

ENUMERATION OF PLANTS- DICOTS

ENUMERATION OF PLANTS-PART I

DICOTYLEDONS

DILLENACEAE

Only one species of the genus Dillenia i.e. D. pentagyna is present in the area.

Dillenia Linn.

Nomenclature: Dillenia pentagyna Roxb. Pl. Cor. 1:21. t. 20. 1795; Hook. f. and Thoms., in Hook. f. Fl. Brit. India 1:38. 1872; Cooke, Fl. Pres. Bombay 1: 7, 1958 (Repr. ed); Shah, Fl. Guj. 1: 49, 1978; Singh, et al., Fl. Maha. Dicot. 1: 160. 2000.

Habit: A deciduous tree about 6-10 mt tall; trunk straight; bark light brown, rough. Leaves distinctive of the species; 50-65 x 15-20 cm., oblong-lanceolate, at the ends of drooping branches, young leaves densely clothed with hairs, acute at the apex, narrow at the base, often forking at the margins. Flowers not seen.

Phenology: FLS and FRS- May to June.

Sanskrit Name: Karambal.

Local Name: Kadu sag. **PLATE 26**

Distribution and Status in the Study Area: Rare plant, seen only in fruiting conditions at Kevdi and Kawant growing on lower hill slopes.

Distribution in Gujarat: Ratanmahal forests (Bedi, 1968); Dangs (Suryanarayan, 1969; Shah, 1978; Yadav, 1979); Bansda (Desai, 1976); Dharampur forests (Vora, 1980; Reddy, 1987); Songadh vyara forests (Mac, 1982); Shoolpaneshwar WLS (Pradeepkumar, 1993); Jambughoda WLS (Pandya, 1995).

Local Uses: Leaves tied to the neck of the females as a belief to get rid of the evil spirits.

Uses in other regions of Gujarat state: Locally called as "Karval" in Dangs. The raw fruits are eaten raw or cooked. The fruit juice mixed with sugar is a cooling beverage in fever and cough. The leaf juice is also given in diarrhoea. The fresh leaves, slightly warmed after applying sesamum oil, are kept on the head of the pregnant women at the delivery time (Shah and Gopal, 1982). Dried leaves are used in roof thatching; ripe fruits are edible (Reddy, 1989).

ANNONACEAE

Two species belonging to genera viz., Annona and Miliusa represents this family in the area. They are A. squamosa and M. tomentosa.

Annona Linn.

Nomenclature: Annona squamosa Linn. Sp. Pl. 537. 1753; Hook. f. Fl. Brit. India1: 78. 1872; Cooke, Fl. Pres. Bombay 1: 15, 1958 (Repr. ed); Shah, Fl. Guj. 1: 50, 1978; Singh, et al., Fl. Maha. Dicot 1: 165. 2000.; Bailey 419; Thaker et al 17-18:86 and 12: 114.

Habit: A large shrub or small tree. Bark light blackish brown and smooth in younger parts, rough and almost black in older. Leaves petiolate, alternate closely arranged, elliptic-oblong or oblong-lanceolate, glabrous, subacute or acute at the apex. Flowers solitary or in fascicles of of 2-3, extra-axillary, pendulous. Fruits broadly ovoid or nearly globular, green or pale creamy yellow. Seeds ellipsoidal, dark brownish black and smooth.

Phenology: FLS - June to August. FRS - June to October.

Sanskrit Name: Ganda-gatra, Sitaphala.

Local Name: Sitaphal.

Distribution and Status in the Study Area: Throughout the forest division. Often planted; cultivated.

Distribution in Gujarat: Cultivated or naturalized, through out (except Kachchh) (Shah, 1978).

Local Uses: Ripe fruits are dried, powdered and are given to cure Asthmatic troubles.

Uses in other regions of Gujarat state: Locally called as "Sitaphal" in Saurashtra. The Maldharis of Saurashtra uses the pulp of ripe fruits as remedy against chronic tumors to hasten suppuration. Leaves are made into paste without adding water and are applied to ulcerative perforations. Seeds are used for abortion. The leaves are boiled and the vapour is inhaled in cases of hysteria and fainting (Shah, Menon and Gopal, 1981). Fruits are valued as a dessert and sold in markets (Shah, 1984). The pulp of the ripe fruits is edible (Reddy, 1989).

Miliusa Lesch.

Nomenclature: Miliusa tomentosa (Roxb.) Sincl. in Gardn. Bull. 14:378. 1965; Wl. 6: 377; Hook. f. Fl. Brit. India1: 88, 1872; Cooke, Fl. Pres. Bombay 1: 17, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 51, 1978; Singh, et al., Fl. Maha. Dicot. 1: 169. 2000.; Uvaria tomentosa Roxb. Pl. Cor. 1:31. t. 35. 1795; Saccopetalus tomentosum Hook. f. and Thom. Fl. Ind. 152. 1855.

Habit: A deciduous tree, 10-12 mt tall; bark dark blackish brown, deeply fissured. Leaves petiolate, ovate-oblong to ovate-lanceolate, glabrous on upper surface, hairy beneath, apex acute or acuminate, rounded, subcordate or subacute at the base. Flowers brown-purplish.

Phenology: FLS and FRS- February to April.

Local Name: Umbh.

Distribution and Status in the Study Area: Not common. Found at Vagasthal, Turkehda, Kawant, Kevdi and Naswadi.

Distribution in Gujarat: Throughout in deciduous forests except Kachchh (Shah, 1978).

Local Uses: The bark paste is externally applied to cure wounds.

Uses in other regions of Gujarat state: Locally called as "Humph" in Dangi language. The bark decoction is given internally in the treatment of rheumatism. The fruit juice is anti-diuretic (Shah and Gopal, 1982).

MENISPERMACEAE

Three climbers belonging to three genera viz., Cissampelos, Cocculus and Tinospora have been observed in the area.

Cissampelos Linn.

Nomenclature: Cissampelos pareira Linn. Sp. Pl. 1031. 1753; Hook. f. Fl. Brit. India1:103; Cooke, Fl. Pres. Bombay 1:24. 1958; Shah, Fl. Guj. 1: 53, 1978; Singh, et al., Fl. Maha. Dicot. 1: 178. 2000.; Chopra et al., 66; Dastur 56.

Habit: A slender climbing herb much branched, hairy in younger parts, glabrous in older. Leaves ovate, round, peltate, glabrous above and pubescent beneath, subacute or obtuse and minutely mucronate at the apex. Flowers greenish yellow in axillary paniculate cymes.

Phenology: FLS- July to August; FRS- August to November.

Sanskrit Name: Patha, Ambastha.

Local Name: Vanivel.

Distribution and Status in the Study Area: Common generally found on hedges.

Distribution in Gujarat: Throughout on hedges and on low trees or shrubs in forests, native of Central America (Shah, 1978).

Local Uses: Root paste is given to cure dysentery and diarrhoea. Leaf paste is externally applied to get rid of itching.

Uses in other regions of Gujarat state: Locally called as "Pahadvel" in the Ratanmahal forests. The Bhil tribal community uses the root paste to cure wounds (Bedi, 1979). Locally called as "Pahadvel" in Saurashtra. The maldharis of Saurashtra region use the plant as antidote against snake and scorpion bite. The root decoction is administered internally to control excessive urine discharge (Shah, Menon and Gopal, 1981). Locally called as "Venivel/Pahadvel" in Northern Gujarat (Idar taluka of Sabarkantha district). Leaf juice externally applied on sores and on abdominal pains (Shah and Gopal, 1985).

Cocculus DC.

Nomenclature: Cocculus hirsutus (Linn.) Diels in Pfreich. 46:236; Hook. f. Fl. Brit. India 1:101, 1872; Cooke, Fl. Pres. Bombay 1: 22, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 54, 1978; Singh, et al., Fl. Maha. Dicot. 1: 179. 2000.; JIT 8.1910; Thaker et al 17-18:86 and 12: 114; Menispermum hirsutum Linn. Sp. Pl. 341. 1753. Cocculus villosus DC. Syst. 1:525. 1818.

Habit: Perennial herbaceous climber with softly villous branches and leaves; leaves nerved at the base, villous at both surfaces when young; flowers in axillary clusters. Drupes small reddish-black.

Phenology: FLS and FRS- November to February.

Sanskrit Name: Garudi.

Local Name: Vevdi.

Distribution and Status in the Study Area: Throughout on hedges, frequent. Found in Chhota-udepur, Kawant, Sadhli, Kadipani and Vagasthal.

Distribution in Gujarat: Throughout in hedges also as a weed in cultivated fields (Shah, 1978).

Local Uses: Leaf juice is considered cool and is used as cooling agent in eczema and headache.

Uses in other regions of Gujarat state: Locally called as "Vavadi" in Ratanmahal forests of Central Gujarat. The bhil tribal community uses the leaf juice mixed with sugar as a remedy against fever. Leaf powder when mixed with water forms a jelly like substance that, when applied to the eyes, gives a cooling effect (Bedi, 1979). Locally called as "Vevti/Vevdi" in Saurashtra. The tender shoots and leaves are given to buffaloes as a fodder as it is believed to have good lactation increasing agent. Leaves and roots are used to cure fever and rheumatism. The leaf juice coagulates in water and forms a mucilaginous gel, which is applied externally as cooling and soothing in eczema (Shah, Menon and Gopal, 1981). Locally called as "Tanvel" in Dangs region of South Gujarat. The tribals here considered entire plant as medicinally important, but the leaves are much reputed. They form a fine gel in water and it is said to have a cooling effect (Shah and Gopal, 1982). Locally called as "Vachhvel/Vacchavel" in Northern Gujarat. The Garasias and Bhils of this region use the leaf infusion as blood purifier. Leaf juice applied externally on forehead to relieve headache (Shah and Gopal, 1985).

Tinospora Miers

Nomenclature: Tinospora cordifolia (Willd.) Miers ex Hook. and Thoms. Fl. Ind. 201. 1855; Hook. f. Fl. Brit. India 1:97, 1872; Cooke, Fl. Pres. Bombay 1: 20, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 56, 1978; Singh, et al., Fl. Maha. Dicot. 1: 183. 2000.; JIT 8. 1910 and 1:1926; Diels 139; Chopra et al., 244; Dastur 164; Menispermum cordifolium Willd. Sp. Pl. 4:826. 1806.

Habit: A perennial woody climber; bark corky, whitish green or grey. Leaves alternate, membranous, glabrous, petiolate, broadly ovate, acute to acuminate at apex, cordate at the base. Flowers glabrous, greenish yellow. Drupes red, glabrous.

Phenology: FLS- March to April, FRS- April to June.

Sanskrit Name: Amrita, Amritvel, Guduchi.

Local Name: Dam-vel.

Distribution and Status in the Study Area: Throughout on hedges usually near the villages, frequent. Found at Vagasthal, Kawant and Naswadi.

Distribution in Gujarat: Throughout Gujarat (Shah, 1978).

Local Uses: The stem powder is used to increase sexual potency.

Uses in other regions of Gujarat state: The bhils of Ratanmahal forests in Central Gujarat use the stem decoction as a tonic and also to cure fever (Bedi, 1979).

Locally called as "Gulvel/Gadu/Gudajvel" in Saurashtra. The whole plant decoction is used by the Maldhari community as tonic (Shah, Menon and Gopal, 1981). Locally called as "Gadu" in North Gujarat. Stem decoction is taken 2 times a day before meal as tonic by Garasia community (Shah and Gopal, 1985). The plant is used as a fodder in Dharampur forests of South Gujarat (Reddy, 1989).

PAPAVERACEAE

Only one species belonging to the genus Argemone, i.e. A. mexicana represents this family in the area.

Argemone Linn.

Nomenclature: Argemone mexicana Linn. Sp. Pl. 508. 1753; Hook. f. Fl. Brit. India 1:117, 1872; Cooke, Fl. Pres. Bombay 1: 29, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 58, 1978; Singh, et al., Fl. Maha. Dicot. 1:188. 2000.; JIT 20. 1910 and 6. 1926; Steenis in Fl. Males. 5(1): 114; Thaker et al., 17-18:86 and 12: 114; Chopra et al., 23; Dastur, 22.

Habit: An erect annual prickly herb, glaucous green. Leaves radical and cauline, amplexicaul, spiny, variegated, glabrous, acute at the apex and sub-cordate. Flowers bright yellow, terminal, solitary on long stalk. Seeds minute, black, glabrous, prominently reticulately veined.

Phenology: FLS and FRS- November to June.

Sanskrit Name: Srigalkantaka, Suvarnashri.

Local Name: Darudi. **PLATE 26**

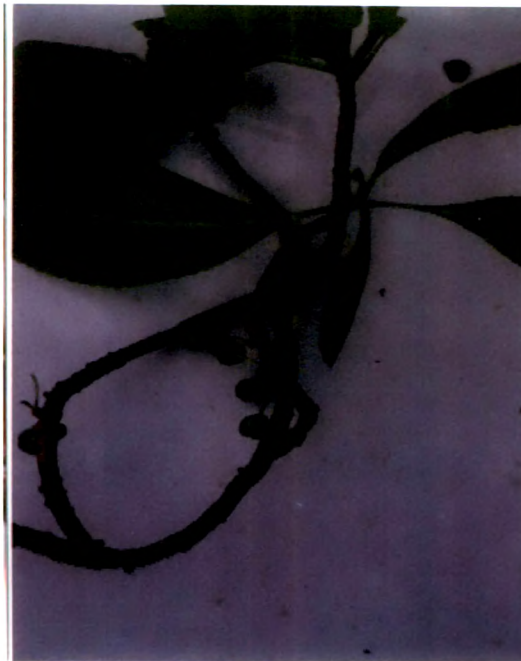
Distribution and Status in the Study Area: Common and abundant as a weed in fields, waste places along roadsides and in dry riverbeds.

Distribution in Gujarat: Throughout (Shah, 1978).

Local Uses: Paste of the root used in acute skin diseases.

Uses in other regions of Gujarat state: Oil from the seeds is used to cure skin diseases by Bhils of Ratanmahal forests (Bedi, 1979). The yellow milky sap is used to treat scabies; the leaf juice alongwith cow milk is said to be used to treat leprosy (Shah, Menon and Gopal, 1981). The yellow sap is medicinally used in the cutaneous diseases and jaundice (Shah and Gopal, 1982). The tribals of North Gujarat (Khedbrahma region, district Sabarkantha) uses yellow sap and seed powder in eczema and other skin diseases. Oil obtained by boiling powdered seeds is applied on leucoderma; seed powder mixed with 2-3 drops of sap used as

PLATE 26



Dillenia pentagyna Roxb.
(Dilleniaceae) Karmal in fruiting.
Rare in the area.



Argemone mexicana Linn. (Papaveraceae)
Darudi: Common weed in Chhota udepur.

ointment for eye-diseases (Shah and Gopal, 1985). Bhil, Dhanka, Dubada and Nayaka tribes of North Gujarat use the leaf juice for Syphilis and apply paste of seed for the treatment of Pyorrhoea (Bhatt and Sabnis, 1987). Leaves and seeds are inhaled as narcotics by the tribals of Dharampur forests (Reddy, 1989).

BRASSICACEAE (CRUCIFERAE)

This family is represented in the area by one species each of the genera Brassica and Raphanus. They are B. juncea and R. sativus respectively.

Brassica Linn.

Nomenclature: Brassica juncea (Linn.) Czern. in Bull. Soc. Bot. France 6:609. 1859; Hook. f. Fl. Brit. India 1:157, 1872; Cooke, Fl. Pres. Bombay 1: 37, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 62, 1978; Singh, et al., Fl. Maha. Dicot. 1:192. 2000.; JIT 7. 1926; Thaker et al., 17-18:86 and 12:114; Bailey 438; Sinapsis juncea Linn. Sp. Pl. 686. 1753.

Habit: An erect, branched 50-100 cm tall herb; hairy. Leaves both radical and cauline, radical ones petiolate, lyrate pinnatifid, cauline ones sessile or subsessile, entire or slightly lobed, oblong-lanceolate, all dark green, acute to subacute at apex and tapering at the base. Flowers on terminal and axillary cymes, bright yellow.

Phenology: FLS and FRS- October to January.

Sanskrit Name: Asuri, Rajika.

Local Name: Jangli Rai.

Distribution and Status in the Study Area: Cultivated in the area, escape also.

Distribution in Gujarat: Under cultivation throughout (Shah, 1978).

Raphanus Linn.

Nomenclature: Raphanus sativus Linn. Sp. Pl. 669. 1753; Hook. f. Fl. Brit. India 1:166, 1872; Cooke, Fl. Pres. Bombay 1: 37, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 65, 1978; Singh, et al., Fl. Maha. Dicot. 1:205. 2000.; Bailey 439; Thaker et al., 17-18:86 and 12:114.

Habit: An annual 50-70 cm tall hairy herb. Leaves radical and cauline, former ones lyrate pinnatifid, petiolate, broadly obovate-oblong and obtuse at the apex. Later ones sessile or subsessile, linear to lanceolate, acute or acuminate. Flowers in terminal racemes.

Phenology: FLS and FRS- December to March.

Sanskrit Name: Mulak.

Local Name: Mudi.

Distribution and Status in the Study Area: As an escape in waste places and also cultivated at many parts in the division.

Distribution in Gujarat: Throughout cultivated. Noted as an escape at Dangs and Rajpipla (Shah, 1978).

Local Uses: Consumed as vegetables by the tribals of the area.

Uses in other regions of Gujarat state: The roots, leaves and fruits are eaten raw or cooked. The root juice is given in gastrodynic pains and urinary complaints. The seeds are laxative and diuretic. They are said to be useful in curing gonorrhoea (Shah and Gopal, 1982).

CLEOMACEAE

Four species of the type genus Cleome, i.e. C. gynandra, C. monophylla, C. simplicifolia and C. viscosa represents this family in the study area.

Cleome Linn.

Nomenclature: Cleome gynandra Linn., Sp. Pl. 671. 1753; Hook. f. Fl. Brit. India 1:171, 1872; Cooke, Fl. Pres. Bombay 1: 42, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 72, 1978; Singh, et al., Fl. Maha. Dicot. 1:221. 2000; Cleome pentaphylla Linn. Sp. Pl. ed. 2. 938. 1763; Gynandropsis gynandra (Linn.) Briq. Ann. Cons. Jard Bot. Geneve 17: 382; Gynandropsis pentaphylla (Linn.) DC. Prodr. 1:238. 1824.

Habit: Erect, glandular hairy herbs; 30-60 cm tall, stem and branches at times reddish-purple. Leaves 3-5 foliate alternate; leaflets 3-5.5 x 1.5-2.0 cm., elliptic-obovate or elliptic lanceolate, sessile and acute at the apex, tapering at the base. Flowers dirty white, axillary, solitary or on long terminal raceme.

Phenology: FLS and FRS- July to December.

Sanskrit Name: Surjavarta, Tilparni, Ajgandha, Ugra-gandha.

Local Name: Dholi Talvani.

Distribution and Status in the Study Area: Occasional weed in the cultivated fields, also in waste places.

Distribution in Gujarat: Throughout (Shah, 1978).

Local Uses: Decoction of stem is used to cure fever and cold. Roots used in rheumatism.

Uses in other regions of Gujarat state: Locally called as "Tilwani/Tanmani" in Ratanmahal forests of Central Gujarat. The bhil community uses leaf juice and oil

from the seeds in curing skin diseases (Bedi, 1979). Locally called as "Ghandhatu" in Saurashtra. The whole plant is awfully foetid but the seeds in very small quantities are used in curries as a flavouring agent (Shah, Menon and Gopal, 1981). Locally called as "Hadiya karsan" in Dharampur forests. The entire plant paste is used as fish poison by Dubla, Kokana and Nayaka tribes (Reddy, 1989).

Nomenclature: Cleome monophylla Linn. Sp. Pl. 672, 1753; Hook. f. Fl. Brit. India 1: 116, 1872; Cooke, Fl. Pres. Bombay 1: 38, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 72, 1978; Singh, et al., Fl. Maha. Dicot. 1:221. 2000..

Habit: Glandular hairy herbs; leaves simple; lower petiolated upper ones sub-sessile, ovate to lanceolate, subcordate; flowers pale purple in racemes.

Phenology: FLS and FRS- August to November.

Local Name: Ubhi Talvani.

Distribution and Status in the Study Area: As a weed in cultivated fields and also among grassy patches in forests.

Distribution in Gujarat: North Gujarat and Central Gujarat (Patel, 1984).

Nomenclature: Cleome simplicifolia (Camb.) Hook.f.et. Thoms. In Hook. F. Fl. Brit. India 1: 169, 1872; Cooke, Fl. Pres. Bombay 1: 40, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 73, 1978; Singh, et al., Fl. Maha. Dicot. 1:222. 2000; JIT 27. 1910; Polanisia simplicifolia Camb. In Jacq. Voy Bot. 20, t. 20. 1844.

Habit: Scabrid herbs, 8-10 cm tall with suberect branches. Leaflets 2-5, elliptic-oblong or lanceolate, glabrous or sparsely hairy, acute or subacute at the apex, tapering at the base. Flowers yellow on axillary, solitary and terminal racemes.

Phenology: FLS and FRS- June to September.

Local Name: Talvani.

Distribution and Status in the Study Area: As forest undergrowth.

Distribution in Gujarat: Throughout among grasses (Shah, 1978). Panchmahals, North Gujarat, Saurashtra and Kachchh (Patel, 1984).

Local Uses: Infusion of entire plant is used in curing skin diseases.

Nomenclature: Cleome viscosa Linn. Sp. Pl. 672. 1753; Hook. f. Fl. Brit. India 1:170. 1872; Cooke, Fl. Pres. Bombay 1: 41, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 73, 1978; Singh, et al., Fl. Maha. Dicot. 1:224. 2000; JIT 27. 1910; Thaker et al., 17-18:86 and 12:114.

Habit: Scabrid herb, 6-13 cm tall. Leaves 1.3-4.0 x 1.0-2.5 cm, oblong-elliptic or obovate, hairy, acute or sub acute at the apex, tapering at the base. Flowers violet, solitary or paired, axillary. Capsules long, beaked and glabrous.

Phenology: FLS- July to September, FRS- August to November.

Sanskrit Name: Arkakanta, Suvarchala.

Local Name: Pili Tilparni.

Distribution and Status in the Study Area: Common throughout the forest division.

Distribution in Gujarat: Throughout, scattered or subgregarious (Shah, 1978).

Local Uses: The juice of the leaves is used to cure cattle wounds.

Uses in other regions of Gujarat state: Locally called as "Kan phuti" in Ratanmahal region of Central Gujarat. The bhil community uses the leaf juice to remove pus from wounds, especially from the ear as the name indicates (Bedi, 1979).

CAPPARACEAE (CAPPARIDACEAE)

This family is represented in the area by two species of genus Capparis and one species of the genus Crateava.

Capparis Linn.

Nomenclature: Capparis decidua (Forsk.) Edgew., Linn. Soc. Bot. G: 184. 1862; Hook. f. Fl. Brit. India 1:174. 1872; Cooke, Fl. Pres. Bombay 1: 49, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 68, 1978; Singh, et al., Fl. Maha. Dicot. 1:209. 2000; Jacobs in Blumea 12: 424. 1965; Capparis aphylla Roth, Nov. Sp. Pl. 238. 1821.

Habit: Densely branched shrubs or small trees. 2-5 m with leafless, green spiny branches; leaves when present small, linear, and caducous; flowers orange red or scarlet in many corymbs; fruits bright red when ripe.

Phenology: FLS and FRS- February to October.

Sanskrit Name: Karira.

Local Name: Kerdo.

Distribution and Status in the Study Area: Frequently found in waste places along the riverbeds.

Distribution in Gujarat: Commonly found in semi-arid and arid parts of Saurashtra, Kachchh and Central Gujarat (Shah, 1978).

Local Uses: Ripe fruits cooked are pickled.

Uses in other regions of Gujarat state: Locally called as "Kera" in Saurashtra. The Maldhari community of this region uses young flower buds and fruits as pickles. The dried branches are used as a fence and firewood. The leaf juice is believed to improve appetite and helps in cardiac troubles (Shah, Menon and Gopal, 1981). Locally called as "Vagata" in Dangs region of South Gujarat. The ripe fruits are cooked as vegetables (Shah and Gopal, 1982).

Nomenclature: Capparis grandis Linn. f. Suppl. 263. 1781; Hook. f. Fl. Brit. India 1: 176. 1872; Cooke, Fl. Pres. Bombay 1: 50, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 68, 1978; Singh, et al., Fl. Maha. Dicot. 1:210. 2000; JIT 41. 1910 and 14. 1926; Thaker et al., 17-18:86 and 12:114.

Habit: Trees with 5 mt height; leaves pubescent, lanceolate to obovate; flowers white in terminal racemes; fruit globose to sub globose, smooth.

Phenology: FLS- November to June, FRS- April to June.

Local Name: Thikari.

Distribution and Status in the Study Area: Not common, more frequent along dry riverine areas of Orsang river.

Distribution in Gujarat: In dry deciduous forests and also in scrub forests (Shah, 1978; Patel, 1984).

Local Uses: Leaves and young branches made into infusion are given to cure swellings.

Uses in other regions of Gujarat state: The dried branches of plant are used as fence and firewood in Saurashtra (Shah, Menon and Gopal, 1981). The roots are crushed along with ginger and asafetida and the paste applied externally to cure mumps (Bhil, Nayaka and Dhanka tribe of North Gujarat) (Bhatt and Sabnis, 1987).

Crataeva Linn.

Nomenclature: Crataeva magna (Lour.) DC., Prodr. 1:243. 1824; Crateava religiosa G. Forst var. nurvula (Buch.-Ham.) Hook. f. et Thoms in Hook. f. Fl. Brit. India 1:172. 1872; Cooke, Fl. Pres. Bombay 1: 44, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 74, 1978; Singh, et al., Fl. Maha. Dicot. 1:225. 2000; Capparis magna Lour., Fl. Cochinch. 1:331. 1790; Crataeva nurvula Buch.-Ham., Trans. Linn. Soc. Lond. 15:121. 1827.

Habit: Straight or crooked, unarmed deciduous tree with almost ash colored bark. Leaves tri-foliate, petiolate, 4-10 x 1-3 cm, obovate-lanceolate, acuminate at the apex. Flowers yellowish green white in cymes.

Phenology: FLS and FRS- January to May.

Sanskrit Name: Varuna, Kumarak.

Local Name: Vay-varno.

Distribution and Status in the Study Area: Rare, only seen at Kevdi and Zoz in Chhota-udepur range of the division.

Distribution in Gujarat: Throughout, also planted (Shah, 1978). Bulsar, Vyara, Bharuch and Rajpipla (Patel, 1984).

Local Uses: Bark paste is used to cure rheumatism, also used in urinary disorders.

Uses in other regions of Gujarat state: The wood is used by the tribals of Dharampur region in South Gujarat for making drums, combs etc (Reddy, 1989).

FLACOURTIACEAE

Only one species belonging to the genus Flacourtia, i.e. F. indica is observed in the area under this family.

Flacourtia Commers.ex L'Herit

Nomenclature: Flacourtia indica (Burm.f.) Merr. Inter. Rump. Herb. Amt. 377. 1917; Hook. F. Fl. Brit. India 1:193. 1872; Flacourtia latifolia Cooke, Fl. Pres. Bombay 1:59. 1958 (Repr. ed.); Shah, Fl. Guj. 1: 78, 1978; Singh, et al., Fl. Maha. Dicot. 1:235. 2000; Gmelina indica Burm. f., Fl. Ind. 132.t. 39.f. 5. 1768; Flacourtia ramontchii L'Herit. Strip. Nov. 3: 59. t. 30 and 30B. 1785.

Habit: Deciduous trees, 3-5 mt tall; bark light blackish-brown. Leaves 3-7 x 2-4.5 cm, ovate, elliptic or oblong, subacute at the apex, rounded at the base. Flowers greenish yellow in racemes. Fruit deep red almost black when ripe.

Phenology: FLS- January to April, FRS- March-May.

Local Name: Landhri.

Distribution and Status in the Study Area: Rare, only seen in Kawant range of the division.

Distribution in Gujarat: Throughout in dry deciduous forests (Shah, 1978).

Local Uses: Fruits are used in the treatment of liver diseases. Bark of the tree is made into paste and given to cure cholera.

Uses in other regions of Gujarat state: Locally called as "Gargugal/Lodri" in Saurashtra. The ripe fruits are edible. The bark boiled in sesamum oil is a useful liniment in gout and rheumatism (Shah, Menon and Gopal, 1981). The Dhanka, Chaudhara and Kanbi tribe of Dangs forests uses the bark decoction in relieving body pains and it is widely practiced by the tribals after fevers (Shah and Gopal, 1982). Locally called as "Gargugad" in Dharampur forest of South Gujarat. Ripe fruits are eaten raw and cooked as vegetables (Reddy, 1989). Locally called as "Gal-ghughad" in Dangs forests (Ahwa). The bark paste is used externally in tonsillitis by Kokna and Warli tribe (Maheshwari, Sikarwar and Painuli, 1994).

POLYGALACEAE

Under this family two species of the genus Polygala, i.e. P. chinensis and P. erioptera have been observed in the area.

Polygala Linn.

Nomenclature: Polygala chinensis Linn. Sp. Pl. 704. 1753; Hook. f. Fl. Brit. India 1:204, 1872; Cooke, Fl. Pres. Bombay 1: 64, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 80, 1978; Singh, et al., Fl. Maha. Dicot. 1:246. 2000; JIT 47: 1910 and 17. 1926; Thaker et al., 17-18: 86 and 12: 115.

Habit: Annual erect herbs; leaves 0.5-3 x 0.2-2 cm long, obovate, acute, petiolate, glabrous or slightly hairy, minutely mucronate at the apex, tapering at the base. Flowers in axillary racemes, yellow.

Phenology: FLS- June to August, FRS- July to October.

Local Name: Piru bhoysan.

Distribution and Status in the Study Area: Common in shaded places, also as forest undergrowth.

Distribution in Gujarat: Throughout among grasses (Shah, 1978).

Local Uses: Leaves are administered in cases of fever. Tender leaves are often used as food during scarcity.

Uses in other regions of Gujarat state: Locally called as "Phutni" in Ratanmahal forests of Central Gujarat. The Bhil community of this region uses leaf decoction as a remedy against inflammations (Bedi, 1979). Locally called as "Pili bhonyasan" in Dharampur forests of South Gujarat. The plant is used as a fodder to increase milk in cattle (Reddy, 1989).

CARYOPHYLLACEAE

This family is represented in the study area by one species of the genus Polycarpaea, i.e. P. corymbosa.

Polycarpaea Lam.

Nomenclature: Polycarpaea corymbosa (Linn.) Lamk. Tabl. Encycl. 2:129. 1800; Hook. f. Fl. Brit. India 1:245, 1872; Cooke, Fl. Pres. Bombay 1: 70, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 82, 1978; Singh, et al., Fl. Maha. Dicot. 1:253. 2000; JIT 47. 1910 and 18. 1926; Ch and O 38; Thaker et al., 17-18:86 and 12:115; Achyranthes corymbosa Linn. Sp. Pl. 205. 1753.

Habit: An annual erect herb. 15-20 cm tall. Leaves 1-1.5 x 0.1-0.3 cm, linear, acute at the apex. Flowers pinkish-white in terminal cymes. Capsule small, oblong, brown covered with persistent sepals.

Phenology: FLS and FRS- November to January.

Local Name: Chhogaro.

Distribution and Status in the Study Area: In cultivated fields.

Distribution in Gujarat: Throughout as a weed in waste places and cultivated fields, common and abundant (Shah, 1978).

PORTULACACEAE

Two species belonging to the genus Portulaca, i.e. P. oleracea and P. quadrifida of this family have been observed in the study area.

Portulaca Linn.

Nomenclature: Portulaca oleracea Linn. Sp. Pl. 445. 1753; Hook. f. Fl. Brit. India 1:246; Cooke, Fl. Pres. Bombay 1: 72, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 86, 1978; Singh, et al., Fl. Maha. Dicot. 1:261. 2000; JIT 48. 1910 and 19. 1926; Thaker et al., 17-18:86 and 12: 115.

Habit: An annual prostrate or diffuse herb 10-15 cm tall, long radially spreading and tinged reddish purple or completely reddish-purple branches. Leaves obovate, glabrous, obtuse or truncate at apex. Flowers yellow, solitary, and axillary in terminal sessile clusters. Fruit, a capsule.

Phenology: FLS and FRS- October to May.

Sanskrit Name: Laghu-Lonika.

Local Name: Nani Lumbdi.

Distribution and Status in the Study Area: Common in waste places and in cultivated fields.

Distribution in Gujarat: Throughout, common (Shah, 1978).

Local Uses: Roots are crushed and applied externally on skin diseases.

Uses in other regions of Gujarat state: Locally called as "Motiluni/Kutbo" in Saurashtra. The subfleshy leaves are consumed raw or cooked as vegetables. Medicinally they are used in bilious conditions and low fever, to allay thirst and headache (Shah, Menon and Gopal, 1981). The fleshy leaves are used as vegetable in Dangs region of South Gujarat (Shah and Gopal, 1982). Tender parts are used as vegetables by tribals of Dharampur forests in South Gujarat (Reddy, 1989).

Nomenclature: Portulaca quadrifida Linn. Mant 1:73. 1767; Hook. F. Fl. Brit. India 1:247. 1874; Cooke, Fl. Pres. Bombay 1: 72, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 86, 1978; Singh, et al., Fl. Maha. Dicot. 1:263. 2000; JIT 50. 1910 and 19. 1926; Ch. and O 40.

Habit: Small prostrate fleshy 5-10 cm tall herb; branches reddish-purple. Leaves opposite, glabrous, acute to subacute at the apex, often tapering at the base. Flowers yellow, terminal, solitary, slightly pedicellate, covered by hairs.

Phenology: FLS- September to December.

Sanskrit Name: Lonika.

Local Name: Moti Lumbdi.

Distribution and Status in the Study Area: Noted as weed along roadsides and also in cultivated fields.

Distribution in Gujarat: Throughout, common as a weed in cultivated fields and in waste places (Shah, 1978).

Local Uses: Seeds are made into paste and is applied in heat to cure burning sensations externally. Entire plant is used as food.

TAMARICACEAE

One species of the genus Tamarix, i.e. T. ericoides of this family has been observed in the study area.

Tamarix Linn.

Nomenclature: Tamarix ericoides Rottl. in Ges. Naturf. Fr. Berlin Neue Schr. 4:214. 1803; Hook. f. Fl. Brit. India 1:249. 1874; Cooke, Fl. Pres. Bombay 1: 76, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 88, 1978; Singh, et al., Fl. Maha. Dicot. 1:267. 2000.

Habit: A bushy shrub; leaves minute, sheathing at the base; flowers purple in terminal branched spikes; capsule 1.0-1.2 cm long and conical.

Phenology: FLS and FRS- January to March.

Sanskrit Name: Jhavuk, Patravas.

Distribution and Status in the Study Area: Common in stony riverbeds all along the course of river Orsang (Chhota-udepur to Jabugam in Pavi-jetpur).

Distribution in Gujarat: In stony riverbeds, common (Shah, 1978).

Local Uses: Bark infusion is used as a mild laxative by the tribals.

ELATINACEAE

Under this family one species of the genus Bergia, i.e. B. suffruticosa has been observed in the area.

Bergia Linn.

Nomenclature: Bergia suffruticosa (Del.) Fenzl, in Dankes Bot. Gesel. Reg. 3:183. 1841; Hook. f. Fl. Brit. India 1:251; Cooke, Fl. Pres. Bombay 1: 77, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 91, 1978; Singh, et al., Fl. Maha. Dicot. 1:269. 2000; Lancretia suffruticosa Del. Fl. Egypt. 69: 1812; Bergia odorata Edgew. In Journ. Asiat. Soc. Beng. 7:765. 1838; JIT 54. 1910 and 22. 1926; Ch and O 40; S and B 10; Thaker et al., 17-18:86 and 12:115.

Habit: Suffruticose, pubescent herbs, prostrate 20-30 cm long. Leaves 1.0-2.0 x 0.3-0.5 cm linear to elliptic-oblong or lanceolate, sessile, hairy, acute at the apex, tapering at the base. Flowers axillary, solitary or in fascicles of 2 to 3. Capsules ovoid and glabrous.

Phenology: FLS and FRS- January to March.

Local Name: Vithi-Kharsan.

Distribution and Status in the Study Area: Common in grassy patches and in cultivated fields.

Distribution in Gujarat: Throughout common (Shah, 1978).

Local Uses: Leaf paste is applied on sores. Entire plant paste is used to heal bone fractures.

Uses in other regions of Gujarat state: Locally called as "Runvand/Runvund" by the bhil community of Ratanmahal forests in Central Gujarat. Plant paste is considered as an antidote against scorpion bite (Bedi, 1979). Locally called as "Kharsan/Ropatari/Lavariu" in Saurashtra; the stems are used as tooth brushes (Shah, Menon and Gopal, 1981).

MALVACEAE

A total of 18 species belonging to 10 genera have been observed and collected from the study area.

Abelmoschus Medic.

Nomenclature: Abelmoschus esculentus (Linn.) Moench. Method. 617. 1794; Hook. f. Fl. Brit. India 1: 343, 1874; Cooke, Fl. Pres. Bombay 1: 119, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 94, 1978; Singh, et al., Fl. Maha. Dicot. 1:334. 2000; S and B 10; Thaker et al., 17-18:87 and 12:115. Hibiscus esculentus Linn. Sp. Pl. 696. 1753; Bailey 664.

Habit: 2 to 2.5 m tall pubescent undershrubs.

Phenology: FLS and FRS- Almost throughout the year, profuse in monsoon months.

Sanskrit Name: Gandhamula, Karpanphala, Bhenda.

Local Name: Bhinda. **PLATE 27**

Distribution and Status in the Study Area: Cultivated and also seen as an escape along roadside.

Distribution in Gujarat: Throughout, extensively cultivated; also an escape (Shah, 1978).

Local Uses: Cultivated and consumed by the locals as vegetable.

Uses in other regions of Gujarat state: Locally called as "Bhendi" in Dangs forests; cultivated by the tribals during monsoon for fruits, which are consumed as vegetables (Shah and Gopal, 1982).

Nomenclature: Abelmoschus manihot (Linn.) Medicus, Malv. 46. 1787; Hook. f. Fl. Brit. India 1:341. 1874; Cooke, Fl. Pres. Bombay 1: 118, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 94, 1978; Singh, et al., Fl. Maha. Dicot. 1:290. 2000; Borssum in Blumea 14:96. 1966; Ch and O 47; Thaker et al., 17-18:87 and 12:115. Hibiscus manihot Linn. Sp. Pl. 696. 1753; Hibiscus pentaphylla Roxb. Hort. Beng. 52. 1814; JIT 81. 1910.

Habit: About 1 mt tall erect, strigosely hairy undershrubs.

Phenology: FLS and FRS- June to October.

Sanskrit Name: Lata kasturika.

Local Name: Jangli-bhindi.

Distribution and Status in the Study Area: Seen on the way from Chhota-udepur to Hampleshwar.

Distribution in Gujarat: Throughout except Kachchh (Shah, 1978).

Local Uses: Bark in the form of mucilage is used as an emmenagogue. Leaves and roots are made into fine paste and used externally as poultice on boils, sores and inflammations. Paste of the young roots is given as a remedy for tuberculosis. Bark is used to cure cough.

Abutilon Mill.

Nomenclature: Abutilon indicum (Linn.) Sweet. Hort. Brit. 54. 1826; Hook. f. Fl. Brit. India 1:326, 1874; Cooke, Fl. Pres. Bombay 1: 102, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 97, 1978; Singh, et al., Fl. Maha. Dicot. 1:297. 2000; Sida indica Linn. Sp. Pl. 2:26. 1753; JIT 58. 1910 and 27. 1926; Ch and O 45; S and B 10; Thaker et al., 17-18:87 and 12: 115.

Habit: 1 to 1.5 mt tall erect simple or branched undershrubs.

Phenology: FLS- August to November, FRS- August to January.

Sanskrit Name: Atibala, Kankati, Pitpushpi.

Local Name: Khapat. **PLATE 27**

Distribution and Status in the Study Area: Common along roads and in cultivated fields.

Distribution in Gujarat: Throughout; common (Shah, 1978).

Local Uses: Bark is astringent and diuretic. The root infusion is used in fever. Seeds are used as aphrodisiac and laxative. The leaf paste is externally applied on swellings.

Uses in other regions of Gujarat state: Locally called as "Kanski" by the tribals of Dharampur forests in South Gujarat. Stem is used for cordage fibers (Reddy, 1989).

Azanza Alef.

Nomenclature: Azanza lampas (Cav.) Alef. In Bot. Zeit. 19: 298. 1861; Hook. f. Fl. Brit. India 1:345, 1874; Cooke, Fl. Pres. Bombay 1: 121, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 99, 1978; Singh, et al., Fl. Maha. Dicot. 1:329. 2000; S and B 10; Thaker et al., 17-18: 87 and 19-20: 36. Thespesia marcophylla Bl. Bijdr. 73. 1825; Hibiscus lampas Cav. Diss. 3: 154. t. 56. f. 2. 1787; JIT 84. 1910; Thespesia lampas Dalz. and Gibbs. Bombay Fl. 19. 1861.

Habit: An erect undershrub, 2 to 2.5 mt tall with purple or cinnamon-brown bark.

Phenology: FLS and FRS- August to February; fruiting almost throughout the year.

Sanskrit Name: Parisha.

Local Name: Jangli-bhindi.

Distribution and Status in the Study Area: Occasional as forest undergrowth at Ambadungar, Turkheda, Naswadi and Kundal.

Distribution in Gujarat: Throughout; not common (Shah, 1978).

Local Uses: Fruits are used in gonorrhoea and syphilis. The decoction of the roots is given in stomatitis. The root juice is given in urinary troubles like retention of urine and inflammation of urinary tract.

Uses in other regions of Gujarat state: Locally called as "Manedo" by the bhil community of Ratanmahal forests in Central Gujarat. Leaf decoction is used as remedy for inflammations (Bedi, 1979). Locally called as "Vagadau bhindi" by the tribals of Dharampur forests in South Gujarat; stem is used for cordage fibers (Reddy, 1989). Locally called as "Ban bhindi" in Dangs forest division (Ahwa). Paste of the seeds is applied externally by Gamit tribe as a remedy for rheumatic pains (Maheshwari, Sikarwar and Painuli, 1994).

Gossypium Linn.

Nomenclature: Gossypium herbaceum (Guill. and Perr.) Chevalier in Rev. Bot. Appl. Agr. Trop. 19: 537. 1939; Hook. f. Fl. Brit. India 1: 346. 1881; Cooke, Fl. Pres. Bombay 1: 123, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 109, 1978; Singh, et al., Fl. Maha. Dicot. 1:336. 2000; Ch and O 48; Gossypium punctatum Guill. and Perr. var. acerifolium Guill. and Perr. Fl. Senegal. Tent. 63. 1830; Gossypium herbaceum auct. nom. L.; Bailey 663.

Habit: 90-100 cm tall herbs or undershrubs.

Phenology: FLS and FRS- October to April.

Sanskrit Name: Karpasi.

Local Name: Kapas.

Distribution and Status in the Study Area: Cultivated throughout Chhota-udepur forest division.

Distribution in Gujarat: Cultivated throughout; also an escape (Shah, 1978).

Local Uses: Cultivated by the locals on large scale.

Hibiscus Linn.

Nomenclature: Hibiscus lobatus (J. A. Murr.) O. Ktze., Rev. Gen. Pl. 3. 2: 19. 1898; Hook. f. Fl. Brit. India. 1: 336, 1874; Cooke, Fl. Pres. Bombay 1: 114, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 104, 1978; Singh, et al., Fl. Maha. Dicot. 1:313. 2000; Solandra lobata J. A. Murr., Comm. Soc. Reg. Sc. Goetting 6: 20, t. 1. 1785; Hibiscus solandra L' Herit., Strip. Nov. 1: 103, t. 49. 1798.

Habit: 30 – 40 cm tall erect annual, simple or branched herbs.

Phenology: FLS and FRS- August to December.

Sanskrit Name: Bharadvasi.

Local Name: Tali.

Distribution and Status in the Study Area: Common on forests slopes and along river banks at Ambadungar, Kadipani, Bordha and Zoz.

Distribution in Gujarat: Throughout; common (Shah, 1978).

Nomenclature: Hibiscus punctatus Dalz., in Dalz. and Gibs. Bombay Fl. 20. 1861; Hook. f. Fl. Brit. India 1: 340, 1874; Cooke, Fl. Pres. Bombay 1: 116, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 106, 1978; Singh, et al., Fl. Maha. Dicot. 1:314. 2000.

Habit: Pubescent undershrubs.

Phenology: FLS and FRS- October to January.

Local Name: Chanak bhindo.

Distribution and Status in the Study Area: Seen at Sadhli in cultivated fields.

Distribution in Gujarat: Saurashtra, Rajpipla (Ghantoli), Bharuch, Surat; overall rare (Shah, 1978).

Nomenclature: Hibiscus rosa-sinensis L. Sp. Pl. 694. 1753; Hook. f. Fl. Brit. India. 1: 344, 1874; Cooke, Fl. Pres. Bombay 1: 120, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 107, 1978; Singh, et al., Fl. Maha. Dicot. 1:340. 2000.

Habit: 3-5 mt tall shrubs.

Phenology: FLS- Throughout the year.

Sanskrit Name: Jasuda, Japa, Trisandhya.

Local Name: Jasud, Jasvanti.

Distribution and Status in the Study Area: Often planted at villages, also as an escape.

Distribution in Gujarat: Planted; seldom escape (Shah, 1978).

Uses in Other regions of Gujarat State: Locally called as "Jasund" in Saurashtra. The flowers are fried in cow ghee and given to ladies in cases of menorrhagia and the root paste in cough (Shah, Menon and Gopal, 1981).

Nomenclature: Hibiscus sabdariffa L. Sp. Pl. 695. 1753; Hook. f. Fl. Brit. India. 1: 340, 1874; Cooke, Fl. Pres. Bombay 1: 117, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 107, 1978; Singh, et al., Fl. Maha. Dicot. 1:340. 2000.

Habit: An erect, glabrous, unarmed herb often with deep red to reddish purple stem and branches.

Phenology: FLS and FRS- December.

Local Name: Khati-bhindi.

Distribution and Status in the Study Area: Sparingly seen as a weed in waste places at Sadhli, Ambadungar and Vagasthal.

Distribution in Gujarat: Cultivated; seldom an escape (Shah, 1978).

Local Uses: Ripe fruits consumed by the locals.

Uses in other regions of Gujarat state: Locally called as "Ambodi" in Ratanmahal forests of Dahod district. Fibre is obtained from the stem. Fleshy calyx is used as vegetable (Bedi, 1979).

Kydia Roxb.

Nomenclature: Kydia calycina Roxb. Pl. Cor. t. 215. 1811; Hook. f. Fl. Brit. India 1: 348, 1874. 1874; Cooke, Fl. Pres. Bombay 1: 100, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 109, 1978; Singh, et al., Fl. Maha. Dicot. 1:317. 2000; JIT 58. 1910; S and B 11; Thaker et al., 12: 115.

Habit: 6-10 mt tall deciduous trees, stellately pubescent in younger parts; bark grey, peeling off in irregular flakes or tiny long strips.

Phenology: FLS- September, FRS- September to December.

Local Name: Moti-harvadi.

Distribution and Status in the Study Area: A few trees are observed at Ambadungar.

Distribution in Gujarat: Saurashtra, Dangs (Patel, 1984).

Local Uses: Leaves made into paste is applied for the treatment of rheumatism and lumbago. The fruit powder is given in dysentery.

Uses in other regions of Gujarat state: Locally called as "Varang" in Ratanmahal forests of Dahod district. Bhil community uses the leaf paste to get relieve from pain (Bedi, 1979). Locally called as "Waring/Motihirvani" in Saurashtra. The root is employed as febrifuge and in rheumatism. The leaves are chewed to overcome deficiency of saliva (Shah, Menon and Gopal, 1981). The leaves are chewed or the tribals of Dangs forests give the leaf extract in cases of deficiency in saliva secretion. The wood is considered valuable (Shah and Gopal, 1982). In Dharampur forests of South Gujarat also the leaves are used or rather given to increase saliva secretion (Reddy, 1989).

Pavonia Cav.

Nomenclature: Pavonia zeylanica Cav. Diss. 3:134. t. 48. f. 2. 1787; Hook. f. Fl. Brit. India 1: 331, 1874; Cooke, Fl. Pres. Bombay 1:108 (Loc. Baroda, Broach and Kathiawar cit.); Shah, Fl. Guj. 1: 112, 1978; Singh, et al., Fl. Maha. Dicot. 1:324. 2000; Ch and O 46; S and B 11; Thaker et al., 17-18: 87.

Habit: 30-35 cm tall viscidly pubescent slender herbs.

Phenology: FLS and FRS- August.

Local Name: Zeti.

Distribution and Status in the Study Area: Observed as a forest undergrowth at Ambadungar.

Distribution in Gujarat: Throughout; common (Shah, 1978).

Uses in other regions of Gujarat state: The leaves are chewed as they are refreshingly tasty (Shah, Menon and Gopal, 1981).

Sida Linn.

Nomenclature: Sida acuta Burm. f., Fl. Ind. 147. 1768; Sida carpinifolia Mast in Hook. F. Fl. Brit. India. 1: 323, 1874 (non. L. f. 1781); Cooke, Fl. Pres. Bombay 1: 98, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 114, 1978; Singh, et al., Fl. Maha. Dicot. 1:325. 2000.

Habit: 20-30 cm tall undershrubs with diffuse or ascending branches, stellately hairy in younger parts.

Phenology: FLS and FRS- September to October.

Sanskrit Name: Balabhed, Bala.

Local Name: Bala. **PLATE 27**

Distribution and Status in the Study Area: Occasional along roads in shaded spots and as undergrowth in forests at Chhota-udepur, Kadipani, Ambadungar and Naswadi.

Distribution in Gujarat: Throughout; common (Shah, 1978).

Local Uses: Roots are bitter, astringent, tonic; useful in nervous disorders and in purification of blood and bile. The root bark is used in leucorrhoea. The plant is used as a substitute for 'Bala' (Sida cordifolia Linn.) in many ayurvedic preparations.

Nomenclature: Sida alba L. Sp. Pl. ed. 2, 2: 960. 1763; Hook. f. Fl. Brit. India. 1: 323, 1874; Cooke, Fl. Pres. Bombay 1: 98, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 114, 1978; Singh, et al., Fl. Maha. Dicot. 1:328. 2000; Bhandari, Fl. Ind. Desert 71. 1978, 1990; Sida spinosa L. Sp. Pl. ed. 1. 2: 683. 1753.

Habit: Perennial, sparingly branched herbs or undershrubs, 45-50 cm tall stellately grey-tomentose in younger parts; bark greenish-brown smooth.

Phenology: FLS- August to December, FRS- Upto April.

Sanskrit Name: Nagbala.

Local Name: Kanta-bala.

Distribution and Status in the Study Area: Common along roadsides and in cultivated fields at Chhota-udepur, Ambadungar, Bhadurpur, Naswadi, Dugtha, Vagasthal and Panimines.

Distribution in Gujarat: Throughout; scattered; common (Shah, 1978).

PLATE 27



Abelmoschus esculentus (Malvaceae) -Khat
bhindi in flowering.



