Flowers and Fruits: October to March.

Sabnis 10.10.58, Vaida-Wadi; 25.2.59,
Danteshwar Tank.

India, Ceylon, Burma and S.E. Asia generally,
extending to China and Borneo, and from New
Guinea to Australia.

Bambusa Schreb. (nom cons.)

Bambusa arundinacea Willd. Sp. Pl. 2:245, 1799; C. 3:569.

Tall, graceful trees. Stems many tufted on a stout rootstock. Inflorescence an enormous panicle.

Planted in Public park and University gardens for ornamental purposes.

Local name: Vans.

Flowers: October to March (very rare)

Dendrocalamus Nees

Dendrocalamus strictus Nees in Linnaea 9:476, 1834;
FBI. 7:404; C. 3:572.

Tall, elegant trees, cultivated for their beauty in the local gardens.

Local name: Vans.

Flowers: September to February (rare)

Sabnis 1354.

Aeluropus Trin.

Aeluropus lagopoides (Linn.) Trin. ex Thw. Enum. 374,
1864, sphalm. "lagopodioides"; Bor 380.

Dactylis lagopoides Linn. Mant. 33, 1767.

Aeluropus villosus Trin. ex C.A. Mey. Verz. Pfl.
Cauc. 18, 1831; FBI.7:334; C.3:567.

Perennial herb. Stems tufted. Spikelets in
short ovoid or oblong, crowded heads.

Noted on the dry, sandy banks of river Mahi at
Umeta and Dabka.

Flowers and Fruits: May - June.

Sabnis 2509.

Shores and salt marshes from Madras to Persia
and inland in salt areas in the Punjab, extending
to the Mediterranean region and N.E. Africa.

Dinebra Jacq.

Dinebra retroflexa (Vahl.) Panz. in Denkschr. Acad.
Wiss. München, 270, t.12, 1814; Bor 491.

Cynosurus retroflexus Vahl, Symb.Bot.2:20, 1791.

Dinebra arabica Jacq., Fragm. 77, t.121, f.1,
1807; FBI.7:297; C.3:562.

Annual grass. Stems erect or ascending. Leaves
linear, finely acuminate, contracted at the insertion.
Spikes racemosely arranged; spikelets very small,

alternate, sessile; involucral glumes lanceolate, hyaline, keeled, with scaberulous awns.

Occasionally as a weed in cultivated fields and in marshy places at Sirsa-Varoshia, Harni and Nimetta.

Flowers: Autust - September.

Sabnis 1656.

Western India westward to E. Africa.

Eragrostis Beauv. emend. Reichb.

Eragrostis ciliaris (Linn.) R.Br. in Tuckey, Narr.

Exp.Congo, App. 478, 1818; Bor.506.

Poa ciliaris Linn., Syst.Nat. ed.10, 2:875, 1759.

A weak, ascending, annual grass. Spikelets gathered in spike-like, cylindrical panicle.

Common on sandy or clayey soils on waste grounds and in hedges.

Flowers: October.

Sabnis 1793.

Tropics and subtropics of the old and New Worlds.

Eragrostis viscosa (Retz.) Trin. in Mem. Acad. Petersb.
(ser.6) 1:397, 1831; Blatt. & McC. Bomb. Gr.
233; Bor, Gr. U.P. 127 & Bor 515.

Poa viscosa Retz. Obs. 4:20, 1786.

A tufted, viscid, erect annual. Panicles dense,
with many slender, filiform branches. Spikelets
purplish, small, grain-like.

Common as a weed in gardens, cultivated fields
roadsides and on the elevated banks of rivers.

Flowers and Fruits: October to February.

Sabnis 1816, 1891, 2924.

India; Trop. & S. Africa.

Eragrostis tenella (Linn.) Beauv. ex Roem. & Schult.,
Syst.Veg.2:576, 1817; Bor 513; Maheshwari, 386.

Poa tenella Linn., Sp.Pl.69, 1753.

P. plumosa Retz. Obs. Bot.4:20, 1786.

Eragrostis tenella var. plumosa (Retz.) Stapf. in
in Hk. f. F&I. 7:315, 1896; C.3:545.

An erect or ascending annual. Panicles loose or
dense and contracted, green or purplish.

Common along roadsides and in the crevices of the
old walls.