Abutilon indicum Sweet
(Malvaceae)- in FLS. C-udepur
forests division.



Sida acuta Burm. f. in
Flowering (Malvaceae).

Local Uses: The decoction of roots is used as a demulcent and in gonorrhoea. It is also used as tonic in debility and fevers. Leaves are also useful in gonorrhoea.

Nomenclature: Sida cordata (Burm. f.) Borss. In Blumea 14: 182. 1966; Sida humilis var. veronicifolia (Lamk.) Mast., in Hook. f. Fl. Brit. India. 1: 322, 1874; Cooke, Fl. Pres. Bombay 1: 97, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 114, 1978; Singh, et al., Fl. Maha. Dicot. 1:325. 2000; Melochia cordata Burm. f., Fl. Ind. 143. 1768; Sida humilis Cav., Diss. 5, t. 134. f. 2. 1788.

Habit: A 25-30 cm tall perennial much branched, diffuse, suberect or trailing patently stellately hairy herb.

Phenology: FLS and FRS- September to February.

Sanskrit Name: Bhumibala.

Local Name: Bhoy-bala.

Distribution and Status in the Study Area: Common throughout the forest division at Kadipani, Ambadungar, Kevdi, Zoz, Naswadi, Turkheda etc.

Distribution in Gujarat: Throughout; common (Shah, 1978).

Local Uses: The unripe fruits are given with sugar water for curing burning sensation. Leaf paste is given in diarrhoea and also applied on cuts and wounds.

Uses in Other regions of Gujarat State: Locally called as "Kherati" in Rajpipla forest division (Vasava tribe). Root infusion is orally administered and the paste of the root is also applied externally in stomach pain (Shah and Gopal, 1986).

Nomenclature: Sida ovata Forsk. Fl. Aegypt.-Arab. CXW et 124. 1775; Hook. f. Fl. Brit. India 1: 323, 1874; Cooke, Fl. Pres. Bombay 1: 98, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 115, 1978. Singh, et al., Fl. Maha. Dicot. 1:327. 2000; Sida grewioides Guill et Perr. ex Guill., Perr. et A. Rich. Fl. Senegamb. Tent. 1: 71, 1830.

Habit: An erect, much branched undershrub with stellately hairy to grey tomentose ascending branches.

Phenology: FLS and FRS- December to April.

Sanskrit Name: Vatyayni, Shitpaki, Kharyastika.

Local Name: Bala.

Distribution and Status in the Study Area: Overall a rare plant found only at Kundal and Naswadi.

Distribution in Gujarat: Throughout; common in Kachchh, Saurashtra and North Gujarat (Shah, 1978).

Local Uses: Seeds are made into fine paste and is used to cure lumbago.

Uses in Other regions of Gujarat State: The dried plants are bundled together as a broom stick (Saurashtra) (Shah, Menon and Gopal, 1981).

Nomenclature: Sida retusa Linn. Sp. Pl. ed. 2. 961, 1753; Sida rhombifolia Linn. var. retusa Masters in Hk. f. Fl. Brit. India 1: 324, 1874; Cooke, Fl. Pres. Bombay 1: 99, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 116, 1978. Singh, et al., Fl. Maha. Dicot. 1:328. 2000.

Habit: A much branched, slender, stellately hairy undershrub.

Phenology: FLS and FRS- October to December.

Sanskrit Name: Atibala.

Local Name: Khetrau ni bala.

Distribution and Status in the Study Area: Occasional as forest undergrowth at Sadhli, Kadipani, Ambadungar and Turkheda.

Distribution in Gujarat: Throughout except Kachchh (Shah, 1978).

Local Uses: Leaves are crushed and applied on swellings. Stem is used as demulcent and emollient. Roots is made into paste and used as a remedy for rheumatism.

Thespesia Soland. ex Corr.nom.cons.

Nomenclature: Thespesia populnea (Linn.) Sol. ex Correa in Ann. Mus. Hist. Nat. Paris 9: 290, t. 8, f. 1. 1807; Hook. f. Fl. Brit. India 1:345. 1874; Cooke, Fl. Pres. Bombay 1: 122, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 117, 1978; Singh, et al., Fl. Maha. Dicot. 1:330. 2000; Borss. In Blumea 14: 106. 1966; Hibiscus populneus Linn. Sp. Pl. 694. 1753; JIT 85. 1910 and 37. 1926; S and B 12; Thaker et al., 17-18:87.

Habit: 8-10 mt tall evergreen trees with spreading branches and smooth, grey bark.

Phenology: FLS and FRS- July to December.

Sanskrit Name: Parisha, Garda-bhanda.

Local Name: Paras-pipdo.

Distribution and Status in the Study Area: Only one plant is observed at Chhota-udepur.

Distribution in Gujarat: Planted in gardens and along roadsides; rarely wild (Shah, 1978).

Local Uses: Leaf decoction used in curing body pains.

Uses in other regions of Gujarat state: Locally called as "Paras piplo/Pardeshi bhindi" in Saurashtra. The tree is planted as a shade tree along roadsides. The flower juice is used as a rash cure (Shah, Menon and Gopal, 1981). Fruit juice is applied externally in skin diseases and leaf paste on swollen joints (Shah, 1984). Wood is used for making agricultural implements by the tribals of Dharampur forests in South Gujarat (Reddy, 1989).

Urena Linn.

Nomenclature: Urena lobata Linn. Sp. Pl. 692. 1753; Hook. f. Fl. Brit. India 1: 329. 1874; Cooke, Fl. Pres. Bombay 1: 106, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 117, 1978; Singh, et al., Fl. Maha. Dicot. 1:331. 2000; Borss. In Blumea 14: 138. 1966; Urena callifera Clarke in J. Linn. Soc. Bot. 25: 7. t. 3. 1889; Urena sinuata Linn. Sp. Pl. 692. 1753; JIT 71. 1910 and 32. 1926; Ch and O 46; S and B 12; Thaker et al., 17-18: 87 and 12: 115.

Habit: An erect, slender, stellately, pubescent herb or undershrub.

Phenology: FLS- September to November, FRS- October to December.

Sanskrit Name: Vanbhinda.

Local Name: Vagda-no-bhindo.

Distribution and Status in the Study Area: Occasional along forests paths, roads and shaded spots at Ghelvant, Ambadungar, Sadhli, Chhota-udepur and Naswadi.

Distribution in Gujarat: Throughout; not common (Shah, 1978).

Local Uses: Root decoction is used to cure stomach pains, whereas the root paste are applied externally for relief in muscular pain.

Uses in other regions of Gujarat state: Locally called as "Vagadau bhindo" by the tribals of Dangs forests in South Gujarat. The root extract is said to be used as an external application in rheumatic pains (Shah and Gopal, 1982). Locally called as "Chikhattiya" in Dharampur forests of South Gujarat. The entire plant is used by the tribals for fibers (Reddy, 1989). Locally called as "Lipte" in Dangs forest division (Mahal). The root decoction is given orally in Syphilis by Kotwalia tribe (Maheshwari, Sikarwar and Painuli, 1994).

BOMBACACEAE

In the study area this family is represented by one species of Adansonia and Bombax. They are A. digitata and B. ceiba respectively. Out of the two A. digitata is reported for the first time.

Adansonia Linn.

Nomenclature: Adansonia digitata Linn. Sp. Pl. 1190. 1753; Hook. f. Fl. Brit. India 1: 348. 1874; Cooke, Fl. Pres. Bombay 1: 126. 1958 Repr. Ed; Shah, Fl. Guj. 1: 118, 1978. Singh, et al., Fl. Maha. Dicot. 1:345. 2000.

Habit: 10 to 15 mt tall deciduous tree with grey, smooth, soft and tapering bark.

Phenology: FLS- April to May, FRS- June to December.

Sanskrit Name: Ravana-amblika, Shitphalam, Goraxi-panchparni.

Local Name: Rukhdo. **PLATE 28**

Distribution and Status in the Study Area: Only a single tree is seen at Chhota-udepur town near Palace. Addition to the flora of Chhota-udepur forests.

Distribution in Gujarat: Cultivated, seldom in waste places as self-sown (Shah, 1978).

Local Uses: The tree is worshiped as a sacred by the tribals of Chhota-udepur forest division.

Uses in other regions of Gujarat state: Locally called as "Sumparo/Gorakhamli" in Dangs district of South Gujarat. The pulp of the fruit is used in bilious conditions. The fresh leaf juice is applied to treat skin irritation. The leaf decoction is used for fomentation in rheumatic pains (Shah and Gopal, 1982). The bark of the tree is used as fibres by the tribals of Dharampur forests in South Gujarat (Reddy, 1989).

Bombax Linn.

Nomenclature: Bombax ceiba Linn. Sp. Pl. 511. 1753; Cooke, Fl. Pres. Bombay 1: 127, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 118, 1978; Singh, et al., Fl. Maha. Dicot. 1:344. 2000; Robyns, Taxon 10: 157. 1961; Nicholson, Taxon 28: 367. 1979; Hook. f. Fl. Brit. India 1:349. 1874; Bombax malabaricum DC., Prodr. 1: 479. 1824; Salmalia malabarica Schott. and Endl., Melet. Bot. 35. 1832; Ch and O 38; S and B 12; JIT 89. 1910 and 40. 1926; Thaker et al., 17-18: 87 and 12: 115.

Habit: 8-10 mt tall deciduous trees with straight trunk, studded with black, conical prickles; bark ash-colored.

Phenology: FLS- February to April, FRS- March to June.

PLATE 28



Worship of Adansonia digitata L. Chhota-udepur. Tribal family offering flowers and guggal dhup to the tree trunk.



Worship of Adansonia digitata Linn. Chhota-udepur. Tying of thread on tree trunk as a part of religious ritual.



Worship of Adansonia digitata L. Moving around the tree trunk so to remove evil spirit. Lady taking turns around tree. Chhota-udepur.



Worship of Adansonia digitata L. Lady moving around tree trunk as a part of worship ritual. Chhota-udepur.

Sanskrit Name: Shalmali.

Local Name: Shimdo.

Distribution and Status in the Study Area: Occasional at Sadhli, Turkheda, Bhadurpur and Hampeshwar.

Distribution in Gujarat: Throughout in deciduous and scrub forests (Shah, 1978).

Local Uses: The root powder is used as to increase sexual potency. Roots are stimulant, tonic and aphrodisiac. Gum from the bark is aphrodisiac, demulcent, astringent and tonic, used in diarrhoea, dysentery and menorrhagia.

Uses in other regions of Gujarat state: Locally called as "Savar" in Dangs district of Gujarat. The dried petals are pounded and soaked in milk and are given as a laxative to children. Flowers are diuretic (Shah and Gopal, 1982). Locally called as "Simul" in Salsette Island, Bombay. The tribals of Dharampur forests in South Gujarat for making matchboxes use Wood. Seed hairs are used in stuffing pillows and cushions (Reddy, 1989).

STERCULIACEAE

A total of four species belonging to four different genera have been observed in the area under this family.

Eriolaena DC.

Nomenclature: Eriolaena hookeriana Wt. and Arn., Prodr. 1: 70. 1834; Hook. f. Fl. Brit. India 1: 370. 1874; Cooke, Fl. Pres. Bombay 1: 139. 1958 (Repr. ed).; Shah, Fl. Guj. 1: 121, 1978; Singh, et al., Fl. Maha. Dicot. 1:351. 2000; Eriolaena candollei Wall., Pl. Asiat. Rar. 1: 51. t. 64. 1830; Thaker et al., 12: 115.

Habit: Upto 5 mt tall tree with greyish brown rough bark.

Phenology: FLS- August to September, FRS- August to November.

Local Name: Bothi.

Distribution and Status in the Study Area: A few trees seen at Mogra and Ambadungar in Kawant range.

Distribution in Gujarat: Pavagadh, rare (Shah, 1978).

Gauzuma Plum.

Nomenclature: Gauzuma ulmifolia Lam. Encycl. 3: 52. 1789; Hook. f. Fl. Brit. India 1: 375. 1874; Cooke, Fl. Pres. Bombay 1: 144. 1958 (Repr. ed.); Shah, Fl. Guj. 1: 122, 1978; Gauzuma tomentosa H. B. and K. Nov. Gen. et. Sp. 5: 320. 1821.

Habit: 6-10 mt tall trees stellately tomentose in younger parts; bark rough brown.

Phenology: FLS and FRS- Almost throughout the year, prominent in August.

Local Name: Rudrakshi. **PLATE 29**

Distribution and Status in the Study Area: Rare in the area, found only at Kevdi and Dugtha forests.

Distribution in Gujarat: Cultivated in gardens and along roadsides, seldom an escape (Shah, 1978).

Uses in other regions of Gujarat state: Locally called as "Rudraksh" in Dangs (Kanbi/Dangi tribe). The infusion of the old bark is given to treat cases of elephantiasis. The fruits are weared as neckless by the females (Shah and Gopal, 1982).

Helicteres Linn.

Nomenclature: Helicteres isora Linn. Sp. Pl. 963. 1753; Hook. f. Fl. Brit. India 1: 365. 1874; Cooke, Fl. Pres. Bombay 1: 136. 1958 (Repr. ed.); Shah, Fl. Guj. 1: 122, 1978; Singh, et al., Fl. Maha. Dicot. 1:355. 2000; JIT 95. 1910 and 52. 1926.

Habit: A sub-deciduous shrub with stellately tomentose in younger parts.

Phenology: FLS- August to October, FRS- September to January.

Sanskrit Name: Mriga-shinga, Avartani, Avartaphala.

Local Name: Neda-singi. **PLATE 29**

Distribution and Status in the Study Area: Common on hill slopes in the forests of Sadhli, Mogra, Kadipani, Ambadungar, Naswadi, Kundal and Lachharas.

Distribution in Gujarat: Throughout, common (Shah, 1978).

Local Uses: The leaves, fruits and bark are used by the tribals. Leaf juice is applied externally on itching parts. The powder of the ripe fruits in small quantity is mixed with water and is given to infants in abdominal pains. The bark is used as a fibre.

Uses in other regions of Gujarat state: Locally called as "Muruda sing" by Bhil community of Ratanmahal forests in Central Gujarat. Fiber is obtained from the bark. Seed decoction is given to cure dysentery (Bedi, 1979). Locally called as "Maradsing/Ati/Atai" in Saurashtra (Maldhari community). The seeds are said to be

mild purgative and given to children in flatulence and griping stomach pains. The bark yields a good fiber for tying the logs (Shah, Menon and Gopal, 1981). Locally called as "Ati" in Dangs forests of South Gujarat (Kanbi tribe). The fruit is anti-dyesentric (Shah and Gopal, 1982). Locally called as "Mardasing/Ati/Atii" by the Vasava tribe of Rajpipla forests in South Gujarat. The pods are dried and powdered; powder is then mixed with milk or honey and given two times a day in curing acute dysentery (Shah and Gopal, 1986). Locally called as "Attal" by Dubla tribe of Dharampur forests. Seeds are used for preparing strong fibers (Reddy, 1989).

Sterculia Linn.

Nomenclature: Sterculia urens Roxb. Pl. Cor. t. 24, 1795; Hook. f. Fl. Brit. India 1: 355. 1874; Cooke, Fl. Pres. Bombay 1: 131 (Loc. Panchmahals cit.); Shah, Fl. Guj. 1: 124, 1978; Singh, et al., Fl. Maha. Dicot. 1:359. 2000; JIT 41. 1926; Ch and O 51. Habit: A deciduous tree with spreading branches; bark greyish white, tinged pink or completely pink.

Phenology: FLS- November to April, FRS- December to May.

Local Name: Kadayo. **PLATE 29**

Distribution and Status in the Study Area: Rare in the area, seen at Ghelvant, Dhandhoda, Satun, Ambadungar and Ghantoli-songir.

Distribution in Gujarat: Throughout in deciduous and scrub forests, not common (Shah, 1978).

Local Uses: The paste of the young branches is applied on bone fractures. Important NTPF for the tribals of this region. Gum called as "Kadaya Gum" is collected from this forest areas.

Uses in other regions of Gujarat state: Locally called as "Kadayo/Kadai" in Saurashtra (Maldhari community). The paste of the gum is applied in case of pain in joints and given to pregnant ladies as one of the ingredients in a tonic medicine (Shah, Menon and Gopal, 1981). Locally called as "Kandol" in Dangs (Kanbi tribe). The plant yields 'katila' gum that is used in confectionary. The tribals eat the seeds. The gum makes a jelly in water, which is given to ladies in menorrhagia (Shah and Gopal, 1982). Locally called as "Kandol/Karayo/Karai" in Salsette Island, Bombay. Karaya gum obtained from the plant is used in making jam, confectionary or in medicinal preparations. It emits a powerful stink, if allowed to decompose. The gum paste in water is applied to foment blisters or to pull out broken thorns or spine

PLATE 29



Helicteres isora Linn (Sterculiaceae) – Nedasing in Flowering and Fruiting with a close up of its fruits.



Fruits of Gauzuma ulmifolia Lamk (Sterculiaceae).



Sterculia urens Roxb (Sterculiaceae) Rare tree species of the area.

pieces from legs. The Garasia bhils of North Gujarat uses the gum of the plant for piles as astringent (Shah and Gopal, 1985). The Dubla tribes of Dharampur forests consume roasted seeds, while the gum is used in confectionary (Reddy, 1989). Locally called as "Kudayo" in Dangs forests (Ahwa). The gum powder is used orally in menstrual disorders among the ladies of Kunbi and Gamit tribe (Maheshwari, Sikarwar and Painuli, 1994).

TILIACEAE

Under this family a total of nine species belonging to three different genera have been observed in the area.

Corchorus Linn.

Nomenclature: Corchorus capsularis L. Sp. Pl. 529. 1753; Hook. f. Fl. Brit. India. 1: 397, 1874; Cooke, Fl. Pres. Bombay 1: 77, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 127, 1978; Singh, et al., Fl. Maha. Dicot. 1:379. 2000.

Habit: Suffrutescent, simple or branched herbs.

Phenology: FLS and FRS- December.

Sanskrit Name: Bhirupatrika.

Local Name: Chhunch.

Distribution and Status in Area: Rare, found at Bhadurpur forests of Pavi-jetpur range.

Distribution In Gujarat: Panchmahals, Talod in North Gujarat, Saurashtra and Kachchh, subgregarious (Shah, 1978).

Local Uses: Leaves are demulcent, stomachic, laxative, carminative and stimulant; used to increase appetite and also in dysentery, fever and liver disorders. Roots and unripe fruits are used in diarrhoea.

Uses in Other regions of Gujarat State: Locally called as "Moti Chuunch" in Dharampur forest division. Jute fibers is obtained from stem (Reddy, 1989).

Nomenclature: Corchorus olitorius L. Sp. Pl. 529. 1753; Hook. f. Fl. Brit. India. 1: 397, 1874; Cooke, Fl. Pres. Bombay 1: 158, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 128, 1978; Singh, et al., Fl. Maha. Dicot. 1:380. 2000.

Habit: Erect undershrubs with greenish brown, glabrous, terete and deeply striate stem and branches.

Phenology: FLS and FRS- August to October.

Sanskrit Name: Chanchu.

Local Name: Pat-sakh.

Distribution and Status in Area: A common weed in cultivated fields and along hedges and railway lines at Chhota-udepur, Ghelvant, Kadipani and Ambadungar.

Distribution In Gujarat: Throughout, common, scattered or sub-gregarious (Shah, 1978).

Local Uses: Leaves are demulcent, tonic and diuretic; useful in chronic gonorrhoea. Seeds are purgative. Leaf infusion is common remedy for fever, bilious troubles, dysentery, liver disorders and skin diseases.

Uses in Other regions of Gujarat State: Locally called as "Khabat" in Dharampur forest division. Jute fibers is obtained from the stem (Reddy, 1989).

Grewia Linn.

Nomenclature: Grewia asiatica (auct. non L. 1767); Hook. f. Fl. Brit. India. 1: 386, 1874; Cooke, Fl. Pres. Bombay 1: 150, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 132, 1978; Singh, et al., Fl. Maha. Dicot. 1:385. 2000; Grewia subinaequalis DC., Prodr. 1: 511. 1824.

Habit: A large stellately hairy straggling shrubs or tree with brownish bark.

Phenology: FLS- February to July, FRS- April to July.

Sanskrit Name: Parus-kalam, Parusham.

Local Name: Nani dhaman.

Distribution and Status in Area: Sparingly seen at Naswadi range.

Distribution In Gujarat: Often planted in gardens (Shah, 1978).

Nomenclature: Grewia hirsuta Vahl, Symb. 1: 34. 1790; Hook. f. Fl. Brit. India. 1: 391, 1874; Cooke, Fl. Pres. Bombay 1: 153, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 132, 1978; Singh, et al., Fl. Maha. Dicot. 1:387. 2000.

Habit: Erect undershrubs, softly pubescent in younger parts.

Phenology: FLS and FRS- August to September.

Local Name: Khad-dhamni.

Distribution and Status in Area: Occasional in forests undergrowth at Kadipani, Naswadi, Mogra, Sadhli, Chhota-udepur, Vagasthal and Kundal.

Distribution In Gujarat: Bulsar, Rajpipla, Panchmahals, North Gujarat and Saurashtra (Shah, 1978).

Local Uses: The plant is used for ethnoveterinary purpose. The roots are made into fine strips and are tied as a bandage in bone fractures of animals.

Uses in Other regions of Gujarat State: Locally called as "Gangarasi" by bhil tribal community of Ratanmahal forests. Fruits are eaten. Root paste is the best remedy for cuts and wounds (Bedi, 1979). Locally called as "Dhamni" in Rajpipla forest division (Vasava tribe). The root bark is used to prepare a paste which is applied externally in curing rheumatic pains (Shah and Gopal, 1986).

Nomenclature: Grewia tiliaefolia Vahl, Symb. Bot. 1: 35. 1790; Hook. f. Fl. Brit. India. 1: 386, 1874; Cooke, Fl. Pres. Bombay 1: 150, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 133, 1978; Singh, et al., Fl. Maha. Dicot. 1:394. 2000.

Habit: 12-15 mt tall trees with light brown bark, rough exorticating in irregular patches; young branches grey tomentose.

Phenology: FLS and FRS- July to August.

Sanskrit Name: Dharmana, Dhanu-vruskha.

Local Name: Dhaman.

Distribution and Status in Area: Sparingly seen at Mogra, Kadipani, Turkheda, Kundal and Koraj.

Distribution In Gujarat: Throughout in deciduous forests, occasional seldom in scrub forests (Shah, 1978).

Local Uses: Bark is used in dysentery and employed to treat irritation on skins. Powder of the wood is emetic. Fruits are eaten by the native population.

Uses in Other regions of Gujarat State: Locally called as "Dhaman" in Dharampur forest division. Wood is used for making agricultural implements. Ripe fruits are edible (Reddy, 1989). The wood yields a good timber which is used by the tribals for house construction (Dangs forest division-North) (Shah and Gopal, 1982).

Nomenclature: Grewia villosa Willd., in Ges. Naturf. Fl. Neue Schr. 4: 205. 1803; Hook. f. Fl. Brit. India 1: 388, 1874; Cooke, Fl. Pres. Bombay 1: 151, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 133, 1978. Singh, et al., Fl. Maha. Dicot. 1:397. 2000.

Habit: Tall shrub about 2.5 mt high with stellately hairy branches, densely hairy in younger parts; bark grey.

Phenology: FLS and FRS- August to November.

Local Name: Gangedi.

Distribution and Status in Area: As forest undergrowth at Mogra and in hedges at Naswadi.

Distribution In Gujarat: South Gujarat (Rajpipla), Central Gujarat (Mahi ravines), North Gujarat, Saurashtra and Kachchh; rather rare (Shah, 1978).

Uses in Other regions of Gujarat State: The fresh bark juice is said to be used in gonorrhoea (North Dangs) (Shah and Gopal, 1982).

Triumfetta Linn.

Nomenclature: Triumfetta annua L., Mant. 1: 73. 1767; Hook. f. Fl. Brit. India. 1: 396, 1874; Shah, Fl. Guj. 1: 135, 1978; Singh, et al., Fl. Maha. Dicot. 1:398. 2000.

Habit: 40-60 cm tall annual herbs.

Phenology: FLS and FRS- August to October.

Sanskrit Name: Jhinjhirita kantphali.

Local Name: Zipti.

Distribution and Status in Area: Rare, found as forest undergrowth at Ambadungar in Kawant range.

Distribution In Gujarat: Dangs and Pavagadh (Shah, 1978).

Nomenclature: Triumfetta rhomboidea Jacq., Enum. Pl. Carib. 22: 1760; Hook. f. Fl. Brit. India. 1: 395, 1874; Cooke, Fl. Pres. Bombay 1: 156, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 135, 1978; Singh, et al., Fl. Maha. Dicot. 1:399. 2000.

Habit: About 1 mt tall undershrubs stellately hairy; dichotomously branched with spreading branches.

Phenology: FLS- July to October, FRS- July to February.

Sanskrit Name: Jhinjhirita.

Local Name: Nano zipto.

Distribution and Status in Area: Common, scattered or in open places along road sides and in hedges at Ghelvant, Chhota-udepur, Naswadi, Satun and Saidivasan.

Distribution In Gujarat: Throughout, common, scattered or sub-gregarious (Shah, 1978).

Local Uses: Leaves, flowers and fruits are demulcent, astringent and given in gonorrhoea. Roots are diuretic. Bark and dried leaves are used in diarrhoea and dysentery.

ZYGOPHYLLACEAE

This family has only one representative in the area belonging to the genus Tribulus, i.e. T. terrestris.

Tribulus Linn.

Nomenclature: Tribulus terrestris Linn. Sp. Pl. 387. 1753; Hook. F. Fl. Brit. India 1: 423. 1874; Cooke, Fl. Pres. Bombay 1: 170. 1958 (Repr. ed).; Shah, Fl. Guj. 1: 139, 1978. Singh, et al., Fl. Maha. Dicot. 1:427. 2000; Tribulus lanuginosus Linn. Sp. Pl. 387. 1753; JIT 120. 1910 and 53. 1926; Ch and O 55; Thaker et al., 17-18: 87 and 12: 115.

Habit: A diffuse, annual herb, often with radially spreading pilose 15-30 cm long branches.

Phenology: FLS and FRS- July to September.

Sanskrit Name: Gokshru, Vanshrugat, Trikantak, Laghu gokshru.

Local Name: Bedhu-gokhru.

Distribution and Status in the Study Area: Commonly seen in agricultural fields all throughout the forest division.

Distribution in Gujarat: Throughout in plains (Shah, 1978).

Local Uses: Fruits are made into powder form and is given as a remedy for urinary discharges and impotence.

Uses in other regions of Gujarat state: Locally called as "Mithugokhru/Gokhru/Akanti" in Saurashtra (Maldhari community). The fresh leaves are eaten as vegetable. The dried spines of the fruit are said to be administered in urinary disorders (Shah, Menon and Gopal, 1981). In Dangs forests of South Gujarat, the Kanbi tribe uses the fruit as tonic. It is powdered and given in cases of debility (Shah and Gopal, 1982).

OXALIDACEAE

Under this family two species belonging to genus Biophytum and Oxalis have been observed in the area. They are B. sensitivum and O. corniculata respectively.

Biophytum DC.

Nomenclature: Biophytum sensitivum (Linn.) DC. Prodr. 1: 690. 1824; Hook. f. Fl. Brit. India 1: 436. 1874; Cooke, Fl. Pres. Bombay 1: 177. 1958 (Repr. ed).; Shah, Fl. Guj. 1: 141, 1978; Singh, et al., Fl. Maha. Dicot. 1:436. 2000; Oxalis sensitivum Linn. Sp. Pl. 434. 1753; Ch and O 56; S and B 14; JIT 125. 1910 and 55. 1926.

Habit: Tiny annual herb about 6-10 cm tall herb.

Phenology: FLS and FRS- August to November.

Sanskrit Name: Lajjaluka.

Local Name: Jerate.

Distribution and Status in the Study Area: Common in shaded spots in cultivated fields and along margins of ditches at Gabadia, Naswadi, Kadipani, Ambadungar, Dugtha and Ghantoli-songir. Also found in open forest areas of Kawant range.

Distribution in Gujarat: Throughout, in shaded spots and as a weed in cultivated fields (Shah, 1978).

Local Uses: Decoction of the leaves is given in gonorrhoea whereas the root powder is applied on wounds.

Uses in Other regions of Gujarat State: Locally called as "Lajamani" in Ratanmahal forests of Central Gujarat (Bhil community). It is a common belief among the tribals that the dried leaves, smoked with tobacco render a man infertile and in excessive use make him impotent. Scientific investigation may prove this plant to be in good source of birth control (Bedi, 1979). Locally called as "Risamnu/Zarero" in Saurashtra (Maldhari community). The leaf paste is applied to wounds and cuts to stop bleeding. It is also a tonic. The root decoction is given to cure ordinary fevers (Shah, Menon and Gopal, 1981). The leaf extract is given to cure fevers by tribals of Dangs forests (Shah and Gopal, 1982). Locally called as "Lajri" in North Gujarat (Garasia and Garasia bhil community). 4-5 drops of fresh leaf juice is put into eyes twice a day to treat chronic purulent discharges. Leaf decoction given twice a day to treat dysentery, chronic uterine discharges and ordinary fevers (Shah and Gopal, 1985). Bhil, Nayaka and Dubada tribe of North Gujarat (Khedbrahma region) use the leaves after boiling with water for rheumatic pain (Bhatt and Sabnis, 1987).

Oxalis Linn.

Nomenclature: Oxalis corniculata Linn. Sp. Pl. 435. 1753; Hook. f. Fl. Brit. India 1: 436. 1874; Cooke, Fl. Pres. Bombay 1: 177. 1958 (Repr. ed).; Shah, Fl. Guj. 1: 142, 1978; Singh, et al., Fl. Maha. Dicot. 1:439. 2000; JIT 125. 1910 and 55. 1926; Bailey 600; Ch and O 56; S and B 14; Thaker et al., 17-18: 87 and 12: 115.

Habit: Creeping or ascending herbs, with radially spreading slender branches from a stout root stock.

Phenology: FLS and FRS- August to January.

Sanskrit Name: Changari, Amla-patrika.

Local Name: Changali.

Distribution and Status in the Study Area: Common in moist grounds at Chhota-udepur, Ghelvant, Panvad, Pavi-jetpur and Naswadi.

Distribution in Gujarat: Throughout in moist places and cultivated fields (Shah, 1978).

Local Uses: Leaves are cooling, refrigerent and anti-scorbutic. The plant paste is used to cure scurvy.

Uses in other regions of Gujarat state: Locally called as "Changeri/Navari" in Saurashtra (Maldhari community). The leaves are chewed, as they are mildly acidic and refreshingly tasty. Fresh leaves in curries improve the appetite and digestion (Shah, Menon and Gopal, 1981). The Garasia bhils of North Gujarat mix the leaf juice with sugar and give it to small children in diarrhoea or prolapsed rectum (Shah and Gopal, 1985).

BALSAMINACEAE

Only one species of the genus Impatiens, i.e. I. balsamina var. rosea has been observed in the area.

Impatiens Linn.

Nomenclature: Impatiens balsamina Linn. var. rosea (Lindl.) Hook. f. Hook. F. Fl. Brit. India 1:454. 1874; Cooke, Fl. Pres. Bombay 1: 174, 1908 and 1: 185, 1958 (reprinted).; Shah, Fl. Guj. 1: 143, 1978; Singh, et al., Fl. Maha. Dicot. 1:451. 2000; Impatiens balsamina Linn. Sp. Pl. 938. 1753; Impatiens rosea Lindl. In Bot. Reg. t. 27. 1841; JIT 126. 1910; S and B 137.

Habit: 30 cm tall annual, erect, simple or sparingly branched herb; stem soft, pale reddish-yellow or sometimes tinged reddish purple, pubescent in younger.

Phenology: FLS and FRS- June to September.

Local Name: Gur-mendhi. **PLATE 30**

Distribution and Status in the Study Area: Common in open grasslands and on slopes of hills during monsoon at Ambadungar, Naswadi, Ghantoli-songir and Kevdi forests.

Distribution in Gujarat: Saurashtra and Pavagadh (Shah, 1978).

Local Uses: Paste of the flowers are used in burns. Plant paste is used to relieve joint pains.

RUTACEAE

Three species belonging to three different genera viz., Aegle, Citrus and Murraya have been observed in the area.

Aegle Corr.nom.cons.

Nomenclature: Aegle marmelos (Linn.) Correa in Trans. Linn. Soc. 5. 223. 1800; Hook. f. Fl. Brit. India 1: 516. 1875; Cooke, Fl. Pres. Bombay 1: 204. 1958 (Repr. ed.); Shah, Fl. Guj. 1: 144, 1978; Singh, et al., Fl. Maha. Dicot. 1:464. 2000; Crataeva marmelos Linn. Sp. Pl. 444. 1753; JIT 157. 1910 and 56. 1926; Ch and O 57; Thaker et al., 17-18: 88 and 12: 115.

Habit: A thorny deciduous tree; branches spreading often drooping; bark greyish-white to greyish-brown, smooth thorns paired.

Phenology: FLS- January to May, FRS- February to July.

Sanskrit Name: Sripkala, Bilvaphala, Vasapatra, Malur, Shailush.

Local Name: Billi.

Distribution and Status in the Study Area: Occasional in dense forests at Kadipani, Turkheda, Dhandhoda, Kundal, Kevdi and Ghantoli-songir.

Distribution in Gujarat: Throughout, in deciduous forests and scrub forests, common; also planted in gardens (Shah, 1978).

Local Uses: Root-bark is used in intermittent fever. Pulp of the ripe fruit is aromatic, cooling and laxative. The leaf juice along with water and honey is given in fever and asthma.

Uses in other regions of Gujarat state: Locally called as "Bila" in Saurashtra (Maldhari community). The leaf decoction is used for bath after fevers. The unripened fruit is reputed antidysentritic (Shah, Menon and Gopal, 1981). The fruit pulp is antidysentritic and is used by the tribals of Dangs forests to improve appetite (Shah and Gopal, 1982).

Citrus Linn.

Nomenclature: Citrus limon (L.) Burm.f., Fl. Ind. 1173. 1768; Hook. f. Fl. Brit. India 1: 515. 1875; Cooke, Fl. Pres. Bombay 1: 201, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 144, 1978; Singh, et al., Fl. Maha. Dicot. 1:484. 2000; Citrus medica var. limonum Linn. Sp. Pl. 2: 782. 1753.

Habit: 6 mt tall, thorny large shrub or small tree with pale greenish yellow rough bark.

Phenology: FLS and FRS- Throughout the year.



Sanskrit Name: Nimba-phala.

Local Name: Limbu.

Distribution and Status in the Study Area: Common, planted at many villages of Chhota-udepur forest division.

Distribution in Gujarat: Planted throughout (Shah, 1978).

Local Uses: Used as a remedy to get relief from heat and sun strokes.

Uses in other regions of Gujarat state: Locally called as "Nimbu" in Dangs forests (Kanbi and Kokana tribes). The decoction of the lemon rind or the limejuice is allowed to stand exposed to air throughout the night. The next day it is filtered and given in the malarial fever (Shah and Gopal, 1982).

Murraya Linn.

Nomenclature: Murraya koenigii (L.) Mant. 1: 563. 1771; Hook. f. Fl. Brit. India 1: 503. 1875; Cooke, Fl. Pres. Bombay 1: 193, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 145, 1978; Bergera koenigii L., Mant. 565. 1767.

Habit: 5 mt tall deciduous tree with dark brown or nearly black bark.

Phenology: FLS and FRS- March to May.

Sanskrit Name: Kedariya, Ketariya.

Local Name: Mitho-limbd.

Distribution and Status in the Study Area: Addition to the flora of Chhota-udepur forests. Self sown by the locals of the area.

Distribution in Gujarat: Planted in gardens near houses (Shah, 1978).

Local Uses: Consumed as condiment and spice.

SIMAROUBACEAE

This family is represented in the area by one species of the genus Ailanthus, i.e. A. excelsa.

Ailanthus Desf.nom.cons.

Nomenclature: Ailanthus excelsa Roxb. Pl. Cor. 1: 24. t. 23. 1795; Hook. f. Fl. Brit. India 1: 518. 1875; Cooke, Fl. Pres. Bombay 1: 205 (Loc. Surat, Broach, Baroda cit); Shah, Fl. Guj. 1: 146, 1978; Singh, et al., Fl. Maha. Dicot. 1:489. 2000; JIT 132. 1910 and 57. 1926; Ch and O 23; Thaker et al., 17-18: 88 and 12: 116.

Habit: A soft wooded, 10 to 15 mt tall tree with pale greenish white or yellow smooth bark.

Phenology: FLS- December to March, FRS- February to May.

Sanskrit Name: Arlu, Mahanimba.

Local Name: Moto-arduso.

Distribution and Status in the Study Area: Occasionally found along road sides and in hedges along margins of cultivated fields. Seen at Vagasthal, Bar, Satun, Dhandhoda, Ghelvant and Raisingpura.

Distribution in Gujarat: Throughout, frequent in scrub forests, rarely in cleared, dry deciduous forests (Shah, 1978).

Local Uses: Bark and leaves are used as tonic especially in debility after child-birth. The wood is used in making drums and musical instruments.

Uses in other regions of Gujarat state: Locally called as "Arduso" in Ratanmahal forests (Bhil community). Bark decoction is used to cure wounds (Bedi, 1979). Locally called as "Motoarduso/Rukhdo" in Saurashtra (Maldhari community). The bark and the leaf infusion are given to ladies as tonic after childbirth. The leaf juice mixed with coconut milk is said to cure rheumatism (Shah, Menon and Gopal, 1981). The leaf infusion is given as a tonic during pregnancy by the tribals of Dangs forests in South Gujarat (Shah and Gopal, 1982). Locally called as "Arduso" in Rajpipla forests (Vasava tribe). Bark decoction is administered orally in bronchitis, and bronchial fevers also. 10 g of bark is taken and sun dried. The powder of this dried bark mixed with boiling water, filtered and the residue is used directly to cure bronchitis (Shah and Gopal, 1986). Wood is used by the tribals of Dharampur forests in making fishing floats, toys and matchsticks (Reddy, 1989). Locally called as "Bhutjad" in Dangs forest division (Mahal). Bark paste is used orally to cure stomachache by Warli tribe (Maheshwari, Sikarwar and Painuli, 1994).

BALANITACEAE

Only one species of the genus Balanites, i.e. B. aegyptiaca represents this family in the area.

Balanites Delile nom.cons.

Nomenclature: Balanites aegyptiaca (L.) Delile. Fl. Egypte 77 and 221. t. 28. f. 1. 1813; Hook. f. Fl. Brit. India 1: 522. 1875; Cooke, Fl. Pres. Bombay 1: 207. 1958 (Repr. ed.); Shah, Fl. Guj. 1: 147, 1978; Singh, et al., Fl. Maha. Dicot. 1:491. 2000; Ximenia aegyptiaca Linn. Sp. Pl. 1194. 1753; Balanites roxburghii Planchon in Ann. Sc. Nat. (Ser. 4) 2: 258. 1854; JIT 135. 1910 and 58. 1926; Ch and O 56.

Habit: An armed, deciduous, glaucous green, glabrous, small tree.

Phenology: FLS- December to March, FRS- March to July.

Sanskrit Name: Tailaphala, Ingudi, Dirghakanta, Tapas-vriksha.

Local Name: Ingoria.

Distribution and Status in the Study Area: Rare, seen only at Naswadi range. Bhadurpur, Naswadi and Ghantoli-songir.

Distribution in Gujarat: Throughout, in scrub forests (Shah, 1978).

Local Uses: Leaves and unripe fruits are purgative. Seeds are used as expectorant for young childrens.

Uses in other regions of Gujarat state: Locally called as "Ingario/Hingario" in Saurashtra (Maldhari community). The acidic fruit juice removes stains on clothes. Roasted seeds are given in cough. The bark, unripe fruit and leaves are pungent, bitter, purgative and anthelmintic and often used as vermifuge in children. The oil from the seeds is administered in treating burns (Shah, Menon and Gopal, 1981).

BURSERACEAE

Two species belonging to the genus Boswellia and Garuga, i.e. B. serrata and G. pinnata respectively have been observed in the area.

Boswellia Roxb. ex Colebr.

Nomenclature: Boswellia serrata Roxb. ex Colebr. In Asiat. Res 9: 379. t. 5. 1807; Hook. f. Fl. Brit. India 1: 526. 1875; Cooke, Fl. Pres. Bombay 1: 210. 1958 (Repr. ed.); S and B 14; Shah, Fl. Guj. 1: 147, 1978. Singh, et al., Fl. Maha. Dicot. 1:494. 2000.

Habit: A 10-15 mt tall deciduous tree with spreading crown, younger parts pubescent.

Phenology: FLS and FRS- December to April.

Sanskrit Name: Shallaki, Nagvadhu, Gajbhakshya.

Local Name: Shaledi. **PLATE 30**

Distribution and Status in the Study Area: Common in dense forests at Kevdi, Kundal and Satun.

Distribution in Gujarat: Throughout in deciduous forests (Shah, 1978).

Local Uses: The gum obtained from the tree bark is used in diaphoretic, diuretic, astringent; used in rheumatism and liver disorders.

Uses in other regions of Gujarat state: Locally called as "Gugal/Dhupel" in Saurashtra (Maldhari community). The gum is used in dysentery and diarrhoea and in the preparation of ointment for sores and external skin eruptions (Shah, Menon and Gopal, 1981). Locally called as "Dupalio" in Dangs (Kanbi tribe). The decoction of the bark is said to be used to relieve body aches (Shah and Gopal, 1982). The Garasia bhil tribe of North Gujarat uses the wood as rubefacient (Shah and Gopal, 1985).

Garuga Roxb.

Nomenclature: Garuga pinnata Roxb. Pl. Corom. t. 208. 1811; Hook. f. Fl. Brit. India 1: 528. 1875; Cooke, Fl. Pres. Bombay 1: 211 (Loc. Gujarat cit); Shah, Fl. Guj. 1: 148, 1978; Singh, et al., Fl. Maha. Dicot. 1:495. 2000; Ch and O 59; Thaker et al., 17-18: 88 and 12: 116.

Habit: 10 mt tall deciduous tree, branches pendent; bark greyish to dark brown, rough, deeply fissured, exfoliating into irregular flakes.

Phenology: FLS- January to March, FRS- February to May.

Sanskrit Name: Kakad-phala.

Local Name: Kakad. **PLATE 30**

Distribution and Status in the Study Area: Occasional at Mogra, Hampheshwar, Ambadungar and Turkheda forests.

Distribution in Gujarat: Throughout, in deciduous forests (Shah, 1978).

Local Uses: Fruits are used in stomachache. Leaf juice mixed with honey is given in asthmatic attack. Stem juice is used to cure conjunctivitis. The tree is worshiped and the tribal temples called as 'babadev' are built around it.

Uses in other regions of Gujarat state: Locally called as "Kakad/Kakadio" in Saurashtra (Maldhari community). The leaf juice is astringent. It is mixed with that of *Adhatoda vasica*, *Vitex negundo* and honey and is given in asthma (Shah, Menon and Gopal, 1981). The fruits are pickled and consumed by the tribals of Dangs forests (Shah and Gopal, 1982). Wood is used in packing cases by tribals of Dharampur forests (Reddy, 1989). Locally called as "Kakad" in Dangs forests (Waghai). The bark powder is externally used on bone dislocation and the gum is used as remedy for tuberculosis (Maheshwari, Sikarwar and Painuli, 1994).

PLATE 30



Impatiens balsamina Linn. var. rosea (Lindl.) Hook. f.
(Balsaminaceae) in flowering at Kevdi forests.



Boswellia serrata Colebr.
(Burseraceae) Planted at
Dhandhoda village. Range C-
udepur of forests division.



Fruits of Garuga Pinnata Roxb.
Family Burseraceae. Rare tree
species of the area.

MELIACEAE

This family is represented in the area by one species each of the genus Azadirachta and Melia. They are A. indica and M. azedarach respectively.

Azadirachta A. Juss.

Nomenclature: Azadirachta indica A. Juss. In Mem. Mus. Hist. Nat. Paris 19. 220. t. 2. f. 5. 1830; Hook. f. Fl. Brit. India 1: 544. 1875; Cooke, Fl. Pres. Bombay 1:220. 1958 (Repr. ed.); Shah, Fl. Guj. 1: 149, 1978; Singh, et al., Fl. Maha. Dicot. 1:502. 2000; Melia azadirachta Linn. Sp. Pl. 385. 1753; JIT 138. 1910; Ch and O 59; Thaker et al., 17-18: 86 and 12: 115.

Habit: An evergreen tree, upto 15 m tall; bark light black, shallowly longitudinally fissured.

Phenology: FLS- December to March, FRS- January to May.

Sanskrit Name: Nimba.

Local Name: Limbdo.

Distribution and Status in the Study Area: Along road sides in Chhota-udepur forest division at Naswadi, Vagasthal, Dhandhoda, Satun and Koraj.

Distribution in Gujarat: Throughout, planted along roadsides, self-sown and/or wild in forests (Shah, 1978).

Local Uses: Bark is used as tonic, antiperiodic and alterative. Leaf paste is used in skin diseases like eczema and soriasis. Oil from the fruits is used as stimulant, antiseptic and applied externally on skin diseases. Leaves and seeds are emetic, laxative and anthelmintic. The wood is used to make household items and agricultural implements.

Uses in other regions of Gujarat state: The tender twigs are used as toothbrushes. The smoke of dried or fresh leaves is effective to evade mosquitoes (Saurashtra region; Maldhari community) (Shah, Menon and Gopal, 1981). Locally called as "Nimbara" in Dangs forests (Dangi/Kanbi tribe). The bark, leaves and fruits are known to be of high medicinal value, due to its astringent property (Shah and Gopal, 1982). Tender shoots are used as toothbrushes by tribals of Dharampur forests (Dubla tribe). Wood: fuel; Seed oil: removal of lice and in soap preparation; Oil cake: as manure (Reddy, 1989).

Melia Linn.

Nomenclature: Melia azedarach Linn. Sp. Pl. 384. 1753; Hook. f. Fl. Brit. India 1: 544. 1875; Cooke, Fl. Pres. Bombay 1: 218, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 150, 1978; Singh, et al., Fl. Maha. Dicot. 1:505. 2000.

Habit: 5-10 m tall, deciduous trees with dark brown, shallowly longitudinally furrowed bark.

Phenology: FLS and FRS- Almost throughout the year.

Sanskrit Name: Nimba, Pichumand, Prabhadra, Parvatnimba, Mahanimba, Sarvatrobhadra.

Local Name: Bakam-limbdo.

Distribution and Status in the Study Area: Occasionally found in dense forests. Seen at Dhandhoda, Tejgadh, Ghelvant and Moti-dumali. Rare in wild.

Distribution in Gujarat: Throughout, planted (Shah, 1978).

Local Uses: Tender twigs are used as toothbrushes.

Uses in other regions of Gujarat state: The tender twigs are used as toothbrushes (Dharampur forests; Dubla tribe). Locally, the leaf paste mixed with the powder of rhizome of Curcuma longa is applied to the parts affected in small-pox (Shah and Gopal, 1982). Locally called as "Ranlimbara" by tribals of Dharampur forests. Wood: used for packing. Fruits: anthelmintic (Reddy, 1989).

CELASTRACEAE

Three species belonging to three different genera viz., Cassine, Celastrus and Maytenus have been observed in the area.

Cassine Linn.

Nomenclature: Cassine glauca (Rottb.) O. Kuntze, Rev. Gen. Pl. 1: 114. 1891; Hook. f. Fl. Brit. India 1: 623. 1875; Cooke, Fl. Pres. Bombay 1: 248. 1958 (Repr. ed.); Shah, Fl. Guj. 1: 152, 1978; Singh, et al., Fl. Maha. Dicot. 1:520. 2000; Thaker et al., 17-18: 88 and 12: 116; Mangifera glauca Rottb. In Nye Samml. Vid. Selsk. Skrift. 2: 534. 1783; Elaeodendron glaucum Pers. Synops. 1: 241; Elaeodendron roxburghii Wt. and Arn., Prodr. 157. 1834.

Habit: 5-9 m tall trees with blackish-brown rough bark.

Phenology: FLS and FRS- September to November.

Local Name: Bhut-zad.

Distribution and Status in the Study Area: Occasional in the area, but common at Kevdi forests. Also seen at Kadipani-Hampheshwar, Ambadungar and Turkheda.

Distribution in Gujarat: In deciduous forests of Central and South Gujarat (Shah, 1978).

Local Uses: The leaf powder is used as fumigatory to rouse women from hysterical syncope and as snuff to relieve headache. The paste of the root bark is applied externally on swellings whereas the stem bark is made into paste and applied externally on headache.

Uses in other regions of Gujarat state: The plant is used as fish poison by the Kunbi tribe of Dharampur forests (Reddy, 1989).

Celastrus Linn.

Nomenclature: Celastrus paniculatus Willd., Sp. Pl. 1: 1125. 1797; Hook. f. Fl. Brit. India 1: 617. 1875; Cooke, Fl. Pres. Bombay 1: 245 (Loc. Gujarat cit.); Shah, Fl. Guj. 1: 152, 1978; Singh, et al., Fl. Maha. Dicot. 1:521. 2000; JIT 148. 1910 and 65. 1926; Ch and O 60; Thaker et al., 17-18: 88 and 12: 116.

Habit: An extensive woody climber; bark pale brown, warty, lenticellate in older parts; younger branches smooth, dark-green, pubescent.

Phenology: FLS- April to June, FRS- May to November.

Sanskrit Name: Jyotismati, Kanguni, Alvana.

Local Name: Malkangi.

Distribution and Status in the Study Area: An occasional plant seen on low trees and on hedges of cultivated fields in forests areas. Reported from Vagasthal, Ambadungar, Kikawada and Malu.

Distribution in Gujarat: Throughout in hedges or dense forests (Shah, 1978).

Local Uses: The bark decoction is used in bronchitis. Bark is abortifacient. Seeds are bitter, laxative, emetic, stimulant and aphrodisiac; used by tribals to cure rheumatism.

Uses in other regions of Gujarat state: Locally called as "Mal kangni" by Bhil tribe of Ratanmahal forests. Young flowers are used as vegetables. Oil from the seeds is used to cure certain body pains (Bedi, 1979). The oil extracted from the seeds is variously used commercially. The seeds are administered internally in small doses as a stimulant and in rheumatic pains (Saurashtra; Maldhari community) (Shah, Menon and Gopal, 1981). The fruit juice is used as a cooling agent and as brain

tonic by the tribals of Dangs forests in South Gujarat (Shah and Gopal, 1982). Naturally extracted deep scarlet or orange seed oil is used for burning lamps. Locally called as "Jivavel" in North Gujarat (Garasia bhil tribe). Oil from the seeds is used for massage to treat rheumatism and paralysis (Shah and Gopal, 1985).

Maytenus Molina.

Nomenclature: Maytenus emarginata (Willd.) Ding Hou in Fl. Malesiana 6(2): 241. 1962;; Hook. f. Fl. Brit. India 1: 621. 1875; Cooke, Fl. Pres. Bombay 1: 247. 1958 (Repr. ed.); Shah, Fl. Guj. 1: 153, 1978; Singh, et al., Fl. Maha. Dicot. 1:525. 2000; S and B 15; Thaker et al., 17-18: 88 and 12: 116; Celastrus emarginatus Willd. Sp. Pl. 1(2): 1128. 1798; Gymnosporia emarginata Roth Nov. Sp. Pl. 155. 1821; JIT 15: 1910; JIT 65. 1926; Gymnosporia spinosa (Blanco) Merr. and Rolfe Philip. Journ. Sci. Bot. 3: 109.

Habit: A much branched spinescent shrub or a small tree; branches at times scandent or straggling; young branches reddish purple, glabrous.

Phenology: FLS- November to February, FRS- December to February.

Sanskrit Name: Vikantaka.

Local Name: Vickdo.

Distribution and Status in the Study Area: Common in hedges along cultivated fields, on hilly exposed slopes of ravines in scrub forests and along railway lines. Seen at Kundal, Satun, Bhadurpur, Lagami and Ghantoli-songir.

Distribution in Gujarat: Throughout in plains and low hills, in hedges or in forests undergrowth; common (Shah, 1978).

Local Uses: The leaf juice mixed with honey is given as a remedy against cough and cold. Leaves are also used to cure jaundice, cough, bile and cataract.

Uses in other regions of Gujarat state: Locally called as "Vicklo" in Saurashtra (Maldhari community). The fruit is used as a blood purifier. Locally the dried twigs are used as fences, and the fresh ones in religious ceremonies (Shah, Menon and Gopal, 1981). Locally called as "Vickori" in Dharampur forests of South Gujarat (Kanbi/Dubla tribe). The plant is used as a hedge plant (Reddy, 1989).

RHAMNACEAE

A total of four species belonging to two different genera, i.e. Ventilago and Zizyphus have been observed in the area. Out of the three species, one belongs to Ventilago and three belongs to Zizyphus.

Ventilago Gaertn.

Nomenclature: Ventilago denticulata Willd., in Ges. Naturf. Fr. Neue. Schr. 3: 417. 1801; Lawson in Hook. f. Fl. Brit. India. 1: 631, 1874; Cooke, Fl. Pres. Bombay 1: 253, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 154, 1978; Singh, et al., Fl. Maha. Dicot. 1:541. 2000; Ventilago maderspatana Roxb., Pl. Corom. 1: 55, t. 76. 1796-98 (non Gaertn. 1788); Ventilago calyculata Tulasne in Ann. Sci. Nat. (Ser. 4) 8: 124. 1857.

Habit: An extensive, woody climber with drooping striate branches, young branches glaucous to dark green, flexous.

Phenology: FLS- October to January, FRS- November to February.

Local Name: Asi-vel.

Distribution and Status in the Study Area: Sparingly seen on tall trees in dense forests at Naswadi, Lachharas and Artia.

Distribution in Gujarat: In deciduous forests of South and Central Gujarat, not common (Shah, 1978).

Local Uses: The bark juice is applied in bodyache due to malarial fever. The root bark is made into fine paste and applied on skin portions when infected with eczema, ringworm and sorisis. The bark and leaf decoction in equal proportions is given to cure fever.

Uses in other regions of Gujarat state: Locally called as "Asvel" in Dangs (Dangi tribe). The fibers from the bark are used in cordage. A red dye from the roots is used as a substitute for 'Henna' by the tribal women to color their hands and feet on auspicious occasions (Shah and Gopal, 1982). Locally called as "Asi" in Dharampur forest division (South Gujarat). Red dye is obtained from roots (Reddy, 1989).

Zizyphus Miller.

Nomenclature: Zizyphus glabrata Heyne ex Roth. Nov. Sp. Pl. 159. 1821; Hook. f. Fl. Brit. India 1: 633, 1874; Cooke, Fl. Pres. Bombay 1: 256 (non Poir. 1813); Shah, Fl. Guj. 1: 155, 1978; Singh, et al., Fl. Maha. Dicot. 1:543. 2000; Zizyphus trinervia Roxb. Hort. Beng. 17. 1814 (nomen) and Fl. Ind. 1: 606. 1832.

Habit: A small tree, 3 to 3.5 m tall with slender spreading pendent diverticate flexuous branches.

Phenology: FLS and FRS- August to April.

Sanskrit Name: Rajvadar, Rajkol.

Local Name: Boyadi.

Distribution and Status in the Study Area: Restricted to Naswadi range, rare but frequent at Parotta, Udhwania, Bhadurpur and Ghantoli-songir.

Distribution in Gujarat: Throughout in waste places; not common (Shah, 1978).

Uses in other regions of Gujarat state: The fruits are edible. The leaf paste is applied to treat scorpion-sting (Saurashtra) (Shah, Menon and Gopal, 1981).

Nomenclature: Zizyphus mauritiana Lam. Encycl. Meth. Bot. 3: 319. 1789; Hook. f. Fl. Brit. India 1: 632, 1874; Cooke, Fl. Pres. Bombay 1: 256, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 155, 1978; Singh, et al., Fl. Maha. Dicot. 1:544. 2000; Zizyphus jujuba Lam. Encycl. Meth. Bot. 3: 318. 1789; Bailey 646; Ch and O 61; Bor 241 (non Mill. 1768).

Habit: Small tree or large shrubs with spreading or pendent branches 2.5-4.0 m tall, armed with straight or crooked trunk and blackish-brown or light black, longitudinally fissured bark.

Phenology: FLS- September to February, FRS- November to February.

Sanskrit Name: Badari.

Local Name: Bor.

Distribution and Status in the Study Area: Frequent in waste lands near human habitation at Juna Chhota-udepur, Chhota-udepur, Kawant, Sadhli and Dhandhoda.

Distribution in Gujarat: Throughout, a few varieties are cultivated in some parts of Gujarat (Shah, 1978).

Local Uses: Roots are used in wounds and fever. The ripe fruits are considered as blood purifier whereas the bark is used in diarrhoea and dysentery. Leaf paste is externally applied on ulcers.

Uses in other regions of Gujarat state: The fruits are edible. Dry branches are used as fencing for agricultural fields (Shah, Menon and Gopal, 1981). The ripe fruits are eaten by the natives of North Dangs forests (Shah and Gopal, 1982). Dried branches are used as fences; wood for agricultural implements whereas ripe fruits are edible (Dharampur forest division, South Gujarat) (Reddy, 1989).

Nomenclature: Zizyphus xylopyra (Retz.) Willd. Sp. Pl. 1: 1104. 1797; Hook. f. Fl. Brit. India 1: 634, 1874; Cooke, Fl. Pres. Bombay 1: 258, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 157, 1978; Singh, et al., Fl. Maha. Dicot. 1:546. 2000; Rhamnus xylopyra Retz. Obs. 2: 11. 1783; Ch and O 62.

Habit: A large shrub or a small tree, 4 to 6 m tall, unarmed; bark brown, rough; young branches flexuous, thinly tomentose.

Phenology: FLS- April to July, FRS- May to October.

Local Name: Bordivela.

Distribution and Status in the Study Area: Common throughout the forest division at Singla, Artia, Ambadungar, Turkheda, Naswadi, Vagasthal, Koraj and Lachharas.

Distribution in Gujarat: In all zones; occasional in deciduous forests, rare in scrub forests (Shah, 1978).

Local Uses: The leaf paste is applied on cuts and wounds.

Uses in other regions of Gujarat state: The fruit is edible. The flowers with an equal quantity of petioles of the betel leaf are crushed in lime water and given in the case of menorrhagia (Saurashtra) (Shah, Menon and Gopal, 1981). The fruit is medicinally useful in stomach ailments (Shah and Gopal, 1982). Wood is used for making agricultural implements and bark is used for tanning (Dharampur forests, South Gujarat) (Reddy, 1989).

VITACEAE

Only one species belonging to the genus Cissus, i.e. C. quadrangulare represents this family in the area.

Cissus Linn.

Nomenclature: Cissus quadrangulare Linn. Mant. 39. 1767 Hook. f. Fl. Brit. India 1: 645, 1874; Cooke, Fl. Pres. Bombay 1: 266, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 160, 1978; Singh, et al., Fl. Maha. Dicot. 1:558. 2000; Vitis quadrangularis Wall. Cat. 5992. 1828 (nomen).

Habit: Succulent, tendril climbers.

Phenology: FLS- June to October, FRS- August to December.

Sanskrit Name: Asthisanhar, Vrajvallii, Granthiman.

Local Name: Hath-sakar.

Distribution and Status in the Study Area: Not common, found only at Dhadagam village of Dolariya range. Planted.

Distribution in Gujarat: In all zones, on hedges at some places; not common (Shah, 1978).

Local Uses: The fruit decoction is used in diarrhoea.

Uses in Other regions of Gujarat State: The fruits are refreshingly tasty and the root decoction is said to be used in curing dysentery and given internally in curing stomach disorders. The fresh stems are pickled (Saurashtra) (Shah, Menon and Gopal, 1981).

LEEACEAE

Two species belonging to same genus Leea, i.e. L. edgeworthii and L. macrophylla have been observed in the area.

Leea Linn.nom.cons.

Nomenclature: Leea edgeworthii Santapau in Rec. Bot. Surv. Ind. 16: 54. 1953; Lawson in Hook. f. Fl. Brit. India. 1: 665, 1874; Cooke, Fl. Pres. Bombay 1: 277, 1958 (Repr. ed). (non Wall., in Roxb. Fl. Ind. 2: 468. 1832); Shah, Fl. Guj. 1: 161, 1978; Singh, et al., Fl. Maha. Dicot. 1:566. 2000; Leea asiatica (L.) Ridsdale in Manilal, Bot. Hist. Hort. Malabaricus 189. 1980; Phytolacca asiatica L. Sp. Pl. 1: 477. 1753; Leea crispa L., Syst. Nat. ed. 12, 2: 627. 1767 et Mant. Pl. 124. 1767; Leea aspera Edgew., in Trans. Linn. Soc. 20: 36. 1846 (non Wall. ex G. Don, 1831).

Habit: An undershrub, 1 to 1.5 m tall with spreading branches, sometimes tinged purple.

Phenology: FLS- August to September, FRS- September to November.

Local Name: Dino.

Distribution and Status in the Study Area: As a undergrowth of forests in Kawant, Dolariya and Chhota-udepur ranges.

Distribution in Gujarat: In deciduous forests of South and Central Gujarat; not frequent (Shah, 1978).

Local Uses: The root decoction is said to be used in diarrhoea and dysentery.

Nomenclature: Leea macrophylla Roxb ex Hornem., Hort. Hafn. 1: 231. 1813; Lawson in Hook. f. Fl. Brit. India. 1: 664, 1874; Cooke, Fl. Pres. Bombay 1: 276, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 162, 1978; Singh, et al., Fl. Maha. Dicot. 1:568.

2000; Leea integrifolia Roxb., Fl. Ind. 2: 472. 1824; Leea robusta Roxb., l.c. 665; Leea diffusa Lawson in Hook. f., l.c. 667; Leea angustifolia Lawson in Hook. f., l.c. 665; Leea parallela Wall. ex Lawson in Hook. f., l.c. 666.

Habit: Suffrutescent, stout, simple, sparingly branched fistular herbs.

Phenology: FLS and FRS- August to October.

Sanskrit Name: Dhola-samudrika.

Local Name: Dini.

Distribution and Status in the Study Area: Occasional in forests undergrowth at Mogra, Ambadungar, Ghantoli-songir and Jabugam.

Distribution in Gujarat: In deciduous forests of South and Central Gujarat; occasional in forests undergrowth (Shah, 1978).

Local Uses: The root decoction is used as remedy for ringworm and guineaworm. The root paste is applied externally on fresh wounds. Root paste is gently warm and applied on the body to relieve pain.

Uses in Other regions of Gujarat State: Locally called as "Mota dana" by bhil tribal community of Ratanmahal forests. Root infusion is used as a vermicide (Bedi, 1979). Root and leaf pastes are applied externally to stop bleeding (North Dangs forests) (Shah and Gopal, 1982). Locally called as "Dindo" in Dharampur forests (South Gujarat). Ripe fruits are edible (Reddy, 1989).

SAPINDACEAE

A total of two species belonging to two genera viz., Cardiospermum and Sapindus have been observed in the area. They are C. halicacabum and S. laurifolia respectively.

Cardiospermum Linn.

Nomenclature: Cardiospermum halicacabum L. Sp. Pl. 366. 1753; Hiern in Hook. f. Fl. Brit. India. 1: 670, 1875; Cooke, Fl. Pres. Bombay 1: 280, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 163, 1978; Singh, et al., Fl. Maha. Dicot. 1:571. 2000.

Habit: Slender, climbing herbs; stem and branches pale green, deeply striate, sparsely hairy; tendrils axillary, stiff, subterete, three branched, pale green.

Phenology: FLS and FRS- July to December.

Sanskrit Name: Karnasphota.

Local Name: Kakmardi.

Distribution and Status in the Study Area: Common on hedges and low bushes along road sides; also in forest undergrowth. Seen at Vagsthal, Kundal, Mogra, Kadipani, Ambadungar, Sadhli, Satun, Lachharas and Naswadi.

Distribution in Gujarat: Throughout on hedges and forests undergrowth; common (Shah, 1978).

Local Uses: The paste of the leaves is used in stiffness of limbs and rheumatism. Roots are diaphoretic, diuretic and laxative. The plant juice is used as an emmenagogue in amenorrhoea.

Uses in other regions of Gujarat state: Locally called as "Tejovati/Kapalphodi" in Saurashtra (Maldhari community). The leaves, roots and seeds are medicinally used in lung diseases, rheumatism and stiffened limbs, in ear pains and eye sores (Shah, Menon and Gopal, 1981).

Sapindus Linn.

Nomenclature: Sapindus laurifolia Vahl, Symb. Bot. 3: 54. 1794 ('laurifolius'); Sapindus trifoliata sensu Hiern in Hook. f. Fl. Brit. India. 1: 682, 1875 ('trifoliatum') non L. 1753; Cooke, Fl. Pres. Bombay 1: 284, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 165, 1978; Singh, et al., Fl. Maha. Dicot. 1:576. 2000.

Habit: A medium sized tree, 5 to 7 m tall, rusty-brown, pubescent in younger parts; bark brown, longitudinally fissured.

Phenology: FLS- September to December, FRS- November to March.

Sanskrit Name: Phenila, Phenil, Aristha.

Local Name: Arithu.

Distribution and Status in the Study Area: Only a few trees are seen at Bhadurpur and Jamli dam.

Distribution in Gujarat: Planted as a hedge at some places (Shah, 1978).

Local Uses: Fruits are used in epilepsy, asthma, hysteria and hemiparesis.

Uses in other regions of Gujarat state: Locally called as "Aritha" in Saurashtra (Maldhari community). It is a good shade tree. The dried fruits are substitute for soap, especially for hair conditioning. Both the root and fruit are given as anthelmintic (Shah, Menon and Gopal, 1981).

ANACARDIACEAE

Under this family a total of four species belonging to four different genera viz., Anacardium, Buchanania, Lannea and Mangifera have been observed in the area.

Anacardium Linn.

Nomenclature: Anacardium occidentale L. Sp. Pl. 383. 1753; Hook. f. Fl. Brit. India. 2: 20, 1876; Cooke, Fl. Pres. Bombay 1: 292, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 166, 1978; Singh, et al., Fl. Maha. Dicot. 1:581. 2000; Ding Hou in Van Steenis, Fl. Males. Ser. I, 8(3): 421, f. 6. 1978.

Habit: An evergreen tree, 4-5 m tall, with spreading branches; bark light black, rough, shallowly longitudinally fissured.

Phenology: FLS- September, FRS- November.

Sanskrit Name: Kajut, Kajutak, Vrut-taruskar, Piyalchar.

Local Name: Kaju.

Distribution and Status in the Study Area: Cultivated in Chhota-udepur but found wild from Bordha and Sadhli of Kawant range.

Distribution in Gujarat: Planted at some places; also grown by the forests department in some forest division on experimental basis; native of Tropical America (Shah, 1978).

Uses in other regions of Gujarat state: The roasted nuts and ripe fruits are edible (Shah, Menon and Gopal, 1981). The fleshy receptacle is edible and at times used in jam preparation. The seeds are roasted and eaten in Dangs. Locally washerman use the fruit juice as a marking ink (Shah and Gopal, 1982). Roasted seeds and ripe receptacles are consumed both in Salsette Island, Bombay and Dharampur forests respectively (Shah, 1984; Reddy, 1989).

Buchanania Spreng.

Nomenclature: Buchanania lanzan Spreng., in J. Bot. (Schrader) 2: 234. 1800; Hook. f. Fl. Brit. India. 2: 23, 1876; Cooke, Fl. Pres. Bombay 1: 293, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 167, 1978; Singh, et al., Fl. Maha. Dicot. 1:582. 2000; Buchanania latifolia Roxb., Fl. Ind. 2: 385. 1832.

Habit: A 10-20 m tall tree; young branches clothed with silky brown hairs.

Phenology: FLS- February, FRS- April.

Sanskrit Name: Piyalak, Priyal, Sneha-bij.

Local Name: Charodi. **PLATE 31**

Distribution and Status in the Study Area: Occasional at Kevdi, Chhota-udepur, Ambadungar, Turkheda, Kundal and Koraj.

Distribution in Gujarat: In deciduous forests of Dangs, Rajpipla, Panchmahals; occasional (Shah, 1978).

Local Uses: Oil extracted from the fruits is used as an ointment in skin diseases. The fruit is also used to cure leucoderma.

Uses in other regions of Gujarat state: Seeds are eaten locally in Dangs as well as Saurashtra (Shah, Menon and Gopal, 1981; Shah and Gopal, 1982). Locally called as "Charoli" in Rajpipla forests (Vasava tribe). Paste is prepared from the bark of the young trees that is thoroughly mixed with CaCO_3 mud. It is then applied on the bite and skin infections (Shah and Gopal, 1986).

Lannea A. Rich.nom.cons.

Nomenclature: Lannea coromandelica (Houtt.) Merr., in J. Arn. Arb. 19: 353. 1938; Hook. f. Fl. Brit. India. 2: 29, 1874; Cooke, Fl. Pres. Bombay 1: 296, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 167, 1978; Singh, et al., Fl. Maha. Dicot. 1:584. 2000; Dialium coromandelicum Houtt., in Nat. Hist. Ser. 2, 2: 39, t. 5, f. 2. 1774; Odina wodier Roxb., Fl. Ind. 2: 293. 1832.

Habit: A deciduous tree, 10-15 m tall with spreading branches; bark greyish brown or ash colored, sometimes with black patches.

Phenology: FLS- January, FRS- April.

Sanskrit Name: Jhingini.

Local Name: Moylo. **PLATE 31**

Distribution and Status in the Study Area: Occasionally seen at Kevdi, Dholadungar, Dolariya, Bordha and Ghantoli-songir forests.

Distribution in Gujarat: Throughout; occasional (Shah, 1978).

Local Uses: The bark is used in ulcers. Boiled leaves are applied on swellings and inflammations.

Uses in other regions of Gujarat state: Locally called as "Modhad/Moyno/Madhol/Miniyo" in Saurashtra (Maldhari community). The leaf paste is applied to treat sprains and elephantiasis. A lotion is prepared from the bark to wash obstinate ulcers. The resin from the bark is used by fisherman for coloring the net that makes it durable (Shah, Menon and Gopal, 1981). Locally called as "Madhad" in Dharampur forests of South Gujarat. Wood: valuable timber for

PLATE 31



Buchanania lanzan Spr.
(Anacardiaceae) in fruiting at
Kevdi forests. Range C-udepur
of forests division.



Lannea coromandelica (Houtt.)
Merr. (Anacardiaceae) in fruiting
at Dolariya range of forests
division.

furniture; Bark: yields gum; Ripe fruits: edible (Reddy, 1989). Locally called as "Modhad" in Dangs forests (Waghai). Paste of the bark is externally applied on cuts and wounds (Maheshwari, Sikarwar and Painuli, 1994).

Mangifera Linn.

Nomenclature: Mangifera indica L. Sp. Pl. 200. 1753; Hook. f. Fl. Brit. India. 2: 13, 1874; Cooke, Fl. Pres. Bombay 1: 291, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 168, 1978; Singh, et al., Fl. Maha. Dicot. 1:584. 2000.

Habit: 10-15 m tall, evergreen trees with light black or blackish brown, rough, longitudinally fissured bark.

Phenology: FLS- December to May, FRS- February to July.

Sanskrit Name: Rasal, Kokilanand.

Local Name: Ambo.

Distribution and Status in the Study Area: Planted throughout forest division.

Distribution in Gujarat: Throughout; several varieties such as Afus, Payari, Langdo, Malgubba, Totapuri, Dasher, Kesar and Ladvo are planted (Shah, 1978).

Uses in other regions of Gujarat state: Medicinally the unripe fruits are used in curing diarrhoea, but the pulp of the ripe ones in laxative (Saurashtra; Maldhari community) (Shah, Menon and Gopal, 1981). Wood: used in making houses and furniture in Dharampur forests. Fruits: edible and unripe ones pickled (Reddy, 1989).

MORINGACEAE

One species of the genus Moringa, i.e. M. oleifera represents this family in the area.

Moringa Adans.

Nomenclature: Moringa oleifera Lamk., Encycl. 1: 398. 1785; Hook. f. Fl. Brit. India. 2: 45, 1874; Cooke, Fl. Pres. Bombay 1: 301, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 170, 1978; Verdcourt in Kew Bull. 40: 7. 1985; Moringa pterygosperma Gaertn., Fruct 2: 314, t. 147, f. 2. 1791.

Habit: A deciduous tree 8-12 m tall with straight trunk and greyish brown rough bark.

Phenology: FLS and FRS- October to December.

Sanskrit Name: Srigru, Shobhajan, Svetashigu, Krishnagandha.

Local Name: Saragvo.

Distribution and Status in the Study Area: Sparingly seen at Mogra, Panimines, Vagasthal and Ranbhun forests.

Distribution in Gujarat: Planted or self-sown, near houses, throughout (Shah, 1978).

Local Uses: Ripe fruits are consumed as vegetable.

Uses in other regions of Gujarat state: Locally called as "Segto" in Saurashtra (Maldhari community). The leaves, flowers and shoots are used in curries or as vegetables and the leaves and tender shoots as fodder (Shah, Menon and Gopal, 1981). Locally called as "Saragevo" in Dangs forests. The tender shoots, flowers and fruits are consumed as vegetables (Shah and Gopal, 1982). The stem and the roots are powdered and made into paste, which is applied for rheumatic pains (North Gujarat; Garasia tribe). Powder given in doses of 50 mg with water twice a day for asthma and cough. Gum from bark mixed with milk and rubbed in forehead to relieve headache (Shah and Gopal, 1985). Locally called as "Jangli-segu" by the tribals of Dharampur forests. Leaves, flowers and fruits: edible and consumed as vegetables (Reddy, 1989).

FABACEAE

This family is represented in the area by a total of 49 species belonging to 33 different genera.

Abrus Adans.

Nomenclature: Abrus precatorius Linn. Syst. Nat. ed. 12. 472. 1767; Hook. f. Fl. Brit. India. 2: 175. 1876; Cooke, Fl. Pres. Bombay 1: 382, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 176, 1978; Singh, et al., Fl. Maha. Dicot. 1:597. 2000.

Habit: A perennial deciduous climber.

Phenology: FLS and FRS- July to December.

Sanskrit Name: Gunja, Raktika, Angarvallarii.

Local Name: Chanothi. **PLATE 32**

Distribution and Status in the Study Area: Common on hedges at Vagasthal, Chhotu-udepur, Kadipani, Kevdi, Dhandhoda, Kawant, Koraj, Naswadi and Lachharas.

Distribution in Gujarat: Throughout on hedges and on low shrubs in forests (Shah, 1978).

Local Uses: Seeds are purgative, tonic and aphrodisiac. The leaf juice is used to cure stomachache, sore throat and dry cough. Leaves are chewed to cure inflammation or boils in mouth.

Uses in other regions of Gujarat state: Locally called as "Chanothi" by bhil community of Ratanmahal forests. Dried leaves are refrigerent (Bedi, 1979). Locally called as "Rati/Gunj" in Saurashtra. Dry leaves chewed with betel pan. The seeds,

though poisonous are sometimes used externally in localized paralysis. The leaf paste is employed as a germicide to dress wounds in domestic animals (Shah, Menon and Gopal, 1981). Locally called as "Gongel" in Dangs forest division (Kanbi and Kokana tribe). The leaf paste is applied as a disinfectant to cleanse cattle wounds (Shah and Gopal, 1982).

Alhagi Adans.

Nomenclature: Alhagi psuedalhagi (M. Bieb.) Desv. In Jour. de Bot. 1: 120. 1813; Alhagi maurorum in Hook. f. Fl. Brit. India 2: 145. 1813; Cooke, Fl. Pres. Bombay 1: 355, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 177, 1978; Singh, et al., Fl. Maha. Dicot. 1:598. 2000; Ch and O 69; Hedysarum psuedalhagi M. Bieb. Fl. Taur. Cauc. 2: 174. 1808; Alhagi camelorum Fisch. Ind. Hort. Gorenk. (ed. 2) 72. 1812.

Habit: 30-50 cm tall, armed, glabrous undershrubs.

Phenology: FLS- February to May, FRS- April to June.

Sanskrit Name: Yavasa, Adhikantak, Dusparsha.

Local Name: Javaso.

Distribution and Status in the Study Area: Sparingly seen on dry riverbeds at Chalamali, Dhandhoda, Tejgadh, Gabadia and Ghelvant.

Distribution in Gujarat: Pavagadh, Barda, Kachchh and North Gujarat (Shah, 1978).

Local Uses: Leaf decoction is used in the treatment of rheumatism.

Uses in other regions of Gujarat state: It is a common fodder for the cattle and especially camel during summer and in times of scarcity even goats consume it. The flower paste coagulates blood. The leaf decoction is used in fever. Asthmatic persons sometimes inhale leaf smoke (Saurashtra) (Shah, Menon and Gopal, 1981).

Alysicarpus Desv.nom.cons.

Nomenclature: Alysicarpus longifolius (Rottl. ex Spreng.) Wight and Arn., Prodr. Pen. Ind. Or. 233. 1834; Hook. f. Fl. Brit. India. 2: 159. 1876; Cooke, Fl. Pres. Bombay 1: 370, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 179, 1978; Singh, et al., Fl. Maha. Dicot. 1:602. 2000; Hedysarum longifolium Rottl. ex Spreng., Syst. 3: 319. 1826.

Habit: Slender, annual, simple or branched, glabrous, erect herbs.

Phenology: FLS and FRS- September to March.

Local Name: Motosamervo.

Distribution and Status in the Study Area: A common weed in cultivated fields and waste grasslands along road sides and railway lines at Mogra, Vagasthal, Kadipani-

Hampeshwar, Ambadungar, Turkheda, Naswadi, Dhandhoda, Tundawa, Lachharas and Ghantoli-songir.

Distribution in Gujarat: Throughout, common, along margins of cultivated fields, among grasses in wastelands and in hedges (Shah, 1978).

Local Uses: Roots are used as a substitute for liquorice.

Nomenclature: Alysicarpus monilifer (Linn.) DC., Prodr. 2: 353. 1825; Hook. f. Fl. Brit. India. 2: 157. 1876; Cooke, Fl. Pres. Bombay 1: 368, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 180, 1978; Singh, et al., Fl. Maha. Dicot. 1:603. 2000; Hedysarum moniliferum L., Mant. Pl. 1: 102. 1767.

Habit: Prostrate herbs with 10-20 cm long radially spreading branches, hairy in younger parts, glabrous in older.

Phenology: FLS and FRS- August to February.

Local Name: Vado samervo.

Distribution and Status in the Study Area: Sparingly seen in Chhota-udepur and Kawant ranges in cultivated fields and among grasses.

Distribution in Gujarat: Throughout in plains, except Bulsar and Kachchh (Shah, 1978).

Nomenclature: Alysicarpus vaginalis (L.) DC., Prodr. 2: 353. 1825; Hedysarum vaginalis L., Sp. Pl. 746. 1753; Hook. f. Fl. Brit. India. 2: 157. 1876; Cooke, Fl. Pres. Bombay 1: 369, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 183, 1978; Singh, et al., Fl. Maha. Dicot. 1:610. 2000.

Habit: Prostrate or suberect, glabrous herbs often with radially spreading branches.

Phenology: FLS and FRS- July to December.

Local Name: Shevru.

Distribution and Status in the Study Area: Common among grasses and in waste places, along roads and railway lines, forming loose or dense patches. Seen at Chhota-udepur, Gabadia, Singla, Kadipani, Mogra, Ambadungar, Koraj, Naswadi, Bhadurpur and Dugtha.

Distribution in Gujarat: Throughout, common (Shah, 1978).

Local Uses: Root decoction is given as a remedy for cough and also for throat infection.

Arachis Linn.

Nomenclature: Arachis hypogaea L., Sp. Pl. 741. 1753; Hook. f. Fl. Brit. India. 2: 161. 1876; Cooke, Fl. Pres. Bombay 1: 435, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 183, 1978; Singh, et al., Fl. Maha. Dicot. 1:768. 2000.

Habit: Diffuse or suberect, fulvous, spreading hairy 30-60 cm tall herbs.

Phenology: FLS- July to October, FRS- August to December.

Sanskrit Name: Buchanaka, Mandapi, Snehabija, Bhusimbi.

Local Name: Mag-fadi, Mung-fali.

Distribution and Status in the Study Area: Cultivated as a cash crop at many places in Chhota-udepur forest division. Seen wild at Gabadia, Singla and Panimines.

Distribution in Gujarat: Throughout, extensively cultivated in Saurashtra, on a much smaller scale in other parts; at times an escape in water-logged places common (Shah, 1978).

Local Uses: Cultivated by the locals.

Uses in other regions of Gujarat state: This is a valuable chief cash crop of Saurashtra for the oil used in culinary throughout the state of Gujarat. The roasted seeds are eaten (Shah, Menon and Gopal, 1981). Locally called as "Bhony Singh" in Dangs forest division (Warli, Kunbi and Kotwalla tribe). Locally seeds are eaten or used as curries (Shah and Gopal, 1982).

Butea Roxb. ex.Willd.nom.cons.

Nomenclature: Butea monosperma (Lamk.) Taub. In Engler and Prantl., Pflanzenfam. 3(3): 366. 1894; Hook. f. Fl. Brit. India. 2: 194. 1876; Cooke, Fl. Pres. Bombay 1: 395, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 185, 1978; Singh, et al., Fl. Maha. Dicot. 1:610. 2000; Erythrina suberosa Lamk., Encyl. 2: 391. 1786; Butea frondosa Koen. ex. Roxb., in Asiat. Res. 3: 469. 1792.

Habit: Deciduous trees, 10-15 m tall; bark rough, ash-colored or pale brown, sometimes dark-brown, young parts downy tomentose.

Phenology: FLS and FRS- December to May.

Sanskrit Name: Palash, Brahmavriksha, Kishunk, Vatpath.

Local Name: Khakdo. **PLATE 32**

Distribution and Status in the Study Area: Common throughout, conspicuous when in full bloom. Observed at Gabadia, Ambadungar, Turkheda, Vasantgad, Kevdi, Kundal and Ranbhun.

Distribution in Gujarat: Throughout, common (Shah, 1978).

Local Uses: Bark decoction is given in cough and cold. Leaves are used to cure diabetes. Flowers are astringent, diuretic and aphrodisiac. Seeds are anthelmintic. Gum is astringent; used in diarrhoea and dysentery. Gum is locally collected as NTFP. The bark is made into paste and applied externally on swellings and bone fractures. Bark decoction is given in dysentery. Flower decoction is used as an antiseptic.

Uses in other regions of Gujarat state: Locally called as "Khakro" in Ratanmahal forests. Lotion prepared after distilling the flowers is used for eye diseases. Dye is extracted from flowers (Bedi, 1979). The dry leaves are stitched together to form large dinner plates. The flowers yield a fast saffron yellow dye. In India, this plant ranks next to *Schleichera oleosa* as a host tree for the lac insect (Saurashtra region) (Shah, Menon and Gopal, 1981). Locally called as "Palas/Kesudo" in Dangs forests (North). The dried twigs are burnt and the ash is used as a manure in the fields. The leaves are stitched to make bowls and dinner plates (Shah and Gopal, 1982). Locally called as "Palas" in Dharampur forests (South Gujarat). Dried leaves are used for preparing dining plates. Red dye obtained from flowers is used in tanning (Reddy, 1989).

Cajanus Linn.

Nomenclature: Cajanus cajan (L.) Huth in Helios 11: 133. 1893; Hook. F. Fl. Brit. India. 2: 217. 1876; Cooke, Fl. Pres. Bombay 1: 435, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 187, 1978; Singh, et al., Fl. Maha. Dicot. 1:612. 2000; Millsp., in Publ. Mus. Nat. Hist. Bot. Sr. 2: 53. 1900; Cytistus cajan L., Sp. Pl. 2: 739. 1753; Cajanus indicus Spreng. Syst. Veg. 3: 248. 1826.

Habit: An erect shrub, 2 m tall with spreading branches and greyish white bark, silky-pubescent in younger parts.

Phenology: FLS and FRS- September to April.

Sanskrit Name: Adhaki, Tuveri.

Local Name: Tuver.

Distribution and Status in the Study Area: Cultivated commonly in areas, such as Kundal, Dhandhoda, Lagami, Zoz and Satun.

Distribution in Gujarat: Throughout, cultivated; seldom an escape (Shah, 1978).

Local Uses: Cultivated and consumed by the locals.

Uses in other regions of Gujarat state: The water boiled with leaves is used for gargling by the tribals of Saurashtra (Shah, Menon and Gopal, 1981). The fresh seeds are consumed as vegetable and the dried one as pulse. The seed coat powder is applied in the form of a paste on skin eruptions. It is mixed with root powder of *Cordia dichotoma* in severe toothache (North Dangs forests) (Shah and Gopal, 1982).

Canavalia Adans.emend. DC. noms. cons.

Nomenclature: Canavalia gladiata (Jacq.) DC., Prodr. 2: 404. 1825; Canavalia ensiformis sensu in Hook. f. Fl. Brit. India. 2: 195. 1876; Cooke, Fl. Pres. Bombay 1: 397, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 188, 1978; Singh, et al., Fl. Maha. Dicot. 1:616. 2000; Dolichos gladiatus Jacq., Coll. Bot. 2: 276. 1788.

Habit: A stout, glabrous, twiner.

Phenology: FLS and FRS- August to January.

Local Name: Tarvardi.

Distribution and Status in the Study Area: Rare on hedges in forest areas of Chhota-udepur, Gabadia, Ambadungar and Satun.

Distribution in Gujarat: Throughout on hedges, common (Shah, 1978).

Local Uses: The tender pods are consumed by the tribals.

Uses in other regions of Gujarat state: Tender pods are eaten as vegetable by the natives of Dangs forest division (Shah and Gopal, 1982). Locally called as "Abbai" in Dharampur forests (South Gujarat). Tender pods are used as vegetable (Reddy, 1989).

Cicer Linn.

Nomenclature: Cicer arietinum Linn. Sp. Pl., 738. 1753; Hook. f. Fl. Brit. India. 2: 176. 1876; Cooke, Fl. Pres. Bombay 1: 435, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 189, 1978; Singh, et al., Fl. Maha. Dicot. 1:769. 2000.

Habit: An annual, diffuse, much-branched, glandular-pubescent herb.

Phenology: FLS and FRS- October to March.

Sanskrit Name: Chanaka, Harimanth, Shakalpriya.

Local Name: Chana.

Distribution and Status in the Study Area: Common cultivated plant at Ambadungar, Chhota-udepur and Dolariya ranges.

Distribution in Gujarat: Cultivated, also an escape (Shah, 1978).

Local Uses: Cultivated and consumed by the locals.

Uses in other regions of Gujarat state: The tribals of Dangs forest division cultivate this plant. Fresh and dry seeds are used as vegetable and pulse respectively (Shah and Gopal, 1982).

Clitorea Linn.

Nomenclature: Clitorea biflora Dalz., in Kew Journ. 2: 35. 1850; Hook. f. Fl. Brit. India. 2: 208. 1876; Cooke, Fl. Pres. Bombay 1: 406, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 189, 1978; Singh, et al., Fl. Maha. Dicot. 1:618. 2000.

Habit: An erect herb, leaflets 3-5; flowers geminate or rarely solitary.

Phenology: FLS and FRS- July to January.

Sanskrit Name: Aparajita, Girikarnika.

Local Name: Garni.

Distribution and Status in the Study Area: Occasional in undergrowth of hills at Kawant and Dolariya ranges.

Distribution in Gujarat: Throughout in undergrowth of forests and in shaded spots along roads or edges of cultivated fields; occasional (Shah, 1978).

Nomenclature: Clitorea ternatea Linn. Sp. Pl., 753. 1753; Hook. f. Fl. Brit. India. 2: 208. 1876; Cooke, Fl. Pres. Bombay 1: 405, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 190, 1978; Singh, et al., Fl. Maha. Dicot. 1:619. 2000.

Habit: A slender, rambling twiner, perennial; leaflets 5-7; flowers mostly solitary.

Phenology: FLS and FRS- June to December.

Sanskrit Name: Vishnukanta, Yonipushpa.

Local Name: Garni.

Distribution and Status in the Study Area: Common on hedges and small shrubs and trees in forests at Juna-Chhotaudepur, Chhota-udepur, Gabadia, Kadipani, Mogra, Ghantoli-songir, Naswadi, Boriyad and Antroli.

Distribution in Gujarat: Throughout, on hedges; common (Shah, 1978).

Local Uses: Roots are bitter, purgative, diuretic and a mild laxative; used in leucoderma, elephantiasis, swellings and in pregnancy. Seeds are purgative.

Uses in other regions of Gujarat state: Locally called as "Bibri" in Dharampur forests.

Plant is used as a fodder by the natives (Reddy, 1989).

Crotalaria Linn.

Nomenclature: Crotalaria hirsuta Willd., Sp. Pl. 3: 978. 1803; Hook. f. Fl. Brit. India. 2: 68. 1876; Shah, Fl. Guj. 1: 194, 1978; Singh, et al., Fl. Maha. Dicot. 1:632. 2000.

Habit: 20-30 cm tall silky hairy herbs.

Phenology: FLS and FRS- November to May.

Local Name: Kharsan.

Distribution and Status in the Study Area: Occasional among grasses, also as forests undergrowth at Rajmahal Chhota-udepur, Manka, Naswadi and Ghantoli-songir.

Distribution in Gujarat: Kachchh, Saurashtra and Rajpipla (Shah, 1978).

Nomenclature: Crotalaria juncea L. Sp. Pl., 714. 1753; Hook. f. Fl. Brit. India. 2: 79. 1876; Cooke, Fl. Pres. Bombay 1: 320, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 195, 1978; Singh, et al., Fl. Maha. Dicot. 1:633. 2000.

Habit: An erect, rigid undershrub, 1-2 m tall with ascending appressedly silky-pubescent branches.

Phenology: FLS and FRS- November to May.

Sanskrit Name: Sana, San.

Local Name: Ghugaro.

Distribution and Status in the Study Area: Seldom an escape at Ambadungar, Sadhli, Dhandhoda and Kundal.

Distribution in Gujarat: Throughout, under cultivation; sometimes an escape (Shah, 1978).

Local Uses: The stem fibers are used as a cordage.

Uses in other regions of Gujarat state: Locally called as "Shun" in Saurashtra. It is cultivated as a fodder plant. The fibers from the cortex are used as cordage and threads knitted into mattresses for the cots (Shah, Menon and Gopal, 1981). Locally called as "Sana" in Dangs forest division. (Shah and Gopal, 1982). Locally called as "Shun" in Dharampur forest division (South Gujarat). Plant is used as a fodder whereas cordage fibers is obtained from the stem (Reddy, 1989).

Nomenclature: Crotalaria retusa Linn. Sp. Pl., 715. 1753; Hook. f. Fl. Brit. India. 2: 75. 1876; Cooke, Fl. Pres. Bombay 1: 318, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 198, 1978; Singh, et al., Fl. Maha. Dicot. 1:645. 2000.

Habit: Erect, robust undershrub, 40-50 cm tall, appressed hairy in younger parts, almost glabrous in older.

Phenology: FLS and FRS- July to April.

Local Name: Ran-methi.

Distribution and Status in the Study Area: Rare, found at Bhadurpur railway station.

Distribution in Gujarat: Throughout, in forest undergrowth, under hedges along roads and in cultivated fields; common (Shah, 1978).

Cyamopsis DC.

Nomenclature: Cyamopsis tetragonoloba (Linn.) Taub., in Engl. and Prantl., Pflanzenfam 3 (3): 259. 1894; Hook. f. Fl. Brit. India. 2: 92. 1876; Cooke, Fl. Pres. Bombay 1: 328, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 200, 1978; Singh, et al., Fl. Maha. Dicot. 1:652. 2000; Psoralea tetragonoloba L., Mant. Pl. 1: 104. 1767; Dolichos psoralioides Lamk., Encyl. Meth. 2: 300. 1786; Cyamopsis psoralioides (Lamk.) DC., Mern. Leg. 230: 1825.

Habit: Erect, annual, appressed hairy, much branched herbs.

Phenology: FLS and FRS- September to March.

Sanskrit Name: Bakuchi, Guvak.

Local Name: Guvar.

Distribution and Status in the Study Area: Cultivated at some places but an escape along forests paths or roadsides. Seen at Ambadungar and Bordha.

Distribution in Gujarat: Cultivated; frequently as an escape (Shah, 1978).

Local Uses: Tender pods are consumed as vegetable.

Uses in other regions of Gujarat state: The tender pods of glabrous variety are cooked as vegetable, whereas those of coarse variety make an excellent fodder for cattle. It increases milk secretion in domesticated animals (Saurashtra) (Shah, Menon and Gopal, 1981). The pods are used as a vegetable by the natives of Dangs forest division (Shah and Gopal, 1982).

Dalbergia Linn. f. nom.cons.

Nomenclature: Dalbergia lanceolaria L. f. Suppl. 316. 1781; Hook. f. Fl. Brit. India. 2: 253. 1876; Cooke, Fl. Pres. Bombay 1: 425, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 201, 1978; Singh, et al., Fl. Maha. Dicot. 1:655. 2000.

Habit: 5-8 m tall deciduous trees, with straight trunk and pale greyish white smooth bark.

Phenology: FLS- March to June, FRS-September to December.

Local Name: Tantoshi.

Distribution and Status in the Study Area: Seen in all the forests ranges. Vagasthal, Kadipani-Hampeshwar, Ambadungar, Koraj, Dhandhoda, Satun, Naswadi and Ghantoli-songir.

Distribution in Gujarat: In deciduous forests; rare (Shah, 1978).

Local Uses: Bark is used in rheumatic affections. Seed oil is externally applied on rheumatic complaints.

Nomenclature: Dalbergia latifolia Roxb., Pl. Corom. 2: 7.t. 113. 1799; Hook. f. Fl. Brit. India. 2: 231. 1876; Cooke, Fl. Pres. Bombay 1: 422, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 201, 1978; Singh, et al., Fl. Maha. Dicot. 1:655. 2000.

Habit: 8-10 m tall deciduous trees with straight trunk and grey or ash colored smooth bark, exfoliating into thin, longitudinal scales.

Phenology: FLS- August to January, FRS- August to November.

Sanskrit Name: Shishappa.

Local Name: Sisam.

Distribution and Status in the Study Area: Commonly seen at Vagasthal, Chhota-udepur, Satun, Singla, Ambadungar, Koraj, Ranbhun and Naswadi.

Distribution in Gujarat: In deciduous forests in hilly regions; rather common (Shah, 1978).

Local Uses: The bark is used in diarrhoea, leprosy and wounds. Bark is used for the treatment of cattle wounds.

Uses in other regions of Gujarat state: Bark is pasted and this paste along with turmeric powder is applied to cure the wounds and ulcers of cattle (Rajpipla forest division, Vasava tribe) (Shah and Gopal, 1986). Locally called as "Sisam" in

Dharampur forests. Wood is valuable timber for making agricultural implements (Reddy, 1989).

Nomenclature: Dalbergia paniculata Roxb., Pl. Corom. t. 114. 1799; Hook. f. Fl. Brit. India. 2: 236. 1876; Cooke, Fl. Pres. Bombay 1: 426, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 202, 1978; Singh, et al., Fl. Maha. Dicot. 1:657. 2000.

Habit: 12-15 m tall deciduous trees with straight trunk; bark grey, smooth, young branches grey-tomentose.

Phenology: FLS- March to May, FRS- June to October.

Local Name: Patarali.

Distribution and Status in the Study Area: Occasional in forests areas of Vagasthal, Singla, Kawant, Kadipani, Turkheda, Panvad, Panimines, Koraj, Satun, Kundal, Ghantoli-songir, Lachharas and Bhadurpur.

Distribution in Gujarat: In deciduous forests; not common (Shah, 1978).

Local Uses: The bark paste is externally applied on diseases in cattle.

Nomenclature: Dalbergia sissoo Roxb. Hort. Beng. 53. 1814 (nomen) and Fl. Ind. 3: 223. 1832; Hook. f. Fl. Brit. India. 2: 231. 1876; Cooke, Fl. Pres. Bombay 1: 421, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 202, 1978; Singh, et al., Fl. Maha. Dicot. 1:652. 2000.

Habit: 7-10 m tall deciduous trees, greyish black, longitudinally and somewhat reticulately fissured bark; young branches pubescent, older ones glabrous.

Phenology: FLS- March to June, FRS- August to November.

Sanskrit Name: Krishnasara, Shisapa, Sisama.

Local Name: Moto-sisam.

Distribution and Status in the Study Area: Sparingly seen in forests of Adtia in Kawant range.

Distribution in Gujarat: Planted; seldom in forests (Shah, 1978).

Local Uses: Wood is used for making household items.

Desmodium Desv.nom.cons.

Nomenclature: Desmodium gangeticum (L.) DC., Prodr. 2: 327. 1825; Hook. f. Fl. Brit. India. 2: 168. 1876; Cooke, Fl. Pres. Bombay 1: 379, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 207, 1978; Singh, et al., Fl. Maha. Dicot. 1:670. 2000; Hedysarum gangeticum L., Sp. Pl. 746. 1753; Hedysarum maculatum L., Sp. Pl. 746. 1753.

Habit: An undershrub, 60-75 cm tall, with spreading, angular, hairy or glabrescent often pale to deep purple branches.

Phenology: FLS- August to September, FRS- September to November.

Sanskrit Name: Vidarigandha, Shalparni, Guha, Atiguha, Dirghamula.

Local Name: Godakang.

Distribution and Status in the Study Area: Common in forest undergrowths on hill slopes at Rajmahal Chhota-udepur, Gabadia, Kadipani, Kundal, Naswadi and Lachhras.

Distribution in Gujarat: Throughout in the undergrowth of forests and in shaded spots along roadsides and railway lines; common (Shah, 1978).

Local Uses: The paste of the leaves is given to stop vomiting. The root paste is externally applied on wounds and cuts. The juice of the young stem is given in fever. Uses in other regions of Gujarat state: Juice of the leaves and fruits is given in stomach ailments (Shah and Gopal, 1982).

Nomenclature: Desmodium triflorum (L.) DC., Prodr. 2: 326. 1825; Hook. f. Fl. Brit. India. 2: 163. 1876; Cooke, Fl. Pres. Bombay 1: 378, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 210, 1978; Singh, et al., Fl. Maha. Dicot. 1:677. 2000; Hedysarum triquetrum L., Sp. Pl. 746. 1753.

Habit: Prostrate or trailing herbs; branches radially spreading, slender, brown, glabrous or sparsely hairy, rooting at nodes.

Phenology: FLS and FRS- June to November.

Local Name: Tran pandaliyo.

Distribution and Status in the Study Area: Common in patches in moist grounds and grass lands at Gabadia, Naswadi, Dolariya, Ghelvant and Puniyavat.

Distribution in Gujarat: Throughout, gregarious in moist grounds (Shah, 1978).

Local Uses: Fresh leaves are used as a remedy for diarrhoea and dysentery whereas the root paste is applied externally on cuts and wounds.

Dolichos Linn.

Nomenclature: Dolichos trilobus L. Sp. Pl., 726. 1753; Hook. f. Fl. Brit. India. 2: 211. 1876; Shah, Fl. Guj. 1: 211, 1978; Singh, et al., Fl. Maha. Dicot. 1:680. 2000; Verdcourt in Taxon 17: 170. 1968 and Kew Bull. 24: 422. 1970; Dolichos falcatus Klein ex Willd., Sp. Pl. 3: 1047. 1802.

Habit: A diffuse, twining herb; stem and branches slender, glabrous to sparsely hairy.

Phenology: FLS and FRS- September to October.

Sanskrit Name: Shimbi, Tamvabij.

Local Name: Jangli-papdi.

Distribution and Status in the Study Area: A few plants are seen on hill slopes at Kawant range.

Distribution in Gujarat: Dangs and Saurashtra; occasional (Shah, 1978).

Local Uses: The ripe pods are edible.

Uses in other regions of Gujarat state: Locally called as "Kulith" in Dangs forest division. The dry seeds make an inferior quality of pulse but is extensively cultivated by the tribals (Shah and Gopal, 1982).

Erythrina Linn.

Nomenclature: Erythrina variegata L, Herb. Amboin. 10. 1754; Hook. f. Fl. Brit. India. 2: 188. 1876; Cooke, Fl. Pres. Bombay 1: 390, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 213, 1978; Singh, et al., Fl. Maha. Dicot. 1:683. 2000; Krukoff in J. Arn. Arb. 53: 132. 1972; Erythrina indica Lamk., Encyl. 2: 391. 1786.

Habit: A small, deciduous tree, upto 5 m tall; bark corky, yellowish brown, longitudinally fissured; trunk crooked; armed with prickles.

Phenology: FLS- February to April, FRS- April to May.

Sanskrit Name: Paribhadra, Kantakipalash.

Local Name: Panervo.

Distribution and Status in the Study Area: Occasional at Kawant range.

Distribution in Gujarat: Planted at many places (Shah, 1978).

Local Uses: The bark juice is applied externally on eyes for eye diseases. The leaf juice is used to relieve toothache.

Indigofera Linn.

Nomenclature: Indigofera astragalina DC., Prodr. 2: 228. 1825; Indigofera hirsuta Baker in Hook. f. Fl. Brit. India. 2: 98. 1876; Cooke, Fl. Pres. Bombay 1: 339, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 218, 1978; Singh, et al., Fl. Maha. Dicot. 1:696. 2000.

Habit: Annual, suffrutescent, erect herbs; stem and branches scarlet to deep-red, grooved, densely pubescent to woolly tomentose in younger parts.

Phenology: FLS and FRS- September to November.

Local Name: Vekario.

Distribution and Status in the Study Area: Occasional among grasses in open fields at Vagasthal, Kadipani, Ambadungar, Naswadi and Ghantoli-songir.

Distribution in Gujarat: Throughout; common (Shah, 1978).

Local Uses: Locally the branches are sometimes used as toothbrushes.

Nomenclature: Indigofera cordifolia Heyne ex Roth., Nov. Pl. Sp. 357. 1821; Hook. f. Fl. Brit. India. 2: 93. 1876; Cooke, Fl. Pres. Bombay 1: 331, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 220, 1978; Singh, et al., Fl. Maha. Dicot. 1:701. 2000.

Habit: Prostrate herbs, branches radially spreading, long, slender, terete and silky hairy.