Flowers and Fruits: June to November

Sabnis 1918.

Widespread in Old World tropics; introduced into America.

Eragrostis japonica (Thunb.) Trin. in Mem.Acad.Sci. Petersburg., (ser.6) 1:405, 1831; Bor 509.

Goa japonica Thumb., Fl.Jap. 51, 1784.

A tufted grass. Panicles long, almost linear; branches usually whorled; spikelets small.

One of the common weeds in cultivated fields, ditches and river banks.

Flowers and Fruits: September - November.

Sabnis 1795, 2926.

Trop. Asia.

Eragrostis unioloides (Retz.) Nees ex Stend., Syn. Pl. Glum. 1:264, 1854; Bor, Gr. U.P.129, t.29 & Bor 515.

Poa unioloides Retz. Obs.Bot.5:19, 1789.

Eragrostis amabilis of FBI.7:317, 1896; C.3:546.

A small, glabrous annual, leafy at the base. Panicles not much branched; spikelets compressed, pedicellate, faintly purplish; glumes distichous, keeled.

Along roadside and in cultivated fields; rare.

Flowers and Fruits: September - November.

Sabnis 1712.

India; Burma, Ceylon.

Eragrostis pilosa (Linn.) Beauv., Ess.Agrost.71, 162,
175, 1812; Bor, Gr.UpP.132 & Bor 512.

Poa pilosa Linn. Sp.Pl.68, 1753.

A loosely tufted annual. Panicles erect, branches
capillary, flexuous; spikelets linear to narrowly
ovate.

In damp situations and on open lawns.

Flowers and Fruits: November to March.

Sabnis 2482.

Tropics and warm regions of the Old World.

Eragrostis cilianensis (All.) Link ex Lutati in
Malpighia 18:386, 1904; Blatt. & McC. Bomb.Gr.
237, t.157; Bor. Gr. U.P.133 & Bor, 503;
Maheshwari, 384.

Poa cilianensis All. Fl.Pedem. 2:246, t.91, f.2,
1785.

Eragrostis major Host, Gram.Austr. 4:14, t.24,
1809; FBI.7:320; C.3:548.

A common grass. Inflorescence a compound panicle, branches ending into ovate-oblong, straw-coloured spikelets.

Noted along the banks of streams as also in cultivated fields.

Flowers and Fruits: November to May.

Sabnis 1418, 1995, 2402.

Widespread in the warmer regions of the earth.

Eragrostis nutans (Retz.) Nees ex Steud., Nom. Bot.
(ed.2) 563, 1840; Bor 511.

Poa nutans Retz., Obs.Bot. 4:19, 1786.

P. elegans Roxb. Hort. Beng. 82, 1814, nom.nud. &
Fl.Ind. 1:339, 1820 non Poir. 1804.

Eragrostis stenophylla of FBI.7:318, 1896
pro parte (non. Hochst)

A densely tufted grass. Panicles much-branched; branches slender; spikelets small, ovate-lanceolate.

Rare; noted in the grasslands at Nimetta.

Flowers: September - October.

Sabnis 2535.

Indigenous to Bihar and Madras.

Eragrostiella Bor

Eragrostiella brachyphylla (Stapf) Bor in Ind. Forester
66:270, 1940; Bor 494.

Eragrostis brachyphylla Stapf apud. HK. f.,
FBI.7:327, 1896.

An erect perennial. Inflorescence a long, cylindrical panicle; spikelets oblong-lanceolate, close or distant on the main axis.

"Rare; on wet sandy soils by the side of beaten tracts at Nimetta".

Flowers and Fruits: August to October.

Sabnis 2537.

Bengal, Bihar, Bombay, Madras.

Elytrophorus Beauv.

Elytrophorus spicatus (Willd.) A. Camus in Lecomte,
Fl. Gen. de l'Indo-Chine 7:547, 1923; Bor 493.

Dactylis spicata Willd. in Ges.Naturf. Freunde
Berlin, Neue Schrift 3:416, 1801.

Elytrophorus articulatus Beauv. Agrost.67, t.14,
f.2, 1812; FBI.7:306; C.3:567.

An annual grass. Spikelets in paniculate, globose or oblong spikes.

Not common; noted as a weed in rice fields.

Flowers and Fruits: August to October.