Phenology: FLS and FRS- August to February.

Local Name: Bhakho.

Distribution and Status in the Study Area: Common throughout forest division along roadsides and in cultivated fields at Mogra, Satun, Parota and Naswadi.

Distribution in Gujarat: Throughout; abundant and common (Shah, 1978).

Local Uses: The tribals of Chhota-udepur forest division use the root, boiled in milk as purgative.

Nomenclature: Indigofera linifolia (L. f.) Retz., Obs. 4: 29. 1786; Hook. f. Fl. Brit. India. 2: 92. 1876; Cooke, Fl. Pres. Bombay 1: 330, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 222, 1978; Singh, et al., Fl. Maha. Dicot. 1:707. 2000; Hedyserum linifolium L. f. Suppl. 331. 1781.

Habit: Diffuse or suberect, annual herbs, often with radially spreading, slender, grey-pubescent, glabrescent branches.

Phenology: FLS and FRS- August to November.

Local Name: Gadi.

Distribution and Status in the Study Area: Occasional in small patches among grasses at Sadhli, Bordha and Ranbhun.

Distribution in Gujarat: Throughout; common (Shah, 1978).

Local Uses: Plant juice is used to cure eye diseases. It is also externally applied on ulcerative perforations.

Nomenclature: Indigofera tinctoria L. Sp. Pl. 751. 1753; Hook. f. Fl. Brit. India. 2: 99. 1876; Cooke, Fl. Pres. Bombay 1: 339, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 224, 1978; Singh, et al., Fl. Maha. Dicot. 1:714. 2000.

Habit: An erect shrub with spreading or ascending sparsely appressed hairy or nearly glabrous branches; bark dark-brown, smooth.

Phenology: FLS- September to January, FRS- August to October.

Sanskrit Name: Nilika, Nili, Ranjani, Anjankeshika.

Local Name: Nani Gudi.

Distribution and Status in the Study Area: In open wastelands along roadsides in Chhota-udepur and Kawant range.

Distribution in Gujarat: Throughout (Shah, 1978).

Local Uses: Leaf juice is applied on skin diseases. The ointment of the entire plant is used to cure sores. The root extract is useful in bronchitis and epilepsy. Roots are also useful in hepatitis and urinary disorders.

Uses in other regions of Gujarat state: Locally called as "Gali" in Dharampur forest division. Plant yields Indigo dye used for tanning (Reddy, 1989).

Nomenclature: Indigofera trita L. f. Suppl. Pl. 335. 1781; Hook. f. Fl. Brit. India. 2: 96. 1876; Cooke, Fl. Pres. Bombay 1: 335, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 225, 1978; Singh, et al., Fl. Maha. Dicot. 1:715. 2000.

Habit: An erect, divaricately branched undershrub; stem and branches rigid, at times reddish-purple, somewhat angular, grey-pubescent.

Phenology: FLS and FRS- August to December.

Local Name: Gando velo.

Distribution and Status in the Study Area: Along roads and forest paths, seldom as forests undergrowth at Mogra, Bordha, Dhandhoda, Dughta and Ghantoli-songir.

Distribution in Gujarat: Throughout (Shah, 1978).

Local Uses: Roots are used or rather consumed as nutritive tonic whereas the entire plant paste is applied on severe bodyache.

Medicago Linn.

Nomenclature: Medicago sativa Linn. Sp. Pl., 778. 1753; Hook. f. Fl. Brit. India. 2: 90. 1876; Cooke, Fl. Pres. Bombay 1: 327, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 230, 1978; Singh, et al., Fl. Maha. Dicot. 1:720. 2000.

Habit: Erect perennial herbs; stem and branches striate, pubescent, glaucous green, glabrous or thinly hairy.

Phenology: FLS and FRS- January to May.

Sanskrit Name: Ashwa-bala.

Local Name: Lacklo.

Distribution and Status in the Study Area: Sparingly seen along roadsides at Chhota-udepur and Ranbhun.

Distribution in Gujarat: Cultivated in many parts of Gujarat; also as an escape along roads, railway lines and in riverbeds (Shah, 1978).

Uses in other regions of Gujarat state: Cultivated as a fodder plant by the natives of Saurashtra (Shah, Menon and Gopal, 1981).

Mucuna Adans.nom.cons.

Nomenclature: Mucuna prurita Hook., Bot. Misc. 2: 348. 1831; Hook. f. Fl. Brit. India. 2: 184. 1876; Cooke, Fl. Pres. Bombay 1: 389, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 234, 1978; Mucuna pruriens (L.) DC., Prodr. 2: 405. 1825; Dolichos pruriens L., in Stickman, Herb. Amb. 23: 1754 et in Syst. Nat. ed. 10: 1162. 1759.

Habit: An extensive, lignose climber with densely hairy stem and branches, at least in younger parts.

Phenology: FLS- October to January, FRS- December to April.

Sanskrit Name: Atmagupta, Suksimbi, Kandura, Markati, Vanari.

Local Name: Kavach-koyali.

Distribution and Status in the Study Area: Rare in the area. Seen at Naswadi and Panimines. **PLATE 32**

Distribution in Gujarat: Throughout in deciduous forests (Shah, 1978).

Local Uses: The seed paste is applied on skin diseases. The decoction of leaves is given to cure gastro-intestinal troubles. Seeds, pods and roots are commonly used by the tribals.

Uses in other regions of Gujarat state: Seeds after roasting are eaten by the tribals of Ratanmahal forests (Bedi, 1979). Seeds are roasted and eaten by the Maldhari community of Saurashtra for improving digestion. The hairy pods are said to be vermifuge (Shah, Menon and Gopal, 1981).

Ougeinia Benth.

Nomenclature: Ougeinia oojeinensis (Roxb.) Hockhr. In Ann. Cons. Jard. Bot. Geneve 13 and 14: 51. 1909; Hook. f. Fl. Brit. India. 2: 161. 1876; Cooke, Fl. Pres. Bombay 1: 373, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 234, 1978; Singh, et al., Fl. Maha. Dicot. 1:727. 2000; Dalbergia oojeinsis Roxb., Fl. Ind. 3: 220. 1832; Ougeinia dalbergioides Benth., in Miq., Pl. Jung. 214. 1852; Desmodium oojeinense (Roxb.) Ohasi in Ginkgoana 1: 117. 1973.

Habit: A deciduous tree, 9-15 m tall; trunk straight or somewhat crooked; bark black or dark brown; deeply fissured in small, square or rectangular scales.

Phenology: FLS- January to May, FRS- April to June.

Sanskrit Name: Tinisha, Rathdrum.

Local Name: Tanush.

Distribution and Status in the Study Area: Occasional in a few forests areas of Ambadungar, Keydi, Kawant and Turkheda.

Distribution in Gujarat: In deciduous forests, not common (Shah, 1978).

Local Uses: Bark of the tree is febrifuge. The decoction of the bark is a remedy for diarrhoea and dysentery. The bark decoction is also given in bronchial infections.

Uses in other regions of Gujarat state: Locally called as "Tanas" in Dharampur forest division. Timber is used for making bullock-carts and agricultural implements (Reddy, 1989). Locally called as "Tinash" in Dangs forest division (Galkund). The bark extract is orally given in dysentery (Maheshwari, Sikarwar and Painuli, 1994).

Phaseolus Linn.

Nomenclature: Phaseolus vulgaris Linn. Sp. Pl. 723. 1753; Hook. f. Fl. Brit. India. 2: 200. 1876; Shah, Fl. Guj. 1: 234, 1978. Singh, et al., Fl. Maha. Dicot. 1:773. 2000.

Habit: Annuals with glabrescent branches.

Phenology: FLS and FRS- November to December.

Sanskrit Name: Mudraparni, Kakmudra, Surpaparni.

Local Name: Mudag.

Distribution and Status in the Study Area: Cultivated in few villages of Chhota-udepur and Dolariya range.

Local Uses: Eaten as vegetable by the locals.

Distribution in Gujarat: Cultivated throughout Gujarat (Shah, 1978).

Pisum Linn.

Nomenclature: Pisum sativum Linn. Sp. Pl., 727. 1753; Hook. f. Fl. Brit. India. 2: 181. 1876; Cooke, Fl. Pres. Bombay 1: 436, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 235, 1978; Singh, et al., Fl. Maha. Dicot. 1:773. 2000.

Habit: Twining, glabrous annuals.

Phenology: FLS and FRS- December to April.

Sanskrit Name: Vartulkalay, Harenu.

Local Name: Vatana.

Distribution and Status in the Study Area: Cultivated in a few villages of Pavi-jetpur range.

Distribution in Gujarat: Cultivated; also an escape (Shah, 1978).

Local Uses: Cultivated by the tribals and also consumed.

Uses in other regions of Gujarat state: Cultivated by the tribals of Dangs forest division (Shah and Gopal, 1982).

Pongamia Vent.nom.cons.

Nomenclature: Pongamia pinnata (L.) Pierre, Fl. For. Cochinch. 385. 1899; Hook. f. Fl. Brit. India. 2: 240. 1876; Cooke, Fl. Pres. Bombay 1: 429, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 203, 1978; Singh, et al., Fl. Maha. Dicot. 1:728. 2000; Cystisus pinnatus L. Sp. Pl., 741. 1753; Pongamia glabra Vent., Jard. Malm. 1: 28. 1803; Derris indica Bennet in J. Bomb. Nat. Soc. 68: 303. 1971.

Habit: Evergreen trees, 8-10 m tall, with spreading at times pendent branches; bark greyish white to light black, rough with brown lenticels in younger parts.

Phenology: FLS- February to July, FRS- June to October.

Sanskrit Name: Karanja, Naktamal.

Local Name: Karanj. **PLATE 32**

Distribution and Status in the Study Area: Occasional on riverbanks and their tributaries at Mogra, Turkheda, Kevdi, Satun and Naswadi.

Distribution in Gujarat: Throughout, wild, mostly along riverbanks; also planted (Shah, 1978).

PLATE 32



Pongamia pinnata Pierre.
(Fabaceae) in flowering at
Rangpur range. Locally called
as Karanj.



Abrus precatorius Linn.
(Fabaceae) Flowering and
fruiting. Occasional climber in
the area.



Butea monosperma (Lamk.)
Taub. (Fabaceae) Flame of
the forests in its full bloom.



Mucuna prurita Hook. f.
(Fabaceae) in fruiting.

Local Uses: Root paste is applied externally in hepatic troubles and also in enlargement of spleen. The seed oil is one of the major NTFP of this region. Bark is applied on piles. The paste of the flowers is externally applied in leucoderma. Seed oil is used in itching and skin diseases like soriasis.

Uses in other regions of Gujarat state: Locally called as “Karanj” by bhil tribal community of Ratanmahal forest division. Oil from the seeds is applied externally to cure skin diseases and is used for burning in lamps (Bedi, 1979). The oil extracted from the seeds is employed in skin diseases (Saurashtra) (Shah, Menon and Gopal, 1981). The seed extract is applied in eczema and scabies by the tribals of Dangs forest division (Shah and Gopal, 1982). Root is used as fish poison and tender shoots as toothbrushes in Dharampur forest division (Reddy, 1989).

Psoralea Linn.

Nomenclature: Psoralea corylifolia Linn. Sp. Pl., 764. 1753; Hook. f. Fl. Brit. India. 2: 103. 1876; Cooke, Fl. Pres. Bombay 1: 341, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 236, 1978; Singh, et al., Fl. Maha. Dicot. 1:652. 2000.

Habit: An erect, annual, 15-20 cm tall herbs with ascending or spreading branches.

Phenology: FLS and FRS- August to March.

Sanskrit Name: Bakuchi, Somraji, Chandralekha.

Local Name: Bavachi.

Distribution and Status in the Study Area: In dense vegetation along roads at Naswadi.

Distribution in Gujarat: Throughout, along roadsides and railway lines, but not common (Shah, 1978).

Local Uses: Leaves are stomachic, anthelmintic, diuretic, aphrodisiac and is recommended in the treatment of leucoderma, leprosy and inflammations on skin. Due to its inexplicable use in treating leprosy, the drug has been called as Kustha nasini in our Indigenous system of medicines.

Uses in other regions of Gujarat state: Locally called as “Babchi” in Saurashtra. The seed paste in oil is applied on the affected parts in skin diseases (Shah, Menon and Gopal, 1981).

Pterocarpus N. Jacq.nom.cons.

Nomenclature: Pterocarpus marsupium var. acuminatus Roxb., Pl. Corrom. t. 116. 1799; Hook. f. Fl. Brit. India. 2: 239. 1876; Cooke, Fl. Pres. Bombay 1: 427, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 236, 1978; Singh, et al., Fl. Maha. Dicot. 1:729. 2000.

Habit: A large, deciduous tree, 12-15 m tall; trunk straight; bark ash colored, longitudinally fissured.

Phenology: FLS- May to June, FRS- August to October.

Sanskrit Name: Asan, Pitasara, Bijak.

Local Name: Biyu.

Distribution and Status in the Study Area: A rare tree seen only at Mithibor round of Dolariya range.

Distribution in Gujarat: In deciduous forests, not common (Shah, 1978).

Local Uses: Bark is used as an astringent. The decoction of the bark is used in leucoderma. The bark infusion is believed to be useful in diabetes. The gum from the bark is used in fever and the paste of leaves is externally applied on boils, sores and skin diseases. Bark powder is used in diarrhoea.

Uses in other regions of Gujarat state: Locally called as "Bival" in Dharampur forest division. Bark is used in tanning leather and dish nets. Wood is used for making agricultural implements (Reddy, 1989). Locally called as "Biyola" in Dangs forest division (Galkund). The bark paste is externally applied on skin diseases (Maheshwari, Sikarwar and Painuli, 1994).

Pueraria DC.

Nomenclature: Pueraria tuberosa (Roxb. ex Willd.) DC., in Ann. Sci. Nat. 4: 97. 1825; Hook. f. Fl. Brit. India. 2: 197. 1876; Cooke, Fl. Pres. Bombay 1: 399, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 237, 1978; Singh, et al., Fl. Maha. Dicot. 1:731. 2000; Hedysarum tuberosum Roxb. ex Willd. Sp. Pl., 3: 1197. 1803.

Habit: A large deciduous climber with silky-grey, pubescent branches.

Phenology: FLS and FRS- February to March.

Sanskrit Name: Vidarikand, Vidarika, Bhumikushmand.

Local Name: Fagio.

Distribution and Status in the Study Area: Rare, seen at Sadhli, Mogra and Panimines area.

Distribution in Gujarat: Occasional in deciduous forests of Gujarat except Kachchh (Shah, 1978).

Local Uses: Tuber is the most potential part of the plant used by the tribals of this region. It is used as tonic, lactagogue and also administered in acidity, fever and leucorrhoea. The tuber paste is externally applied on syphilis. The tuber powder is given internally in vomiting and diarrhoea.

Uses in other regions of Gujarat state: The tuberous roots are edible and a good tonic (Saurashtra) (Shah, Menon and Gopal, 1981).

Rhynchosia Lour.nom.cons.

Nomenclature: Rhynchosia minima (L.) DC., Prodr. 2: 385. 1825; Hook. f. Fl. Brit. India. 2: 223. 1876; Cooke, Fl. Pres. Bombay 1: 414, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 239, 1978; Singh, et al., Fl. Maha. Dicot. 1:733. 2000; Dolichos minimum L. Sp. Pl., 726. 1753; Rhynchosia minima var. laxiflora (Camb.) Baker in Hook. f. Fl. Brit. India. 2: 223. 1876.

Habit: A twining or trailing herb with slender, finely pubescent at length glabrous branches.

Phenology: FLS and FRS- July to February.

Local Name: Hath-dhonani.

Distribution and Status in the Study Area: Common twinner on hedges at Kawant, Kadipani, Turkheda, Koraj, Udhwania, Naswadi, Bhadurpur, Rangpur, Zer and other forests areas.

Distribution in Gujarat: Kachchh and Saurashtra; on hedges, rare (Shah, 1978).

Local Uses: The leaves are used as abortifacient. Seeds are bitter and noxious.

Uses in other regions of Gujarat state: The leaf infusion is used in piles and asthma (Saurashtra) (Shah, Menon and Gopal, 1981).

Smithia Aiton.nom.cons.

Nomenclature: Smithia sensitiva Ait., Hort. Kew 3: 496. 1789; Hook. f. Fl. Brit. India. 2: 148. 1876; Cooke, Fl. Pres. Bombay 1: 357, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 245, 1978; Singh, et al., Fl. Maha. Dicot. 1:743. 2000.

Habit: Annual diffuse or prostrate herbs, 20-25 cm long.

Phenology: FLS and FRS- August to November.

Sanskrit Name: Lakshmana.

Distribution and Status in the Study Area: Found in cultivated fields at Vagasthal of Chhota-udepur range.

Distribution in Gujarat: Bulsar, Dangs and Saurashtra, among grasses; frequent (Shah, 1978).

Local Uses: Leaves in the form of paste is applied externally to cure headache. The leaves are said to have good lactation properties.

Tephrosia Pers.nom.cons.

Nomenclature: Tephrosia purpurea (L.) Pers. Syn. 2: 329. 1807; Hook. f. Fl. Brit. India. 2: 112. 1876; Cooke, Fl. Pres. Bombay 1: 346, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 249, 1978; Singh, et al., Fl. Maha. Dicot. 1:752. 2000; ; Cracca purpurea L. Sp. Pl., 752. 1753; Tephrosia hamiltonii Drumm. ex Gamble. Fl. Madras Pres. 1: 320. 1918; Tephrosia purpurea var. pubescens Baker in Oliver, Fl. Trop. Afr. 2: 125. 1871.

Habit: An erect undershrub with spreading branches, lower ones often diffuse; stem and branches terete, striate, tinged, reddish-purple or sometimes completely reddish purple with white appressed hairs, young branches flexous.

Phenology: FLS- August to October, FRS- October to December.

Sanskrit Name: Sharapunkha, Plihari.

Local Name: Sarpakho.

Distribution and Status in the Study Area: Common, usually in loose patches, along road sides, and in waste places at Chhota-udepur, Gabadia, Mogra, Kadipani, Naswadi, Pavi-Jetpur, Vagasthal, Boriyad, Panvad, Vadhavan etc.

Distribution in Gujarat: Throughout, common (Shah, 1978).

Local Uses: The paste of the leaves is used externally on insect bites.

Uses in other regions of Gujarat state: Locally called as "Chichalla" in Dangs forests (Ahwa). The leaf paste is externally applied in scorpion sting (Maheshwari, Sikarwar and Painuli, 1994).

Nomenclature: Tephrosia strigosa (Dalz.) Sant. and Maheshw., in J. Bomb. Nat. Hist. Soc., 54(3): 903. 1957; Hook. f. Fl. Brit. India. 2: 111. 1876; Cooke, Fl. Pres. Bombay 1: 344, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 250, 1978; Singh, et al., Fl. Maha. Dicot. 1:753. 2000; Macronyx strigosus Dalz., in Hook. J. Bot. 2: 35. 1850.

Habit: An annual herb, branched from base, branches ascending, lower ones diffuse; stem and branches filiform, terete and hairy.

Phenology: FLS and FRS- August to September.

Local Name: Betho sarpakho.

Distribution and Status in the Study Area: Occasional in cultivated fields at Jabugam and Nani-dumali.

Distribution in Gujarat: Throughout among grasses (Shah, 1978).

Nomenclature: Tephrosia villosa (Linn.) Pers. Syn. Pl. 2: 329. 1807; Hook. f. Fl. Brit. India. 2: 113. 1876; Cooke, Fl. Pres. Bombay 1: 347, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 251, 1978; Singh, et al., Fl. Maha. Dicot. 1:755. 2000.

Habit: 30-40 cm tall, erect undershrubs with ascending branches; stem and branches terete, strait, pubescent, densely so in younger parts.

Phenology: FLS and FRS- September to November.

Local Name: Sarpakho.

Distribution and Status in the Study Area: Occasional along road sides, scattered or subgregarious at Kawant, Naswadi, Kundal and Satun.

Distribution in Gujarat: Throughout; common, scattered or subgregarious (Shah, 1978).

Local Uses: The leaf juice is useful in dropsy and diabetes. The paste of the leaves is applied externally on boils and inflammations.

Teramnus P. Browne.

Nomenclature: Teramnus labialis (L. f.) Spreng., Syst. 3: 235. 1826; Hook. f. Fl. Brit. India. 2: 184. 1876; Cooke, Fl. Pres. Bombay 1: 387, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 252, 1978; Singh, et al., Fl. Maha. Dicot. 1:756. 2000; Glycine labialis L. f., Suppl. 325. 1781.

Habit: Creeping, trailing or twining herbs; stem and branches slender, striate, appressedly hairy, densely in younger parts.

Phenology: FLS- August to October, FRS- December.

Sanskrit Name: Mashaparni.

Local Name: Mar-parni.

Distribution and Status in the Study Area: Common twinner found on hedges at Mogra, Kawant, Kadipani, Bhadurpur, Dhandhoda, Udhwania and Naswadi.

Distribution in Gujarat: Throughout, on hedges and low shrubs or trailing in absence of support; common (Shah, 1978).

Local Uses: Fruits are considered as tonic, astringent and febrifuge. The leaf juice is used in nervous disorders and paralytic attacks.

Trigonella Linn.

Nomenclature: Trigonella foenum-graecum Linn. Sp. Pl., 777. 1753; Hook. f. Fl. Brit. India. 2: 70. 1876; Shah, Fl. Guj. 1: 253, 1978; Singh, et al., Fl. Maha. Dicot. 1:775. 2000.

Habit: An annual, erect herb; stem and branches terete, stralite, ascending, pale-greenish-yellow, thinly hairy in younger, glabrous in older parts.

Phenology: FLS and FRS- August to September.

Sanskrit Name: Methika, Pitbija, Bodhini.

Local Name: Methi.

Distribution and Status in the Study Area: Cultivated, also as an escape at Sadhli and Bordha.

Distribution in Gujarat: Cultivated, also an escape (Shah, 1978).

Local Uses: Cultivated for its ripe fruits.

Uraria Desv.

Nomenclature: Uraria picta (Jacq.) Desv., in Journ. Bot. 1: 123, t. 5.f. 19. 1813; Hook. f. Fl. Brit. India. 2: 155. 1876; Cooke, Fl. Pres. Bombay 1: 367, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 254, 1978; Singh, et al., Fl. Maha. Dicot. 1:758. 2000.

Habit: An undershrub; stem and branches appressedly pubescent, terete.

Phenology: FLS and FRS- December to March.

Sanskrit Name: Kalashi, Prishnaparni, Chitraparni, Dhavni.

Local Name: Pithivandh.

Distribution and Status in the Study Area: Seen at Vagasthal, Sadhli and Naswadi.

Distribution in Gujarat: North, Central and South Gujarat; rare (Shah, 1978).

Local Uses: The plant is used in cough, fever and diarrhoea. The root paste is used in rheumatic complaints. Root decoction is given in bodyache. Root decoction is also used as remedy against excessive vomiting.

Uses in other regions of Gujarat state: Locally called as "Kavario" in Ratanmahal forest division. Leaf juice is anti-pyretic (Bedi, 1979).

Vigna Savi.

Nomenclature: Vigna trilobata (Linn.) Verdc., in Taxon 17: 172. 1968; Hook. f. Fl. Brit. India. 2: 201. 1876; Cooke, Fl. Pres. Bombay 1: 401, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 259, 1978; Singh, et al., Fl. Maha. Dicot. 1:764. 2000; Dolichos trilobatus L., Mant. Pl. 1: 101. 1767; Phaseolus trilobatus (L.) Schreb., in Nov. Acta. Acad. Caes Leop. Carol. Nat. Curios. 4: 133. 1970.

Habit: Trailing or suberect, slender herbs; stem and branches 10-15 cm long, glabrous or hairy, pale green.

Phenology: FLS and FRS- August to October.

Sanskrit Name: Mugdaparni, Rajmash.

Local Name: Kulathi.

Distribution and Status in the Study Area: Not frequent, found growing among grasses at Sadhli, Rajmahal Chhota-udepur, Kanawant and Naswadi.

Distribution in Gujarat: Throughout in plains, everywhere (Shah, 1978).

Local Uses: Leaves decoction is given in fever.

Zornia J. F. Gmel.

Nomenclature: Zornia gibbosa Span., in Linnaea 15: 192. 1841; Hook. f. Fl. Brit. India. 2: 147. 1876; Cooke, Fl. Pres. Bombay 1: 355, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 261, 1978; Singh, et al., Fl. Maha. Dicot. 1:767. 2000.

Habit: Annual herb upto 20 cm tall, suberect, diffuse or prostrate, younger parts flexous, finely pubescent, pale-to dark green.

Phenology: FLS and FRS- August to December.

Local Name: Samarpani.

Distribution and Status in the Study Area: Occasional in wastelands among grasses and margins of cultivated fields at Chhota-udepur, Gabadia, Sakal, Chilarwant, Raipur Kundal and Chosalpur.

Distribution in Gujarat: Throughout; common (Shah, 1978).

Local Uses: The root decoction is somewhat sedative and the tribals give it to the children to induce sleep.

CAESALPINIACEAE

A total of 13 species belonging to 8 different genera represents this family in the area.

Bauhinia Linn.

Nomenclature: Bauhinia purpurea L. Sp. Pl. 375. 1753; Baker in Hook. f. Fl. Brit. India. 2: 284. 1878; Cooke, Fl. Pres. Bombay 1: 461, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 263, 1978; Singh, et al., Fl. Maha. Dicot. 1:780. 2000.

Habit: A small or medium sized tree, 8-12 m tall with spreading or pendent branches.

Phenology: FLS- August to November, FRS- October to March.

Sanskrit Name: Kovidra, Kanchnar, Yugampatra.

Local Name: Pido asundro. **PLATE 33**

Distribution and Status in the Study Area: Occasionally seen in dense forests. Reported at Dhandhoda, Ambadungar, Sadhli, Naswadi and Koraj.

Distribution in Gujarat: Throughout, wild in deciduous forests; also planted in gardens (Shah, 1978).

Local Uses: Decoction of the bark is used in hepatic disorders whereas the decoction of the leaves is used in diarrhoea and dysentery. Bark powder is given to cure diabetes. Leaves are used for making 'bidis'. The plant is an important NTFP of the Chhota-udepur forest division.

Uses in other regions of Gujarat state: Locally called as "Kanchanar" in Dangs forest division. The tender shoots are used as vegetables (Shah and Gopal, 1982).

Nomenclature: Bauhinia racemosa Lamk., Encycl. 1: 390. 1785; Baker in Hook. f. Fl. Brit. India. 2: 276. 1878; Cooke, Fl. Pres. Bombay 1: 459, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 263, 1978; Singh, et al., Fl. Maha. Dicot. 1:780. 2000; Piliostigma racemosa (Lamk.) Benth. in Miq., Pl. Jungh. 262. 1852.

Habit: Small, crooked tree, 3-5 m tall with drooping branches; bark rough, dark brown, longitudinally fissured.

Phenology: FLS- March to June, FRS- August to January.

Sanskrit Name: Yamalpatrak, Ashmantak, Sveta-kanchan, Anupushpak.

Local Name: Apto.

Distribution and Status in the Study Area: Common throughout forest division. Reported from Sadhli, Kadipani, Kevdi, Dolariya, Turkheda, Koraj, Kundal and Ghantoli-songir.

Distribution in Gujarat: Throughout in deciduous and scrub forests (Shah, 1978).

Local Uses: Bark is an astringent, tonic; useful in ulcers and skin diseases like leprosy. A mixture of bark with cereals and ginger is given in bronchitis. Dried pods are used in diarrhoea, dysentery and worms. Decoction of the leaves is given in dyspepsia.

Uses in other regions of Gujarat state: Locally called as "Apto" in Saurashtra. The leaves are used as bidi wrappers by the local Maldhari community (Shah, Menon and Gopal, 1981). Locally called as "Asundro" in Dharampur forests. Dried leaves is used as bidi wrappers and religious ceremonies (Reddy, 1989).

Caesalpinia Linn.

Nomenclature: Caesalpinia crista L. Sp. Pl. 380. 1753; Hook. f. Fl. Brit. India. 2: 254, 1874; Cooke, Fl. Pres. Bombay. 1: 437. 1958 (Repr. ed).; Shah, Fl. Guj. 1: 264, 1978. Singh, et al., Fl. Maha. Dicot. 1:783. 2000; Ch and O 94; S and B 20; Guilandina bonducella L. Sp. Pl. ed. 2. 545. 1762; Caesalpinia bonducella (L.) Flem., in As. Res. 11: 159. 1810.

Habit: A strongly armed, scandent extensive shrub.

Phenology: FLS- July to November, FRS- December to February.

Sanskrit Name: Kuberakshi, Putikaranj, Kuberaksha.

Local Name: Kaska. **PLATE 33**

Distribution and Status in the Study Area: A rare plant in the area on hedges at Satun, Koraj and Jabugam.

Distribution in Gujarat: Throughout, on hedges (Shah, 1978).

Local Uses: Leaves are febrifuge, anthelmintic and astringent; given in leucorrhoea. Seeds are antiperiodic, antipyretic, anthelmintic, tonic and febrifuge; used in asthma and intestinal worms. Tender leaves are remedy in gastric and hepatic disorders. Seed oil is used to check excessive bleeding in women. Leaves and seeds made into paste are used in external application for inflammatory swellings.

Uses in other regions of Gujarat state: The seeds are medicinally used as one of the ingredients of a mild laxative for children (Saurashtra) (Shah, Menon and Gopal, 1981).

Cassia Linn.

Nomenclature: Cassia absus L. Sp. Pl. 376. 1753; Baker in Hook. f. Fl. Brit. India. 2: 265. 1878; Cooke, Fl. Pres. Bombay 1: 451, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 267, 1978; Singh, et al., Fl. Maha. Dicot. 1:785. 2000.

Habit: An annual, suffruticose, erect, 40-50 cm tall, simple or branched herb, clothed with white pubescent hairs.

Phenology: FLS and FRS- August to December.

Sanskrit Name: Chaksu, Aranyakulthika, Vanyakulstha.

Local Name: Chamedyu.

Distribution and Status in the Study Area: Common throughout the forest division as a roadside weed or in undergrowth of forests at Chhota-udepur, Sadhli, Satun, Kikawada, Ucheda, Naswadi and Ghantoli-songir.

Distribution in Gujarat: Throughout in the forests undergrowth in shaded spots along roads and railway lines (Shah, 1978).

Local Uses: Leaves are bitter and astringent; used in cough. Seeds are made into paste and is used in ringworms and other cutaneous infections.

Uses in other regions of Gujarat state: Locally called as "Chon" in Saurashtra. The dry powdered leaves are used for dressing ulcers (Shah, Menon and Gopal, 1981). Locally called as "Bahwa" in Dangs forest division (Waghai). Bark decoction is given as a remedy for dysentery by Warli and Gamit tribe (Maheshwari, Sikarwar and Painuli, 1994).

Nomenclature: Cassia auriculata L. Sp. Pl. 379. 1753; Baker in Hook. f. Fl. Brit. India. 2: 263. 1878; Cooke, Fl. Pres. Bombay 1: 448, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 268, 1978; Singh, et al., Fl. Maha. Dicot. 1:785. 2000.

Habit: Erect, bushy shrubs, finely pubescent in the younger parts; bark smooth, reddish brown.

Phenology: FLS- November to August, FRS- Throughout the year, more prominent in monsoon months.

Sanskrit Name: Avartaki, Charmaranga, Pitkalika.

Local Name: Aval.

Distribution and Status in the Study Area: Occasional in Naswadi and Chhota-udepur ranges.

Distribution in Gujarat: Throughout in plains; common in semi-arid and arid regions (Shah, 1978).

Local Uses: Roots, leaves and fruits are anthelmintic. The decoction of the leaves is very useful in diabetes and in excessive menstrual flow.

Uses in other regions of Gujarat state: The plant is valuable in the reclamation of sandy waste land. The tender branches are used as toothbrushes. The seeds are used in ophthalmia (Saurashtra) (Shah, Menon and Gopal, 1981). Plant is used for tanning leather by the natives of Dharampur forest division (Reddy, 1989).

Nomenclature: Cassia fistula L. Sp. Pl. 377. 1753; Baker in Hook. f. Fl. Brit. India. 2: 261. 1878; Cooke, Fl. Pres. Bombay 1: 444, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 269, 1978; Singh, et al., Fl. Maha. Dicot. 1:786. 2000.

Habit: Moderate sized, deciduous trees, 5-12 m tall, with a straight trunk and spreading crown of foliage; bark in older parts dark brown and rough, in younger parts it is smooth and grey.

Phenology: FLS- March to July, FRS- April to June.

Sanskrit Name: Sampak, Suvernaka, Aragvadh.

Local Name: Garmado. **PLATE 33**

Distribution and Status in the Study Area: Occasionally observed at Kikawada, Turkheda, Panimines, Koraj and Jamlidam. Seldom planted.

Distribution in Gujarat: Throughout in deciduous forests; also planted along roads and in gardens (Shah, 1978).

Local Uses: Bark, leaves and seeds are laxative; fruits i.e. pods are purgative also used in rheumatism. Juice of the leaves is used in skin diseases. Extract of root bark is used for fever.

Uses in other regions of Gujarat state: The pulp of the fruit is used as tonic and in chest infections by the Maldhari community of Saurashtra (Shah, Menon and Gopal, 1981). The ripe fruit pulp is antidysentric. The tender pods are made into a vegetable (Dangs forest division) (Shah and Gopal, 1982). Locally called as "Baval" in Dharampur forest division. Wood is used for making agricultural implements and bark is used for tanning material (Reddy, 1989).

PLATE 33



Bauhinia purpurea Linn.
(Caesalpiniaceae) in fruiting.
Locally called as Asitro.



Caesalpinia crista Linn.
(Caesalpiniaceae) in fruiting.
Panvad forests. Chhota-udepur.



Cassia fistula Linn.
(Caesalpiniaceae) in fruiting.

Nomenclature: Cassia occidentalis L. Sp. Pl. 377. 1753; Baker in Hook. f. Fl. Brit. India. 2: 262. 1878; Cooke, Fl. Pres. Bombay 1: 445, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 271, 1978; Singh, et al., Fl. Maha. Dicot. 1:789. 2000.

Habit: An undershrub; stem and branches glabrous, terete and striate.

Phenology: FLS- December to April, FRS- August to January.

Sanskrit Name: Kasamarda, Kasari.

Local Name: Kasmad.

Distribution and Status in the Study Area: Common, gregarious or subgregarious at Chhota-udepur, Kikawada, Koraj, Kundal and Naswadi.

Distribution in Gujarat: Throughout, common (Shah, 1978).

Local Uses: Roots are purgative, diuretic and tonic. Seeds are used as remedy for asthma and applied externally on skin diseases.

Uses in other regions of Gujarat state: Locally called as "Kasundi" in Ratanmahal forests. Leaf paste is used in scabies and certain skin diseases (Bedi, 1979).

Nomenclature: Cassia tora L. Sp. Pl. 376. 1753; Baker in Hook. f. Fl. Brit. India. 2: 263. 1878; Cooke, Fl. Pres. Bombay 1: 447, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 274, 1978; Singh, et al., Fl. Maha. Dicot. 1:791. 2000.

Habit: Annual, foetid herbs, glabrescent, 25-100 cm tall.

Phenology: FLS- July to December, FRS- August to November.

Sanskrit Name: Chakramarda, Chakramardad.

Local Name: Puvandio.

Distribution and Status in the Study Area: Common monsoon weed at Kawant, Chhota-udepur and Pavi-jetpur ranges.

Distribution in Gujarat: Throughout, common, scattered or subgregarious (Shah, 1978).

Local Uses: Leaves and seeds are excellent remedy for wet eczematous swellings. Roots are used in insect bite. The fine powder of roots have oxytotic activities. The young regenerating plants is made into paste by crushing and is taken internally as a remedy for jaundice. Seeds are used in form of paste and is applied on pimples, boils and swellings on skin.

Uses in other regions of Gujarat state: Locally called as "Kuvandio" by bhil tribal community. Leaf infusion is vermicide (Bedi, 1979). Locally called as "Pochandio" in Saurashtra. Both leaves and seeds are used in skin diseases. Tender shoots and

leaves are used as vegetables. The seed is sometimes used as a adulterant to coffee powder after roasting (Shah, Menon and Gopal, 1981). Locally called as "Tarota" in Dangs forest division. The powdered seeds are sometimes adulterated to coffee powder or even used as a substitute for the same. The tender shoots are used as a fodder for cattle (Shah and Gopal, 1982).

Delonix Raf.

Nomenclature: Delonix regia (Bojer ex Hook.) Rafin., Fl. Tellur 2: 92. 1836; Baker in Hook. f. Fl. Brit. India. 2: 260. 1878; Cooke, Fl. Pres. Bombay 1: 441, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 275, 1978; Singh, et al., Fl. Maha. Dicot. 1:803. 2000; Poinciana regia Bojer ex Hook. in Bot. Mag. 56: t. 2884. 1829.

Habit: A deciduous tree, 8-10 m tall with smooth, grey to pale brown bark and branches spreading in an umbrella shape crown at times somewhat pendent.

Phenology: FLS- April to July, FRS- April to June.

Local Name: Gulmohor.

Distribution and Status in the Study Area: Planted along roads from Chhota-udepur to Kevdi.

Distribution in Gujarat: Planted in gardens and along roadsides; native of Madagascar (Shah, 1978).

Hardwickia Roxb.

Nomenclature: Hardwickia binata Roxb., Pl. Corom. 3: 6, t. 209. 1819; Baker in Hook. f. Fl. Brit. India. 2: 270. 1878; Cooke, Fl. Pres. Bombay 1: 456, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 275, 1978; Singh, et al., Fl. Maha. Dicot. 1:792. 2000.

Habit: 10-15 m tall deciduous trees with spreading branches; bark greyish white.

Phenology: FLS- October to February.

Local Name: Anjan.

Distribution and Status in the Study Area: Rare, found at Lachharas and Kawant. Only three trees found.

Distribution in Gujarat: Saurashtra and Bulsar, rare (Shah, 1978).

Parkinsonia Linn.

Nomenclature: Parkinsonia aculeata L. Sp. Pl. 375. 1753; Baker in Hook. f. Fl. Brit. India. 2: 260. 1878; Cooke, Fl. Pres. Bombay 1: 442, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 275, 1978; Singh, et al., Fl. Maha. Dicot. 1:804. 2000.

Habit: A large spinous shrub or a small tree, 3-6 m tall; bark smooth thin, olivaceous green in younger parts, brown in older, spines sharp, woody.

Phenology: FLS and FRS- October to June.

Local Name: Rambaval.

Distribution and Status in the Study Area: An escape in waste places along road sides; it is frequent around cultivated fields at Pavijetpur. Planted.

Distribution in Gujarat: Planted as a hedge at many places; also an escape; native of Mexico (Shah, 1978).

Peltophorum Vogel. Benth.

Nomenclature: Peltophorum pterocarpum (DC.) Baker ex K. Heyne in Nutt. Pl. Ned. Ind. ed. 2, 2: 755. 1927; Baker in Hook. f. Fl. Brit. India. 2: 257. 1878; Shah, Fl. Guj. 1: 276, 1978; Singh, et al., Fl. Maha. Dicot. 1:804. 2000; Inga pterocarpum DC., Prodr. 2: 441. 1825; Peltophorum ferrugineum Benth., Fl. Austral. 2: 279. 1864.

Habit: 5-12 m tall, evergreen trees, younger parts rusty-brown or grey tomentose.

Phenology: FLS- June to August, FRS- May to August.

Local Name: Tamrafadi.

Distribution and Status in the Study Area: Planted along roads from Pavi-jetpur to Chhota-udepur.

Distribution in Gujarat: Planted in gardens and along roads (Shah, 1978).

Local Uses: Planted by the tribals as a shade tree near houses.

Tamarindus Linn.

Nomenclature: Tamarindus indica L. Sp. Pl. 34. 1753; Baker in Hook. f. Fl. Brit. India. 2: 273. 1878; Cooke, Fl. Pres. Bombay 1: 457, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 278, 1978; Singh, et al., Fl. Maha. Dicot. 1:794. 2000.

Habit: A large, evergreen tree, 8-10 m tall with spreading branches; bark light black, longitudinally fissured.

Phenology: FLS- May to July, FRS- February to April.

Sanskrit Name: Amlika, Chinchā.

Local Name: Amli.

Distribution and Status in the Study Area: Planted or self sown, sparingly seen wild in the forests at Ambadungar, sown on outskirts of villages.

Distribution in Gujarat: Throughout, planted or self-sown, rarely wild in dense forests; probably a native of tropical Africa (Shah, 1978).

Local Uses: The leaves and the fruits are useful in jaundice, swellings, sprain and boils. The seeds with cumin and sugar is given in dysentery and diarrhoea.

Uses in other regions of Gujarat state: Locally called as "Amblijozad" by the Maldhari community of Saurashtra. The pulp of ripe fruits is used in culinary. The leaves are also acidic in taste (Shah, Menon and Gopal, 1981). Locally called as "Khatiamli" in Rajpipla forest division (Vasava tribe). Leaf decoction is gargled as a remedy for toothache (Shah and Gopal, 1986). Wood is used as fuel wood and for making furniture, cart wheels etc. Tender leaves and ripe fruit pulp is used as souring agent in culinary (Reddy, 1989).

MIMOSACEAE

A total of 11 species belonging to 5 different genera represents this family in the area.

Acacia P. Miller.

Nomenclature: Acacia chundra (L. f.) Willd., Sp. Pl. 4: 1079. 1806; Baker in Hook. f. Fl. Brit. India. 2: 295. 1878; Cooke, Fl. Pres. Bombay 1: 476, 1958; Shah, Fl. Guj. 1: 281, 1978; Singh, et al., Fl. Maha. Dicot. 1:808. 2000; Mimosa catechu L. f. Suppl. 439. 1781; Acacia chundra Willd. var. Sundra (DC.) Prain in Journ. As. Soc. Bengal 66: 508. 1898; Mimosa chundra Roxb. ex Rottl., in Ges. Naturf. Fr. Neue Schr. 4: 207. 1803; Mimosa sundra Roxb. Pl. Cor. 3; t. 225. 1819; Acacia sundra (Roxb.) DC. Prodr. 2: 458. 1825.

Habit: 9-10 m tall, armed trees with light black, irregularly fissured bark; young shoots pale to dark brown or almost black, glabrous, spines paired, straight from swollen triangular bases.

Phenology: FLS- August to October, FRS- September to December.

Sanskrit Name: Khadira, Gayatri.

Local Name: Khair.

Distribution and Status in the Study Area: Common at Pavijetpur range. Reported from Raipur Kundal, Satun, Chalamali, Koraj and Kadipani.

Distribution in Gujarat: Throughout, in deciduous forests, common; sparingly in scrub forests (Shah, 1978).

Local Uses: One of the important NTFP of the area explored. The 'Katha' from the wood is used in cough, ulcers, leprosy and other skin diseases. The decoction of the leaves is given in bronchitis.

Uses in other regions of Gujarat state: The bark yields tannin which is astringent and applied to boils and ulcers as antiseptic by the Maldhari community of Saurashtra (Shah, Menon and Gopal, 1981). Bhil and Nayaka tribe of North Gujarat use the wood for leucoderma. Paste of the wood is applied locally (Bhatt and Sabnis, 1987). Bark is used for tanning and dyeing purposes in Dharampur forest division (Reddy, 1989).

Nomenclature: Acacia ferruginea DC., Prodr. 2: 458. 1825; Baker in Hook. f. Fl. Brit. India. 2: 295. 1878; Cooke, Fl. Pres. Bombay 1: 477, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 282, 1978; Singh, et al., Fl. Maha. Dicot. 1:811. 2000; Mimosa ferruginea (DC.) Roxb., Fl. Ind. 2: 561. 1832 (non Rottler, 1803).

Habit: 10-12 m tall armed trees; bark dark brownish black, excorticating into irregular, rectangular scales.

Phenology: FLS and FRS- January to April.

Sanskrit Name: Somasara.

Local Name: Khaigad.

Distribution and Status in the Study Area: Occasional, collected from Ambadungar in Kawant range.

Distribution in Gujarat: Dangs, Vyara, Songadh, Panchmahals, North Gujarat (Modasa), Saurashtra and Kachchh; not common (Shah, 1978).

Local Uses: Pods are astringent. The gum from the bark is used as a tonic mix with water and honey.

Nomenclature: Acacia leucophloea (Roxb.) Willd., Sp. Pl. 4. 1083. 1806; Baker in Hook. f. Fl. Brit. India. 2: 294. 1878; Cooke, Fl. Pres. Bombay 1: 475, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 283, 1978; Singh, et al., Fl. Maha. Dicot. 1:811. 2000; Mimosa leucophloea Roxb., Pl. Corom. 2: 27. t. 150. 1798.

Habit: 5-7 m tall deciduous trees with spreading branches; bark greyish white and smooth in younger parts, blackish brown and rough, excorticating into irregular scales.

Phenology: FLS- May to July, FRS- August to December.

Sanskrit Name: Arimed, Irimed, Sveta-barbura, Vitkhadir.

Local Name: Herma.

Distribution and Status in the Study Area: Occasional in forests areas at Naswadi, Sakal, Pavi-jetpur and Ghantoli-songir.

Distribution in Gujarat: Throughout in plains (Shah, 1978).

Local Uses: Bark is astringent and its decoction is used to cure diabetes.

Nomenclature: Acacia nilotica (L.) Willd. ex Delile subsp. indica (Benth.) Brenan in Kew Bull. 12: 84. 1957; Baker in Hook. f. Fl. Brit. India. 2: 293. 1878; Cooke, Fl. Pres. Bombay 1: 472, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 283, 1978; Singh, et al., Fl. Maha. Dicot. 1:813. 2000; Acacia arabica var. indica Benth., Lond. J. Bot. 1: 500. 1842; Acacia nilotica var. indica (Benth.) Hill in Bot. Mus. Leaflet. Harvard Univ. 8: 9. 1940; Acacia arabica auct. non Willd.

Habit: A small tree, 3-5 m tall with spreading branches; trunk straight or crooked, with dark brown or black, irregularly longitudinally fissured bark.

Phenology: FLS- April to January, FRS- March to November.

Sanskrit Name: Babbula, Barburha, Abhal.

Local Name: Deshi bavadi.

Distribution and Status in the Study Area: Rather rare in the forest division except at Bhadurpur and Naswadi areas where it is quite frequent.

Distribution in Gujarat: Throughout in plains, more common in arid or semi-arid regions (Shah, 1978).

Local Uses: Tender leaves are useful in diarrhoea and dysentery. Bark is astringent and demulcent. The decoction of the bark is useful in diarrhoea and dysentery. The gum from the bark is also used as a remedy against diarrhoea and dysentery.

Uses in other regions of Gujarat state: The leaves and tender shoots are used as cattle fodder. It is also used as fuel. The fibers from the bark is locally used to tie grass load. The tender branches are used as toothbrushes (Saurashtra) (Shah, Menon and Gopal, 1981). Locally called as "Kala baval" in Dangs forest division. Tender shoots serve as toothbrushes. The plant yields gum, which is medicinally useful (Shah and Gopal, 1982). Locally called as "Baval" in Dharampur forest division. Wood is used for fuel wood and making agricultural implements. Tender branches is used as tooth brushes. Bark is used for tanning. Tender shoots is used as fodder (Reddy, 1989).

Nomenclature: Acacia pennata (L.) Willd., Sp. Pl. 4: 1090. 1806; Baker in Hook. f. Fl. Brit. India. 2: 297. 1878; Cooke, Fl. Pres. Bombay 1: 480, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 284, 1978; Singh, et al., Fl. Maha. Dicot. 1:813. 2000; Mimosa pennata L. Sp. Pl. 522. 1753.

Habit: Heavily armed, woody climbers; young branches pubescent, older ones glabrous, brown, shining; prickles sharp, hooked or straight.

Phenology: FLS- August to December, FRS- November to December.

Sanskrit Name: Ari, Khadirvallii, Valliikhadir.

Local Name: Chilmar.

Distribution and Status in the Study Area: Occasional at Kadipani, Moti Sadhli, Bordha, Kundal and Lachharas.

Distribution in Gujarat: Frequent in deciduous forests, sparingly seen in scrub forests (Shah, 1978).

Local Uses: The decoction of the leaves is used in indigestion. Bark decoction is used as remedy to cure intermittent fever.

Albizzia Durazz.

Nomenclature: Albizzia lebbeck (L.) Benth. in Hook. Lond. J. Bot. 3: 87. 1844; Baker in Hook. f. Fl. Brit. India. 2: 298. 1878; Cooke, Fl. Pres. Bombay 1: 481, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 287, 1978; Singh, et al., Fl. Maha. Dicot. 1:816. 2000; Mimosa lebbeck L. Sp. Pl. 516. 1753.

Habit: Unarmed trees, 10-15 m tall with spreading crown; bark greyish black or pale brown, irregularly fissured.

Phenology: FLS- March to June, FRS- October to June.

Sanskrit Name: Sirish, Shirisha, Mrudu-pushpa, Suktaru.

Local Name: Kado-siris.

Distribution and Status in the Study Area: Seen in the forests at Raipur Kundal, Pavi-jetpur range.

Distribution in Gujarat: Throughout in deciduous forests, sparingly seen in scrub forests; not common; also planted as an avenue tree (Shah, 1978).

Local Uses: Bark and seeds are given in diarrhoea and dysentery. Pods are used on boils and swellings. Poultice made out of bark is used in bone fractures.

Nomenclature: Albizzia odoratissima (L. f.) Benth. in Hook. Lond. J. Bot. 3: 88. 1844; Baker in Hook. f. Fl. Brit. India. 2: 299. 1878; Cooke, Fl. Pres. Bombay 1: 482, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 288, 1978; Singh, et al., Fl. Maha. Dicot. 1:817. 2000; Mimosa odoratissima L. f., Suppl. 437. 1781.

Habit: Upto 15 m tall deciduous trees with greyish white, smooth bark, trunk straight, branched from above the middle.

Phenology: FLS- March to June, FRS- September to February.

Sanskrit Name: Krishna-shirisha.

Local Name: Safed-siris.

Distribution and Status in the Study Area: Occasionally found at Turkheda, Adtia, Ranbhun, Gadola and Ghantoli-songir.

Distribution in Gujarat: In deciduous forests, occasional, sparingly seen in scrub forests (Shah, 1978).

Local Uses: Bark is used in leprosy and ulcers. Leaves are used in cough.

Uses in Other regions of Gujarat State: Locally called as "Gadad" by bhil tribal community of Ratanmahal forest division. Tribals here use the bark as fish poison (Bedi, 1979).

Nomenclature: Albizzia procera (Roxb.) Benth. in Hook. Lond. J. Bot. 3: 89. 1844; Baker in Hook. f. Fl. Brit. India. 2: 299. 1878; Cooke, Fl. Pres. Bombay 1: 482, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 288, 1978; Singh, et al., Fl. Maha. Dicot. 1:818. 2000; Mimosa procera Roxb., Pl. Corom. 2: 12, t. 121. 1798.

Habit: A small tree, 10-12 m tall; bark smooth, greenish white.

Phenology: FLS- April to June, FRS- September to February.

Sanskrit Name: Sveta-shirisha.

Local Name: Kinhai.

Distribution and Status in the Study Area: Occasional in the forests at Nani-sadhli, Jabugam, Dhandhoda, Kundal, Kadipani and Turkheda.

Distribution in Gujarat: In deciduous forests, less frequent than Albizzia odoratissima (Shah, 1978).

Local Uses: Leaves are applied externally to ulcerative perforations.

Mimosa Linn.

Nomenclature: Mimosa hamata Willd., Sp. Pl. 4: 1033. 1806; Baker in Hook. f. Fl. Brit. India. 2: 291. 1878; Cooke, Fl. Pres. Bombay 1: 471, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 290, 1978.

Habit: Erect, much branched, armed shrub with spreading, downy branches; bark cinnamon-brown, glabrous.

Phenology: FLS and FRS- August to November.

Local Name: Kaibaval.

Distribution and Status in the Study Area: Rare, seen only at Ghantoli-songir and Naswadi.

Distribution in Gujarat: Throughout in plains from Surat to Kachchh; common in arid and semi-arid zones (Shah, 1978).

Local Uses: The leaf paste is externally applied on cuts and wounds.

Pithecellobium Mart.nom.cons.

Nomenclature: Pithecellobium dulce (Roxb.) Benth. in Hook., Lond. J. Bot. 3: 199. 1844; Baker in Hook. f. Fl. Brit. India. 2: 302. 1878; Cooke, Fl. Pres. Bombay 1: 485, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 292, 1978; Singh, et al., Fl. Maha. Dicot. 1:828. 2000; Mimosa dulcis Roxb., Pl. Corom. 1. 67, t. 99. 1798.

Habit: An armed tree, 6-10 m tall; bark greyish black, rough, longitudinally fissured bark; thorns long, straight, ashy-white, smooth.

Phenology: FLS- December to March, FRS- March to May.

Local Name: Gorosamli.

Distribution and Status in the Study Area: A few plants are observed along road sides at Bordha and Jabugam.

Distribution in Gujarat: Throughout, in hedges, along railway lines and roadsides; native of Mexico (Shah, 1978).

Local Uses: The decoction of the bark and leaves are considered astringent, emollient and abortifacient. The juice of the fruits mixed with brinjal juice is applied externally on insect bite.

Uses in other regions of Gujarat state: The leaves are used as cattle fodder. The aril is edible (Saurashtra) (Shah, Menon and Gopal, 1981). Wood is used as fuel wood; seed aril is edible (Dharampur forest division) (Reddy, 1989).

Prosopis Linn.

Nomenclature: Prosopis cineraria (L.) Druce in Rep. Bot. Exch. Club Soc. Brit. Isles 1913: 3. 422. 1914; Baker in Hook. f. Fl. Brit. India. 2: 288. 1878; Cooke, Fl. Pres. Bombay 1: 467, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 292, 1978; Singh, et al., Fl. Maha. Dicot. 1:823. 2000; Mimosa cineraria L. Sp. Pl. 517. 1753; Prosopis spicigera L., Mant. Pl. 1710. 68. 1767.

Habit: An armed tree, 5-10 m tall, with spreading and at times pendent branches; bark rough, yellowish or greyish brown, cracked.

Phenology: FLS- October to March, FRS- March to August.

Sanskrit Name: Shami, Agnigarbha.

Local Name: Gando-bavad.

Distribution and Status in the Study Area: Seen at Ranbhun and Bhadurpur in bushes.

Distribution in Gujarat: Throughout in plains quite frequent in scrub forests (Shah, 1978).

Local Uses: Bark is used in rheumatism. Fruits pounded and mixed with sugar are taken during pregnancy for avoiding miscarriage.

Uses in other regions of Gujarat state: The tender leaves serves as good fodder for cattle in arid lands (Saurashtra) (Shah, Menon and Gopal, 1981).

COMBRETACEAE

A total of 7 species belonging to 3 different genera viz., Anogeissus, Combretum and Terminalia represents this family in the area.

Anogeissus (DC.) Guill Perr.et A. Rich.

Nomenclature: Anogeissus latifolia (Roxb. ex DC.) Wall. ex Guill. and Perr., Fl. Seneg. Tent. 7: 280. 1832; Anogeissus latifolia var. glabra in Hook. f. Fl. Brit. India. 2: 450. 1878; Anogeissus latifolia var. villosa in Hook. f. Fl. Brit. India. 2: 450. 1878; Cooke, Fl. Pres. Bombay 1: 512, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 297, 1978; Singh, et al., Fl. Maha. Dicot. 2:982. 2000; Scott in Kew Bull. 33: 560. 1979; Conocarpus latifolia Roxb. ex DC., Prodr. 3: 16. 1828.

Habit: 10-15 mt tall tree; bark smooth, greyish white or ash colored, peeling off in flakes/scales.

Phenology: FLS- May to October, FRS- September to December.

Sanskrit Name: Dhav, Dhava, Pisach-vriksha.

Local Name: Dhamdo.

Distribution and Status in the Study Area: Common throughout forest division, more frequent at Kevdi, Dolariya, Chhota-udepur, Bordha and Kadipani.

Distribution in Gujarat: Throughout in deciduous forests, common; in scrub forests not frequent in later habitat (Shah, 1978).

Local Uses: Important NTFP of the Chhota-udepur forest division. Bark is bitter and astringent and its extract is useful in leprosy. Bark decoction is given to cure cough and also to relieve abdominal pains.

Uses in other regions of Gujarat state: Locally called as "Dhamod" by the Maldhari community of Saurashtra. The pungent root decoction is said to be given in stomach-ache whereas the bark decoction is given in liver complaints (Shah, Menon and Gopal, 1981). The decoction of the root and stem bark is a mild laxative by the natives of Dangs forest division (Shah and Gopal, 1982). Wood being of superior quality is used in making agricultural implements. Root and bark extract is mild laxative. Bark is used for tanning (Reddy, 1989). Locally called as "Dhamado" in Dangs forest division (Waghai). The bark paste is externally applied on body pain and swellings by Kokna and Kunbi tribe (Maheshwari, Sikarwar and Painuli, 1994).

Combretum Loetl.nom.cons.

Nomenclature: Combretum ovalifolium Roxb., Fl. Ind. 2: 226. 1832; Hook. f. Fl. Brit. India. 2: 458. 1878; Cooke, Fl. Pres. Bombay 1: 515, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 299, 1978; Singh, et al., Fl. Maha. Dicot. 2:982. 2000; Combretum albidum G. Don in Trans. Linn. Soc. London. 15: 429. 1827.

Habit: A large, woody, deciduous climber; bark in older parts light black, irregularly fissured, peeling off into scales, in younger parts pale-yellowish-brown or straw colored, smooth; branches drooping or ascending.

Phenology: FLS- January to March, FRS- April to June.

Local Name: Madvel. **PLATE 34**

Distribution and Status in the Study Area: Occasional climber in forest division seen at Moti-sadhli, Panvad, Kadipani, Adtia and Ghantoli-songir.

Distribution in Gujarat: Throughout in the forests; seldom on hedges; common (Shah, 1978).

Terminalia Linn.nom.cons.

Nomenclature: Terminalia arjuna (Roxb. ex DC.) Wight and Arn., Prodr. 314. 1834; Hook. f. Fl. Brit. India. 2: 447. 1878; Cooke, Fl. Pres. Bombay 1: 509, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 300, 1978; Singh, et al., Fl. Maha. Dicot. 2:983. 2000; Pentaptera arjuna Roxb. ex DC., Prodr. 3: 14. 1828.

Habit: Deciduous tree upto 20 m with horizontally spreading branches; bark smooth, sandy brown, peeling off in large flat pieces.

Phenology: FLS and FRS- April to June.

Sanskrit Name: Arjun, Arjuna.

Local Name: Arjun-sadam.

Distribution and Status in the Study Area: Rare, few trees seen only at Chalamali village along road sides, range Pavi-jetpur. Only three plants seen.

Distribution in Gujarat: Rajpipla, Panchmahals, North Gujarat (Balaram-Ambaji) and Saurashtra; not frequent (Shah, 1978).

Local Uses: Bark is astringent and tonic. Bark decoction is useful in cleaning sores. The bark powder along with water is given in diarrhoea and dysentery. The bark cut into fine strips is applied on boils and wounds. The bark locally called as 'Arjun-chhal' yields very good market price.

Uses in other regions of Gujarat state: Timber is used for making agricultural implements (Dharampur forests) (Reddy, 1989). The bark paste is orally given in dysentery by Gamit tribe (Saputara) in Dangs forest division (Maheshwari, Sikarwar and Painuli, 1994).

Nomenclature: Terminalia bellirica (Gaertn.) Roxb., Pl. Corom. t. 198. 1805; Hook. f. Fl. Brit. India. 2: 445. 1878; Cooke, Fl. Pres. Bombay 1: 508, 1958 (Repr. ed)...; Shah, Fl. Guj. 1: 301, 1978; Singh, et al., Fl. Maha. Dicot. 2:983. 2000; Myrobalanus bellirica Gaertn., Fruct. 2: 90, t. 97, fig. a-d, 1791.

Habit: A large deciduous tree upto 15 mt; bark ash colored or greyish brown, longitudinally fissured.

Phenology: FLS- February to May, FRS- June to November.

Sanskrit Name: Bhivitak, Vibhitak, Karshaphala, Kalidrum, Bahiva.

Local Name: Beda. **PLATE 34**

PLATE 34



Combretum ovalifolium Roxb.
(Combretaceae) in fruiting.



Terminalia bellirica (Gaertn.)
Roxb. (Combretaceae) Planted at
forest nursery. Pavi-jetpur.

Distribution and Status in the Study Area: Occasionally seen in forests of Vagasthal, Nani-sadhli, Udhwania, Koraj and Panimines.

Distribution in Gujarat: Throughout in deciduous forests; occasional (Shah, 1978).

Local Uses: Fruits are bitter, astringent, tonic, laxative and antipyretic; used in piles, dropsy, diarrhoea, biliousness, dyspepsia and headache. Its bark along with the bark of Oroxylum indicum and Careya arborea is used in gastric pains. The bark decoction is also used in abdominal pains.

Uses in other regions of Gujarat state: Locally called as "Beda" in Saurashtra. The unripe fruits is purgative and it is one of the ingredients of the 'Churna trifala' which is a mild laxative. It is also said to be used in bronchitis and asthma (Shah, Menon and Gopal, 1981).

Nomenclature: Terminalia chebula Retz., Obs. Bot. 5: 31. 1789; Hook. f. Fl. Brit. India. 2: 446. 1878; Cooke, Fl. Pres. Bombay 1: 509, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 301, 1978; Singh, et al., Fl. Maha. Dicot. 2:983. 2000; Bedd., Fl. Sylv. t. 27. 1869.

Habit: A middle sized deciduous tree upto 10 mt.

Phenology: FLS- March to May, FRS- October to December.

Sanskrit Name: Haritaki, Abhaya, Shiva, Pathya, Avyatha.

Local Name: Hared.

Distribution and Status in the Study Area: Seen only in Naswadi range.

Distribution in Gujarat: Dangs, Vyara, Bansda, Rajpipla and Saurashtra (Girnar); occasional at Dangs; rare in other places (Shah, 1978).

Local Uses: Fruits are laxative, astringent, tonic and is used to treat chronic ulcers and bleeding. The fruit pulp is used in piles, acidity, diarrhoea, dysentery, asthma and hepatic disorders. Bark decoction is administered to relieve cardiac pains.

Uses in other regions of Gujarat state: Locally called as "Hirda" in Dangs forest division. The fruit powder is astringent in bleeding piles. It is also smoked to get relief in asthma (Shah and Gopal, 1982).

Nomenclature: Terminalia crenulata Roth, Nov. Pl. Sp. 380. 1821; Terminalia tomentosa (Roxb. ex DC.) Wight and Arn. var. crenulata (Roth) Clarke in Hook. f. Fl. Brit. India. 2: 448. 1878; Cooke, Fl. Pres. Bombay 1: 499, 1908 and 1: 510, 1958 (reprinted); Shah, Fl. Guj. 1: 302, 1978; Singh, et al., Fl. Maha. Dicot. 2:985. 2000.

Habit: A large deciduous tree; branches spreading, villous; bark greyish-black, rough, tessellated, peeling off in nearly rectangular scales.

Phenology: FLS and FRS- April to June.

Sanskrit Name: Saradru, Parthkakurth.

Local Name: Sadad.

Distribution and Status in the Study Area: Common in the whole forest division.

Distribution in Gujarat: In deciduous forests, common (Shah, 1978).

Local Uses: Bark is given in leucorrhoea. The bark juice is given in abdominal pains. Bark decoction is given in vomiting. Fresh leaves are given in dysentery. Bark powder is given or administered externally on burns and inflammations.

Uses in other regions of Gujarat state: Wood is a valuable timber and is used in tanning (Dharampur forests) (Reddy, 1989).

Nomenclature: Terminalia cattapa L., Syst. Nat. ed. 12. 2: 674. 1767; Hook. f. Fl. Brit. India. 2: 444. 1878; Cooke, Fl. Pres. Bombay 2: 511, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 301, 1978; Singh, et al., Fl. Maha. Dicot. 1:987. 2000.

Habit: 5-7 mt tall deciduous tree; bark dark-brown, longitudinally fissured.

Phenology: FLS- September, FRS- Almost throughout the year.

Local Name: Deshi-badam.

Distribution and Status in the Study Area: Occasional, planted at village outskirts, not found in wild.

Distribution in Gujarat: Planted in gardens and near houses (Shah, 1978).

Local Uses: The ripe fruits are edible.

Uses in Other regions of Gujarat State: The leaf juice is applied in cases of headache and skin diseases. The fruit juice is a cooling astringent (Dangs forest division) (Shah and Gopal, 1982).

MYRTACEAE

This family is represented in the area by a total of 4 species belonging to 3 different genera viz., Eucalyptus, Syzygium and Psidium.

Eucalyptus L'Her.

Nomenclature: Eucalyptus globulus Labill. Voy. 1: 153. t. 13, 1800; Bailey 729. Singh, et al., Fl. Maha. Dicot. 2:918. 2000.

Habit: A large tree, 8-12 mt tall with spreading, sometimes pendent branches; bark ash colored, smooth, peeling off in thin scales.

Phenology: FLS and FRS- December to February.

Sanskrit Name: Tailpatra.

Local Name: Nilgiri.

Distribution and Status in the Study Area: Planted in many ranges as Monoculture. More commonly found at Tejgadh village of Chhota-udepur range.

Distribution in Gujarat: Throughout, under plantation in forests; also in gardens (Patel, 1984).

Local Uses: Leaves after boiling in water are used for taking bath.

Psidium Linn.

Nomenclature: Psidium guajava L. Sp. Pl. 470. 1753; Hook. f. Fl. Brit. India. 2: 469. 1879; Cooke, Fl. Pres. Bombay 1: 529, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 302, 1978; Singh, et al., Fl. Maha. Dicot. 2: 988. 2000.

Habit: An evergreen tree; bark greyish brown or light black, rough, peeling off in large patches.

Phenology: FLS and FRS- March to April.

Sanskrit Name: Perukam, Mruduphalam, Drudhbijam.

Local Name: Jamrukh.

Distribution and Status in the Study Area: Planted at many villages in the forest division.

Distribution in Gujarat: Cultivated for edible fruits (Shah, 1978).

Local Uses: The fruits are edible.

Uses in other regions of Gujarat state: The fruits are edible. The leaf decoction is anti-dysentric and anti-diarrhoic. The jam is prepared from the ripe fruit pulp (Dangs forest division) (Shah and Gopal, 1982).

Syzygium Gaertn.nom.cons.

Nomenclature: Syzygium cumini (L.) Skeels, U.S.D.A. Bur. Pl. Industr. Bull. 248: 25. 1812; Hook. f. Fl. Brit. India. 2: 499. 1879; Cooke, Fl. Pres. Bombay 1: 523, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 303, 1978; Singh, et al., Fl. Maha. Dicot. 2:910. 2000; Myrtus cumini L. Sp. Pl. 471. 1753; Eugenia jambolana Lamk. Encycl. 3: 198. 1789.

Habit: A medium sized tree, 10-15 mt tall with spreading branches and straight trunk; bark grey to greyish brown, smooth.

PLATE 35



Careya arborea Roxb. (Lecythidaceae) Addition to the flora of Chhota-udepur forests division.



Close view of the fruits of Careya arborea Roxb. Note the distinct leaf shape of the tree species. Rare in Chhota-udepur forests.

Uses in other regions of Gujarat state: Fruits are edible (Dharampur forests) (Reddy, 1989). Locally called as "Jaljambu" in North Gujarat (Bhiloda, Vijaynagar forests, Bhil and Kathodia tribe). Bark decoction given for chronic dysentery; used in gargling sore mouth and spongy gums (Shah and Gopal, 1985). Locally called as "Nani Jambudi" in Dangs forests (Mahal). The bark extract is orally given in snake-bite (Maheshwari, Sikarwar and Painuli, 1994).

LECYTHIDACEAE

Only one species of the genus Careya, i.e. C. arborea is found in the area. It is reported from the area for the first time.

Careya Roxb.nom.cons.

Nomenclature: Careya arborea Roxb., Pl. Corom. 3: 14, Pl. 218. 1819; Hook. f. Fl. Brit. India. 2: 511. 1879; Cooke, Fl. Pres. Bombay 1: 528, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 304, 1978; Singh, et al., Fl. Maha. Dicot. 2:192. 2000.

Habit: Deciduous tree, upto 20 mt tall with rough dark brown bark. Leaves distinctive of this species.

Phenology: FLS- March to May, FRS- May to July.

Sanskrit Name: Kumbhika, Dirghaphala, Rajvriksha, Karnikar.

Local Name: Kumbi. **PLATE 35**

Distribution and Status in the Study Area: A new addition to the flora of Chhotadepur forest division. Not recorded by Thaker, Sabnis and Bedi (1968-69); Karatela (1973) and Thaker (1974). Rare in Kevdi forests. Solitary tree just outside forests guesthouse at Kevdi, more common in Dolariya range at Jamlidam.

Distribution in Gujarat: In forests of Bulsar, Dangs, Vansda and Vyara; not common (Shah, 1978).

Local Uses: Bark decoction is externally applied on wounds and boils. The juice of mature fruits along with bark is given in cough and cold. The bark powder is given as remedy against dysentery. Bark decoction is used to remove muscle stiffness.

Uses in other regions of Gujarat state: Locally called as "kunbi" by bhil community. Dry persistent calyx is used by the tribals to cure colds and coughs (Bedi, 1979). The infusion prepared from flowers is given to heal vaginal ruptures after child birth. The fruit decoction promotes digestion (North Dangs) (Shah and Gopal, 1982). Leaves are used as drinking cups (Dharampur forests) (Reddy, 1989). Locally called as

"Kumbhio" in Dangs forest division (Galkund). Bark paste is orally given as a remedy for cattle dysentery (Maheshwari, Sikarwar and Painuli, 1994).

LYTHRACEAE

A total of five species belonging to four different genera viz., Ammannia, Lagerstroemia, Lawsonia and Woodfordia represents this family in the area.

Ammannia Linn.

Nomenclature: Ammannia baccifera L. Sp. Pl. 120. 1753; Hook. f. Fl. Brit. India 2: 569. 1879; Cooke, Fl. Pres. Bombay 1: 541, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 306, 1978; Singh, et al., Fl. Maha. Dicot. 2:192. 2000.

Habit: An annual glabrous herb profusely branched from woody base.

Phenology: FLS and FRS- November to February.

Sanskrit Name: Jalagio, Agni-garbha.

Local Name: Jino agio. **PLATE 36**

Distribution and Status in the Study Area: Common, gregarious in riverbeds and margins of ponds and ditches at Chhota-udepur, Kawant, Mogra, Kadipani, Ambadungar, Nani and Moti Sadhli, Ranbhun, Naswadi and Raipur Kundal.

Distribution in Gujarat: Throughout in damp places; common, gregarious (Shah, 1978).

Local Uses: Leaves are used in pains, fever and skin diseases. The plant paste is used to cure skin ulcers. Crushed roots are applied to relieve bodyache.

Uses in other regions of Gujarat state: The leaf juice is used to raise blisters which then help to relieve rheumatic and gout pains by the Maldhari community of Saurashtra (Shah, Menon and Gopal, 1981).

Lagerstroemia Linn.

Nomenclature: Lagerstroemia lanceolata Wall. Cat. 2120. 1829 (nomen) ex W. and A., Prodr. 309. 1834; Hook. f. Fl. Brit. India. 2: 576, 1874; Cooke, Fl. Pres. Bombay. 1: 545, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 308, 1978. Sharma, et al., Fl. Maha. Dicot. 2:932. 2000.

Habit: A deciduous tree, 12-15 mt tall with ash colored or pale brown bark.

Phenology: FLS- April to July, FRS- July to December.

Local Name: Nanu-bondoro.

Distribution and Status in the Study Area: Occasional at Chhota-udepur, Kadipani, Adtia, Satun, Raipur Kundal and Ghantoli-songir.

Distribution in Gujarat: In deciduous forests, but not common (Shah, 1978).

Nomenclature: Lagerstroemia parviflora Roxb., Pl. Corom. 1: 47, t. 66. 1795; Hook. f. Fl. Brit. India. 2: 575. 1879; Cooke, Fl. Pres. Bombay 1: 545, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 308, 1978; Singh, et al., Fl. Maha. Dicot. 2:932. 2000.

Habit: A medium sized tree upto 8 mt tall; bark greyish brown, rough, deeply irregularly fissured, exfoliating into narrow longitudinal flakes; young shoots 4-gonous and winged.

Phenology: FLS and FRS- January to April.

Local Name: Bhondaro.

Distribution and Status in the Study Area: Occasionally seen in forests of Saidivasan, Bordha, Kadipani, Adtia, Jamlidam and Ghantoli-songir.

Distribution in Gujarat: In deciduous forests of South and Central Gujarat; frequent (Shah, 1978).

Local Uses: The powder of the leaves is applied on skin diseases.

Uses in other regions of Gujarat state: Locally called as "Nano bondaro" in Dharampur forest division. Timber is used for building and tanning purposes (Reddy, 1989). Locally called as "Bondaro" in Dangs forests (Ahwa). The seed paste is externally applied on small pox by Warli and Gamit tribe (Maheshwari, Sikarwar and Painuli, 1994).

Lawsonia Linn.

Nomenclature: Lawsonia inermis L. Sp. Pl. 349. 1753; Hook. f. Fl. Brit. India. 2: 573. 1879; Cooke, Fl. Pres. Bombay 1: 544, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 309, 1978; Singh, et al., Fl. Maha. Dicot. 2:49. 2000; Lawsonia alba Lamk., Ill. t. 296. f. 2. 1792.

Habit: 2-4 mt tall bushy shrubs with greyish white, smooth bark. Ultimate branches opposite, 4-gonous, ending in a spinous tip.

Phenology: FLS and FRS- October to December.

Sanskrit Name: Madyantika, Ragangi.

Local Name: Mendhi.

Distribution and Status in the Study Area: Common, planted as hedges throughout the forest division.

Distribution in Gujarat: Planted as an hedge plant; at times escape (Shah, 1978).

Local Uses: Leaves are used for tattoos.

Uses in other regions of Gujarat state: The leaf powder is used to dye hair, nails, palms and feet by the local Maldhari community of Saurashtra (Shah, Menon and Gopal, 1981).

Woodfordia Salisb.

Nomenclature: Woodfordia fruticosa (L.) Kurz in J. Asiat. Soc. Beng. 40: 56. 1871; Hook. f. Fl. Brit. India. 2: 872. 1879; Cooke, Fl. Pres. Bombay 1: 543, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 311, 1978; Singh, et al., Fl. Maha. Dicot. 2:39. 2000; Lythrum fruticosum L. Syst. ed. 10: 1045. 1759; Woodfordia floribunda Salisb., Parad. Lond. t. 42. 1806.

Habit: A straggling, deciduous shrub, 1.5 to 4.0 mt tall; bark brown faintly fissured.

Phenology: FLS and FRS- January to June.

Sanskrit Name: Dhataki, Madkara, Tamrapushpi, Vyahi-jvala.

Local Name: Dhavdi.

Distribution and Status in the Study Area: Frequent in forests, at times on river slopes at Sadhli, Kawant, Kevdi, Naswadi, Kundal and Koraj.

Distribution in Gujarat: Throughout, on rock cuttings and river slopes, rarely in hedges; not common (Shah, 1978).

Local Uses: The flowers are astringent used in dysentery and liver disorders. Decoction of the leaves is useful in wounds and ulcers. The decoction of the fruit is given in leucorrhoea. Paste of the young branches are given internally as an antidysentric.

Uses in other regions of Gujarat state: Locally called as "Dhaiti" in North Dangs. The crushed flowers are applied on bruises and leaf paste on head because of its cooling effect (Shah and Gopal, 1982). Locally called as "Dhayati". Leaves is used for tanning. Flowers yield red dye, sometimes used as vermillion (Reddy, 1989). The flower paste is orally taken in menstrual disorders by the Kunbi tribal women in Dangs forests (Maheshwari, Sikarwar and Painuli, 1994).

PUNICACEAE

Under this family one species of the genus Punica, i.e. P. granatum has been observed in the area.

Punica Linn.

Nomenclature: Punica granatum L. Sp. Pl. 472. 1753; Hook. f. Fl. Brit. India. 2: 581. 1879; Cooke, Fl. Pres. Bombay 1: 548, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 312, 1978; Singh, et al., Fl. Maha. Dicot. 2:42. 2000.

Habit: A large shrub or small tree with cinnamon-brown bark.

Phenology: FLS and FRS- April to September.

Sanskrit Name: Dadim, Karak, Lohitpushpak.

Local Name: Dadam.

Distribution and Status in the Study Area: Often planted or self-sown at villages in division.

Distribution in Gujarat: Cultivated, probably a native of Persia, Afghanistan and Baluchistan (Shah, 1978).

Local Uses: Cultivated by the locals for its edible fruits.

Uses in other regions of Gujarat state: The juice of the fruit rind alongwith curd is given in diarrhoea. The root bark is said to be specific against tape worms (Shah, Menon and Gopal, 1981).

ONAGRACEAE

This family is represented in the area by one species of the genus Ludwigia, i.e. L. octavalvis.

Ludwigia Linn.

Nomenclature: Ludwigia octavalvis (Jacq.) Raven in Kew Bull. 15: 476. 1962 et in Reinwardtia 6: 362, f. 3. 1963, inclu. ssp. brevisepala (Brenan) Raven and ssp. sessiliformis (Mich.) Raven in Steenis, Fl. Males. 1. 8: 101. 1977; Hook. f. Fl. Brit. India. 2: 587. 1879; Cooke, Fl. Pres. Bombay 1: 549, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 313, 1978; Singh, et al., Fl. Maha. Dicot. 2:44. 2000; Jussiaea suffruticosa L. Sp. Pl. 1: 388. 1753; Oenothera octavalvis Jacq., Enum. Syst. Pl. 19. 1760.

Habit: Erect or diffuse, pubescent to villous or nearly glabrous mostly branched, suffrutescent herbs, 20-30 cm tall; stem and branches slightly winged, obscurely 4-gonous, rooting at basal nodes.

Phenology: FLS and FRS- August to January.

Local Name: Pan-lang.

Distribution and Status in the Study Area: Rare, a few plants are observed in damp places along ditches at Chhota-udepur.

Distribution in Gujarat: Throughout, a weed in cultivated fields and moist grounds, common (Shah, 1978).

CARICACEAE

One species of the genus Carica, i.e. C. papaya represents this family in the study area.

Carica Linn.

Nomenclature: Carica papaya L. Sp. Pl. 1036. 1753; Hook. f. Fl. Brit. India. 2: 599. 1879; Cooke, Fl. Pres. Bombay 1: 557, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 315, 1978; Singh, et al., Fl. Maha. Dicot. 2:50. 2000.

Habit: A deciduous tree, soft wooded upto 6 mt tall; stem simple, cylindrical with scars of fallen leaves; bark greenish white, corky.

Phenology: FLS and FRS- Almost throughout the year.

Sanskrit Name: Arundkarkati, Arundchirbat.

Local Name: Papayu.

Distribution and Status in the Study Area: Planted or self-sown in the area.

Distribution in Gujarat: Cultivated, native of tropical America (Shah, 1978).

Local Uses: The ripe fruits are edible.

Uses in other regions of Gujarat state: The raw fruits are pickled and employed in making meat tender. The milky juice is applied on ringworms and the ripe fruit is sweet and tasty (Shah, Menon and Gopal, 1981). The raw fruits are pickled or consumed as a vegetable. They increase sexual vitality. The milky latex acts efficiently on ringworms and as an abortifacient (Dangs forests) (Shah and Gopal, 1982). Seed powder has anthelmintic properties (North Gujarat; Bhil and Dungrabhil tribe) (Shah and Gopal, 1985).

CUCURBITACEAE

A total of 16 species belonging to 11 different genera represents this family in the area.

Citrullus Schrad. nom. cons

Nomenclature: Citrullus colocynthis (L.) Schrad., in Linnaea 12: 414. 1838; Hook. f. Fl. Brit. India. 2: 620, 1874; Cooke, Fl. Pres. Bombay. 1: 571, 1958 (Repr. ed).;

Shah, Fl. Guj. 1: 318, 1978. Singh, et al., Fl. Maha. Dicot. 2:53. 2000; Ch and O 110; S and B 24; Cucumis colocynthis L. Sp. Pl. 1011. 1753; Colocynthis vulgaris Schrad. Ind. Sem. Goett. 2: 1833; Chakravarty in Rec. Bot. Surv. Ind. 17: 113. 1959.

Habit: Perennial, slender, prostrate, much branched, scabridly hairy herbs with angled stem and branches and simple or bifid tendrils.

Phenology: FLS and FRS- August to May.

Sanskrit Name: Indravaruni, Vishala, Gavakshi, Gavadini, Mahendravaruni.

Local Name: Kadva karingda. **PLATE 36**

Distribution and Status in the Study Area: Occasionally found along hedges in waste places and along dry riverbeds at Chhota-udepur and Pavi-jetpur ranges.

Distribution in Gujarat: Throughout in plains, in small or large patches, as a weed in waste places and cultivated fields, common (Shah, 1978).

Local Uses: The ripe fruit paste mixed with Wheat and Maize flour is used for ethnoveterinary purposes especially in cows.

Uses in other regions of Gujarat state: The fruits and seeds are very bitter and their powder is a purgative (Saurashtra) (Shah, Menon and Gopal, 1981).

Nomenclature: Citrullus lanatus (Thunb.) Matsumura and Nakai in Cat. Sem. Hort. Bot. Univ. Imp. Tokyo. 38. 1920; Hook. f. Fl. Brit. India. 2: 621. 1879; Cooke, Fl. Pres. Bombay 1: 571, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 318, 1978; Singh, et al., Fl. Maha. Dicot. 2:71. 2000; Hara in Taxon. 18: 346. 1969; Momordica lanata Thunb., Prodr. Fl. Cap. 13. 1794 et Fl. Cap. 36. 1807; Citrullus vulgaris Schrad. ex. Eckl. and Zeyher, Enum. Pl. Afr. Austr. 279. 1834.

Habit: Annual, prostrate or suberect, softly appressed or hairy herbs with angular and fistular stem.

Phenology: FLS and FRS- March to November.

Local Name: Tadbuch.

Distribution and Status in the Study Area: Occasionally seen as a road side weed, often cultivated in dry riverbeds at Ghelvant and Ambadungar.

Distribution in Gujarat: Cultivated in riverbeds at some places; also as an escape in waste places (Shah, 1978).

Local Uses: Cultivated by the locals along dry riverbanks for its fruits.

Uses in other regions of Gujarat state: Ripe fruits are eaten by the natives of Dharampur forests (Reddy, 1989).

Coccinia Wt.et.Arn.

Nomenclature: Coccinia grandis (L.) Voigt, Hort. Suburb. Cak. 59. 1845; Hook. f. Fl. Brit. India. 2: 621. 1879; Cooke, Fl. Pres. Bombay 1: 572, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 319, 1978; Singh, et al., Fl. Maha. Dicot. 2: 65. 2000; Chakravarty in Fasc. Fl. Ind. 11: 24. 1982; Coccinia cordifolia Cogn. In DC., Mon. Phan. 3: 529. 1881, excl. basionym; Bryonia grandis L., Mant. Pl. 1: 126. 1767; Coccinia medica Wight and Arn., Prodr. 347. 1834; Cephalandra indica Naud. In Ann. Sci. Nat. (ser. 5) 5: 16. 1886.

Habit: Slender, perennial, dioecious, glabrous climbers; tendrils simple and striate.

Phenology: FLS and FRS- Almost throughout the year.

Sanskrit Name: Bimba.

Local Name: Giloda.

Distribution and Status in the Study Area: A weed on hedges near human habitation at Ghelvant, Naswadi, Nani-sadhli, Kawant and Lachharas.

Distribution in Gujarat: Cultivated, also as an escape or naturalized near human habitations (Shah, 1978).

Local Uses: The leaf juice and roots are used in diabetes. The root powder is given in fever.

Uses in other regions of Gujarat state: Locally called as "Gilodi/Tindori" in Ratanmahal forest division. Leaf juice is said to be useful for diabetes (Bedi, 1979). Locally called as "Chiloda" in Saurashtra (Maldhari community). The unripe berries are used as a vegetables. The mucilage from the young fruits and roots is said to be used in diabetes (Shah, Menon and Gopal, 1981). Locally called as "Tondli" in Rajpipla forest division (Vasava tribe). Fruit juice applied externally for two hours in a day will relieve from acute cough and cold (Shah and Gopal, 1986). Raw tender fruits are used as vegetable (Reddy, 1989).

Corallocarpus Welw.

Nomenclature: Corallocarpus epigeus (Arn.) Cl., in Hook. f. Fl. Brit. India. 2: 628, 1879; Cooke, Fl. Pres. Bombay. 1: 578, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 320, 1978; Singh, et al., Fl. Maha. Dicot. 2: 54. 2000; S and B 25; Aechmandra epigaea Arn., in Hk. Journ. Bot. 3: 274. 1841.

Habit: Prostrate or climbing, monoecious glabrous herbs. Often found as a climber on Euphorbia neriifolia and Euphorbia nivulia.

Phenology: FLS and FRS- June to October.

Sanskrit Name: Katunahi.

Local Name: Marchi vel.

Distribution and Status in the Study Area: On Euphorbia hedges at Pavi-jetpur range.

Not common. **PLATE 36**

Distribution in Gujarat: Kachchh and Saurashtra, on hedges; Saxton (1918) reports it as a weed in cultivated fields in North Gujarat (Shah, 1978).

Cucumis Linn.

Nomenclature: Cucumis callosus (Rottl.) Cogn. In Engl., Pflanzenr. 99: 129. 1924; Hook. f. Fl. Brit. India. 2: 619. 1879; Cooke, Fl. Pres. Bombay 1: 569, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 322, 1978; Singh, et al., Fl. Maha. Dicot. 2:56. 2000; Bryonia callosa Rottl., Neue. Schrift. Ges. Nat. Freunde Zu Berlin 4: 210. 1803; Cucumis trigonus Roxb., Fl. Ind. 2: 722. 1824.

Habit: A perennial, prostrate, scabrid herb, with angled, deeply channeled stem and branches; tendrils simple, glabrous, terete and grooved.

Phenology: FLS and FRS- July to February.

Sanskrit Name: Vishola.

Local Name: Kothimdu.

Distribution and Status in the Study Area: A road side weed, at times met with in some of the areas explored. Kadipani, Sadhli, Naswadi, Nani-sadhli and Ranbor villages.

Distribution in Gujarat: Throughout, a common weed in waste places and cultivated fields; seldom in dense forests (Shah, 1978).

Local Uses: The fruit pulp is bitter and purgative. The root decoction is given in bilious disorders.

Uses in other regions of Gujarat state: Locally called as "Kothimbdu" in Dharampur forest division. Unripe fruits are used as vegetable (Reddy, 1989).

Nomenclature: Cucumis melo L. Sp. Pl. 1011. 1753; Hook. f. Fl. Brit. India. 2: 620. 1879; Cooke, Fl. Pres. Bombay 1: 570, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 322, 1978; Singh, et al., Fl. Maha. Dicot. 2:56. 2000; Cucumis melo var. culta kurz in J. Asia. Soc. Beng. 46 (2): 102. 1877.

Habit: Prostrate, monoecious herbs.

Phenology: FLS and FRS- September to November.

Sanskrit Name: Vretuvaru, Shedrekha.

Local Name: Sakadteti.

Distribution and Status in the Study Area: Cultivated at few a villages in the division.

Distribution in Gujarat: Cultivated in riverbeds at some places; also as an escape (Shah, 1978).

Nomenclature: Cucumis sativus L. Sp. Pl. 1012. 1753; Hook. f. Fl. Brit. India. 2: 620. 1879; Cooke, Fl. Pres. Bombay 1: 570, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 323, 1978; Singh, et al., Fl. Maha. Dicot. 2:72. 2000.

Habit: Scabrous, annual herbs; tendrils pale green, striate, slender, simple.

Phenology: FLS and FRS- November to December.

Sanskrit Name: Avaru, Karkati.

Local Name: Kakdi.

Distribution and Status in the Study Area: A small patch seen among grasses on the top of Dholadungar hills at Kevdi forests. Also cultivated by the locals.

Distribution in Gujarat: Cultivated, also as escape (Shah, 1978).

Local Uses: Cultivated for its edible fruit.

Cucurbita Linn.

Nomenclature: Cucurbita maxima Duch. ex Lamk., Encycl. 2: 151. 1786; Hook. f. Fl. Brit. India. 2: 622. 1879; Cooke, Fl. Pres. Bombay 1: 582, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 324, 1978; Singh, et al., Fl. Maha. Dicot. 2:73. 2000.

Habit: Annual, climbing or prostrate, villous herbs with stout fistular stem and branches.

Phenology: FLS and FRS- September to December.

Sanskrit Name: Madhuralabu, Bhaksyalabu.

Local Name: Kodu. **PLATE 36**

Distribution and Status in the Study Area: Cultivated also as an escape in the area.

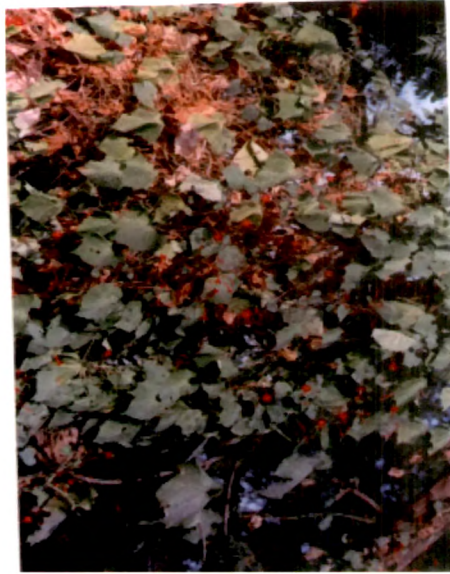
Distribution in Gujarat: Cultivated; seldom an escape near human habitation (Shah, 1978).

Local Uses: Commonly cultivated on the riverbanks for its edible fruits which are as vegetable.

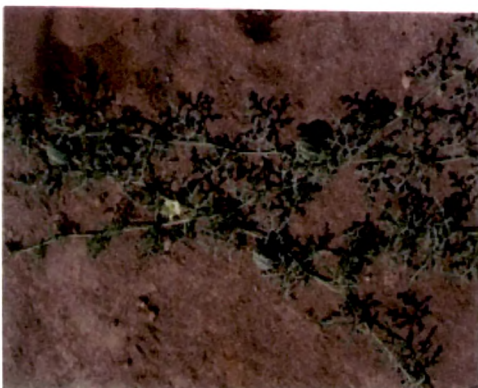
PLATE 36



Ammannia baccifera Linn.
(Lythraceae) Common
element of vegetation along
riverbanks.



Cucurbita maxima Buch.
(Cucurbitaceae) in flowering.
Common hedge plant of the
area.



Citrullus colocynthis (Linn.) Schrad.
(Cucurbitaceae) Ethnoveterinary
plant used by the locals.



Corallocarpus epigeus
(Arn) Cl. (Cucurbitaceae) In
fruiting.

Diplocyclos (Endl.) Von Post. et. Kuntze.

Nomenclature: Diplocyclos palmatus (L.) Jeffrey in Kew Bull. 15: 352. 1962; Cooke, Fl. Pres. Bombay 1: 554, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 325, 1978; Singh, et al., Fl. Maha. Dicot. 2:58. 2000; Bryonia palmatus L. Sp. Pl. 1: 1012. 1753.

Habit: Herbaceous, slender, extensive, monoecious, glabrous climber.

Phenology: FLS- August to December, FRS- September to December.

Sanskrit Name: Bahupatra.

Local Name: Langadiu.

Distribution and Status in the Study Area: Occasional twiner found at Kadipani, Ambadungar and Juna Chhota-udepur.

Distribution in Gujarat: Throughout on hedges; common (Shah, 1978).

Local Uses: The plant is used in bilious attack, intermittent fever, inflammation and swellings. Seeds are roasted and given to women for increasing sexual potential.

Lagenaria Scr.

Nomenclature: Lagenaria siceraria (Molina) Standl. In Publ. Field. Mus. Nat. Hist. Chicago, Bot. Ser. 3: 435. 1930; Hook. f. Fl. Brit. India. 2: 613. 1879; Cooke, Fl. Pres. Bombay 1: 581, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 325, 1978; Singh, et al., Fl. Maha. Dicot. 2:74. 2000; Cucurbita siceraria Molina, Sagg. Stoia Nat. Chile 133. 1782; Lagenaria vulgaris Ser. In Mem. Soc. Phys. Geneve 3(i): 25, t. 2. 1825; Cucurbita lagenaria L. Sp. Pl. 1010. 1753.

Habit: A stout, climbing or trailing, villous herb with two-fid tendrils.

Phenology: FLS and FRS- September to November.

Sanskrit Name: Tiktabija, Mahaphala, Pindphala, Alabu, Katakulabu, Ishwaku.

Local Name: Dudhi.

Distribution and Status in the Study Area: Cultivated at some places for fruits.

Distribution in Gujarat: Cultivated (Shah, 1978).

Local Uses: Cultivated.

Uses in other regions of Gujarat state: The fresh fruit is a common vegetable in Dangs forest division. The dried one is used as a float by swimmers and fishermen (Shah and Gopal, 1982).

Luffa Mill.

Nomenclature: Luffa acutangula (L.) Roxb., Fl. Ind. 3: 713. 1832; Hook. f. Fl. Brit. India. 2: 615. 1879; Cooke, Fl. Pres. Bombay 1: 567, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 326, 1978; Singh, et al., Fl. Maha. Dicot. 2:60. 2000; Cucumis acutangula L. Sp. Pl. 1: 1011. 1753.

Habit: Annual, climbing herbs; stem pale-green, glabrous, obscurely angular, faintly furrowed; tendrils trifid.

Phenology: FLS- July to October, FRS- August to January.

Sanskrit Name: Jalani, Mrudagphala, Koshataki.

Local Name: Jangli-turiya.

Distribution and Status in the Study Area: Commonly cultivated for its fruits, used as vegetables at Bordha and Turkheda.

Distribution in Gujarat: Throughout on hedges and on low bushes or trees in forests; common and abundant (Shah, 1978).

Local Uses: Cultivated near habitation.

Uses in other regions of Gujarat state: Locally called as "Dodka" in Dangs forest division. The tender fruits are consumed as vegetable (Shah and Gopal, 1982). Locally called as "Turiya" in Dharampur forest division. Tender fruits are eaten as vegetable (Reddy, 1989).

Nomenclature: Luffa cylindrica (L.) M. Roem., Syn. Pepon. 63. 1846; Cooke, Fl. Pres. Bombay 1: 565, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 327, 1978; Singh, et al., Fl. Maha. Dicot. 2:74. 2000; Momordica cylindrica L. Sp. Pl. 1009. 1753; Luffa aegyptiaca Mill., Gard. Dict. ed. 8, 4: 500. 1768; Luffa clavata Roxb., Fl. Ind. 3: 714-715. 1832.

Habit: Monoecious, slender, climbing, glabrous herbs.

Phenology: FLS and FRS- October.

Sanskrit Name: Devdali, Jimutak, Garagari, Devtadak, Gudjari, Rajkoshataki.

Local Name: Kukad vel.

Distribution and Status in the Study Area: Cultivated at Vagasthal and Naswadi.

Distribution in Gujarat: Cultivated (Shah, 1978).

Local Uses: Cultivated and consumed as vegetable by the locals.

Momordica Linn.

Nomenclature: Momordica charantia L. Sp. Pl. 1009. 1753; Hook. f. Fl. Brit. India. 2: 616. 1879; Cooke, Fl. Pres. Bombay 1: 562, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 329, 1978; Singh, et al., Fl. Maha. Dicot. 2:74. 2000.

Habit: Slender herbs, climbing or trailing, hairy, villous in younger parts.

Phenology: FLS and FRS- August to October.

Sanskrit Name: Karavel, Karavellii.

Local Name: Karela.

Distribution and Status in the Study Area: Cultivated, at times an escape in waste places along roadsides on hedges.

Distribution in Gujarat: Throughout under cultivation or an escape (Shah, 1978).

Local Uses: The raw fruits are made into a vegetable by the locals.

Uses in other regions of Gujarat state: The unripe fruits are used as vegetable. The root and fruit are said to be effective in rheumatism. The persistent use of bitter unripe fruits, alongwith other precautionary measures seems to control diabetes (Saurashtra) (Shah, Menon and Gopal, 1981).

Nomenclature: Momordica dioca Roxb. ex Willd., Sp. Pl. 4: 605. 1805; Hook. f. Fl. Brit. India. 2: 617. 1879; Cooke, Fl. Pres. Bombay 1: 563, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 329, 1978; Singh, et al., Fl. Maha. Dicot. 2:63. 2000.

Habit: A perennial, glabrous, diffuse or climbing herb, with simple tendrils.

Phenology: FLS and FRS- July to November.

Sanskrit Name: Vahishi, Kakortak, Kakortaki.

Local Name: Kankado.

Distribution and Status in the Study Area: Common during monsoon months at Chhota-udepur, Sadhli, Adtia, Panvad, Vagasthal and Kadipani.

Distribution in Gujarat: Throughout on hedges and low shrubs and herbs in the forests (Shah, 1978).

Local Uses: Roots are used in urinary complaints, bovel affections and as a sedative in fever.

Uses in other regions of Gujarat state: Locally called as "Vanz Kantoli" by the Maldhari community of Saurashtra. The unripe fruit is one of the monsoon vegetable

(Shah, Menon and Gopal, 1981). Raw fruit are eaten as vegetable by the tribals of Dharampur forest division (Reddy, 1989).

Mukia Arn.

Nomenclature: Mukia maderaspatana (L.) M. Roem. Syn. Pep. 47. 1846; Hook. f. Fl. Brit. India. 2: 623, 1879; Cooke, Fl. Pres. Bombay 1: 573; Shah, Fl. Guj. 1: 330, 1978. Singh, et al., Fl. Maha. Dicot. 2:65. 2000; Cucumis maderaspatana L. Sp. Pl. 1912. 1753; Mukia scabrella Arn. in Hk. Journ. Bot. 3: 276. 1841; Melothria maderaspatana Cogn., in DC. Mon. Phan 3: 623. 1881; Ch and O 112.

Habit: Scabridly hairy annuals, climbing or trailing.

Phenology: FLS and FRS- September to November.

Local Name: Chana-chibdi.

Distribution and Status in the Study Area: Occasional on hedges at Chhota-udepur and Kadipani.

Distribution in Gujarat: Throughout, on hedges or on low herbs or shrubs; common (Shah, 1978).

Local Uses: Young shoots and leaves are used as remedy for toothache.

Uses in other regions of Gujarat state: Fruit juice is used as fish poison. Ripe fruits are eaten by tribals of Dharampur forest division (Reddy, 1989).

Trichosanthes Linn.

Nomenclature: Trichosanthes cucumerina L. Sp. Pl. 1008. 1753; Hook. f. Fl. Brit. India. 2: 609. 1879; Cooke, Fl. Pres. Bombay 1: 560, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 332, 1978; Singh, et al., Fl. Maha. Dicot. 2:66. 2000.

Habit: An annual, monoecious, slender twiner with trifid tendrils, hairy in younger parts, glabrous in older.

Phenology: FLS and FRS- July to October.

Sanskrit Name: Tikotam, Mahakala, Patola, Katupatol.

Local Name: Jangli-parvar.

Distribution and Status in the Study Area: Common on hedges at Chhota-udepur, Juna Chhota-udepur, Ambadungar and Pavi-jetpur.

Distribution in Gujarat: Throughout; common on hedges and in forests (Shah, 1978).

Local Uses: Plant is used in leucoderma and skin diseases. Root decoction is given as cardiac tonic.

BEGONIACEAE

One species of the genus Begonia, i.e. B. crenata has been observed in the area.

Begonia Linn.

Nomenclature: Begonia crenata Dryand., in Trans. Linn. Soc. 162. t. 14. 1791; Hook. f. Fl. Brit. India. 2: 651, 1879; Cooke, Fl. Pres. Bombay 1: 584, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 333, 1978. Singh, et al., Fl. Maha. Dicot. 2:78. 2000.

Habit: 10-15 cm tall herb with slender glabrous stem.

Phenology: FLS and FRS- September to October.

Distribution and Status in the Study Area: Rare, found once at Mogra and Marchipani.

Distribution in Gujarat: So far reported only from Central Gujarat; rare (Shah, 1978).

CACTACEAE

This family is represented in the area by one species of the genus Opuntia, i.e. Opuntia elatior.

Opuntia Mill.

Nomenclature: Opuntia elatior Mill., Gard. Dict. ed. 8. n. 4. 1768; Hook. f. Fl. Brit. India. 2: 657. 1879; Cooke, Fl. Pres. Bombay 1: 590, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 333, 1978; Singh, et al., Fl. Maha. Dicot. 2:84. 2000; Opuntia dillenii auct. [non (Ker-Gawler) How. 1819].

Habit: 90-100 cm tall shrubs with jointed stem.

Phenology: FLS and FRS- November to March.

Sanskrit Name: Nagphani.

Local Name: Phafda-thor. **PLATE 37**

Distribution and Status in the Study Area: A hedge plant, more common in Pavijetpur range.

Distribution in Gujarat: Freuqently raised as hedge along cultivated fields; in scrub forests as escape (Shah, 1978).

Local Uses: Planted along roadside hedges and also as fencing for agricultural fields.

Uses in other regions of Gujarat state: The plant is used as hedge and at times as fodder after scrapping of spines by the Maldhari community of Saurashtra (Shah, Menon and Gopal, 1981). Locally called as "Hathlo" in North Gujarat (Idar and Bhiloda forests; Bhil and Kathodia tribe). Warm poultice of longitudinally cut stem

pieces mixed with turmeric powder applied to local swellings and muscular pains (Shah and Gopal, 1985). Ripe fruits are eaten (Dharampur forests) (Reddy, 1989).

MOLLUGINACEAE

Two species belonging to two different genera Glinus and Mollugo represents this family in the area. They are G. oppositifolius and M. pentaphylla respectively.

Glinus Linn.