Sabnis 17.10.58, Rice-fields, Harni.

Tropics of the Old World.

Desmostachya Stapf

Desmostachya bipinnata (Linn.) Stapf in Dyer, Fl.

Cap.7:632, 1900; Blatt. & McC. Bomb. Gr.244,
t.162; Bor 491.

Briza bipinnata Linn. Syst. 875, 1759.

Eragrostis cynosuroides (Retz.) Beauv. Agrost.162,
1812; FBI.7:324; C.3:550.

Tall, tufted, perennial grass. Panicles narrow,
pyramidal or columnar, purplish or brownish or straw
coloured at maturity; spikes many, crowded.

Fairly common on dry, sandy soils; on open lawns.

Flowers and Fruits: October to May.

Sabnis 1547, 2045, 3421/

Throughout India; Persia, Arabia, N. Africa
to Trop. Africa.

Eleusine Gaertn.

Eleusine indica (Linn.) Gaertn. Fruct. 1:8, 1789;
 FBI.7:293; C.3:560; Chavan & Mehta in JMSU.
 7(2):80, 1958.

Cynosurus indicus Linn. Sp.Pl.72, 1753.

Erect annual. Spikes 2-7, elongate, digitate
 with 1 or 2 below the umbel. Spikelets in 2 series,
 secund, pointing forward at an acute angle, 3-6 flowered.

Common in damp places.

Flowers: November.

Sabnis 1901.

Tropics and subtropics.

Eleusine coracana (Linn.) Gaertn. is also reported to
 be found as an escape from fields (Chavan &
 Mehta, loc.cit.)

Dactyloctenium Willd.

Dactyloctenium aegyptium (Linn.) Beauv. Agrost. Expl.
 Pl.15, 1812; Blatt. & McC. Bomb. Gr.262,
 t.176; Bor, Gr. U.P. 112, t.23 & Bor 489.

Cynosurus aegyptius Linn. Sp.Pl.72, 1753.

Eleusine aegyptia (Linn.) Desf. Fl. Atlant. 1:85,
 1798; FBI.7:295; C.3:560.

An erect, annual grass. Spikes 2-6, digitately radiating; spikelets crowded, spreading at right angles to the rachis.

Very common weed of every conceivable habitat; but usually noted on abandoned lawns and cultivated fields.

Flowers and Fruits: August to February.

Sabnis 1430, 2400.

Old World tropics; introduced into America.

Melanocenchris Nees

Melanocenchris jacquemontii Jaub. et Spach, Ill. Pl.

Or. 4:36, 1851; Bor 473.

Gracilea royleana Hk. f., FBI.7:284, 1896; C.3:553.

A small, slender, tufted annual. Leaves very narrow, linear. Inflorescence consisting of clusters of cottony spikelets on a flexuous, zigzag rachis.

Noted on dry, sandy or stony places at Nimetta.

Flowers: August - September.

Sabnis 2540.

Bengal, Bombay State, Sind, N.W. India.

Schoenefeldia Kunth

Schoenefeldia gracilis Kunth, Rev.Gram. 1:283, t.53,
1830; Bor 474.

S. pallida Edgew. in JASB. 21:183, 1852.

Chloris pallida (Edgew.) Hook. f., FBI.7:289, 1896.

C. myosuroides Hook.f., loc.cit. 290.

Slender annuals, found on dry, sandy soils at
Nimetta.

Flowers: Usually in monsoon, but rarely during
the dry months.

Sabnis 2047.

Budelkhand, Bihar, Central India, W. Peninsula;
Trop. Africa.

Tetrapogon Desf.

Tetrapogon tenellus (Roxb.) Chiov. in Ann.Ist.Bot.Roma
8:352, 1908; Bor 475.

Chloris tenella Roxb. Fl.Ind. 1:330; 1820; FBI.7:290;
C.3:555; Chavan & Mehta in JMSU. 7(2):80, 1958.

"A tiny annual, on moist grounds amidst other
taller grasses; rare". (Chavan & Mehta, loc.cit.)

Flowers: Late August - September.

N.W. and S. India, westwards to Arabia and
Trop. E. Africa.

Chloris dolichostachya Lagasca, Gen. & Spec. Pl.5,
1816; Bor 366.

C. incompleta Roth, Nov. Pl.Sp.60, 1821; FBI.7:290;
C.3:556; Chavan & Mehta in JMSU. 7(2):80, 1958.

"Uncommon; under the shade of trees". (Chavan & Mehta,
loc.cit.)

Flowers: September - October.

From Afghanistan through India to S.E. Asia
and China.

Chloris virgata Sw., Fl.Ind.Occ. 1:203, 1797; FBI.7:291;
Achariyar, S.Ind.Gr.260, f.198; Blatt. & McC.
Bomb. Gr.225, t.170; Maheshwari, 388; Bor 468.

Rhabdochloa virgata (SW.) Beauv.Agrost.84, 158, 1812.

A tufted grass; branches creeping and rooting at
the nodes. Spikes 6-15, erect, digitate; spikelets
2-rowed. Fruit trigonous, polished.

In dry situations; also on open lawns.

Flowers and Fruits: July to February.

Sabnis 1836, 2123.

Tropics of both hemispheres.

Chloris gayana Kunth, Rev.Gram. 1:89, 1829 & 293, t.58,
1830; ex Stapf in Dyer, Fl.Cap.7:642, 1900;
Blatt. & McC. Bomb. Gr.258; Chavan & Mehta in
JMSU. 7(2):80, 1958; Bor 466.

An introduced grass, very much valued for fodder;
noted at Model farm, Baroda.

Flowers: October.

From Senegal eastwards to Sudan and southwards
to S. Africa; introduced into India.

Chloris barbata (Linn.) SW., Fl.Ind.Occ. 1:200, 1797;
FBI.7:292; C.3:557; Achariyar, S. Ind.Gr.264,
ff.199, 200, 201; Blatt. & McC. Bomb.Gr.256;
Bor 465.

Andropogon barbatus Linn., Mant.Pl.Alt.302, 1771.

A common, tufted grass. Spikes 5-20, digitately
arranged in terminal fascicles.

Noted on clayey soils in shade and also in cultivated
field crops.

Flowers and Fruits: August to April.

Sabnis 929, 2122.

A native of Trop. America (?), now wild in the
tropics of S.E.Asia, introduced elsewhere.

Cynodon Rich. ex Pers. (nom.cons.)

Cynodon dactylon (Linn.) Pers.Syn. 1:85, 1805; FBI.7:288;
C;3:554; Blatt. & McC. Bomb. Gr.250, t.166;
Bor, Gr. U.P.110, t.22 & Bor 469, f.52.

Panicum dactylon Linn. Sp.Pl.58, 1753.

A perennial, creeping grass, with erect culms. Inflorescence of 208 fascicled or umbellate spikes; spikelets many, arranged on one side of a stalk in two rows.

Very common and abundant everywhere; as a pioneer on bunds or embankments along river banks; on lawns and on the grassy banks of ponds.

Flowers and Fruits: July to February.

Sabnis 1660.

In all warm countries and even persisting in colder climates.

Avena Linn.

Avena sterilis Linn. var. culta; Raizada in Ind. Forester 80; 36, 1954; Maheshwari, 399.

A. sativa auct. (non Linn.)

The commonly cultivated species of oat is wrongly referred to as A. sativa Linn. in most of the works on Indian flora. In Baroda, Oat is cultivated as a pure or mixed crop in the Navlakhi area, L.V. Palace compound during winter for fodder.

Flowers and Fruits: January to March.

Phragmites Trin.

Phragmites communis Trin., Fund.Agrost.134, 1820;
FBI.7:303; Chavan & Mehta in JMSU. 7(2):77, 1958.

"Sturdy perennials; cultivated, also growing
naturally along nallahs in Baroda". (Chavan & Mehta,
loc.cit.)

Flowers: September - October.

Widespread in temperate regions, extending into
N.W. India.

Arundo Linn.

Arundo donax Linn. var. versicolor (Miller) Stokes;
Bor 415.

An ornamental grass with variegated leaves grown
in the Makarpura gardens.

Sabnis 1594.

Hygroryza Nees.

Hygroryza aristata (Retz.) Nees ex Wt. & Arn. in Edinb.
New Phil. J. 15:380, 1833; FBI.7:95; G.3:563;
Bor 597, f.67; Subramanyam, Aquat.Angios.112,
f.63.