Nomenclature: Glinus oppositifolius (L.) A. DC. In Bull. Herb. Boiss. Ser. 2, 1: 552. 1901; Cooke, Fl. Pres. Bombay 1: 593, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 335, 1978; Singh, et al., Fl. Maha. Dicot. 2:93. 2000; Mollugo oppositifolia L. Sp. Pl. 89. 1753; Mollugo spargula: Syst. ed. 10. 881. 1759; Mollugo verticillata Roxb., Fl. Ind. 1: 360. 1832 (non. L.); Mollugo erecta. Burm. f., Fl. Ind. 32. 1768; Pharmaceum mollugo (L.) Roxb., Fl. Ind. ed. Carey 2: 102. 1832.

Habit: Diffuse, glabrous herbs with 10-15 cm long radially spreading branches.

Phenology: FLS and FRS- September to December.

Sanskrit Name: Phaniija, Grishma sundarakha.

Local Name: Kadvo-okardo.

Distribution and Status in the Study Area: In drying cultivated fields, moist places along margins of ditches and in riverbeds at Chhota-udepur, Gabadia, Ganthia, Lachharas and Boriyad.

Distribution in Gujarat: Throughout in drying moist ground; common (Shah, 1978).

Local Uses: The plant extract is used in itching and skin diseases.

Uses in other regions of Gujarat state: The plant juice is applied on skin diseases by the local Maldhari community of Saurashtra (Shah, Menon and Gopal, 1981).

Mollugo Linn.

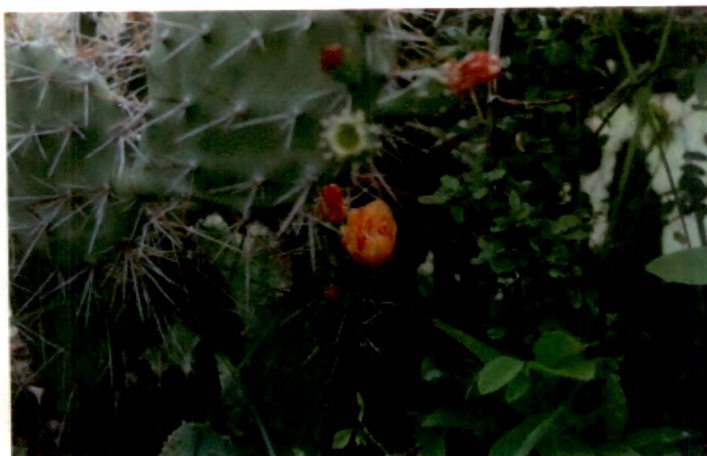
Nomenclature: Mollugo pentaphylla L. Sp. Pl. 89. 1753; Hook. f. Fl. Brit. India. 2: 663. 1879; Cooke, Fl. Pres. Bombay 1: 594, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 336, 1978; Singh, et al., Fl. Maha. Dicot. 2:94. 2000; Mollugo pentaphylla var. stricta (L.) Hochr. In Candollea 2: 356. 1925; Mollugo stricta L. Sp. Pl. ed. 2: 131. 1762.

Habit: An annual, diffuse or suberect slender dichotomously branched herb with both radical and cauline leaves.

Phenology: FLS and FRS- July to November.

Local Name: Paped. **PLATE 37**

PLATE 37



Opuntia elatior Mill. (Cactaceae) in flowering.
Grown as a hedge plant in the area.



Mollugo pentaphylla Linn. (Molluginaceae) in
flowering at Palace compound. Chhota-udepur.
Rare in the area.

Distribution and Status in the Study Area: Common in the forests undergrowth among grasses in stony ground; also a weed in cultivated fields at Chhota-udepur, Sadhli, Kadipani and Jabugam.

Distribution in Gujarat: From Rajpipla to Saurashtra in plains; on the whole rare (Shah, 1978).

Local Uses: Plant is antiseptic and emmenagogue. Leaves are bitter and antiperiodic and used to relieve pains.

AIZOACEAE

One species of the genus Trianthema, i.e. T. portulacastrum has been observed in the area under this family.

Trianthema Linn.

Nomenclature: Trianthema portulacastrum L. Sp. Pl. 223. 1753; Hook. f. Fl. Brit. India. 2: 660. 1879; Cooke, Fl. Pres. Bombay 1: 589, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 338, 1978; Singh, et al., Fl. Maha. Dicot. 2:89. 2000; Trianthema monogyna L. Mant. Pl. 1: 69. 1767; Trianthema obcordata Roxb., Fl. Ind. ed. Carey, 2: 445. 1832.

Habit: Subsucculent, prostrate often radially spreading 12-20 cm long herbs.

Phenology: FLS and FRS- September to October.

Sanskrit Name: Punarnavi, Sveta-punarnava.

Local Name: Satodo.

Distribution and Status in the Study Area: Commonly seen as a road side weed at Parotta.

Distribution in Gujarat: Throughout, in plains, in small or large patches; common (Shah, 1978).

Local Uses: Plant is diuretic; used in oedema, dropsy, menstruation, hepatic and kidney disorders.

Uses in other regions of Gujarat state: Plant is used as vegetable by the tribals of Dharampur forest division (Reddy, 1989).

APIACEAE

This family is represented in the area by a total of six species belonging to six different genera.

Anethum Linn.

Nomenclature: Anethum graveolens L. Sp. Pl. 263. 1753; Hook. f. Fl. Brit. India. 2: 709. 1879; Cooke, Fl. Pres. Bombay 1: 606, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 340,

1978; Singh, et al., Fl. Maha. Dicot. 2:108. 2000; Peucedanum graveolens (L.) Benth. and Hook. f., Gen. Pl. I. 919. 1867; Anethum sowa Roxb. ex Flem. In Asiat. Res. 11: 156. 1810.

Habit: 20-30 cm tall, glabrous, glaucous-green perennial herbs.

Phenology: FLS- December to February, FRS- January to March.

Sanskrit Name: Shataha, Shatapushpa.

Local Name: Suwa.

Distribution and Status in the Study Area: As an escape in forest division.

Distribution in Gujarat: Cultivated at some places; seldom an escape in waste places (Shah, 1978).

Local Uses: Cultivated by the locals but not on frequently.

Uses in other regions of Gujarat state: Locally the fruit is used as condiment by the tribals of Saurashtra region. The fruit decoction is used to relieve stomach pains in the children (Shah, Menon and Gopal, 1981).

Centella Linn.

Nomenclature: Centella asiatica (L.) Urban in Mart. Fl. Bras. 11: 287, t. 78, f. 1. 1879; Hook. f. Fl. Brit. India. 2: 669. 1879; Cooke, Fl. Pres. Bombay 1: 598, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 341, 1978; Singh, et al., Fl. Maha. Dicot. 2:97. 2000; Hydrocotyle asiatica L. Sp. Pl. 234. 1753.

Habit: Radially creeping, glabrous, wiry herbs rooting at the nodes.

Phenology: FLS and FRS- May to December.

Sanskrit Name: Mandukparni.

Local Name: Brahmi.

Distribution and Status in the Study Area: Occasional, a few plants are observed in the college compound, Chhota-udepur.

Distribution in Gujarat: Throughout in moist ground; not common (Shah, 1978).

Local Uses: Plant especially roots are useful in leprosy, skin eruptions and ulcers. Leaves are taken as tonic.

Cuminum Linn.

Nomenclature: Cuminum cyminum L. Sp. Pl. 254. 1753; Hook. f. Fl. Brit. India. 2: 718. 1879; Cooke, Fl. Pres. Bombay 1: 609, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 342, 1978; Singh, et al., Fl. Maha. Dicot. 2:109. 2000.

Habit: 10-20 cm tall, annual herbs with ascending branches.

Phenology: FLS and FRS- December to January.

Sanskrit Name: Ajaji, Jirikam, Shuklajaji, Jaran.

Local Name: Jiru.

Distribution and Status in the Study Area: A road side weed at Ranbhun.

Distribution in Gujarat: Cultivated throughout Gujarat; on a large scale in North Gujarat; also an escape in waste places (Shah, 1978).

Coriandrum Linn.

Nomenclature: Coriandrum sativum L. Sp. Pl. 256. 1753; Hook. f. Fl. Brit. India. 2: 717. 1879; Cooke, Fl. Pres. Bombay 1: 609, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 341, 1978; Singh, et al., Fl. Maha. Dicot. 2:108. 2000.

Habit: 30-50 cm tall herbs.

Phenology: FLS and FRS- December to April.

Sanskrit Name: Dhanayakam, Kustumbar, Vitunak.

Local Name: Dhana.

Distribution and Status in the Study Area: Cultivated, seldom an escape in area.

Distribution in Gujarat: Cultivated; also an escape in waste places (Shah, 1978).

Foeniculum Mill.

Nomenclature: Foeniculum vulgare Mill.; Gard. Dict. ed. 8, l. 1875; Hook. f. Fl. Brit. India. 2: 695. 1879; Cooke, Fl. Pres. Bombay 1: 609, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 342, 1978; Singh, et al., Fl. Maha. Dicot. 2:109. 2000.

Habit: 50-100 cm tall, simple or branched strongly aromatic glaucous green herbs.

Phenology: FLS and FRS- November to April.

Sanskrit Name: Mashi, Madhurika.

Local Name: Valiari.

Distribution and Status in the Study Area: Cultivated in the area.

Distribution in Gujarat: Cultivated at many places, extensively in North Gujarat; also an escape (Shah, 1978).

Pimpinella Linn.

Nomenclature: Pimpinella heyneana (DC.) Wall. ex Kurz in J. Asiat. Soc. Bengal 46: 115; Hook. f. Fl. Brit. India. 2: 684. 1879; Cooke, Fl. Pres. Bombay 1: 601, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 344, 1978; Singh, et al., Fl. Maha. Dicot. 2:101. 2000; Helosciadium heyneanum DC., Prodr. 4: 106. 1830.

Habit: 30-140 cm tall annuals.

Phenology: FLS- September to October, FRS- October to November.

Local Name: Kavar.

Distribution and Status in the Study Area: Occasional as forest undergrowth in Kevdi forests, range Chhota-udepur.

Distribution in Gujarat: Dangs and South Gujarat; occasional (Shah, 1978).

Local Uses: The plant extract is given with honey or Madhuca indica liquor in asthma and rheumatism by the locals.

ALANGIACEAE (CORNACEAE)

One species belonging to the genus Alangium, i.e. A. salvifolium has been observed in the area.

Alangium Linn.nom.cons.

Nomenclature: Alangium salvifolium (L. f.) Wang, in Engl. Pflanzenr. IV. 220b. 41: 9. 1910; Hook. f. Fl. Brit. India 2: 741. 1879; Cooke, Fl. Pres. Bombay 2: 1, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 347, 1978; Singh, et al., Fl. Maha. Dicot.2:114. 2000; Grewia salvifolia L. f., Suppl. Pl. 409. 1781; Alangium salvifolium ssp. decapetalum (Lamk.) Wang. In Engl. Pflanzenr. IV. 220b. 41: 11. 1910; Alangium decapetalum Lamk., Encycl. 1: 174. 1783; Alangium lamarckii Thw., Enum. Pl. Zeyl. 133. 1859.

Habit: Trees, upto 8 m tall, thorny on trunks; bark orange-yellow or green in younger parts, rough and slightly longitudinally fissured in older parts.

Phenology: FLS- February to April, FRS- April to June.

Sanskrit Name: Ankola, Ankolak, Dirghakilak, Pitsar, Tamraphala.

Local Name: Ankod.

Distribution and Status in the Study Area: Common and abundant at foothills of Chhota-udepur, Panimines, Kadipani, Ambadungar, Panvad, Satun, Kundal and Jamli dam.

Distribution in Gujarat: Throughout; common (Shah, 1978).

Local Uses: The bark is anthelmintic and purgative. The poultice of the young leaves is used in rheumatic pains. Paste of the leaves is gently warmed and is applied externally to relieve body pain. Paste of the dried fruits is applied to cure stomach pain.

Uses in other regions of Gujarat state: Locally called as "Ankul" in Ratanmahal forest division. Root paste or decoction is used to cure skin diseases (Bedi, 1979). The ripe fruit is eaten by the local Maldhari community of Saurashtra (Shah, Menon and

Gopal, 1981). The ripe fruits are eaten by the natives of Dangs forest division (Shah and Gopal, 1982). Wood is used for agricultural implements and ripe fruits are edible (Reddy, 1989). Locally called as "Ankoli" in North Gujarat (Bhiloda forests; Kathodia tribe). Leaves used as poultice for rheumatism (Shah and Gopal, 1985).

RUBIACEAE

This family is represented in the area by a total of 15 species belonging to 11 different genera.

Borreria G. F. W. Meyer.nom.cons.

Nomenclature: Borreria articularis (L. f.) F. N. Will., in Bull. Herb. Boiss. (II) 5: 956, 1905; Hook. f. Fl. Brit. India. 3: 200, 1881; Cooke, Fl. Pres. Bombay 2: 53, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 349, 1978; Singh, et al., Fl. Maha. Dicot. 2:165. 2000; Ch and O 117; Spermacoce hispida L. Sp. Pl. 102. 1753; Spermacoce articularis L. f. Suppl. 119. 1781; Borreria hispida (L.) K. Schum., in Engl. and Prantl, Pfam. 4(4): 144, 1891 (non Spruce ex K. Schum. 1888).

Habit: Branched or unbranched, procumbent or suberect herbs; branches 15-20 cm long often dark-reddish-purple, quadrangular, hispidly hairy in younger parts, more or less glabrous in older.

Phenology: FLS and FRS- August to November.

Sanskrit Name: Madana-ghanti.

Local Name: Kharsat shankhlo.

Distribution and Status in the Study Area: A common weed in cultivated fields and as undergrowth in forests at Sadhli, Kawant, Kadipani, Vagasthal, Raipur-kundal and Koraj.

Distribution in Gujarat: Throughout, common (Shah, 1978).

Local Uses: Leaf juice is used in various skin diseases.

Uses in other regions of Gujarat state: Locally called as "Ganthiu" in Saurashtra. The seeds are used locally as a substitute for coffee powder (Shah, Menon and Gopal, 1981).

Nomenclature: Borreria stricta (L. f.) Schym., in Engl. and Prantl, Pfam. 4(4): 143. 1891; Hook. f. Fl. Brit. India. 3: 200, 1881; Cooke, Fl. Pres. Bombay 2: 52, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 350, 1978. Singh, et al., Fl. Maha. Dicot. 2:165. 2000; Ch and O 118; Spermacoce stricta L. f. Suppl. 120. 1781.

Habit: Scabrid, annual herbs, 10-20 cm tall simple or branched.

Phenology: FLS and FRS- July to November.

Local Name: Ganthiyu.

Distribution and Status in the Study Area: Common in open fields, waste lands and undergrowth of forests at Chhota-udepur, Sadhli, Ambadungar, Mogra, Naswadi, Panimines and Ghantoli-songir.

Distribution in Gujarat: Throughout except Kachchh, common (Shah, 1978).

Local Uses: Paste of the flowers and flower buds with water applied as ointment on cuts and wounds.

Gardenia J. Ellis nom.cons.

Nomenclature: Gardenia resinifera Roth, Nov. Pl. Sp. 150. 1821; Hook. f. Fl. Brit. India. 3: 115. 1881; Cooke, Fl. Pres. Bombay 2: 30, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 351, 1978; Singh, et al., Fl. Maha. Dicot. 2:126. 2000; Gardenia lucida Roxb., Fl. Ind. 2: 553. 1824.

Habit: Upto 6 mt tall shrubs or small trees with greyish or light black smooth bark.

Phenology: FLS and FRS- March to April.

Sanskrit Name: Nadihingu.

Local Name: Dikamakhi.

Distribution and Status in the Study Area: Rare in the outskirts of forests at Vagasthal and Satun. Planted.

Distribution in Gujarat: Some times planted in gardens, but wild in Dangs and Central Gujarat (Shah, 1978).

Uses in other regions of Gujarat state: Locally called as "Dikamali" in Dharampur forest division. Ripe fruits are used as vegetable (Reddy, 1989).

Nomenclature: Gardenia turgida Roxb., Fl. Ind. 2: 557. 1824; Hook. f. Fl. Brit. India. 3: 118. 1881; Cooke, Fl. Pres. Bombay 2: 29, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 352, 1978; Singh, et al., Fl. Maha. Dicot. 2:123. 2000.

Habit: A small, deciduous tree, 5-8 m tall with opposite spreading branches; bark smooth, yellowish-brown to blackish brown, young branches terete, sometimes branches spinescent at tips.

Phenology: FLS- March to June, FRS- April to June.

Sanskrit Name: Hingushivatika.

Local Name: Findarvo.

Distribution and Status in the Study Area: Rare, only two trees were observed in the forests at Satun, range Pavi-jetpur.

Distribution in Gujarat: Frequent in scrub forests; rare in deciduous forests; so far not reported or collected from Kachchh (Shah, 1978).

Local Uses: Seeds are made into paste which are given in case of food poisoning.

Haldinia Ridsd.

Nomenclature: Haldinia cordifolia (Roxb.) Ridsd. In Blumea 24: 361. 1978; Hook. f. Fl. Brit. India. 3: 24. 1881; Cooke, Fl. Pres. Bombay 2: 7, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 349 1978; Singh, et al., Fl. Maha. Dicot. 2:127. 2000; Nauclea cordifolia Roxb., Pl. Corom. 1: 40. 1796; Adina cordifolia (Roxb.) Hook. f. ex Brandis, For. Fl. 263. t. 33. 1874.

Habit: A large deciduous tree, upto 15 m tall; bark grey or greyish black, longitudinally fissured, exorticating in patches leaving scars, in younger parts brown and rough.

Phenology: FLS and FRS- July to September.

Sanskrit Name: Haridrak, Pitdaru, Girikadamb, Dharakadamba, Kadambak, Haridrum.

Local Name: Haldarvo. **PLATE 38**

Distribution and Status in the Study Area: Common throughout forest division at Vagasthal, Sadhli, Sukhidam, Kadipani, Udhwania, Turkheda, Panimines and Raipur-kundal.

Distribution in Gujarat: Throughout except Kachchh, in deciduous forests (Shah, 1978).

Local Uses: Bark is febrifuge and antiseptic. Fresh bark juice is given in bone and muscle stiffness. Decoction of the bark is given in fever and urinary troubles. Wood is used for making agricultural and household implements.

Uses in other regions of Gujarat state: Locally called as "Haldu" in Saurashtra. The leaf juice is used as an local antiseptic for healing wounds (Shah, Menon and Gopal, 1981). Locally called as "Haldervo" in Dangs forest division. The leaf juice is used to heal wounds. The timber is of good quality and used by tribals in house construction (Shah and Gopal, 1982). Locally called as "Hedo" in Dharampur forest division. Wood is valuable timber (Reddy, 1989).

Hymenodictyon Wall.nom.cons.

Nomenclature: Hymenodictyon orixense (Roxb.) Mabb. In Taxon 31: 66. 1982; Hook. f. Fl. Brit. India 3: 35. 1881; Cooke, Fl. Pres. Bombay 2: 9, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 353, 1978; Singh, et al., Fl. Maha. Dicot. 2:138. 2000; Cinchona orixensis Roxb., Bot. Descry. Sweietenia 21. 1793 et in Med. Facts. Obs. 6: 152. 1795; Hymenodictyon excelsum (Roxb.) Wall. in Roxb. Fl. Ind. 2: 149. 1824; Cinchona excelsa Roxb., Pl. Corom. 2. t. 106. 1798.

Habit: 10-20 m tall trees with smooth, ash colored bark.

Phenology: FLS- June to August, FRS- September to June.

Sanskrit Name: Bhringhava, Bhramarchhalli, Uragandha.

Local Name: Kokadio.

Distribution and Status in the Study Area: Occasional, two-three trees were located at Naswadi and Dolariya range.

Distribution in Gujarat: In deciduous forests of Dangs, Saurashtra (Barda and Girnar) and in scrub forests in North Gujarat (Shah, 1978).

Local Uses: Bark is astringent, febrifuge and antiperiodic. Bark decoction is given in diarrhoea.

Uses in other regions of Gujarat state: Locally called as "Pariani" by the Maldhari community of Saurashtra. The bark is bitter and is a substitute for quinine to treat malaria (Shah, Menon and Gopal, 1981). The bark being bitter its decoction is given in malarial fevers (Dangs forest division) (Shah and Gopal, 1982). Locally called as "Boisal chhal" in North Gujarat (Idar, Bhiloda and Vijaynagar forests; Dunggrabhil tribe). Powder of intensely bitter bark given for dysentery and to kill tapeworms (Shah and Gopal, 1985).

Ixora Linn.

Nomenclature: Ixora brachiata Roxb. Hort. Beng. 10. 1814 (nomen) and Fl. Ind. 1: 391. 1820; Hook. f. Fl. Brit. India 3: 142, 1881; Cooke, Fl. Pres. Bombay 2: 39, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 354, 1978. Singh, et al., Fl. Maha. Dicot. 2:139. 2000.

Habit: A small tree, 4-6 m tall.

Phenology: FLS and FRS- February to June.

Sanskrit Name: Nemali, Vasanti, Vanvasini.

Local Name: Garbale.

Distribution and Status in the Study Area: Found only in Naswadi and Pavi-jetpur ranges at Koraj, Ganiabari, Satun and Vasantgad.

Distribution in Gujarat: Dangs, Panchmahals and Saurashtra; not common (Shah, 1978).

Uses in other regions of Gujarat state: The wood is hard and close grained, and is used for making walking sticks by the local Maldhari community of Saurashtra (Shah, Menon and Gopal, 1981).

Mitragyna Korth.nom.cons.

Nomenclature: Mitragyna parviflora (Roxb.) Korth., Obs. Nacl. Ind. 19. 1839; Hook. f. Fl. Brit. India. 3: 25. 1881; Cooke, Fl. Pres. Bombay 2: 8, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 355, 1978; Singh, et al., Fl. Maha. Dicot. 2:145. 2000; Nauclea parviflora Roxb., Pl. Corom. 1: 40, t. 52. 1796; Stephegyne parviflora Korth., Verh. Nat. Gesch. Bot. Nederl. 161. 1840.

Habit: A deciduous tree, 10 m tall with spreading crown; branches at times pendent; bark smooth, greyish, exfoliating in small scales.

Phenology: FLS- April to August, FRS- November to March.

Local Name: Kalam.

Distribution and Status in the Study Area: Common, but rare in Pavi-jetpur range. Seen at Sadhli, Kadipani, Ambadungar, Dolariya, Dhadagam, Turkheda, Satun, Raipur-kundal, Naswadi and Ghantoli-songir.

Distribution in Gujarat: Throughout in deciduous and scrub forests; sometimes planted in gardens (Shah, 1978).

Local Uses: The bark decoction is given in muscular pains and in fever. Bark of this plant along with the bark of Albizzia procera is powdered and is given orally to women for increasing lactation.

Uses in other regions of Gujarat state: Wood is used for house construction. Tender shoots is used as tooth-brushes to treat toothache (Dharampur forests) (Reddy, 1989). Locally called as "Kalam" in Dangs forests (Galkund and Saputara). The bark paste is externally applied on skin diseases in cattles by Kokna and Kunbi tribe (Maheshwari, Sikarwar and Painuli, 1994).

Morinda Linn.

Nomenclature: Morinda pubescens Sm. In Rees, Cyclop. 24. n. 3. 1813; Hook. f. Fl. Brit. India. 3: 156. 1881; Cooke, Fl. Pres. Bombay 2: 43, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 356, 1978; Singh, et al., Fl. Maha. Dicot. 2:146. 2000; Verdcourt in Kew Bull. 37: 543. 1983; Morinda tinctoria Roxb. Fl. Ind. 1: 543. 1820; Morinda tomentosa Heyne ex Roth, Nov. Pl. Sp. 147. 1821; Morinda coreia Buch.-Ham. in Trans. Linn. Soc. London. 13: 537. 1822.

Habit: 8-10 m tall trees with blackish brown, rough, irregularly fissured bark.

Phenology: FLS- March to July, FRS- June to September.

Sanskrit Name: Achchhuka.

Local Name: Aladi. **PLATE 38**

Distribution and Status in the Study Area: Common in the forests at Chhota-udepur, Satun, Kawant, Kadipani, Ambadungar, Turkheda and Dhandhoda.

Distribution in Gujarat: Throughout Gujarat except Kachchh; common in dry deciduous forests (Shah, 1978).

Local Uses: Roots are astringent and is used in cough and fever. Wood is used for making agricultural implements.

Oldenlandia Linn.

Nomenclature: Oldenlandia corymbosa L. Sp. Pl. 119. 1753; Hedyotis corymbosa Lamk., Encycl. 1: 272. 1792; Hook. f. Fl. Brit. India. 3: 64. 1881; Cooke, Fl. Pres. Bombay 2: 15, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 358, 1978; Singh, et al., Fl. Maha. Dicot. 2:130. 2000.

Habit: Annual, diffuse, slender, glabrous herbs with sometimes reddish-purple, obtusely 4-gonous branches.

Phenology: FLS and FRS- May to December.

Sanskrit Name: Parpata.

Local Name: Parpad.

Distribution and Status in the Study Area: Common throughout in Rajmahal Chhota-udepur, Chhota-udepur, Vagasthal, Mogra, Naswadi, Jamlidam and Lachharas.

Distribution in Gujarat: Throughout in deciduous forests, common (Shah, 1978).

Local Uses: Plant decoction is given in gastric irritation. Plant juice is used to get relief from burning sensation during fever. The paste of the leaves is used in the treatment of jaundice and other hepatic disorders.

Uses in other regions of Gujarat state: The whole plant, especially the root decoction is used in the treatment of fever, jaundice and liver disease by the local Maldhari community of Saurashtra (Shah, Menon and Gopal, 1981).

Nomenclature: Oldenlandia affinis (Roem. and Schult.) DC., Prodr. 4: 428. 1830; Oldenlandia dichotoma (Koen. ex Roth) Hook. f., in Hook. f. Fl. Brit. India. 3: 67. 1881; Cooke, Fl. Pres. Bombay 2: 17, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 357, 1978; Singh, et al., Fl. Maha. Dicot. 2:129. 2000; Hedyotis affinis Roem. and Schult., Syst. 3: 194. 1819; Hedyotis dichotoma Koen. ex Roth, Nov. Pl. Sp. 23. 1821.

Habit: 20-40 cm tall, glabrous or sparsely hairy herbs.

Phenology: FLS and FRS- August to October.

Sanskrit Name: Kshetrapatraka.

Local Name: Nani parpadi.

Distribution and Status in the Study Area: Occasional at Boriyad and Panvad ranges of Chhota-udepur forest division.

Distribution in Gujarat: Dangs, Kachchh and Central Gujarat; not common (Shah, 1978).

Spermadietyon Roxb.

Nomenclature: Spermadietyon suaveolens Roxb., Pl. Corom. 3: 32, t. 236. 1815; Hook. f. Fl. Brit. India. 3: 197. 1881; Cooke, Fl. Pres. Bombay 2: 51, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 359, 1978; Singh, et al., Fl. Maha. Dicot. 2:167. 2000; Hamiltonia suaveolens Roxb., Fl. Ind. 2: 223. 1824.

Habit: A shrub, 1.5 to 3.0 m tall; bark greyish or pale brown faintly longitudinally fissured, peeling off in papery flakes.

Phenology: FLS- August to December, FRS- September to March.

Distribution and Status in the Study Area: Rare, seen only at Kawant range and Jamlidam of Dolariya range along riverbanks and on rocky crevices in the forests.

Distribution in Gujarat: In deciduous forests of Dangs, Rajpipla and Panchmahals; not common (Shah, 1978).

Local Uses: The bark is used in curing diarrhoea and also in fever and wounds.

Xeromphis Raf. (Catunaregam Wolf).

Nomenclature: Catunaregam nilotica (Stapf) Tirvengadum in Taxon 27: 515. 1978; Hook. f. Fl. Brit. India. 3: 110. 1881; Cooke, Fl. Pres. Bombay 2: 27, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 361, 1978; Singh, et al., Fl. Maha. Dicot. 2:167. 2000; Randia nilotica Stapf in J. Linn. Soc. 37: 519. 1906; Xeromphis uliginosa (Retz.) Maheshw. In Bull. Bot. Surv. Ind. 3: 92. 1961; Gardenia uliginosa Retz., Obs. Bot. 2: 14. 1781; Randia uliginosa DC., Prodr. 4: 386. 1830.

Habit: An armed, small tree or large shrub, 2-6 m tall, with sharp spines.

Phenology: FLS and FRS - March to June.

Sanskrit Name: Gangati, Pinditak, Karhat.

Local Name: Gengda.

Distribution and Status in the Study Area: Sparingly seen in the forests of Jamlidam and Mithbor of Dolariya range, Raipur-kundal of Pavi-jetpur range.

Distribution in Gujarat: Rajpipla, Pavagadh, Panchmahals, Saurashtra and Kachchh; not common (Shah, 1978).

Local Uses: The fruit pulp is used in dysentery and intestinal worms and also as an abortifacient. Bark is applied externally in rheumatism. The fruit pulp is applied externally in bronchitis.

Uses in other regions of Gujarat state: Locally called as "Gagedi" in Ratanmahal forest division. Fruits are used as vegetable (Bedi, 1979).

Nomenclature: Catunaregam spinosa (Thunb.) Tirvengadum in Taxon 27: 515. 1978 et in Bull. Mus. Hist. Nat. (Paris) Ser. 3. 35: 13. 1978; Hook. f. Fl. Brit. India. 3: 110. 1881; Cooke, Fl. Pres. Bombay 2: 27, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 361, 1978; Singh, et al., Fl. Maha. Dicot. 2:121. 2000; Gardenia spinosa Thunb., Diss. Gard. 7: 16., t. 2, f. 4. 1780; Gardenia dumetorum Retz., Obs. Bot. 2: 14. 1781; Randia dumetorum (Retz.) Poir. In Lamk., Encycl. Suppl. 2: 829. 1812; Randia spinosa (Retz.) Poir.; Xeromphis spinosa (Thunb.) Keay in Bull. Jard. Bot. Elat. 28: 37. 1958.

Habit: A deciduous armed shrub with rough, dark brown bark.

Phenology: FLS- July to September, FRS- September to December.

Sanskrit Name: Madana, Madanphala, Gaalphala.

Local Name: Mindhad. **PLATE 38**

PLATE 38



Catunaregam spinosa (Thunb.)
Tiruv. (Rubiaceae) in fruiting.
Occasionally found in Kevdi and
Mithibor.



Morinda pubescens Sm.
(Rubiaceae) in flowering.
Locally called as Aladi.



Morinda pubescens Sm.
Stunted growth. Kevdi
forests.



Haldinia cordifolia (Roxb.)
Rids. (Rubiaceae) Kawant
range. Chhota-udepur.

Distribution and Status in the Study Area: Overall rare, observed in the forests of Chhota-udepur, Mithibor, Panimines, Koraj and Ghantoli-songir.

Distribution in Gujarat: Throughout in deciduous forests of Gujarat (Shah, 1978).

Local Uses: The fruits and leaves are useful in the treatment of boils, diarrhoea and dysentery.

Uses in other regions of Gujarat state: Locally called as "Medhalo" by the Maldhari community of Saurashtra. The fruit is a strong fish poison. The fruit has emetic properties. It is largely used in religious ceremonies (Shah, Menon and Gopal, 1981).

ASTERACEAE

A total of 22 species belonging to 17 different genera represents this family in the area.

Acanthospermum Scharnk.

Nomenclature: Acanthospermum hispidum DC., Prodr. 5: 522. 1836; Shah, Fl. Guj. 1: 366, 1978. Singh, et al., Fl. Maha. Dicot. 2:179. 2000.

Habit: A dichotomously branched, suffruticose, erect herb, densely hispidly hairy in younger parts.

Phenology: FLS and FRS- August to February.

Distribution and Status in the Study Area: Common, gregarious or subgregarious in wastelands near human habitations and in outskirts of forests; sparingly seen in the interior of dense forests at Chhota-udepur, Gabadia, Ganthia, Kawant and Turkheda.

Distribution in Gujarat: Throughout except Kachchh, scattered or gregarious; native of Central Gujarat (Shah, 1978).

Local Uses: Plant paste is applied externally on skin diseases. Plant decoction mixed with Pongamia pinnata is applied on skin diseases.

Ageratum Linn.

Nomenclature: Ageratum conyzoides L. Sp. Pl. 1: 839. 1753; Hook. f. Fl. Brit. India. 3: 343. 1881; Cooke, Fl. Pres. Bombay 2: 70, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 367, 1978; Singh, et al., Fl. Maha. Dicot. 2:181. 2000.

Habit: Annual, 10-25 cm tall, erect, glandular-pubescent herbs.

Phenology: FLS and FRS- June to January.

Local Name: Ajgandh.

Distribution and Status in the Study Area: Common and abundant in moist grounds at Chhota-udepur, Kadipani, Mogra, Kawant-Hampeshwar road, Panimines.

Distribution in Gujarat: Throughout, in moist ground, scattered or gregarious, common and abundant; native of Mexico (Shah, 1978).

Local Uses: Juice of the roots is anthelmintic. Leaf juice is externally applied on cuts and sores. Fruits are crushed and applied externally to stop bleeding due to excessive heat.

Uses in other regions of Gujarat state: Locally called as "Ajganda" in Ratanmahal forests. Plant juice is applied for early healing of wounds (Bedi, 1979). Locally called as "Dholi sadedi/Makadmari" in North Gujarat (Idar forests; Bhil tribe). Plant extract used externally for skin diseases and leprosy (Shah and Gopal, 1985).

Bidens Linn.

Nomenclature: Bidens biternata (Lour.) Merr. and Sheriff. In Bot. Gaz. 88: 293. 1929; Hook. f. Fl. Brit. India. 3: 309. 1881; Cooke, Fl. Pres. Bombay 2: 101, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 369, 1978; Singh, et al., Fl. Maha. Dicot. 2:184. 2000; Coreopsis biternata Lour., Fl. Cochinch. ed. 1. 508. 1790; Bidens pilosa auct. (nom. L.).

Habit: Annual, erect herbs, 40-60 cm tall.

Phenology: FLS and FRS- August to October.

Local Name: Kar-kokdi.

Distribution and Status in the Study Area: Common, in small, loose patches during monsoon; only seen in Chhota-udepur, Kawant and Naswadi ranges.

Distribution in Gujarat: Throughout; common, gregarious (Shah, 1978).

Blainvillea Cass.

Nomenclature: Blainvillea acmella (L.) Philipson in Blumea 6: 350. 1950; Hook. f. Fl. Brit. India. 3: 305. 1881; Cooke, Fl. Pres. Bombay 2: 97, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 370, 1978; Singh, et al., Fl. Maha. Dicot. 2:184. 2000; Verbesina acmella L. Sp. Pl. 901. 1753; Blainvillea latifolia (L. f.) DC. ex Wight, Contr. Bot. Ind. 17. 1834.

Habit: 30-40 cm tall annuals branched from middle.

Phenology: FLS and FRS- August to October.

Local Name: Safed-fulku.

Distribution and Status in the Study Area: Occasional in hedges and undergrowth of forests at Vagasthal, Sukhidam and Naswadi.

Distribution in Gujarat: Throughout; common (Shah, 1978).

Blumea DC.nom.cons.

Nomenclature: Blumea eriantha DC. in Wight, Contrib. Bot. Ind. 15. 1834; Hook. f. Fl. Brit. India. 3: 266. 1881; Cooke, Fl. Pres. Bombay 2: 78, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 372, 1978; Singh, et al., Fl. Maha. Dicot. 2:188. 2000.

Habit: Strongly aromatic, annual herbs, erect, 20-35 cm tall, at times with reddish to dark brown, hairy stems and branches.

Phenology: FLS and FRS- December to February.

Local Name: Kapurio.

Distribution and Status in the Study Area: A common weed along road sides, in cultivated fields and in forests undergrowth at Zoz, Satun, Kawant, Udhwania, Ucheda, Kadipani-Hampeshwar and Gabadia.

Distribution in Gujarat: Throughout except Kachchh and Saurashtra; scattered or sub-gregarious; common (Shah, 1978).

Local Uses: Paste of the whole plant is applied externally on cuts and wounds.

Nomenclature: Blumea lacera (Burm.) f. DC. in Wight, Contrib. Bot. Ind. 14. 1834; Hook. f. Fl. Brit. India. 3: 263. 1881; Cooke, Fl. Pres. Bombay 2: 76, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 373, 1978; Singh, et al., Fl. Maha. Dicot. 2:189. 2000; Conyza lacera Burm. f., Fl. Ind. 80, t. 59, f. 1. 1768.

Habit: Strongly aromatic, erect, 20-30 cm tall, densely glandular-villous annuals.

Phenology: FLS and FRS- December to January.

Sanskrit Name: Kukurdaru.

Local Name: Kapurio.

Distribution and Status in the Study Area: An occasional weed in cultivated fields and waste lands at Sakal, Kikawada and Bhadurpur.

Distribution in Gujarat: Balsar to Kachchh in plains, a weed in waste places and cultivated fields; occasional (Shah, 1978).

Local Uses: Leaf juice is anthelmintic, astringent, stimulant and diuretic. Plant juice is useful in fever. Leaves are externally applied or administered on wounds as an antiseptic.

Uses in other regions of Gujarat state: Plant is used as an insecticide and mosquito repellent (Reddy, 1989).

Nomenclature: Blumea membranacea Wall. ex DC., Prodr. 5: 440. 1836 Hook. f. Fl. Brit. India. 3: 265. 1881; Cooke, Fl. Pres. Bombay 2: 77, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 374, 1978; Singh, et al., Fl. Maha. Dicot. 2:191. 2000; Conyza membranacea Wall Cat. 3019, nom. nud. Blumea membranacea var. gardeneri.

Habit: Annual, erect herbs, glandular hairy, 30-50 cm tall.

Phenology: FLS and FRS- November to March.

Local Name: Bhutdo.

Distribution and Status in the Study Area: A common undergrowth at times a weed in shaded spots in cultivated fields at Kadipani, Ambadungar, Jitnagar, Zoz and Sodhavad.

Distribution in Gujarat: Throughout except Kachchh in shaded spots and forests undergrowth (Shah, 1978).

Nomenclature: Blumea mollis (D. Don) Merr. In Philipp. J. Sci. 5: 395. 1910; Hook. f. Fl. Brit. India. 3: 261. 1881; Cooke, Fl. Pres. Bombay 2: 75, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 374, 1978; Singh, et al., Fl. Maha. Dicot. 2:192. 2000; Erigeron molle D. Don, Prodr. Fl. Nep. 172. 1825; Blumea wightiana DC. in Wight, Contrib. Bot. Ind. 14. 1834.

Habit: 20-30 cm tall, glandular-pubescent, erect annuals.

Phenology: FLS and FRS- December to January.

Local Name: Chanchadmari.

Distribution and Status in the Study Area: A weed in cultivated fields at Zoz, Ambadungar, Khendra and Kidighoghaddev.

Distribution in Gujarat: Throughout except Kachchh, everywhere; common (Shah, 1978).

Nomenclature: Blumea obliqua (L.) Druce, Rep. Bot. Exch. Club. Br. Isles, 4: 609. 1917; Hook. f. Fl. Brit. India. 3: 260. 1879; Cooke, Fl. Pres. Bombay 2: 75, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 374, 1978; Singh, et al., Fl. Maha. Dicot. 1:192. 2000; Erigeron obliquum Pl. Mant. 2. 573. 1771.

Habit: Erect, suberect or diffuse, diverticately branched, 10-15 cm tall, glabrescent herbs.

Phenology: FLS and FRS- November to January.

Distribution and Status in the Study Area: Rare, a few plants were observed along paths in the forests at Sadhli and Jamlidam.

Distribution in Gujarat: Throughout Bulsar to Kachchh; not common (Shah, 1978).

Cyathocline Cass.

Nomenclature: Cyathocline purpurea (Ham. ex D. Don) O. Ktze, Rev. Gen. Pl. 1: 333. 18911829; Hook. f. Fl. Brit. India. 3: 246. 1881; Cooke, Fl. Pres. Bombay 2: 71, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 378, 1978; Singh, et al., Fl. Maha. Dicot. 2:203. 2000; Tanacetum purpureum Ham. ex D. Don, Prodr. Fl. Nep. 181. 1825; Cyathocline lyrata Cass. In Ann. Sci. Nat. ser. 1. 17: 420.

Habit: Slender, erect herbs, 10-40 cm tall at times with purplish stem and branches. Leaves both radical and cauline.

Phenology: FLS and FRS- October to December.

Local Name: Okharad.

Distribution and Status in the Study Area: Common and abundant, often gregariously growing in moist places in riverbeds at Gabadia, Kadipani, Ghelvant, Vagasthal and Bordha.

Distribution in Gujarat: Throughout except Kachchh in moist ground (Shah, 1978).

Echinops Linn.

Nomenclature: Echinops echinatus Roxb., Fl. Ind. ed. 2. 3: 447. 1832; Hook. f. Fl. Brit. India. 3: 358. 1881; Cooke, Fl. Pres. Bombay 2: 112, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 379, 1978; Singh, et al., Fl. Maha. Dicot. 2:207. 2000.

Habit: 30-40 cm tall, stout, simple or sparsely branched, armed suffrescent herbs.

Phenology: FLS and FRS- November to January.

Sanskrit Name: Kantalu, Utati, Utkantaka, Kantaphala.

Local Name: Shukiu-Utkato.

Distribution and Status in the Study Area: Frequent along roadsides and in open waste lands, scattered or subgregarious at Kawant, Satun and Jamlidam.

Distribution in Gujarat: Throughout in plains, scattered or subgregarious; common (Shah, 1978).

Local Uses: Plant is a tonic. The fruit powder is applied on wounds of cattle to remove maggots. The leaf powder mixed with water is given in acidity. The decoction of the leaves mixed with the powder of Holarrhena pubescens fruits is given in diarrhoea and dysentery.

Uses in other regions of Gujarat state: The infusion of roots is said to be administered in cases of impotency, hysteria and dyspepsia. The root pieces are also tied round the neck of the children suffering from cold and cough (Dangs forest division) (Shah and Gopal, 1982). Fruit powder of Tribulus terrestris L. and underground parts of Curculigo orchioides Gaertn., mixed in 1:2 proportion. This mixture with root juice of Echinops administered internally for acute debility after child birth (North Gujarat; Dungrabhil tribe) (Shah and Gopal, 1985).

Eclipta Linn.nom.cons.

Nomenclature: Eclipta prostrata (L.) L., Mant. Pl. 2: 206. 1771; Hook. f. Fl. Brit. India. 3: 304. 1881; Cooke, Fl. Pres. Bombay 2: 95, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 379, 1978; Singh, et al., Fl. Maha. Dicot. 2:208. 2000; Eclipta alba (L.) Hassk., Pl. Java Rar. 528. 1848; Verbesina alba L. Sp. Pl. 902. 1753; Verbesina prostrata L. Sp. Pl. 902. 1753.

Habit: Strigosely hairy, erect or diffuse herb.

Phenology: FLS and FRS- Almost throughout the year, more profuse in monsoon.

Sanskrit Name: Bhrigaraja, Keshraja, Markeva.

Local Name: Bhangro.

Distribution and Status in the Study Area: Common and abundant in moist grounds along margins of ponds, ditches and river beds at Mogra, Ghelvant, Dhandhoda, Boriyad and Kadipani.

Distribution in Gujarat: Throughout in damp places; common (Shah, 1978).

Local Uses: Roots are purgative and antiseptic. The plant is a useful remedy against acidity, ulcers and wounds. Paste of the plant mixed with Pongamia pinnata oil is used over glandular swellings and skin diseases. Leaf juice is applied on wounds. Root decoction is given to increase lactation in women.

Uses in other regions of Gujarat state: A hair oil is prepared from the leaves. The plant is a good tonic for certain diseases of spleen, bronchitis, asthma and leucoderma. The leaf juice is applied after 'tatooing' by the local Maldhari community of Saurashtra (Shah, Menon and Gopal, 1981). The roots and leaves are used as liver tonics by the tribals of Dangs forest division (Shah and Gopal, 1982). Leaf juice with water of buttermilk given as an antidote in snake bites, whereas root juice with water is given for liver complaints (North Gujarat; Bhil and Dungrabhil tribe) (Shah and Gopal, 1985).

Emilia Cass.

Nomenclature: Emilia sonchifolia (L.) DC. in Wight, Contrib. Bot. Ind. 24. 1834; Hook. f. Fl. Brit. India. 3: 336. 1881; Cooke, Fl. Pres. Bombay 2: 107, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 380, 1978; Singh, et al., Fl. Maha. Dicot. 2:209. 2000; Cacalia sonchifolia L. Sp. Pl. 835. 1753.

Habit: An erect or diffuse, glabrous, annual herb.

Phenology: FLS and FRS- August to October.

Local Name: Haran-khuri.

Distribution and Status in the Study Area: Common in shaded places, especially on earth bunds sometimes as a weed in cultivated fields or in waste places among grasses at Satun, Sadhli, Dholi-samal, Naswadi and Dungarvant.

Distribution in Gujarat: Throughout; common (Shah, 1978).

Local Uses: Decoction of the roots is used in diarrhoea. Plant juice is useful in bowel complaints. Leaf decoction is used in cuts and wounds.

Launaea Cass.

Nomenclature: Launaea procumbens (Roxb.) Ramayya and Rajgopal in Kew Bull. 23. 465. 1969; Hook. f. Fl. Brit. India. 3: 415. 1881; Cooke, Fl. Pres. Bombay 2: 122, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 387, 1978; Singh, et al., Fl. Maha. Dicot. 2:226. 2000; Prenanthes procumbens Roxb., Fl. Ind. ed. 2. 3: 404. 1832.

Habit: Prostrate or suberect, perennial, slender, glabrous, 20-30 cm long herbs.

Phenology: FLS and FRS- Throughout the year.

Local Name: Modi-bhonpatri.

Distribution and Status in the Study Area: A common weed in the area, found everywhere at Zoz, Turkheda, Panimines, Raipur-kundal and Ranbhun.

Distribution in Gujarat: Throughout, everywhere; common (Shah, 1978).

Local Uses: Plant juice is applied on insect bite. Leaf decoction is useful in headache especially for small childrens.

Uses in other regions of Gujarat state: Locally called as "Motibhopatri" in North Gujarat (Bhil, Dungrabhil and Kathodia tribe). Leaf paste applied to treat skin diseases. Taken internally leaf juice presumed to kill tapeworms (Shah and Gopal, 1985).

Parthenium Linn.

Nomenclature: Parthenium hysterophorus L. Sp. Pl. 988. 1753; Shah, Fl. Guj. 1: 389, 1978. Singh, et al., Fl. Maha. Dicot. 2:227. 2000; Rao in J. Bomb. Nat. Hist. Soc. 54: 218. 1956.

Habit: 30-60 cm tall, erect undershrubs.

Phenology: FLS and FRS- October to March.

Distribution and Status in the Study Area: One of the commonest weed now naturalized throughout in the area.

Distribution in Gujarat: Dangs, Broach, Rajpipla (Netrang) and almost throughout Gujarat; a weed now naturalized in India; native of West Indies (Shah, 1978).

Sonchus Linn.

Nomenclature: Sonchus oleraceus L. Sp. Pl. 794. 1753; Hook. f. Fl. Brit. India. 3: 414. 1881; Cooke, Fl. Pres. Bombay 2: 119, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 395, 1978; Singh, et al., Fl. Maha. Dicot. 2:242. 2000.

Habit: Erect, stout, annual herbs upto 1 m tall with milky juice; stem and branches glaucous, striate, glabrous and terete.

Phenology: FLS and FRS- October to January.

Local Name: Dudali Sonadi.

Distribution and Status in the Study Area: A weed on edges of agricultural fields at Chhota-udepur, Gabadia, Satun, Ranbhun and Naswadi.

Distribution in Gujarat: Throughout, a roadside weed, in forests undergrowth and in hedges; occasional (Shah, 1978).

Tricholepis DC.

Nomenclature: Tricholepis glaberrima DC., Prodr 6: 754. 1837; Hook. f. Fl. Brit. India. 3: 381, 1881; Cooke, Fl. Pres. Bombay 2: 114, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 397, 1978. Singh, et al., Fl. Maha. Dicot. 2:246. 2000; Ch and O 127.

Habit: Erect glabrous herbs.

Phenology: FLS and FRS- October to December.

Sanskrit Name: Brahmadandi, Ajadandi.

Local Name: Brahndanti.

Distribution and Status in the Study Area: Rare on hilly slopes and along road cuttings; a distinct plant by its height, green foliage and bright-purple florets. Seen at Hampeshwar, Ambadungar, Turkheda and Bhadurpur.

Distribution in Gujarat: Dangs, Pavagadh, North Gujarat (Vireshwar) and Saurashtra; on the whole rare plant (Shah, 1978).

Tridax Linn.

Nomenclature: Tridax procumbens L. Sp. Pl. 900. 1753; Hook. f. Fl. Brit. India. 3: 311. 1881; Cooke, Fl. Pres. Bombay 2: 102, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 397, 1978; Singh, et al., Fl. Maha. Dicot. 2:247. 2000.

Habit: Annual, hairy herbs, erect or procumbent.

Phenology: FLS and FRS- Throughout the year.

Local Name: Pardeshi-bhangro. **PLATE 39**

Distribution and Status in the Study Area: Common and abundant throughout in the areas explored.

Distribution in Gujarat: Throughout, common (Shah, 1978).

Local Uses: Leaf juice is applied on cuts and wounds. Paste of the entire plant is used in insect bite.

Uses in other regions of Gujarat state: Locally called as "Utateri" in Ratanmahal forests. Root paste is antidote in snake bite (Bedi, 1979).

Vernonia Schreb.nom.cons.

Nomenclature: Vernonia anthelmintica (L.) Willd., Sp. Pl. 3: 1634. 1803; Hook. F. Fl. Brit. India. 3: 236. 1881; Cooke, Fl. Pres. Bombay 2: 66, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 398, 1978; Singh, et al., Fl. Maha. Dicot. 2:248. 2000; Conyza anthelmintica L. Sp. Pl. ed. 2. 1207. 1763.

Habit: Robust, softly pubescent herbs, upto 60-75 cm tall.

Phenology: FLS and FRS- September to December.

Sanskrit Name: Somraji, Aranyajirak, Vanjirak, Tiktajirak.

Local Name: Kadi-jiri.

Distribution and Status in the Study Area: Occasional along forest paths at Ambadungar, Kevdi and Dolariya.

Distribution in Gujarat: Bulsar, Dangs, Vyara, Rajpipla, Cambay, Saurashtra; a roadside weed; not frequent (Shah, 1978).

Local Uses: Seeds are anthelmintic, tonic and diuretic; also applied on skin diseases. Seed paste is given to cure intestinal worms. Seed decoction is useful in relieving stomach pain.

Nomenclature: Vernonia cinerea (L.) Less. In Linnaea 4(1): 291. 1829; Hook. f. Fl. Brit. India. 3: 233. 1881; Cooke, Fl. Pres. Bombay 2: 65, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 398, 1978; Singh, et al., Fl. Maha. Dicot. 2:248. 2000; Conyza cinerea L. Sp. Pl. 862. 1753.

Habit: Erect herbs, 30-60 cm tall, simple or branched densely appressed-greyish-pubescent herb.

Phenology: FLS and FRS- Throughout the year.

Sanskrit Name: Sahadevi.

Local Name: Sadedi. **PLATE 39**

Distribution and Status in the Study Area: A common weed throughout the area.

Distribution in Gujarat: Throughout, common (Shah, 1978).

Local Uses: Seeds are given in dropsy. Root juice is given in fever and also to cure urinary disorders.