Pharus aristatus Retz.Obs.Bot.5:23, 1789.

A floating aquatic grass, densely rooting at the nodes. Leaf sheaths dilated. Panicles short and broad. Spikelets narrow, sessile or pedicellate; floral glumes awned.

Locally abundant on the water surface of a few ponds and canals; also noted in a dry state on the exposed banks of ponds, where it forms large, dense beds.

Flowers and Fruits: September to November.

Sabnis 1706, 1707.

India, Ceylon, Burma and S.E. Asia generally.

Oryza Linn.

Oryza sativa Linn., Sp.Pl.333, 1753; FBI.7:92; C.3:565;
Blatt. & McC. Bomb. Gr.274, t.187; Bor 605.

The rice plant is cultivated in many parts of the area in monsoon on water flooded soils.

Local name: Dangar, Chokha

Flowers and Fruits: September to November.

Oryza rufipogon Griff., Notul. 3:5, 1851; Bor 605.

O. fatua Koen. ex Trin. in Mem.Acad.Sci.Petersb.
(Ser.6) 2:177, 1839, nom.nud.

O. sativa vars. rufipogon, coarctata, bengalensis
and abuensis Watt in Dict.Econ.Prod.Ind.5:504-5,
1891.

The plant closely resembles the cultivated rice. It is abundantly found encircling small pools along with other hydrophytes; also commonly noted as a weed in rice fields and on the banks of ponds.

Flowers and Fruits: September to January.

Local uses: The grain is eaten by the poorer sections of local inhabitants at Harni, Danteshwar etc.

Sabnis 876, 1781.

Common in E. India and Madras.

Thysanolaena Nees.

Thysanolaena maxima (Roxb.) O. Ktze., Rev.Gen.Pl.2:794, 1891; Bor, Fl.As.5:176; Chavan & Mehta in JMSU. 7(2):77, 1958; Bor 650; Maheshwari, 372.

Agrostis maxima Roxb. Fl.Ind. 1:319, 1820.

Thysanolaena agrostis Nees in Edinb. N.Phil.Jour.18: 180, 1835; FBI.7:61; C.3:527.

Tall, handsome, perennial grass. Panicles large, of numerous filiform branches, which bear many, very small spikelets.

Cultivated in the Public parks as an ornamental grass.

Flowers: August to January.

Sabnis 2553.

Throughout India from the Punjab eastward and south-eastwards to S.E. Asia.

Sporobolus R. Br.

Sporobolus diander (Retz.) Beauv. Agrost. 26, 1812;

FBI. 7:247; C. 3:539; Blatt. & McC. Bomb. Gr. 221, t. 148; Bor 629.

Agrostis diandra Retz. Obs. Bot. 5:19, 1789.

Erect, slender annual. Panicles narrow, pyramidal; spikelets small, very shortly pedicelled.

Noted on sandy soils in the shade of hedges along roadsides.

Flowers and Fruits: July to November.

Sabnis 10.1059, Chhani Road.

Very common in India, Burma, Ceylon, extending to Australia.

Sporobolus tremulus (Willd.) Kunth, Rev. Gram. 1:67, 1829;

FBI. 7:250; Chavan & Mehta in JMSU. 7(2):78, 1958; Bor 633; Maheshwari, 404.

Agrostis tremula Willd. Sp. Pl. 1:372, 1797 (excl. syn.)

A tufted perennial. Panicles narrow, spiciform, interrupted with erect branches. Spikelets crowded, articulate on very short pedicles.

"One of the few grasses thriving on alkaline soils. Also common in marshes forming extensive creepers at Barni". (Chavan & Mehta, loc.cit.)

Flowers: July - August.

In the plains of India and Ceylon.

Sporobolus coromandelianus (Retz.) Kunth, Rev.Gram.1:68, 1829; Chavan & Mehta in JMSU. 7(2):78; Bor 627; Maheshwari, 404.

Agrostis coromandeliana Retz. Obs.Bot. 4:19, 1786.

A densely tufted annual. Panicles erect, pyramidal; branches capillary, horizontal, in whorls of 3-6.

Noted "along roadsides in the country-side".
(Chavan & Mehta, loc.cit.)

Flowers: July - September.

India, Burma, Ceylon, Afghanistan, S.Africa.

Sporobolus marginatus Hochst. ex A. Rich.Tent. Fl. Abyss. 2:397, 1851; Bor 632.

S. pallidus Boiss. Fl.Orient. 5:512, 1884; Chavan & Mehta in JMSU. 7(2):78.

S. arabicus Boiss., Diagn. (Ser.1) 13:47, 1853;
FBI.7:252; C.3:542.

A perennial. Panicle pyramidal; branches slender, possessing very small spikelets at the tips.

Noted on saline soils away from the pond at Harni and sewage disposal area along with Cyperus laevigatus.

Flowers: September.

Sabnis 1662.

In the drier parts of N.W. India; Baluchistan, Trop. E. Africa.

Aristida Linn.

Aristida adscensionis Linn. Sp.Pl.82, 1753; FBI.7:224;
C.3:529; Blatt. & McC. Bomb.Gr.209, t.138;
Bor 407; Maheshwari, 398.

A slender, erect or ascending, grass. Panicles with filiform, hair-like branches; involucre glumes awned.

In dry, gravelly soils along hedges; also in the cracks of old walls or on cobbled pathways; fairly common.

Flowers and Fruits: August to November or even later in dry months.

Sabnis 1834, 2666.

N. & W. India; widespread in old and new worlds.

Aristida funiculata Trin. & Rup., Sp.Gram.Stip.159,
1842 & in Mem. Acad.Sci.Petersb. (Ser.8)7:159,
1843; FBI.7:226; C.3:531; Chavan & Mehta in
JMSU. 7(2):78; Bor 410.

Slender annuals. Panicles lax, narrow, branches
capillary; glumes awned.

Rare; found in similar circumstances as the above one.

Flowers: November.

Sabnis 1903; 2.11.58, Virod Bhaniara.

Hottest and driest parts of N.Africa, Arabia,
Baluchistan and N.W. India.

Aristida redacta Stapf in Kew Bulletin 85, 1892; FBI.7:227;
C.3:531; Bor 412; Chavan & Mehta, loc.cit.78.

Tufted annual. Panicles with usually twin branches;
spikelets on capillary peduncles; awns prominent.

The poverty grass, typical of the dry parts; rare.

Flowers: April.

Sabnis 2044; 6.4.59, Nimetta and surrounding area.
India, endemic.

Tragus (Hall.) Scop. (nom.cons.)

Nazia Adans.

Tragus biflorus Schult., Syst.Veg.2:205, 1824; Bor.682.

Lappago biflora Roxb. Fl.Ind. 1:284, 1820.

Tragus racemosus of FBI.7:97, 1896; C.3:535
(non Scop. 1777.)

Nazia racemosa Kuntze; Chavan & Mehta in JMSU. 7(2):
78, 1958.

"Rare; in dry, barren, sandy places at Nizampura".
(Chavan & Mehta, loc.cit.). The plant has not been
collected by me, but mentioned here on the authority
of Chavan & Mehta.

Common on Indian plains; S.E. Asia, E. Africa.

Perotis Ait.

Perotis indica (Linn.) Kuntze, Rev.Gen.2:787, 1891;
Blatt. & McC. Bomb. Gr.220, t.147; Bor.611;
Maheshwari, 373.

Anthoxanthum indicum Linn. Sp.Pl.28, 1753.

Perotis latifolia Ait., Hort.Kew. 1:85, 1789;
FBI.7:98; C.3:538.

An annual, tufted grass. Leaves lanceolate linear.
Racemes slender, dense, spike-like, purplish-violet;
spikelets narrow, involucre glume long-awned.

Noted on dry, sandy soils at Harni and Sundarpura Reserve forest.

Flowers and Fruits: August to November.

Sabnis 1664.

India, Burma, Ceylon, Malaya to S.E. Asia generally.

Triticum Linn.

Triticum aestivum Linn. Sp.Pl.85, 1753; Blatt. & McC. Bomb. Gr. 279; Bor 679.

T. sativum Lamk. Fl.Franc. 3:625, 1778; C.3:574.

T. vulgare Vill. Hist. Pl. Dauph. 2:153, 1787; FBI.7:367.

A commonly cultivated cereal of the area grown as a rabi crop.

Local name: Gahun

Flowers and Fruits: January to March.