Uses in other regions of Gujarat state: Locally called as "Shedevi" in Ratanmahal forests. Plant juice is used to cure fever (Bedi, 1979).

Vicoa Cass.

Nomenclature: Vicoa indica (L.) DC., in Wt. Contrib. 10. 1834; Hook. f. Fl. Brit. India. 3: 297, 1881; Cooke, Fl. Pres. Bombay 2: 88, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 399, 1978; Singh, et al., Fl. Maha. Dicot. 2:229. 2000; Ch and O 133; Inula indica L. Sp. Pl. ed. 2. 1236. 1762; Willd. Sp. Pl. 3: 2092. 1804; Vicoa auriculata Cass., in Ann. Sci. Nat. 17: 418. 1829.

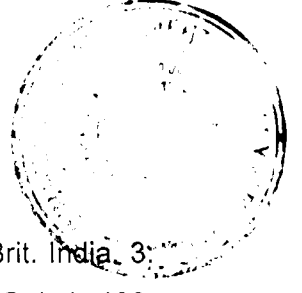
Habit: Slender, sparsely hairy herbs.

Phenology: FLS and FRS- August to February.

Local Name: Sonsakhi.

Distribution and Status in the Study Area: A common weed in cultivated fields and in forest undergrowths. Leaves are rather typical. The plant is quite conspicuous by the pseudo-panicles of yellow flowers above the foliage. Seen at Chhota-udepur, Vagasthal, Kawant, Panimines and Jamlidam.

Distribution in Gujarat: Throughout, a weed in cultivated fields and in open waste lands (Shah, 1978).



Xanthium Linn.

Nomenclature: Xanthium strumarium L. Sp. Pl. 987. 1753; Hook. f. Fl. Brit. India. 3: 303. 1881; Cooke, Fl. Pres. Bombay 2: 94, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 400, 1978; Singh, et al., Fl. Maha. Dicot. 2:251. 2000; Xanthium indicum Koen. in Roxb., Fl. Ind. Grierson in Dassan and Fosb., Rev. Handl. Fl. Ceylon 1: 209. 1980.

Habit: Annual, hispid herbs upto 50 cm tall.

Phenology: FLS and FRS- Almost throughout the year, more profuse in monsoon.

Sanskrit Name: Aristha.

Local Name: Gadariyu. **PLATE 39**

Distribution and Status in the Study Area: Common and gregarious, as a weed on the edge of cultivated fields, in waste lands and on river banks at Kawant, Chhota-udepur and pavi-jetpur ranges.

Distribution in Gujarat: Throughout; common and abundant, often gregarious (Shah, 1978).

Local Uses: Plant paste or decoction is taken in fever, especially malarial fever.

Seed powder is given to cure toothache.

CAMPANULACEAE

Under this family one species of the genus Lobelia, i.e. L. alsinoides has been observed in the area.

Lobelia Linn.

Nomenclature: Lobelia alsinoides Lamk., Encycl. 3: 588. 1791; Hook. f. Fl. Brit. India. 2: 423. 1879; Cooke, Fl. Pres. Bombay 2: 130, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 403, 1978; Singh, et al., Fl. Maha. Dicot. 2:276. 2000; Lobelia trigona Roxb., Fl. Ind. 2: 111. 1824.

Habit: A diffuse, annual herb, 10-20 cm long; stem simple or branched, glabrous, trigonous, pale green, subfleshy, rooting lower nodes.

Phenology: FLS and FRS- September to March.

Sanskrit Name: Kad-dhurapan.

Distribution and Status in the Study Area: Rare in drying moist ground, along margins of ponds and ditches. The specific epithet "trigona" refers to trigonous stem and seeds.

Distribution in Gujarat: Dharampur, Dangs, Vyara, Tuwa and Saurashtra in drying moist ground; not common (Shah, 1978).

PLATE 39



Tridax procumbens Linn.
(Asteraceae) in flowering.
Common in the area.



Vernonia cinerea (Linn.) Less.
(Asteraceae) In flowering. Rare
in the area. Seen at Boriyad and
Kawant.



Xanthium strumarium Linn. (Asteraceae) in
fruiting. Commonly observed as weed along
roadsides and agricultural fields.

PLUMBAGINACEAE

Under this family one species of the genus Plumbago, i.e. P. zeylanica has been observed in the area.

Plumbago Linn.

Nomenclature: Plumbago zeylanica L. Sp. Pl. 151. 1753; Hook. f. Fl. Brit. India. 3: 480. 1879; Cooke, Fl. Pres. Bombay 2: 136, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 404, 1978; Singh, et al., Fl. Maha. Dicot. 2:283. 2000.

Habit: Perennial, slender, glabrous, straggling herbs or undershrubs.

Phenology: FLS and FRS- September to December.

Sanskrit Name: Agnidahan.

Local Name: Chitrak.

Distribution and Status in the Study Area: Occasional in hedges. Seen at Chhotadehpur, Kadipani, Koraj and Bhadurpur.

Distribution in Gujarat: Throughout in hedges, not common (Shah, 1978).

Local Uses: Roots are diuretic, stimulant and abortifacient. It is useful in rheumatism and paralytic attacks. Root decoction is used to cure boils and wounds. The juice or fine paste of roots as well as leaves is given in Stomachache. Root decoction is given in fever, diarrhoea, dysentery and body pains.

Uses in other regions of Gujarat state: Locally called as "Chitral" in Ratanmahal forests by bhil tribal community. Root paste is used to cure skin diseases (Bedi, 1979). Locally called as "Chitro" in Saurashtra. The roots are said to be effective for abortion (Shah, Menon and Gopal, 1981). Bruised leaves mixed with oil, obtained from seeds of Pedaliium murex L., and made into paste is rubefacient and antirheumatic (North Gujarat; Bhil and Dungrabhil tribe). (Shah and Gopal, 1985).

PRIMULACEAE

Under this family one species of the genus Anagallis, i.e. A. arvensis has been observed in the area.

Anagallis Linn.

Nomenclature: Anagallis arvensis Linn. Sp. Pl., 148. 1753; Hook. f. Fl. Brit. India 3: 506. 1882; Cooke, Fl. Pres. Bombay 2: 139, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 405, 1978; Singh, et al., Fl. Maha. Dicot. 2:285. 2000; P. Taylor in Kew Bull. 329. 1955.

Habit: Erect or procumbent, glabrous, annual herbs upto 25 cm tall.

Phenology: FLS and FRS- December to March.

Distribution and Status in the Study Area: An occasional weed in cultivated fields and in drying moist ground at Ghelvant, Gabadia and Raipur-kundal.

Distribution in Gujarat: A weed in cultivated fields throughout in plains (Shah, 1978).

SAPOTACEAE

This family is represented in the area by a total of three species belonging to two different genera, i.e. Madhuca and Manilkara.

Madhuca Gmel.

Nomenclature: Madhuca indica J. F. Gmelin. Syst. Nat. 799. 1791; Hook. f. Fl. Brit. India 3: 544. 1882; Cooke, Fl. Pres. Bombay 2: 152, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 407, 1978; Singh, et al., Fl. Maha. Dicot. 2:293. 2000; Bassia latifolia Roxb., Pl. Corrom. 1: 20. t. 19. 1795; Madhuca latifolia (Roxb.) Macbr., in Contr. Gray Herb. Harv. Univ. N. S. 53: 17. 1918; Bassia longifolia J. Koenig., in L. Mant. Pl. App. 563. 1771.

Habit: 15-20 mt tall deciduous tree with thick, dark, brown cracked bark.

Phenology: FLS and FRS- March to June.

Sanskrit Name: Madhuka, Vanprastha, Madhustil, Madhustrav, Gudpushpa.

Local Name: Mahudo. **PLATE 40**

Distribution and Status in the Study Area: Occasional in forests areas. The frequency of occurrence varies from one forest area to another i.e., common and abundant throughout Chhota-udepur to Kevdi forests, rare in Pavi-jetpur range, common but not abundant at Kawant range.

Distribution in Gujarat: Throughout in dry deciduous forests, less frequent in scrub forests (Shah, 1978).

Local Uses: One of the most important NTFP for the tribals of the area explored. Bark decoction is applied to cure itching and inflammations. Flowers are considered as cooling, tonic and nutritive; used in cough and cold. Seed oil is used in skin diseases. Flower decoction made into bandages are tied on bone fractures. The tribals of this region prepare country liquor from its flowers.

Uses in other regions of Gujarat state: Bark paste is antidote in snake bite. Thick fleshy petals are used as a vegetable and for distillation of a country liquor (Bedi, 1979). Oil from the seeds is sold in weekly market bazaars of 'dangies' in Dangs forest division as it is used in culinary (Shah and Gopal, 1982). Wood is a valuable

timber. Flowers are fermented to obtain country liquor. Seed oil is used in cooking and in making soaps (Dharampur forest division) (Reddy, 1989).

Manilkara Adans.nom.cons.

Nomenclature: Manilkara zapota (L.) P. Royen in Blumea 7: 410. 1953; Hook. f. Fl. Brit. India 3: 534. 1882; Cooke, Fl. Pres. Bombay 2: 156, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 408, 1978; Singh, et al., Fl. Maha. Dicot. 2:296. 2000; Achras zapota L., Sp. Pl. App. 1190. 1753; Manilkara achras (Mill.) Fosberg., in Taxon 13: 255. 1964; Sapota achras Mill. Gard. Dict. ed. 8. n. 1. 1768; Achras sapota L., Syst. Nat. ed. 10. 2: 988.

Habit: Small tree or large shrub with brown bark, rough and longitudinally fissured.

Phenology: FLS and FRS- Almost throughout the year.

Local Name: Chikoo.

Distribution and Status in the Study Area: Often planted or self-sown in villages for its fruits.

Distribution in Gujarat: Planted in gardens and in orchards (Shah, 1978).

Local Uses: Ripe fruits edible.

Nomenclature: Manilkara hexandra (Roxb.) Dubard in Ann. Mus. Col. Marseille (ser. 3) 23: 9. t. 2. 1915; Hook. f. Fl. Brit. India 3: 549. 1882; Cooke, Fl. Pres. Bombay 2: 155, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 407, 1978; Sharma, et al., Fl. Maha. Dicot. 2:294. 2000; Royen in Blumea 7: 408. 1953; Mimusops hexandra Roxb., Pl. Corrom 1: 16. t. 15. 1795 and Fl. Ind. 2: 238. 1832.

Habit: 10-15 m tall deciduous trees with greyish black or blackish brown rough, deeply longitudinally fissured bark.

Phenology: FLS and FRS- September to January.

Sanskrit Name: Rajadani.

Local Name: Rayan.

Distribution and Status in the Study Area: Occasional at Hampeshwar, Chhota-udepur and Bordha villages.

Distribution in Gujarat: Wild or self-sown near villages, throughout in plains (Shah, 1978).

Local Uses: Bark decoction is used in fever. Fruits are consumed by the locals. Seed oil is considered demulcent and emollient.

Uses in other regions of Gujarat state: Ripe fruits are eaten by the natives of Dharampur forest division (Reddy, 1989).

EBENACEAE

One species of the genus Diospyros, i.e. D. melanoxylon represents this family in the area.

Diospyros Linn.

Nomenclature: Diospyros melanoxylon Roxb., Pl. Corrom 1: 36. t. 46. 1795; Hook. f. Fl. Brit. India 3: 564. 1882; Cooke, Fl. Pres. Bombay 2: 159, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 409, 1978; Singh, et al., Fl. Maha. Dicot. 2:301. 2000.

Habit: A 9-10 mt tall deciduous tree with light to dark black or dark grey longitudinally fissured exfoliating bark.

Phenology: FLS- February to April, FRS- April to June.

Sanskrit Name: Tinduk, Kalskandha, Asithsarak, Shitisarak, Dirghapatraka.

Local Name: Timbru.

Distribution and Status in the Study Area: Common and frequent at Rangpur, Chhota-udepur, Kawant and Panvad range. **PLATE 40**

Distribution in Gujarat: Throughout, frequent in deciduous forests (Shah, 1978).

Local Uses: Most important NTFP on which almost 40 % tribal economy is based in the area. 'Timru bidi' are prepared from its leaves. Bark is astringent and its decoction is given in diarrhoea and dyspepsia. Leaves are diuretic, carminative and laxative. Dried leaves are used in urinary disorders.

Uses in other regions of Gujarat state: Locally called as "Tembrun". Leaves are used as bidi wrappers. Ripe fruits are edible (Dangs and Dharampur forest division) (Shah and Gopal, 1982. Reddy, 1989).

OLEACEAE

One species of the genus Nyctanthes, i.e. N. arbor-tristis represents this family in the area.

Nyctanthes Linn.

Nomenclature: Nyctanthes arbor-tristis L. Sp. Pl., 6: 1753; Hook. f. Fl. Brit. India 3: 603. 1882; Cooke, Fl. Pres. Bombay 2: 176, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 411, 1978; Singh, et al., Fl. Maha. Dicot. 2:311. 2000.

Habit: A large shrub or small tree with four gonous drooping branches.

Phenology: FLS and FRS- August to February.

PLATE 40



Madhuca indica Muell.-Arg. (Sapotaceae)
in fruiting. Major NTFP for the tribals of the
area.



Diospyros melanoxylon Roxb. (Ebenaceae). Pure
patch at Rangpur range of forest division. Locally
called as "Timru". NTFP for the tribals.

Sanskrit Name: Parijata, Sephalika, Ragpushpi.

Local Name: Chhedi.

Distribution and Status in the Study Area: Occasional in forests at Satun, Jamlidam, Ranbhun, Naswadi and Lachharas.

Distribution in Gujarat: Wild at Rajpipla, Panchmahals, Mahi ravines and North Gujarat; also cultivated; common (Shah, 1978).

Local Uses: Leaves are useful in cough and is used as an expectorant. The decoction of the bark is used in fever, rheumatism and intestinal worms.

Uses in other regions of Gujarat state: The leaf infusion is administered in case of obstinate fevers in Dangs forest division (Shah and Gopal, 1982).

SALVADORACEAE

Two species of the genus Salvadora, i.e. S. oleoides and S. persica represents this family in the area.

Salvadora Linn.

Nomenclature: Salvadora oleoides Decne., in Jacq. Voy. Bot. 140. t. 144. 1844; Hook. f. Fl. Brit. India 3: 620. 1882; Cooke, Fl. Pres. Bombay 2: 183, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 413, 1978; Singh, et al., Fl. Maha. Dicot. 2:316. 2000; Bor 229; S and B 30.

Habit: An evergreen large shrub or a small tree with long sarmentose branches and rough grey bark.

Phenology: FLS- January to April, FRS- April to June.

Sanskrit Name: Pilu, Gudphala.

Local Name: Piludi.

Distribution and Status in the Study Area: Rare in the area, only a few plants were observed in Parota village of Naswadi range.

Distribution in Gujarat: In scrub forests in hedges; not frequent (Shah, 1978).

Nomenclature: Salvadora persica Linn. Sp. Pl., 122. 1753; Hook. f. Fl. Brit. India 3: 619. 1882; Cooke, Fl. Pres. Bombay 2: 182, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 413, 1978; Singh, et al., Fl. Maha. Dicot. 2:316. 2000.

Habit: An evergreen tree with straight or crooked trunk, numerous drooping branches and dull grey to greyish white or grey brown bark.

Phenology: FLS and FRS- November to March.

Sanskrit Name: Tikshantaru.

Local Name: Pilvo, Piludi.

Distribution and Status in the Study Area: Rare, only two plants seen at Ghantoli-songir village of Naswadi range.

Distribution in Gujarat: Throughout, in plains, common (Shah, 1978).

APOCYNACEAE

A total of 8 species belonging to 7 genera represents this family in the area.

Alstonia (L.) R. Br.

Nomenclature: Alstonia scholaris (Linn.) R. Br., in Mem. Wern. Soc. 1: 76, 1811; Hook. f. Fl. Brit. India 3: 642. 1882; Cooke, Fl. Pres. Bombay 2: 132. 1958 (Repr. ed.); Singh, et al., Fl. Maha. Dicot. 2:318. 2000; Echites scholaris Linn. Mant. 1: 53. 1767.

Habit: An evergreen shrub or small tree with rambling branches and distinct arrangement of leaves.

Phenology: FLS and FRS- Not seen.

Sanskrit Name: Sapta-parna.

Local Name: Satparni.

Distribution and Status in the Study Area: Cultivated at Dhandhoda and Ghelvant villages of Chhota-udepur range.

Distribution in Gujarat: Cultivated or self-sown at many places throughout Central and South Gujarat (Patel, 1984).

Carissa Linn.

Nomenclature: Carissa congesta Wight., Icon. Pl. Ind. Orient. t. 1284. 1848; Hook. f. Fl. Brit. India 3: 630. 1882; Cooke, Fl. Pres. Bombay 2: 186, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 415, 1978; Singh, et al., Fl. Maha. Dicot. 2:320. 2000.

Habit: Evergreen shrub or a small tree with sarmentose branches often becoming extensive and powerful climbers; bark light grey or yellowish brown, rough and scaly.

Phenology: FLS- January to March, FRS- April to May.

Sanskrit Name: Kanachuka, Karmardak, Shirphalam, Kantaki

Local Name: Karamda.

Distribution and Status in the Study Area: Occasional in outskirts of forests areas at Panvad, Ghantoli-songir and Ranbhun.

Distribution in Gujarat: In deciduous forests; occasional, also in scrub forests; rather rare (Shah, 1978).

Local Uses: Fruits are antiscorbutic and anthelmintic. Decoction of the fruits is used in fever. Leaf paste is given in fever and stomach pain. Root decoction is given diarrhoea. Fruits are eaten by the natives.

Uses in other regions of Gujarat state: The ripe fruits are eaten by the locals of Saurashtra region (Shah, Menon and Gopal, 1981). Dried branches are used for fencing around cultivated fields. Unripe fruits are pickled, ripe fruits are edible (Dharampur forests) (Reddy, 1989).

Catharanthus G. Don.

Nomenclature: Catharanthus pusillus (Murr.) G. Don., Gen. Hist. 4: 95. 1837-1838; Hook. f. Fl. Brit. India 3: 640. 1882; Cooke, Fl. Pres. Bombay 2: 191, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 416, 1978; Singh, et al., Fl. Maha. Dicot. 2:321. 2000; Vinca pusilla Murr., in Comment. Soc. Regiae Sci. Gotting. 3: 66. 1773.

Habit: A diffuse or suberect, much branched herb with winged 4-gonous stem and branches.

Phenology: FLS and FRS - August to October

Local Name: Sadafuli.

Distribution and Status in the Study Area: An occasional weed in cultivated fields and also among grasses at Chhota-udepur, Kadipani, Naswadi, Jamlidam and Lachharas.

Distribution in Gujarat: Throughout among grasses and cultivated fields; occasional (Shah, 1978).

Holarrhena R. Br.

Nomenclature: Holarrhena pubescens (Buch.-Ham.) Wallich ex G. Don. Gen. Hist. 4: 78. 1837-1838; Hook. f. Fl. Brit. India 3: 644. 1882; Cooke, Fl. Pres. Bombay 2: 195, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 417, 1978; Singh, et al., Fl. Maha. Dicot. 2:323. 2000; Panigrahi in Taxon 36: 464. 1987; Echites pubescens Buch.-Ham., in Trans. Linn. Soc. Bot. 13: 524. 1822; Nerium antidysentericum Linn. Sp. Pl., 209. 1753; Holarrhena pubescens Wallich. Numer. List No. 1672. 1829.

Habit: Large, deciduous shrubs or trees, bark light blackish brown, irregularly fissured, peeling off into scales, younger parts smooth, cinnamon brown with white or creamy lenticels.

Phenology: FLS and FRS- June to December.

Sanskrit Name: Kutaj, Kutaja, Pandura, Kalinga, Girimallika, Vatsak.

Local Name: Kudo. **PLATE 41**

Distribution and Status in the Study Area: Common in the area, abundant in Chhota-udepur and Dolariya range.

Distribution in Gujarat: In deciduous forests, common; also in scrub forests (Shah, 1978).

Local Uses: Bark is used in dysentery and dropsy. Seeds are astringent and febrifuge; used in fever, dysentery, diarrhoea and intestinal worms. Leaves made into fine paste is used in chronic bronchitis. Bark decoction is given in diarrhoea. Soaked water of the fruits are given in headache. The plant is considered sacred and the flowers are offered to the tribal god and goddesses called as 'babadev'.

Uses in other regions of Gujarat state: Locally called as "Kuda" by bhil tribal community of Ratanmahal forests. Plant latex is used by the tribals for quick preparation of curd from milk (Bedi, 1979). The bark decoction and powdered seeds are given in bronchial fevers by the local Maldhari community of Saurashtra (Shah, Menon and Gopal, 1981). Locally called as "Chudo/Kadvo Indrajav" in North Gujarat (Bhil and Dugrabhil tribe). Bark is febrifuge, tonic and antidysentric. 2-tablespoonful doze of infusion of roasted seeds, daily after meals, acts as astringent for constipation and allays vomiting in cholera (Shah and Gopal, 1985). Bark and root are grounded into paste which is given in fever and gout. Root decoction is administered orally 5 times a day in case of intermittent fever (Rajpipla forest division, Vasava tribe) (Shah and Gopal, 1986). Locally called as "Motikudai" in Dangs forest division (Ahwa). The leaves paste is orally given in stomachache (Maheshwari, Sikarwar and Painuli, 1994).

Nerium Linn.

Nomenclature: Nerium indicum Mill., Gard. Dict. ed. 8. no. 2. 1768; Hook. f. Fl. Brit. India 3: 655. 1882; Cooke, Fl. Pres. Bombay 2: 206, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 418, 1978; Singh, et al., Fl. Maha. Dicot. 2:332. 2000; Santapau in Rec. Bot. Surv. India 16(1): 170. 1953; Nerium odorum Sol., in Aiton, Hortus Kew. 1: 297. 1789.

Habit: Evergreen shrubs, 2-3 m tall.

Phenology: FLS and FRS- Throughout the year.

Sanskrit Name: Pratihas, Chandatak, Karvir, Ashvamarak, Haymarak.

Local Name: Lal-karen.

Distribution and Status in the Study Area: Planted.

Distribution in Gujarat: Ornamental, seldom an escape (Shah, 1978).

Plumeria Linn.

Nomenclature: Plumeria rubra Linn., Sp. Pl. 209. 1753; Hook. f. Fl. Brit. India 3: 641. 1882; Cooke, Fl. Pres. Bombay 2: 206, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 418, 1978; Singh, et al., Fl. Maha. Dicot. 2:332. 2000; Plumeria acuminata R. Br., in W. T. Aiton. Hortus Kew. ed. 2. 2: 70. 1811; Plumeria acutifolia Poir., in Lam., Encycl. Suppl. 2: 667. 1812.

Habit: 5-10 m tall trees with plenty of milky juice.

Phenology: FLS and FRS- February to April.

Local Name: Khad-champo.

Distribution and Status in the Study Area: Few trees planted in Tribal office compound, Chhota-udepur.

Distribution in Gujarat: Ornamental, native of tropical America (Shah, 1978).

Thevetia Juss. ex. Endl.

Nomenclature: Thevetia neriifolia Juss. ex Steud., Nomen. Bot. ed. 2. 2: 680. 1841; Cooke, Fl. Pres. Bombay 2: 207, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 419, 1978; Singh, et al., Fl. Maha. Dicot. 2:331. 2000; Cerbera peruviana Pers., Syn. Pl. 1: 267. 1805; Thevetia peruviana (Pers.) K. Schum., in Engl. and Prantl. Nat. Pflanzenfam. 4(2): 159. 1895.

Habit: Large shrubs or small trees.

Phenology: FLS and FRS- Almost throughout the year.

Local Name: Piri-karen, Pili-karen.

Distribution and Status in the Study Area: Planted or self-sown at Dhandhoda, Nani-dumali and Puniyavat villages of Chhota-udepur range.

Distribution in Gujarat: Planted at ornamental or a hedge; native of tropical America (Shah, 1978).

Wrightia R. Br.

Nomenclature: Wrightia tinctoria R. Br., in Mem. Werner. Soc. 1: 73. 1811; Hook. f. Fl. Brit. India 3: 653. 1882; Cooke, Fl. Pres. Bombay 2: 200, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 420, 1978; Singh, et al., Fl. Maha. Dicot. 2:328. 2000.

Habit: Deciduous 5-10 mt tall trees with light greyish black and rough longitudinally fissured bark. Smooth in younger parts.

Phenology: FLS and FRS- March to October.

Sanskrit Name: Sveta-kutaja.

Local Name: Dudhalo.

Distribution and Status in the Study Area: Common in all the forest ranges, but not as abundant as Holarrhena pubescens.

Distribution in Gujarat: In deciduous forests; common; very rarely in scrub forests (Shah, 1978).

Local Uses: Seeds, bark and fruits are used as a substitute for Holarrhena pubescens. Bark decoction is given in insect bite. Latex from the fruit is used in bronchitis and diarrhoea.

Uses in other regions of Gujarat state: Locally called as "Narneri/Mitho indrajav" in North Gujarat (Bhil and Dungrabhil tribe). Bark made into paste and applied to wounds. Latex applied for skin diseases (Shah and Gopal, 1985).

Nomenclature: Wrightia tomentosa Roem. and Schult. Syst. Veg. 4: 414. 1819; Hook. f. Fl. Brit. India 3: 653. 1882; C 2: 199, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 420, 1978; Singh, et al., Fl. Maha. Dicot. 2:327. 2000; Wrightia arborea (Dennst.) Mabberley in Taxon 26: 533. 1977.

Habit: Small to medium sized trees, 6-10 mt tall with spreading branches and yellowish-grey bark.

Phenology: FLS- March to July, FRS- July to December.

Local Name: Dudh-kadi.

Distribution and Status in the Study Area: Occasional in the area at Hampeshwar, Kadipani, Turkheda, Koraj, Sadhli and Jamlidam.

Distribution in Gujarat: Dangs, Rajpipla, Pavagadh, also Khedbrahma in North Gujarat; extremely rare in later locality (Shah, 1978).

Local Uses: The juice of the leaves mixed with bark is given in menstrual complaints.

ASCLEPIADACEAE

This family is represented in the area by a total of 11 species belonging to 9 genera.

Calotropis R. Br.

Nomenclature: Calotropis gigantea (L.) R. Br., in W. T. Aiton. Hortus Kew. ed. 2. 2: 78. 1811; Hook. f. Fl. Brit. India 4: 17. 1883; Cooke, Fl. Pres. Bombay 2: 214, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 423, 1978; Singh, et al., Fl. Maha. Dicot. 2:341. 2000; Asclepias gigantea L. Sp. Pl., 214. 1753.

Habit: An erect, ash-colored, fugaciously-cottony-pubescent shrub.

Phenology: FLS- Throughout the year, FRS- March to July.

Sanskrit Name: Arka, Sukphala, Sadaphala.

Local Name: Akando.

Distribution and Status in the Study Area: Common throughout the forest division on waste lands and along roadsides.

Distribution in Gujarat: Throughout; common (Shah, 1978).

Local Uses: Leaves are used in dropsy. The powder of the flowers is used in cold, cough, asthma and indigestion. Latex is used in insect bite.

Uses in other regions of Gujarat state: The root bark and latex are used in dysentery and cutaneous infections like ringworms. The leaves are applied on paralysed parts and painful rheumatic pains (Dangs forests) (Shah and Gopal, 1982). Flower juice with water used as detergent, leaf paste used as poultice for inflammatory swellings, latex mild rubefacient, but also believed to be abortifacient. Slightly warmed leaves, smeared with castor oil are tied round abdomen for 2-3 hours to treat acute stomachache (North Gujarat, Bhil and Kathodia tribe) (Shah and Gopal, 1985). The latex is used as an remedy for stomachache by Vasava tribe of Rajpipla forest division (Shah and Gopal, 1986). Fibers obtained from the stem is used in making ropes and fishing nets (Dharampur forests) (Reddy, 1989). Locally called as "Ruhi" in Dangs forest division (Mahal). Latex is externally used as toothache by Gamit tribe (Maheshwari, Sikarwar and Painuli, 1994).

Nomenclature: Calotropis procera (Aiton) R. Br., in W. T. Aiton. Hortus. Kew. ed. 2. 2: 78. 1811; Hook. f. Fl. Brit. India 4: 18. 1883; Cooke, Fl. Pres. Bombay 2: 215, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 423, 1978; Singh, et al., Fl. Maha. Dicot. 2:342. 2000.

Habit: This species is similar to the previous one and the only difference is in the size of gynostegium and size and shape of the coronal lobes.

Phenology: FLS- Almost throughout the year, FRS- January to July.

Sanskrit Name: Rupika, Arka.

Local Name: Akando.

Distribution and Status in the Study Area: Seen at many a places explored, mainly in wastelands along roadsides.

Distribution in Gujarat: Throughout; common (Shah, 1978).

Local Uses: Root bark is used in dysentery. Tincture of the leaves is used in fever. Root powder is given in diarrhoea. Root decoction along with leaves is given internally to facilitate child birth.

Ceropegia Linn.

Nomenclature: Ceropegia bulbosa Roxb., Pl. Corrom. 1: 11. t. 7. 1795; Hook. f. Fl. Brit. India 4: 67. 1883; Cooke, Fl. Pres. Bombay 2: 240, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 424, 1978; Singh, et al., Fl. Maha. Dicot. 2:348. 2000; Ansari in Fasc. Fl. India. 16: 10. 1984.

Habit: A glabrous, perennial, twining herb with spherical or oblong underground tuber.

Phenology: FLS and FRS- August to September.

Distribution and Status in the Study Area: Rare, seen only at a few places in the outskirts of Vagasthal, Rajmahal Chhota-udepur and Bordha villages.

Distribution in Gujarat: Throughout in plains on hedges; frequent (Shah, 1978).

Uses in other regions of Gujarat state: Locally called as "Jeema kanda" by bhil community of Ratanmahal forests. Tuberous roots are refrigerent (Bedi, 1979). Locally called as "Patal tumbi" in Dharampur forest division. Leaves and root tuber is used as vegetable (Reddy, 1989).

Dregea E. Meyer nom. cons.

About Genus: Species about 10, one in India (Santapau and Henry, 1973).

Nomenclature: Dregea volubilis (L. f.) Bth. ex Hk. f., in Hook. f. Fl. Brit. India 4: 56. 1883; Marsdenia volubilis in Cooke, Fl. Pres. Bombay 2: 106, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 425, 1978; Singh, et al., Fl. Maha. Dicot. 2:381. 2000; S and B 31.

Habit: Woody perennial twiner with a watery sap; bark in older parts greyish-brown, lenticellate; young branches terete, olivaceous green.

Phenology: FLS- April to August, FRS- August to January.

Sanskrit Name: Madhumalati.

Local Name: Dodi.

Distribution and Status in the Study Area: Rare, on hedges along roads or on small trees at Ranbhun, Dhandhoda, Ghantoli-songir and Koraj.

Distribution in Gujarat: Throughout in the forests, but not frequent (Shah, 1978).

Local Uses: Leaves are used in boils. Root and tender leaves are used as a tonic.

Plant paste is applied on skin allergy.

Gymnema R. Br.

Nomenclature: Gymnema sylvestre (Retz.) R. Br. ex Schult., in Roem. and Schult. Syst. Veg. 6: 57. 1820; Hook. f. Fl. Brit. India 4: 29. 1883; Cooke, Fl. Pres. Bombay 2: 224, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 426, 1978; Singh, et al., Fl. Maha. Dicot. 2:363. 2000.

Habit: A much branched, twining shrub with longitudinally fissured bark.

Phenology: FLS and FRS- August.

Sanskrit Name: Gudmar, Madhunasini.

Distribution and Status in the Study Area: Cultivated at Dugtha village.

Distribution in Gujarat: Central Gujarat (Shah, 1978). Also listed from Saurashtra by Bole and Pathak (1988).

Leptadenia R. Br.

Nomenclature: Leptadenia reticulata (Retz.) Wight and Arnott., in Wight. Contr. Bot. India. 47. 1834; Hook. f. Fl. Brit. India 4: 63. 1883; Cooke, Fl. Pres. Bombay 2: 237, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 427, 1978; Singh, et al., Fl. Maha. Dicot. 2:369. 2000.

Habit: Twining shrubs, with deeply cracked bark; branches terete, striate, pale to dark-green, glabrous in older parts, pubescent in younger parts.

Phenology: FLS- October to January, FRS- March to May.

Sanskrit Name: Jivanti, Medha, Shakchesta.

Local Name: Nani dodi.

Distribution and Status in the Study Area: Frequent on hedges at Naswadi ranges.

Distribution in Gujarat: Throughout on hedges or trailing on ground; common (Shah, 1978).

Local Uses: Plant is stimulant and tonic. Leaves are useful in diarrhoea. Leaves and roots are used in skin infections and boils.

Marsdenia R. Br.

Nomenclature: Marsdenia tenacissima (Roxb.) Moon., Cat. Pl. Ceylon 21. 1824; Hook. f. Fl. Brit. India 4: 35. 1883; Cooke, Fl. Pres. Bombay 2: 230, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 427, 1978; Singh, et al., Fl. Maha. Dicot. 2:370. 2000; Asclepias tenacissima Roxb. Pl. Coromandel 3: 35. t. 240. 1815.

Habit: An extensive climber, with a thick root stock, sparingly branched, older parts with dark grey bark, younger ones softly, green tomentose.

Phenology: FLS and FRS- July to October.

Sanskrit Name: Murva.

Local Name: Dudhli.

Distribution and Status in the Study Area: Rare twiner, observed only at Panvad and Raipur-kundal.

Distribution in Gujarat: So far reported in dense forests of Dangs, Vyara, Rajpipla and Vireshwar (North Gujarat); not common (Shah, 1978).

Local Uses: Leaves and roots in form of paste are used in colic dysentery.

Pergularia Linn.

Nomenclature: Pergularia daemia (Forssk.) Chiov., in Result. Sc. Miss. Stefan-Paoli. Somal. Ital. 1: 115. 1916; Hook. f. Fl. Brit. India 4: 20. 1883; Cooke, Fl. Pres. Bombay 2: 219, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 429, 1978; Singh, et al., Fl. Maha. Dicot. 2:375. 2000; Asclepia daemia Forssk., Fl. Aegypt.-Arab. 51: 1775; Cynanchum extensum Jacq., Misc. Austriae. 2: 353. 1782; Daemia extensa (Jacq.) R. Br., in W. T. Alton. Hortus Kew. ed. 2. 2: 76. 1811.

Habit: Herbaceous, hairy, slender twiners, sometimes woody at the base, hairs white with bulbous base.

Phenology: FLS and FRS- October to March.

Sanskrit Name: Yugaphala, Phalakantaka, Uttara-varuni, Vishanika, Chandaldugdhika.

Local Name: Chamar dudheli.

Distribution and Status in the Study Area: Occasional on hedges at Kikawada, Jamlidam, Panimines and Moti-sadhli.

Distribution in Gujarat: Throughout, common and abundant (Shah, 1978).

Local Uses: Plant is expectorant and emetic. Plant extract is used in menstrual troubles. Juice of the leaves is used in catarrhal affections, diarrhoea and asthma. Decoction of leaves is applied on rheumatic pains and swellings.

Telosma Cav.

Nomenclature: Telosma pallida (Roxb.) Craib in Kew Bull. 1911: 418; Hook. f. Fl. Brit. India 4: 38. 1883; Cooke, Fl. Pres. Bombay 2: 229, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 430, 1978; Singh, et al., Fl. Maha. Dicot. 2:377. 2000; Santapau and Irani in Univ. Bombay. Bot. Mem. 4: 83. 1962; Asclepias pallida Roxb. Fl. Ind. 2: 48. 1832; Pergularia pallida Wight and Arnott in Wight. Contr. Bot. Ind. 42. 1834.

Habit: Extensive suffrutescent twiner, pubescent in younger parts, almost glabrous in older.

Phenology: FLS- July to October, FRS- August to October.

Local Name: Varsha dodi.

Distribution and Status in the Study Area: Not common, observed at Juna Chhotu-udepur opposite Orsang riverbeds.

Distribution in Gujarat: Throughout on hedges except Kachchh during monsoon (Shah, 1978).

Local Uses: Flowers are edible.

Tylophora R. Br.

Nomenclature: Tylophora indica (Burm. f.) Merrill in Philip. Journ. Sci. 19: 373. 1921; Hook. f. Fl. Brit. India 4: 44. 1883; Cooke, Fl. Pres. Bombay 2: 228, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 405, 1978; Singh, et al., Fl. Maha. Dicot. 2:379. 2000; Cynanchum indicum Burm. f. Fl. Ind. 70. 1768; Tylophora asthmatica W. and A., in Wt. Contrib. 51. 1834.

Habit: A perennial, sparingly hairy or glabrous twiner, with milky sap.

Phenology: FLS and FRS- July to December.

Local Name: Damni-vel.

Distribution and Status in the Study Area: Occasional at Satun and Dholisamal.

Distribution in Gujarat: Cultivated at some places (Shah, 1978). Also listed by Bole and Pathak (1988) from Saurashtra.

Nomenclature: Tylophora fasciculata Buch.-Ham. ex Wight. Contr. Bot. India. 50. 1834; Hook. f. Fl. Brit. India 4: 40. 1883; Cooke, Fl. Pres. Bombay 2: 226, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 431, 1978; Singh, et al., Fl. Maha. Dicot. 2:379. 2000.

Habit: A suffruticose herb, erect or suberect, 15-20 cm tall; stems several from the base, densely pubescent, somewhat purplish.

Phenology: FLS and FRS- August to September.

Local Name: Arsi.

Distribution and Status in the Study Area: Rare in dense forests at Sadhli, Naswadi, Dolariya, Adtia, Vagasthal and Dharsimal as undergrowth.

Distribution in Gujarat: Dangs, Chhota-udepur and Panchmahals (Shah, 1978).

Local Uses: Fruits are refrigerent and are relished by the tribals

PERIPLOCACEAE

A total of three species belonging to three different genera viz., Cryptolepis, Cryptostegia and Hemidesmus have been observed in the area.

Cryptolepis R. Br.

Nomenclature: Cryptolepis buchanani Roem. and Schult. Syst. Veg. 4: 409. 1819; Hook. f. Fl. Brit. India 4: 5. 1883; Cooke, Fl. Pres. Bombay 2: 210, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 433, 1978; Singh, et al., Fl. Maha. Dicot. 2:385. 2000.

Habit: A glabrous, woody twiner with abundant milky sap; bark brown lenticellate, peeling off in small patches.

Phenology: FLS- April to September, FRS- June to December.

Sanskrit Name: Bhed saldi.

Distribution and Status in the Study Area: Occasional in forest undergrowths at Satun, Mogra, Adtia and Naswadi.

Distribution in Gujarat: Dharampur, Bulsar, Dangs, Vyara, Rajpipla, Pavagadh, Chhotaudepur and Panchmahals; not common (Shah, 1978).

Local Uses: Leaves are tonic and is taken along with water twice a day during general weakness. The plant decoction is given to infants in case of fever.

Cryptostegia R. Br.

Nomenclature: Cryptostegia grandiflora R. Br., in Bot. Reg. 5. t. 435. 1819; Hook. f. Fl. Brit. India 4: 6. 1883; Cooke, Fl. Pres. Bombay 2: 245, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 433, 1978; Sharma, et al., Fl. Maha. Dicot. 2:387. 2000.

Habit: Straggling or climbing shrubs with latex.

Phenology: FLS and FRS- June to October.

Distribution and Status in the Study Area: Rare plant on the hedges near Vagasthal.

Distribution in Gujarat: Native of Tropical Africa, found throughout (Patel, 1984).

Hemidesmus R. Br.

Nomenclature: Hemidesmus indicus (L.) R. Br., in Ait. Hort. Kew. (ed. 2) 2: 75. 1811; Hook. f. Fl. Brit. India 4: 5. 1883; Cooke, Fl. Pres. Bombay 2: 210, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 433, 1978; Singh, et al., Fl. Maha. Dicot. 2:386. 2000; Periploca indica Linn. Sp. Pl., 211. 1753.

Habit: A perennial, prostrate or twining slender herb or undershrubs with longitudinally striate, pale greenish-brown, sometimes reddish-purple, lenticellate bark.

Phenology: FLS- September to February, FRS- November to June.

Sanskrit Name: Utpalsariva, Ananta, Sariva, Gopayana, Nagajivha, Gopavallii.

Local Name: Dudhvel.

Distribution and Status in the Study Area: Common among grasses in open fields and in the undergrowth of forests. Observed in Vagasthal, Chhota-udepur, Ganthia-Gabadia, Naswadi, Sindhipani, Sakal, Mogra, Udhwania and Nani-sadhli. **PLATE 41**

Distribution in Gujarat: Throughout on hedges and in forests, not frequent (Shah, 1978).

Local Uses: Roots are demulcent, diaphoretic, diuretic and tonic; decoction of roots is used in loss of appetite, fever, skin diseases, leucorrhoea, rheumatism and insect bite. The latex is used in eye complaints.

Uses in other regions of Gujarat state: Locally called as "Dudhuel" in Saurashtra. The root decoction is administered in ordinary fever. The fruit decoction mixed with the decoction of fruits of Terminalia bellirica, Emblica officinalis and roots of Oldenlandia corymbosa is given in acute fever, cold and cough. The root is blood purifier and it reduces blood pressure (Shah, Menon and Gopal, 1981). The root juice is a blood purifier and it is also given in blood pressure (Dangs forest division) (Shah and Gopal, 1982). Locally called as "Anantveli" in North Gujarat (Bhil and Dugrabhil tribe). Plant extract applied for various cutaneous diseases; Root infusion given internally to treat venereal diseases (Shah and Gopal, 1985).

PLATE 41



Holarrhena pubescens (Buch.-Ham.) Wallich ex G. Don. Close up of single fruit. (Apocynaceae)



Holarrhena pubescens (Buch.-Ham.) Wallich ex G. Don. in flowering and fruiting.



Hemidesmus indicus (L.) R. Br. (Periplocaceae)

GENTIANACEAE

A total of five species belonging to four different genera viz., Canscora, Enicostemma, Nymphoides and Hoppea have been observed in the area.

Canscora Lamk.

Nomenclature: Canscora diffusa (Vahl.) R. Br. ex Roem. and Schult. Syst. Veg. 3: 301. 1818; Hook. f. Fl. Brit. India 4: 103. 1883; Cooke, Fl. Pres. Bombay 2: 257, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 437, 1978; Singh, et al., Fl. Maha. Dicot. 2:400. 2000; Gentiana diffusa Vahl. Symb. Bot. 3: 47. 1794.

Habit: Erect or diffuse, slender, much branched, annual herbs with 4-gonous stem and branches.

Phenology: FLS and FRS- November to December.

Local Name: Zilku-kariatu.

Distribution and Status in the Study Area: Common subgregarious in moist riverbeds and moist slopes along riverbanks at Kawant, Kikawada, Mogra, Jamlidam, Naswadi and Bordha.

Distribution in Gujarat: Throughout except Kachchh in damp places (Shah, 1978).

Local Uses: Plant is considered as tonic and used as substitute for 'Shankhapushpi (Convolvulus sp.)'. Plant decoction is boiled and is applied to relieve body pains.

Uses in other regions of Gujarat state: The paste of roots and flowers is taken with milk in case of nervous disorders by the tribals of Dangs forest division (Shah and Gopal, 1982). Locally called as "Zinku" in North Gujarat (Bhil and Dugrabhil tribe). Bitter plant extract given in fevers and nervous debility and to the children as laxative (Shah and Gopal, 1985).

Enicostemma Blume.nom.cons.

Nomenclature: Enicostemma hyssopifolium Willd. Sp. Pl. 1: 640. 1798; Enicostemma littorale C. B. Clarke in Hook. f. Fl. Brit. India 4: 101. 1883; Cooke, Fl. Pres. Bombay 2: 255, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 439, 1978; Singh, et al., Fl. Maha. Dicot. 2:405. 2000; Gentiana axillaries Lam., Tabl. Encycl. 1(2): 487. 1793; Gentiana verticillata L., Syst. Nat. ed. 12. 200. 1767; Enicostemma axillare (Lam.) A. Raynal in Adansonia 9: 75. 1969; Enicostemma verticillate (Willd.) Verdoorn in Bothalia 7: 462. 1961.

Habit: Simple or branched, erect, glabrous herbs with obtusely 4-gonous stem.

Phenology: FLS and FRS- June to November.

Sanskrit Name: Mamejjak.

Local Name: Kadvinal.

Distribution and Status in the Study Area: Common in cultivated fields, among grasses in waste places and in the forest undergrowth at Mithibor, Dolariya, Chhota-udepur, Manka, Mal, Mogra, Kadipani, Kundal, Koraj, Satun, Jamlidam, Lachharas and Ghantoli-songir.

Distribution in Gujarat: Throughout, mostly in plains among grasses and cultivated fields, common (Shah, 1978).

Local Uses: Plant is bitter, stomachache, tonic and laxative; used in rheumatism, abdominal ulcers, swellings and fever. The plant decoction is used in dropsy. The decoction of leaves is an excellent remedy for malarial fever.

Uses in other regions of Gujarat state: Locally called as "Zinu kariyatu" in North Gujarat (Kathodia tribe). Plant extract extremely bitter and is given in fever, stomachache and diabetes (Shah and Gopal, 1985).

Hoppea Willd.

Nomenclature: Hoppea dichotoma Heyne ex Willd., in Ges. Naturf. Fr. Neue Schriften 3: 435. 1801; Hook. f. Fl. Brit. India 4: 100. 1883; Cooke, Fl. Pres. Bombay 2: 236, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 441, 1978; Singh, et al., Fl. Maha. Dicot. 2:409. 2000.

Habit: A small, dichotomously branched, annual herb, with ascending branches; stem and branches 4-gonous, glabrous, pale-yellow and furrowed.

Phenology: FLS and FRS- September to December.

Distribution and Status in the Study Area: A small patch seen in moist ground at Satun.

Distribution in Gujarat: In moist places at many places except Kachchh; not common (Shah, 1978).

Nymphoides Seguire.

Nomenclature: Nymphoides cristatum (Roxb.) O. Kuntze. Rev. Gen. Pl. 429. 1891; Hook. f. Fl. Brit. India 4: 131. 1883; Cooke, Fl. Pres. Bombay 2: 261. 1958 (Repr. ed.); Shah, Fl. Guj. 1: 441. 1978. Singh, et al., Fl. Maha. Dicot. 2:414. 2000; Menyanthes cristata Roxb. Pl. Cor. 2:3. t. 105. 1798; Limnanthemum cristatum Griseb. Gen and Sp. Gentianaceae 342. 1839.

Habit: Floating glabrous herbs with almost orbicular entire glabrous leaves.

Phenology: FLS- October to December.

Sanskrit Name: Kumudini.

Local Name: Poyana.

Distribution and Status in the Study Area: Common hydrophytic element at the solitary pond in Pavi-jetpur.

Distribution in Gujarat: Common in ponds and along seasonal ditches except Saurashtra and Kachchh (Shah, 1978).

Nomenclature: Nymphoides indicum (L.) O. Kuntze. Rev. Gen. Pl. 2: 429. 1891; Hook. f. Fl. Brit. India 4: 131. 1883; Cooke, Fl. Pres. Bombay 2: 261. 1958 (Repr. ed.); Shah, Fl. Guj. 1: 442. 1978; Singh, et al., Fl. Maha. Dicot. 2:414. 2000; Meyanthes indica L. Sp. Pl. 145. 1753; Limnanthemum indicum (L.) Griseb. Emend. Thw. Enum. Pl. Zeyl. 205. 1860.

Habit: Stoloniferous herbs with glabrous, nearly orbicular leaves with wide sinus.

Phenology: FLS- October to March.

Sanskrit Name: Kumudini.

Local Name: Poyana.

Distribution and Status in the Study Area: Common in ponds at Chhota-udepur and Pavi-jetpur.

Distribution in Gujarat: Throughout and common in ponds and ditches except Saurashtra and Kachchh (Shah, 1978).

HYDROPHYLLACEAE

One species of the genus Hydrolea, i.e. H. zeylanica represents this family in the area.

Hydrolea Linn. nom cons.

Nomenclature: Hydrolea zeylanica (L.) Vahl. Symb. Bot. 2: 46. 1791; Hook. f. Fl. Brit. India 4: 133. 1883; Cooke, Fl. Pres. Bombay 2: 263, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 443, 1978; Singh, et al., Fl. Maha. Dicot. 2:415. 2000; Nama zeylanica Linn. Sp. Pl., 226. 1753.

Habit: Prostrate, procumbent or suberect herbs, often rooting at nodes, glandular hairy in younger parts and glabrous in older.

Phenology: FLS and FRS- November to February.

Sanskrit Name: Languli.

Distribution and Status in the Study Area: Collected from the margins of the ditches at Chhota-udepur.

Distribution in Gujarat: In drying moist ground at Dharampur, Bulsar, Dangs, Vyara, Chhotaudepur, Panchmahals and North Gujarat (Shah, 1978).

Local Uses: Leaves are antiseptic, and its paste is applied on skin ulcers as well as dry eczematous swellings.

EHRETIACEAE

This family is represented in the area by two species of the genus Ehretia. They are E. aspera and E. laevis.

Ehretia Linn.

Nomenclature: Ehretia aspera Willd. Phytographia 1(4): t. 2. f. 1. 1794; Ehretia laevis Roxb. var. aspera (Willd.) C. B. Clarke in Hook. f. Fl. Brit. India 4: 142. 1883; Cooke, Fl. Pres. Bombay 2: 270, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 447, 1978; Singh, et al., Fl. Maha. Dicot. 2:423. 2000.

Habit: 2-3 mt tall shrubs or sometimes 5-8 mt tall trees.

Phenology: FLS- February to May, FRS- April to June.

Local Name: Nani Vadhawadi.

Distribution and Status in the Study Area: Rare, only one tree seen at Ghantoli-songir in Naswadi range.

Distribution in Gujarat: Rajpipla, Chhotaudepur, Panchmahals, Saurashtra and Kachchh; rather not frequent (Shah, 1978).

Nomenclature: Ehretia laevis Roxb. Pl. Corom. 1: 42. t. 56. 1796; Hook. f. Fl. Brit. India 4: 141. 1883; Cooke, Fl. Pres. Bombay 2: 269, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 447, 1978; Singh, et al., Fl. Maha. Dicot. 2:424. 2000; Ehretia laevis var. floribunda (Benth.) Brandis. Forest Fl. N. W. India. 340. 1874.

Habit: A small to middle sized tree, 5-10 mt tall, with spreading branches; bark grey, smooth, scaly.

Phenology: FLS- February to May, FRS- April to June.

Local Name: Dantrango.

Distribution and Status in the Study Area: Rare, seen at Jamlidam and Ghantoli-songir.

Distribution in Gujarat: At many places except North Gujarat and Dharampur; not common (Shah, 1978).

CORDIACEAE

A total of three species belonging to the genus Cordia, i.e. C. dichotoma, C. domestica and C. wallichii represents this family in the area.

Cordia Linn.

Nomenclature: Cordia dichotoma G. Forster., Fl. Ins. Austr. 18. 1786; Hook. f. Fl. Brit. India 4: 136. 1883; Cooke, Fl. Pres. Bombay 2: 265, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 444, 1978; Singh, et al., Fl. Maha. Dicot. 2:417. 2000; Cordia indica Lam., Encyl. 7: 49. 1806; Cordia myxa Linn. Sp. Pl. 1753.

Habit: About 10-12 mt tall trees; bark dark ash colored or blackish, rough, fissured.

Phenology: FLS- January to April, FRS- March to May.

Sanskrit Name: Shelu, Kabrudar.

Local Name: Gundo.

Distribution and Status in the Study Area: Occasional in forests at Udhwania and Raipur-kundal.

Distribution in Gujarat: Throughout except Kachchh (Shah, 1978).

Local Uses: Ripe fruits are consumed as pickles by the locals.

Uses in other regions of Gujarat state: Locally called as "Bokar" in North Dangs forest division. The raw fruits are pickled and ripe ones are made into vegetables (Shah and Gopal, 1982). Mucilaginous fruit juice used to treat cough; bark decoction is astringent and used for gargling sore mouth (North Gujarat, Bhil and Dungrabhil tribe) (Shah and Gopal, 1985). Locally called as "Gundhi" in Dharampur forest division. Unripe fruits are pickled. Ripe fruits are edible (Reddy, 1989). Locally called as "Godhi" in Dangs forest division (Ahwa). Paste of the fruit is externally applied on headache by Bhil tribe (Maheshwari, Sikarwar and Painuli, 1994).

Nomenclature: Cordia domestica Roth., Nov. Sp. Pl., 123. 1821; Hook. f. Fl. Brit. India 4: 140. 1883; Cooke, Fl. Pres. Bombay 2: 267, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 445, 1978; Singh, et al., Fl. Maha. Dicot. 2:417. 2000; S and B 33; Cordia fulvosa Wt. Icon. 4(2): 15. t. 1380. 1850.

Habit: Small trees, densely fulvous or grey-tomentose at least in younger parts.

Phenology: FLS and FRS- June to August.

Sanskrit Name: Shleshmatak.

Local Name: Goradio sag.

Distribution and Status in the Study Area: This is rare tree found only at Koraj in forest division.

Distribution in Gujarat: Saurashtra, Panchmahals and Chhotaudepur; rare (Shah, 1978).

Nomenclature: Cordia wallichii G. Don., Gen. Hist. 4: 379. 1837-1838; Cordia oblique Willd. var. wallichii (G. Don) C. B. Clarke in Hook. f. Fl. Brit. India 4: 137. 1883; Cooke, Fl. Pres. Bombay 2: 266, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 446, 1978; Singh, et al., Fl. Maha. Dicot. 2:420. 2000; Cordia tomentosa Wallich in Roxb. Fl. Ind. 2: 339. 1824.

Habit: A small tree with tomentose leaves.

Phenology: FLS and FRS- December to February.

Sanskrit Name: Bahuvarak.

Local Name: Gundi.

Distribution and Status in the Study Area: Only a few trees located at Turkheda in Kawant range.

Distribution in Gujarat: Common in Gujarat (Cooke, 1958 Repr. ed.). Reported from Saurashtra, Chhotaudepur and Panchmahals (Shah, 1978).

BORAGINACEAE

A total of six species belonging to three genera have been observed in the area under this family.

Coldenia Linn.

Nomenclature: Coldenia procumbens L. Sp. Pl., 125. 1753; Hook. f. Fl. Brit. India 4: 144. 1883; Cooke, Fl. Pres. Bombay 2: 271, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 449, 1978; Singh, et al., Fl. Maha. Dicot. 2:416. 2000.

Habit: A prostrate herb, often radially spreading with woolly tomentose branches.

Phenology: FLS and FRS- November to June.

Local Name: Ukradio.

Distribution and Status in the Study Area: A common plant in drying moist grounds, along river banks and ditches at Chhota-udepur, Hampeshwar, Bordha and Jamlidam.

Distribution in Gujarat: Throughout in moist grounds (Shah, 1978).

Heliotropium Linn.

Nomenclature: Heliotropium ovalifolium Forsk. Fl. Aegypt.-Arab. 38. 1775; Hook. f. Fl. Brit. India 4: 150. 1883; Cooke, Fl. Pres. Bombay 2: 278, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 453, 1978; Singh, et al., Fl. Maha. Dicot. 2:427. 2000; Ch and O 147; S and B 33.

Habit: Annual herbs upto 25 cm tall; branches bluish-green, densely appressed hairy, at times radially spreading.

Phenology: FLS and FRS- March to July.

Local Name: Hathi sundh.

Distribution and Status in the Study Area: In cultivated fields and in drying moist grounds at Chhota-udepur, Ghelvant and Mogra.

Distribution in Gujarat: Throughout in drying ponds, ditches, cultivated fields etc; common and gregarious (Shah, 1978).

Local Uses: The plant extract serves as a local application for boils, ulcers, sores and insect bites. It is also given in sore throat and tonsil infection.

Nomenclature: Heliotropium marifolium Koen. ex Retz. Obs. Bot. 2: 8. 1781; Cooke, Fl. Pres. Bombay 2: 280, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 453, 1978; Singh, et al., Fl. Maha. Dicot. 2:426. 2000; Heliotropium scabrum Retz. Obs. Bot. 2: 8. 1781.

Habit: An annual, prostrate herb upto 10 cm long, radially spreading, clothed with appressed white hairs.

Phenology: FLS and FRS- September to October.

Sanskrit Name: Hastisundha.

Local Name: Zinu Ukaradiu.

Distribution and Status in the Study Area: An occasional weed among grasses; also in sandy soil in the riverbeds at Hampeshwar, Chhota-udepur, Zoz, Sadhli, Mogra, Raipur-kundal and Dhadagam.

Distribution in Gujarat: Throughout in plains among grasses and on sands along sea coasts; common (Shah, 1978).

Nomenclature: Heliotropium supinum Linn. Sp. Pl. 130. 1753; Heliotropium supinum var. malabaricum (Retz.) C. B. Clarke on Hook. f. Fl. Brit. India 4: 149. 1883; Cooke, Fl. Pres. Bombay 2: 275, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 455, 1978; Singh, et al., Fl. Maha. Dicot. 2:431. 2000; Heliotropium malabaricum Retz. Observ. Bot. 4: 24. 1786.

Habit: Annual, prostrate or suberect herbs, with radially spreading, 10-15 cm long with, apparently pubescent branches.

Phenology: FLS and FRS- December to April.

Local Name: Dhedio Ukaradiu.

Distribution and Status in the Study Area: Seen in moist cultivated fields at Chhota-udepur.

Distribution in Gujarat: Throughout, in drying moist grounds along margins of ponds, ditches, cultivated fields; common and gregarious (Shah, 1978).

Trichodesma R. Br.

Nomenclature: Trichodesma amplexicaule Roth. Nov. Pl. Sp. 104. 1821; Hook. f. Fl. Brit. India 4: 153. 1883; Cooke, Fl. Pres. Bombay 2: 215, 1908 and 2: 282, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 456, 1978; Singh, et al., Fl. Maha. Dicot. 2:435. 2000; Sedgwick in Rec. Bot. Surv. Ind. 6(8): 350. t. 11. 1919; Banerjee and Pramanik in Bull. Bot. Surv. India 17: 113. 1978.

Habit: Densely hispid, simple or branched, strigosely hairy, suffruticose herbs; hairs white from bulbous bases.

Phenology: FLS and FRS- August to October.

Sanskrit Name: Avakpushpi, Adhalpushpi, Adhpushpi.

Local Name: Undha-fal.

Distribution and Status in the Study Area: Common in cultivated fields among grasses and also as forest undergrowth at Satun, Mogra, Kadipani, Ambadungar, Koraj and Naswadi.

Distribution in Gujarat: Throughout (Shah, 1978).

Local Uses: Root decoction is given in insect bite. Plant is pounded and made into paste, that is applied on swellings and also given to small childrens in case of dysentery.

Nomenclature: Trichodesma zeylanicum (Burm. f.) R. Br. Prodr. 496. 1810; Hook. f. Fl. Brit. India 4: 154. 1883; Cooke, Fl. Pres. Bombay 2: 282, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 457, 1978; Singh, et al., Fl. Maha. Dicot. 2:436. 2000; Banerjee and Pramanik in Bull. Bot. Surv. India 17: 120. 1978; Borago zeylanica Burm. f. Fl. India. 41. 1768.

Habit: An erect, stout, densely hairy herb, 25-30 cm tall, branches ascending from the middle; hairs white or pale-brown from bulbous bases.

Phenology: FLS and FRS- March to July.

Sanskrit Name: Jhingi.

Distribution and Status in the Study Area: Common, scattered or subgregarious in cultivated fields and open grass lands at Kundal, Jamlidam and Rangpur.

Distribution in Gujarat: Throughout; common (Shah, 1978).

Local Uses: Leaves are diuretic and its decoction is used in urinary troubles.

CONVOLVULACEAE

This family is represented in the area by a total of 14 species belonging to 6 different genera.

Argyreia Lour.

Nomenclature: Argyreia nervosa (Burm. f.) Bojer. Hortus Maurit. 224. 1837; Hook. f. Fl. Brit. India 4: 185. 1883; Cooke, Fl. Pres. Bombay 2: 324, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 460, 1978; Singh, et al., Fl. Maha. Dicot. 2:445. 2000; Convolvulus nervosus Burm. f. Fl. India. 48. t. 201. 1768; Lettsomia nervosa (Burm. f.) Roxb. Fl. India. (Carey and Wallich ed.) 2: 78. 1824; Argyreia speciosa Sweet. Hort. Brit. ed. 2. 373. 1830.

Habit: An extensive twiner; stem and branches silky-pilose, spirally twisted.

Phenology: FLS and FRS- August to October.

Sanskrit Name: Vrudhdaru, Antkotarpushpi, Dhagantri.

Local Name: Samandrasog.

Distribution and Status in the Study Area: Occasional in the forests at Kadipani and Turkheda.

Distribution in Gujarat: Cultivated (Shah, 1978).

Local Uses: Hairy undersurface of fresh leaves applied to hasten suppuration of wounds and glabrous uppersurface used to heal them.

Uses in other regions of Gujarat state: Root powder said to increase semen fertility; leaf paste rubefacient; root decoction taken as tonic (North Gujarat, Dungrabhil tribe) (Shah and Gopal, 1985).

Nomenclature: Argyreia strigosa (Roth) Roberty in Candollea 14: 44. 1952; Hook. f. Fl. Brit. India 4: 194. 1883; Cooke, Fl. Pres. Bombay 2: 330, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 461, 1978; Singh, et al., Fl. Maha. Dicot. 2:448. 2000; Ipomoea strigosa Roth. Nov. Pl. Sp. 113. 1821; Lettsomia setosa Roxb. FL. India (Carey and Wallich ed.) 2: 80. 1824; Argyreia setosa Arnott ex Choisy. Convolv. Orient. 43. 1834.

Habit: Stout, twining shrubs, strigosely hairy in younger parts.

Phenology: FLS and FRS- August to October.

Distribution and Status in the Study Area: A solitary plant observed along Chhota-udepur to Rangur road.

Distribution in Gujarat: Dangs and Chhota-udepur (Ambadungar); rare (Shah, 1978).

Convolvulus Linn.

Nomenclature: Convolvulus microphyllus Sieber ex Spreng. Syst. Veg. 1: 611. 1825; Convolvulus pluricaulis var. macra C. B. Clarke in Hook. f. Fl. Brit. India 4: 218. 1883; Cooke, Fl. Pres. Bombay 2: 301, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 463, 1978; Singh, et al., Fl. Maha. Dicot. 2:450. 2000; Convolvulus pluricaulis Choisy. Convolv. Orient. 95. 1834; Convolvulus prostratus Forsk. Fl. Aegypt.-Arab. 203. 1775.

Habit: Prostrate or suberect, perennial herbs, somewhat woody at the base with 10-15 cm long hairy branches.

Phenology: FLS and FRS- October to March.

Sanskrit Name: Shankhapushpi, Shankavali.

Local Name: Safed-shankhavali.

Distribution and Status in the Study Area: Sparingly seen as a weed among grasses at Dhandhoda and Ghelvant.

Distribution in Gujarat: Throughout, common (Shah, 1978).

Local Uses: The entire plant decoction is used as a general tonic.

Evolvulus Linn.

Nomenclature: Evolvulus alsinoides (Linn.) L. Sp. Pl. (ed. 2) 392. 1762; Hook. f. Fl. Brit. India 4: 220. 1883; Cooke, Fl. Pres. Bombay 2: 297, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 464, 1978; Singh, et al., Fl. Maha. Dicot. 2:453. 2000; Ch and O 154; S and B 34; Convolvulus alsinoides Linn. Sp. Pl., 157. 1753.

Habit: Prostrate or suberect herbs, often with radially spreading hairy slender branches.

Phenology: FLS and FRS- August to October.

Sanskrit Name: Vishnugandhi.

Local Name: Kali Shankhavali.

Distribution and Status in the Study Area: Common among grasses and cultivated fields at Chhota-udepur, Sadhli, Kikawada, Ambadungar, Mogra, Jamlidam, Naswadi and Raipur-kundal.

Distribution in Gujarat: Throughout, among grasses; common (Shah, 1978).

Local Uses: Plant is bitter, tonic, febrifuge and vermifuge; used in dysentery. Decoction of the fresh leaves is given in bronchitis.

Uses in Other regions of Gujarat state: Leaf juice is used for ulcers by Bhil, Dhanka and Nayaka tribe of Khedbrahma region (North Gujarat) (Bhatt and Sabnis, 1987).

Ipomoea Linn.

Nomenclature: Ipomoea aquatica Forsk. Fl. Aegypt.-Arab. 44. 1775; Hook. f. Fl. Brit. India 4: 210. 1883; Cooke, Fl. Pres. Bombay 2: 315, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 468, 1978; Singh, et al., Fl. Maha. Dicot. 2:456. 2000; Convolvulus repens Vahl. Symb. Bot. 1: 17. 1790; Ipomoea repens (Vahl.) Roth. Nov. Pl. Sp. 110. 1821; Ipomoea reptens Poir., in Lamk. Encycl. Suppl. 3: 460. 1814.

Habit: Creeping, glabrous herbs, rooting at nodes, often with purple, glabrous stems.

Phenology: FLS and FRS- August to January.

Sanskrit Name: Kalambi.

Local Name: Nad Ni Vel.

Distribution and Status in the Study Area: In large patches near water courses, along margin of a pond at Pavi-jetpur.

Distribution in Gujarat: Throughout, in moist ground along margins of ponds and ditches or floating; common (Shah, 1978).

Local Uses: Plant juice is used as a purgative and as a tonic.

Nomenclature: Ipomoea batatas (L.) Lam. Tabl. Encycl. 1: 465. 1793; Hook. f. Fl. Brit. India 4: 202. 1883; Cooke, Fl. Pres. Bombay 2: 320, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 468, 1978; Singh, et al., Fl. Maha. Dicot. 2:484. 2000; Convolvulus batatas Linn. Sp. Pl., 154. 1753; Convolvulus edulis Thunb. Fl. Japan. 84. 1784; Batatas edulis (Thunb.) Choisy in Mem. Soc. Phys. Hist. Nat. Geneve 6: 435. 1834.

Habit: Perennial herbs with spindle shaped, dark-reddish-purple, tuberous roots and slender, glabrous, often reddish-purple stem.

Phenology: FLS and FRS- August to October.

Local Name: Shakkariyu.

Distribution and Status in the Study Area: An escape, along paths in Singla forests. It is not cultivated in the area.

Distribution in Gujarat: Cultivated; seldom an escape (Shah, 1978).

Local Uses: Eaten as vegetable by the locals during holi festival.

Nomenclature: Ipomoea fistulosa Mart. ex Choisy in DC., Prodr. 9: 349. 1845; Cooke, Fl. Pres. Bombay 2: 321, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 470, 1978; Singh, et al., Fl. Maha. Dicot. 2:460. 2000; Ipomoea carnea Jacq. Enum. Syst. Pl. 13. 1760; Ipomoea carnea Jacq. Subsp. fistulosa (Mart. ex Choisy) Austin in Taxon 26: 237. 1977; Batatus crassicaulis Benth. Bot. Voy. Sulphur. 5: 134. 1845; Ipomoea crassicaulis (Benth.) Robinson in Proc. Amer. Acad. Sci. 51: 530. 1916; Verma and Srivastava in J. Econ. Tax. Bot. 4: 903-907. 1983.

Habit: Large upto 3.5 to 4.0 mt tall straggling shrubs; bark greyish-black and rough.

Phenology: FLS and FRS- October to December, practically throughout the year.

Local Name: Nafatya.

Distribution and Status in the Study Area: Commonly seen as hedge plant along agricultural fields and in waste places near human habitation at Sadhli, Jabugam, Bhadurpur and Tejgadh.

Distribution in Gujarat: Throughout on hedges and low shrubs or trees in forests; native of America (Shah, 1978).

Local Uses: Used as a hedge or fencing plant for agricultural fields.

Nomenclature: Ipomoea nil (L.) Roth. Catal. Bot. 1: 36. 1797; Hook. f. Fl. Brit. India 4: 199. 1883; Cooke, Fl. Pres. Bombay 2: 321, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 472, 1978; Singh, et al., Fl. Maha. Dicot. 2:465. 2000; Convolvulus nil Linn. Sp. Pl. ed. 2. 219. 1762; Ipomoea hederacea Jacq. 1787.

Habit: Annual, slender, hairy and much branched herbaceous twiner.

Phenology: FLS and FRS- September to December.

Sanskrit Name: Krishnabija, Shyamabija.

Local Name: Safed panvali.

Distribution and Status in the Study Area: Common on hedges at Mogra, Kadipani, Kadipani-Ambadungar, Jamlidam, Naswadi and Ranbor. **PLATE 42**

Distribution in Gujarat: Throughout, on hedges and among grasses; common (Shah, 1978).

Local Uses: Seed decoction is used as remedy for acute dysentery.

Nomenclature: Ipomoea pes-tigridis Linn. Sp. Pl., 162. 1753; Ipomoea pes-tigridis var. hepaticifolia (L.) C. B. Clarke in Hook. f. Fl. Brit. India 4: 204. 1883; Cooke, Fl. Pres. Bombay 2: 320, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 473, 1978; Singh, et al., Fl. Maha. Dicot. 2:468. 2000; Ipomoea hepaticifolia Linn. Sp. Pl. 161. 1753.

Habit: Twining or trailing, densely hairy herbs.

Phenology: FLS- August to October, FRS- September to December.

Local Name: Gogvel.

Distribution and Status in the Study Area: Common on hedges in the undergrowth of forests at Vagasthal, Mogra, Kadipani, Satun and Naswadi.

Distribution in Gujarat: Throughout on hedges and among grasses in waste lands; common (Shah, 1978).

Local Uses: Decoction of the leaves is used in insect bite. Root paste is applied on boils, sores and ulcers.

Nomenclature: Ipomoea sepiaria Koenig ex Roxb. Fl. Ind. (Carey and Wallich ed.) 2: 90. 1824; Hook. f. Fl. Brit. India 4: 209. 1883; Cooke, Fl. Pres. Bombay 2: 315, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 473, 1978; Singh, et al., Fl. Maha. Dicot. 2:464. 2000; Ipomoea maxima (L. f.) G. Don ex Sweet. 1830; Oostroom in Blumea 3: 525. 1940.

Habit: A slender glabrous twiner.

Phenology: FLS and FRS- September to December.

Sanskrit Name: Putrada, Lakshmana.

Local Name: Bhamardi.

Distribution and Status in the Study Area: Occasional climber on hedges at Chhota-udepur, Ghelvant, Vagasthal, Kadipani, Sadhli, Jamlidam, Dugtha and Naswadi.

Distribution in Gujarat: Throughout on hedges and on shrubs or low trees in forests; not common (Shah, 1978).

Nomenclature: Ipomoea quamoclit Linn. Sp. Pl. 159. 1753; Hook. f. Fl. Brit. India 4: 199. 1883; Cooke, Fl. Pres. Bombay 2: 331, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 473, 1978; Singh, et al., Fl. Maha. Dicot. 2:486. 2000.

Habit: Slender, herbaceous twiners.

Phenology: FLS and FRS- Almost throughout the year.

Local Name: Kamini, Kamlata.

Distribution and Status in the Study Area: Occasional, an escape at Mogra, Chhota-udepur, Ambadungar and Nani-sadhli.

Distribution in Gujarat: Throughout, an ornamental or escape, on hedges (Shah, 1978).

Merremia Dennst.

Nomenclature: Merremia gangetica (L.) Cufod., in Bull. Jard. Bot. Jahrb. Brux. Suppl. 31: 743. 1961; Hook. f. Fl. Brit. India 4: 206. 1883; Cooke, Fl. Pres. Bombay 2: 307, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 478, 1978; Singh, et al., Fl. Maha. Dicot. 2:474. 2000; S and B 35; Convolvulus gangeticus Linn. Cent. Pl. 2: 9. 1756; Evolvulus emarginatus Burm. f. Fl. Ind. 77. t. 30. f. 1. 1768; Ipomoea reniformis Choisy in Mem. Soc. Phys. Geneve 6: 446. 1833; Merremia emarginata (Burm. f.) Hall. f., in Bot. Jahrb. 16: 552. 1893.

Habit: Prostrate, wiry, glabrous herbs rooting at nodes.

Phenology: FLS and FRS- August to February.

Sanskrit Name: Trivrat, Triputa, Nishoth.

Local Name: Fudardi.

Distribution and Status in the Study Area: Occasional in drying moist ground in harvested fields and waste lands among grasses at Chhota-udepur, Ambadungar, Richh-vel and Ghantoli-songir.

Distribution in Gujarat: Throughout, in drying moist ground (Shah, 1978).

Nomenclature: Merremia tridentata (L.) Hall. f., in Engl. Bot. Jahrb. Syst. 16: 552. 1893; Hook. f. Fl. Brit. India 4: 205. 1883; Cooke, Fl. Pres. Bombay 2: 306, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 480, 1978; Singh, et al., Fl. Maha. Dicot. 2:483. 2000; Convolvulus tridentatus Linn. Sp. Pl. 157. 1753; Ipomoea tridentata (L.) Roth in Roem. Arch. Bot. 1(2): 38. 1798.

Habit: Slender, prostrate or twining herbs.

Phenology: FLS and FRS- July to December.

Sanskrit Name: Prasarani.

Local Name: Undardi.

Distribution and Status in the Study Area: Common among grasses, in cultivated fields forming loose mats at Vagasthal, Chhota-udepur, Rajmahal-Chhota udepur, Juna Chhota-udepur, Naswadi, Bordha, Koraj, Jamliḍam, Kikawada and Ramapalasdi villages.

Distribution in Gujarat: Throughout, common (Shah, 1978).

Local Uses: Plant decoction is used as laxative. Root decoction is given in rheumatic pains and also in urinary disorders.

Uses in other regions of Gujarat state: 1 ml of plant extract with water in the morning acts as a purgative (North Gujarat, Bhil and Dungrabhil tribe) (Shah and Gopal, 1985). Locally called as "Nasotar" in Rajpipla forest division (Vasava tribe). Root is thoroughly pounded and soaked in water for some time. It is then administered along with water orally for constipation (Shah and Gopal, 1986).

Rivea Choisy.

Nomenclature: Rivea hypocrateriformis (Desr.) Choisy in Mem. Soc. Phys. Hist. Nat. Geneve 6: 408. 1834; C. B. Clarke in Hook. f. Fl. Brit. India 4: 184. 1883; Cooke, Fl. Pres. Bombay 2: 323, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 481, 1978; Singh, et al., Fl. Maha. Dicot. 2:480. 2000; Convolvulus hypocrateriformis Desr., in Lam., Encycl. 3: 561. 1792.

Habit: An extensive appressed white-tomentose, woody climber.

Phenology: FLS- August to October, FRS- August to February.

Local Name: Fang.

Distribution and Status in the Study Area: Occasional on hedges along road sides and cultivated fields at Chhota-udepur, Zoz, Naswadi, Kikawada, Satun, Jamlidam, Lachharas, Panimines and Sadhli.

Distribution in Gujarat: Throughout, on hedges; common (Shah, 1978).

CUSCUTACEAE

Two species of the genus Cuscuta, i.e. C. chinensis and C. reflexa represents this family in the study area.

Cuscuta Linn.

Nomenclature: Cuscuta chinensis Lam. Encycl. 2: 229. 1786; C. B. Clarke in Hook. f. Fl. Brit. India 4: 226. 1883; Cooke, Fl. Pres. Bombay 2: 293, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 482, 1978; Singh, et al., Fl. Maha. Dicot. 2:491. 2000.

Habit: A twiner, much branched, filiform, leafless, pale-yellow and glabrous with bifid style.

Phenology: FLS and FRS- August to December.

Sanskrit Name: Amarvela, Antravalli.

Local Name: Akas vel.

Distribution and Status in the Study Area: A common parasite on Zizyphus xylopyra at Koraj forests.

Distribution in Gujarat: Throughout in plains; but not common (Shah, 1978).

Nomenclature: Cuscuta reflexa Roxb. Pl. Corom. 2: 3. t. 104. 1799; Hook. f. Fl. Brit. India 4: 225. 1883; Cooke, Fl. Pres. Bombay 2: 292, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 482, 1978; Singh, et al., Fl. Maha. Dicot. 2:492. 2000; Cuscuta santapauli Banerji and Das in J. Arnold Arb. 46: 87. 1965.

Habit: Leafless, fleshy, glabrous, twining, yellow or yellowish green herbs with simple style (one fid).

Phenology: FLS and FRS- October to January.

Sanskrit Name: Amarvela, Akashvalli.

Local Name: Akas-vel.

Distribution and Status in the Study Area: Sparingly seen as a parasite on Clerodendrum inerme at Adtia and Koraj villages.

Distribution in Gujarat: Throughout, very common (Shah, 1978).

Local Uses: The plant paste is externally used against itch and as a wash for ulcerative perforations. Seed decoction is used in bilious disorders.

SOLANACEAE

A total of 11 species belonging to 7 genera represents this family in the area.

Capsicum Linn.

Nomenclature: Capsicum annuum Linn. Sp. Pl. 188. 1753; Cooke, Fl. Pres. Bombay 2: 347, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 484, 1978; Singh, et al., Fl. Maha. Dicot. 2:510. 2000; Deb in J. Econ. Tax. Bot. 1: 35. 1980.

Habit: Erect, 20-40 cm tall, glabrous herbs.

Phenology: FLS and FRS- Throughout the year.

Sanskrit Name: Katuvira, Pitkarini.

Local Name: Marchu.

Distribution and Status in the Study Area: Cultivated at Sadhli and Ghelvant villages in the forest division.

Distribution in Gujarat: Cultivated throughout, very seldom an escape (Shah, 1978).

Local Uses: Cultivated by the locals for fruits.

Uses in other regions of Gujarat state: The fruits are used as a condiment in culinary (Shah and Gopal, 1982).

Datura Linn.

Nomenclature: Datura innoxia Mill., Gard. Dict. ed. 8. n. 5. 1768; Hook. f. Fl. Brit. India 4: 243. 1883; Cooke, Fl. Pres. Bombay 2: 344, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 485, 1978; Singh, et al., Fl. Maha. Dicot. 2:495. 2000; Datura metel Linn. Sp. Pl. 1753; Deb in J. Econ. Tax. Bot. 1: 37. 1980.

Habit: An undershrubs with tomentose stem and branches.

Phenology: FLS- September to January, FRS- December to March.

Sanskrit Name: Dhustura, Unmat, Bahanvallabh.

Local Name: Jangli Dhanturo.

Distribution and Status in the Study Area: Located in waste places at Chhota-udepur and Bhadurpur. **PLATE 42**

Distribution in Gujarat: Throughout, scattered or subgregarious; occasional (Shah, 1978).

Local Uses: Leaf paste mixed with lime applied to local swellings in mumps.

Uses in other regions of Gujarat state: The seed paste made in the latex of *Calotropis procera* is applied as arrow head poisons by the tribals of Dangs forest division (Shah and Gopal, 1982).

Nomenclature: *Datura metel* Linn. Sp. Pl. 179. 1753; Deb in J. Econ. Tax. Bot. 1: 37. 1980; Cooke, Fl. Pres. Bombay 2: 343, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 485, 1978; Singh, et al., Fl. Maha. Dicot. 2:496. 2000.

Habit: 45-80 cm tall, glabrous annuals.

Phenology: FLS- September to February, FRS- December to March.

Sanskrit Name: Matul, Dhutra.

Local Name: Dhanturo. **PLATE 42**

Distribution and Status in the Study Area: Commonly seen along waste places in dry Orsang riverbeds often associated with *Solanum xanthocarpum*.

Distribution in Gujarat: Throughout; common (Shah, 1978).

Local Uses: Leaves are applied on boils, sores and insect bites. Poultice of the leaves increases milk flow in mother. Seeds and fruits are narcotic, sedative and intoxicating. Leaf juice in small quantity of water is taken for the relief of asthma.

Uses in other regions of Gujarat state: Leaves are smoked to cure coughs by bhil tribal community of Ratanmahal forests (Bedi, 1979).

Lycopersicon Mill.

Nomenclature: *Lycopersicon lycopersicum* (L.) Farewell. Ann. Rep. Comm. Park and Boul. Det. II: 84. 1900; C. B. Clarke in Hook. f. Fl. Brit. India 4: 237. 1883; Cooke, Fl. Pres. Bombay 2: 345, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 486, 1978; Singh, et al., Fl. Maha. Dicot. 2:514. 2000; *Solanum lycopersicum* Linn. Sp. Pl. 185. 1753; *Lycopersicon esculentum* Mill., Gard. Dict. ed. 8. n. 2. 1768; Terrell in Taxon 26: 129. 1977.

Habit: Erect or diffuse, 30-40 cm tall, glandular pubescent herbs.

Phenology: FLS and FRS- Almost throughout the year.

Local Name: Tamata.

Distribution and Status in the Study Area: Cultivated at Pavi-jetpur range of the forest division.

Distribution in Gujarat: Cultivated; also frequent as an escape (Shah, 1978).

Local Uses: Consumed by the tribals of the area as vegetable.

PLATE 42



Ipomoea Sp. Common hedge plant. (Convolvulaceae).



Ipomoea nil (Linn.) Roth. In flowering. Occasional in the area. (Convolvulaceae)



Datura innoxia Mill. (Solanaceae) In flowering. Common in the area. Association with Solanum surattense Burm. f.



Datura metel Linn. with distinct violet-purple flower. (Solanaceae)

Uses in other regions of Gujarat state: The fruits are eaten raw or cooked by the tribals of Dangs forest division (Shah and Gopal, 1982). Ripe fruits are used as vegetable; pickled and eaten raw (Dharampur forests) (Reddy, 1989).

Nicotiana Linn.

Nomenclature: Nicotiana tabacum Linn. Sp. Pl. 180. 1753; Hook. f. Fl. Brit. India 4: 245. 1883; Cooke, Fl. Pres. Bombay 2: 346, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 487, 1978; Singh, et al., Fl. Maha. Dicot. 2:515. 2000; Deb in J. Econ. Tax. Bot. 1: 43. 1980.

Habit: Viscidly pubescent, erect, 30-50 cm tall herbs.

Phenology: FLS and FRS- November to February.

Sanskrit Name: Tamrakut, Sharpatra, Vajrabhrungi.

Local Name: Tamaku.

Distribution and Status in the Study Area: Cultivated at Chhota-udepur and Rangpur range of forest division.

Distribution in Gujarat: Cultivated as a cash crop on small or large scales throughout; also as an escape (Shah, 1978).

Local Uses: Cultivated and used as psycho-active drug by the locals. Inhaled along with Diospyros and Bauhinia leaves.

Physalis Linn.

Nomenclature: Physalis minima L. Sp. Pl. 183. 1753; Physalis minima L. var. indica (Lam.) C. B. Clarke in Hook. f. Fl. Brit. India 4: 238. 1883; Cooke, Fl. Pres. Bombay 2: 340, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 488, 1978; Singh, et al., Fl. Maha. Dicot. 2:500. 2000; Deb in J. Econ. Tax. Bot. 1: 43. 1980; Physalis indica Lam. Encycl. 2: 102. 1786.

Habit: A diffuse or suberect glabrous herb.

Phenology: FLS and FRS- August to January.

Sanskrit Name: Tankari.

Local Name: Parpoti.

Distribution and Status in the Study Area: A common weed in cultivated fields and waste places along railway lines at Ghelvant, Dhandhoda, Kadipani, Naswadi and Juna Chhota-udepur.

Distribution in Gujarat: Throughout, common (Shah, 1978).

Local Uses: Fruits are considered as tonic and diuretic. Leaf juice is used in toothache.

Uses in other regions of Gujarat state: The plant is a bitter tonic; used in abdominal troubles by the locals of Saurashtra (Shah, Menon and Gopal, 1981). Ripe fruits are eaten by the natives of Dharampur forests (Reddy, 1989).

Solanum Linn.

Nomenclature: Solanum indicum Linn. Sp. Pl. 187. 1753; Hook. f. Fl. Brit. India 4: 234. 1883; Cooke, Fl. Pres. Bombay 2: 336, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 490, 1978; Singh, et al., Fl. Maha. Dicot. 2:503. 2000.

Habit: Stout, 70-80 cm tall erect, armed undershrubs with smooth, pale brown or dark purple bark, densely stellate and pubescent in younger parts; spines yellowish brown, straight with a conical base.

Phenology: FLS and FRS- August to December.

Sanskrit Name: Vanavrintaki, Vrihat kantkari.

Local Name: Ubhi ringan.

Distribution and Status in the Study Area: Common in waste places along roadsides at Juna Chhota-udepur, Kadipani, Adtia and Naswadi.

Distribution in Gujarat: In all zones, but restricted in distribution; not common (Shah, 1978).

Local Uses: Roots are carminative and expectorant; useful in asthma, cough, toothache, fever and worms. Decoction of roots is applied to relieve bodyache.

Uses in other regions of Gujarat state: Locally called as "Ubhi ringni" in Saurashtra region. The flower buds are used by tribals to dye eyes red on auspicious occasions (Shah, Menon and Gopal, 1981).

Nomenclature: Solanum melongena Linn. Sp. Pl. 186. 1753; Hook. f. Fl. Brit. India 4: 235. 1883; Cooke, Fl. Pres. Bombay 2: 339, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 490, 1978; Singh, et al., Fl. Maha. Dicot. 2:517. 2000; Deb in J. Econ. Tax. Bot. 1: 48. 1980.

Habit: 30-80 cm tall, armed or unarmed, grey-stellate-tomentose shrubs or undershrubs.

Phenology: FLS and FRS- Almost throughout the year.

Sanskrit Name: Vrantank, Bhantaki.

Local Name: Ringana, Ringan.

Distribution and Status in the Study Area: Cultivated at Tejgadh and surrounding villages.

Distribution in Gujarat: Cultivated throughout, at times an escape in waste places (Shah, 1978).

Local Uses: Cultivated and consumed as vegetable by the locals of the area.

Uses in other regions of Gujarat state: The fruits are used as vegetable by the tribals of Dangs forest division (Shah and Gopal, 1982). Fruits are eaten by the tribals of Dharampur forest division (Reddy, 1989).

Nomenclature: Solanum nigrum Linn. Sp. Pl. 186. 1753; Hook. f. Fl. Brit. India 4: 229. 1883; Cooke, Fl. Pres. Bombay 2: 332, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 491, 1978; Singh, et al., Fl. Maha. Dicot. 2:505. 2000; Deb in J. Econ. Tax. Bot. 1: 49. 1980; Solanum rubrum Mill. Gard. Dict. ed. 8. n. 4. 1768.

Habit: Annual, erect herbs, glabrous but thinly pubescent in younger parts.

Phenology: FLS and FRS- June to January.

Sanskrit Name: Kakaha, Kakamachi, Vayasi.

Local Name: Piludo.

Distribution and Status in the Study Area: It is a common weed in the explored area mainly at Ghelvant and near by surroundings.

Distribution in Gujarat: Throughout, a weed everywhere; common (Shah, 1978).

Local Uses: Fruit i.e. berries are used in fever, dysentery, diarrhoea and eye complaints. Plant decoction is diuretic and given in liver and gastric complaints. Plant decoction is considered as antispasmodic and narcotic.

Uses in other regions of Gujarat state: Locally called as "piludi" in Ratanmahal forests. Bhil tribal community uses leaf decoction to remove effects of opium (Bedi, 1979).

Nomenclature: Solanum surattense Burm. f. Fl. Ind. 57. 1768; Hook. f. Fl. Brit. India 4: 236. 1883; Cooke, Fl. Pres. Bombay 2: 335, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 491, 1978; Singh, et al., Fl. Maha. Dicot. 2:506. 2000; Deb in J. Econ. Tax. Bot. 1: 51. 1980; Solanum xanthocarpum Schrad. and Wendl., in Schrad. Sert. Hannov. 1: 8. t. 2. 1795; Solanum virginianum Linn. Sp. Pl. 187. 1753.

Habit: Diffuse or procumbent, perennial herbs, stellately pubescent in younger parts, heavily armed with pale-yellow spines.

Phenology: FLS- October to June, FRS- February to June.

Sanskrit Name: Sudra, Bhantaki, Kantkari, Laghu kantkari.

Local Name: Bhiringni.

Distribution and Status in the Study Area: Common in fields and waste lands in forest division.

Distribution in Gujarat: Throughout, a weed everywhere; common (Shah, 1978).

Local Uses: Fruits are used in sore throat. Plant is used in dropsy, gonorrhoea, rheumatism and kidney stones. Root decoction is applied on insect bite. Often this plant is used as a substitute for Solanum indicum.

Uses in other regions of Gujarat state: Locally called as "Bhoy-ringeni" by bhil tribal community of Ratanmahal forests. Root decoction is used to cure fever and is anti-asthmatic (Bedi, 1979). The fruit juice is given in ordinary fevers. The seed smoke is inhaled to treat toothache by the tribals of Dangs forest division (Shah and Gopal, 1982).

Withania Pauq.nom.cons.

Nomenclature: Withania somnifera (L.) Dunal in DC., Prodr. 13(1): 453. 1852; Hook. f. Fl. Brit. India 4: 239. 1883; Cooke, Fl. Pres. Bombay 2: 341, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 492, 1978; Singh, et al., Fl. Maha. Dicot. 2:509. 2000; Physalis somnifera Linn. Sp. Pl. 182. 1753; Deb in J. Econ. Tax. Bot. 1: 52. 1980.

Habit: Undershrubs about 70-100 cm tall with spreading branches at times lower ones diffuse; branches terete, densely stellately grey-tomentose beneath.

Phenology: FLS and FRS- September to October.

Sanskrit Name: Vajigandha, Ashvakandika, Varahkarni.

Local Name: Asgandh.

Distribution and Status in the Study Area: Not common, seen along road sides near Turkheda and Ranbor villages.

Distribution in Gujarat: Throughout in plains, common (Shah, 1978).

Local Uses: Roots are aphrodisiac, tonic, diuretic, narcotic and abortifacient; used in rheumatism and general debility. Decoction of leaves is used in fever, swellings and ulcers. Paste of both leaves and roots is used as an antibacterial agent.

Uses in other regions of Gujarat state: Locally called as "Asuntho/Ahan/Ghodasan" in North Gujarat (Bhil and Dugrabhil tribe). Leaf and root powder are narcotic, diuretic and deobstruent; leaf paste applied to fester boils (Shah and Gopal, 1985).

SCROPHULARIACEAE

A total of 12 species belonging to 10 genera represents this family in the study area.

Bacopa Aubl.nom.cons.

Nomenclature: Bacopa monnieri (L.) Wettst., in Engl. and Prantl. Nat. Pflanzenfam. IV. 3b: 77. 1891; Hook. f. Fl. Brit. India 4: 272. 1884; Cooke, Fl. Pres. Bombay 2: 356, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 495, 1978; Singh, et al., Fl. Maha. Dicot. 2:524. 2000; Pennell in Proc. Acad. Nat. Sci. Philadelphia 98. 94. 1946; Lysimachia monnieri L. Cent. Pl. II: 9. 1756; Moniera cuneifolia Michx. Fl. Bor.-Amer. 2: 22. 1803; Herpestis monnieri (L.) Kunth in Humb. Bonpl. and Kunth. Nov. Gen. Sp. 2: 366. 1818.

Habit: A creeping, fleshy, glabrous herb with 10-15 cm long spreading branches.

Phenology: FLS and FRS- August to March.

Sanskrit Name: Toyvallii, Nirabrahmi, Kandkatuka, Jalasaya, Tiktalonika.

Local Name: Bamm.

Distribution and Status in the Study Area: Commonly seen in patches, in wet and moist places throughout the forest division at Chhota-udepur, Sadhli, Satun, Boriyad, Jamlidam and Ghelvant.

Distribution in Gujarat: Throughout in moist places, in small or large patches (Shah, 1978).

Local Uses: Plant decoction is used as a nervine tonic. Decoction of leaves is given in asthma, insanity and insect bite.

Uses in other regions of Gujarat state: Locally called as "Bam" in Ratanmahal forests. Leaf juice is antirheumatic (Bedi, 1979). Locally called as "Jalnaveri" in Saurashtra region. After sweetening the plant juice with sugar and mixed with ginger juice and bark extract of *Moringa oleifera*, it is given to the children in stomach disorders. It is also a nervine tonic, but the leaf juice as such is applied on rheumatic swellings (Shah, Menon and Gopal, 1981). The slightly acidic leaves are used as a vegetable by the tribals of Dangs forest division (Shah and Gopal, 1982).

Buchnera Linn.

Nomenclature: Buchnera hispida Buch.-Ham. ex D. Don. Prodr. Fl. Nepal. 91. 1825; Hook. f. Fl. Brit. India 4: 298. 1884; Cooke, Fl. Pres. Bombay 2: 373, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 496, 1978; Singh, et al., Fl. Maha. Dicot. 2:526. 2000.

Habit: 10-20 cm tall, hispidly hairy slender herbs.

Phenology: FLS and FRS- September to October.

Distribution and Status in the Study Area: Occasional among grasses at Pavi-jetpur range.

Distribution in Gujarat: Bulsar, Dangs and Chhota-udepur, rare among grasses (Shah, 1978).

Kickxia Dumort.

Nomenclature: Kickxia incana (Wallich) Pennell in Acad. Nat. Sci. Philadelphia Monogr. 5: 59. 1943; Linaria ramosissima Wallich var. pubescens Stocks ex Hook. in Hook. f. Fl. Brit. India 4: 251. 1884; Cooke, Fl. Pres. Bombay 2: 354, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 498, 1978; Singh, et al., Fl. Maha. Dicot. 2:530. 2000; Linaria incana Wallich. Pl. Asiat. Rar. 2: 43. 1831; Linaria cabulica Benth., in DC., Prodr. 10: 270. 1846.

Habit: A slender glabrous herb with alternate branches.

Phenology: FLS and FRS- October to December.

Distribution and Status in the Study Area: Rare in the areas, observed on rock cuttings and hilly slopes at Kikawada, Kawant and Hampeshwar.

Distribution in Gujarat: Pavagadh and Chhotaudepur (Shah, 1978). Also from Saurashtra and Kachchh (Patel, 1984).

Limnophila R. Br.nom.cons.

Nomenclature: Limnophila indica (L.) Druce in Rep. Bot. Exch. Club Brit. Isles 1913(3): 420. 1914; Hook. f. Fl. Brit. India 4: 271. 1884; Cooke, Fl. Pres. Bombay 2: 362, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 498, 1978; Singh, et al., Fl. Maha. Dicot. 2:532. 2000; Philox in Kew Bull. 24: 115. 1970; Hottonia indica Linn. Syst. Nat. ed. 10. 919. 1759; Limnophila gratioloides R. Br. Prodr. 442. 1810.

Habit: Annual herbs, erect, sparingly branched, smelling strongly of turpentine, often reddish-purple, glabrous.

Phenology: FLS and FRS- March to April.

Sanskrit Name: Ambiya.

Local Name: Tarai.

Distribution and Status in the Study Area: Rare in water logged grounds at Hampeshwar and Sadhli.

Distribution in Gujarat: Throughout in water logged soil or moist ground; common, gregarious (Shah, 1978).

Local Uses: Juice of the entire plant is used in body pains. Leaf infusion is used in dysentery and dyspepsia.

Linderbergia Lehm.

Nomenclature: Linderbergia muraria (Roxb. ex D. Don) P. Bruehl in Journ. Dept. Sci. Calc. Univ. 2(Bot.): 27. 1920; Hook. f. Fl. Brit. India 4: 262. 1884; Cooke, Fl. Pres. Bombay 2: 379, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 499, 1978; Singh, et al., Fl. Maha. Dicot. 2:535. 2000; Stemodia muraria Roxb. ex D. Don. Prodr. Fl. Nep. 89. 1825; Dodartia indica Linn. Sp. Pl. 633. 1753; Linderbergia urticaefolia Lehm., in Link and Otto. Icon. Pl. Rar. Hort. Berol. 95. t. 31. 1828; Linderbergia indica (L.) O. Ktze. Rev. Gen. Pl. 462. 1891.

Habit: Glandular-villous, 15-30 cm tall, copiously branched annual herbs, generally erect, sometimes trailing or even trailing.

Phenology: FLS and FRS- Almost throughout the year.

Local Name: Patharchati.

Distribution and Status in the Study Area: Common, scattered or subgregarious on hilly slopes or rock cuttings, at times a weed in cultivated fields at Vagasthal, Zoz, Panvad, Kikawada, Kadipani-Hampeshwar, Sadhli, Adtia and Naswadi.

Distribution in Gujarat: Throughout; common on old walls, river slopes and in cultivated fields (Shah, 1978).

Local Uses: Plant decoction is given in asthma and bronchial troubles. It is mixed with Trigonella foenum-graceum and then applied in skin eruptions.

Lindernia All.

Nomenclature: Lindernia ciliata (Colsm.) Pennell in Brittonia 2: 182. 1936; Hook. f. Fl. Brit. India 4: 284. 1884; Cooke, Fl. Pres. Bombay 2: 369, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 500, 1978; Singh, et al., Fl. Maha. Dicot. 2:537. 2000; Mukerjee in J. Indian. Bot. Soc. 24: 133. 1945; Gratiola ciliata Colsm. Prodr. Deser. Gratiol. 14. 1793; Gratiola serrata Roxb. Fl. Ind. (Carey and Wallich ed.) 1: 139. 1820; Bonnaya brachiata Link and Otto. Icon. Pl. Select. 2: 25. t. 11. 1820.

Habit: A tiny herb with 4-gonous, slender, glabrous stem and branches.

Phenology: FLS and FRS- September to November.

Distribution and Status in the Study Area: A weed in cultivated fields, wet places and among grasses in open ground or in the forests undergrowth; common in the forest of Ambadungar, Naswadi and Richh-vel.

Distribution in Gujarat: Throughout in cultivated fields and among grasses; common (Shah, 1978).

Nomenclature: Lindernia oppositifolia (Retz.) Mukerjee in J. Indian. Bot. Soc. 24: 134. 1945; Hook. f. Fl. Brit. India 4: 286. 1884; Cooke, Fl. Pres. Bombay 2: 370, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 502, 1978; Singh, et al., Fl. Maha. Dicot. 2:540. 2000; Gratiola oppositifolia Retz. Observ. Bot. 4: 8. 1786; Bonnaya oppositifolia Spreng. Syst. Veg. 1: 41. 1825.

Habit: Annual, glabrous, erect or suberect, 15-25 cm tall herbs.

Phenology: FLS and FRS- August to October.

Distribution and Status in the Study Area: A few plants are observed in waste lands at Chhota-udepur.

Distribution in Gujarat: Bulsar, Dangs, Chhotaudepur, Pavagadh, Panchmahals and North Gujarat, among grasses; not common (Shah, 1978).

Uses in Other regions of Gujarat State: Juice of the leaves is used as a remedy for checking miscarriage or abortion (Bhatt and Sabnis, 1987).

Nomenclature: Lindernia parviflora (Roxb.) Haines. Bot. Bihar. Orissa 4: 635. 1922; Hook. f. Fl. Brit. India 4: 283. 1884; Cooke, Fl. Pres. Bombay 2: 368, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 502, 1978; Singh, et al., Fl. Maha. Dicot. 2:540. 2000; Mukerjee in J. Indian. Bot. Soc. 24: 132. 1945; Gratiola parviflora Roxb. Pl. Corom. 3: 3. t. 203. 1811; Illysanthes parviflora (Roxb.) Benth., in DC., Prodr. 10: 419. 1846.

Habit: Annual, erect, glabrous herb with opposite, ascending branches, lower ones at times diffuse and radially spreading.

Phenology: FLS and FRS- September to December.

Distribution and Status in the Study Area: A weed in cultivated fields at Chhota-udepur.

Distribution in Gujarat: Throughout, a weed in cultivated fields or drying moist grounds; common (Shah, 1978).

Mecardonia Ruiz et Pavon.

Nomenclature: Mecardonia procumbens (Mill.) Sm. Fl. S-E U. S. 1065. 1913; Hook. f. Fl. Brit. India 4: 289. 1884; Shah, Fl. Guj. 1: 503, 1978. Singh, et al., Fl. Maha. Dicot. 2:549. 2000; Erinus procumbens Mill. Grdn. Dict. ed. 8. n. 6. 1768; Lindernia dianthera Sw. Proc. Veg. Ind. Occ. 92. 1788; Mecardonia dianthera (Sw.) Pennell in Prodr. Acad. Nat. Sci. Philad. 98: 87. 1946.

Habit: Prostrate herbs, 15-20 cm long, suffruticose at times branches radially spreading, occasionally geniculately ascending; stem and branches terete, glabrous, flexous in younger parts.

Phenology: FLS and FRS- November to May.

Distribution and Status in the Study Area: Rare in the Narmada riverbeds at Hampeshwar, Kawant range.

Distribution in Gujarat: So far found in alluvial beds of river Narmada at Rajpipla and Broach (Shah, 1978).

Sopubia Buch.-Ham.

About Genus: Species about 40, distributed in tropics (Samvatsar, 1996).

Nomenclature: Sopubia delphinifolia (L.) G. Don. Gen. Hist. 4: 560. 1837-1838; Hook. f. Fl. Brit. India 4: 302. 1884; Cooke, Fl. Pres. Bombay 2: 378, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 505, 1978; Singh, et al., Fl. Maha. Dicot. 2:547. 2000; Gerardia delphinifolia Linn. Cent. Pl. II. 21. 1756.

Habit: Annual, erect, suffruticose, glabrous herb much branched from above middle.

Phenology: FLS and FRS- October to December.

Distribution and Status in the Study Area: Common among grasses at Rajmahal Chhota-udepur, Mogra, Ambadungar and Jamlidam.

Distribution in Gujarat: Throughout among grasses (Shah, 1978).

Local Uses: Plant juice is astringent and applied externally to heal sores caused due to exposure to moisture.

Striga Lour.

Nomenclature: Striga angustifolia (D. Don) Saldhana in BOBSI 5: 70. 1963; Hook. f. Fl. Brit. India 4: 299. 1884; Cooke, Fl. Pres. Bombay 2: 376, 1958 (Repr. ed). (non Buchnera euphrasioides Vahl.); Shah, Fl. Guj. 1: 507, 1978; Singh, et al., Fl. Maha. Dicot. 2:549. 2000; Buchnera angustifolia D. Don. Prodr. Fl. Nepal. 91: 1825;

Buchnera euphrasioides Benth. Scroph. Ind. 41. 1835; Striga euphrasioides Benth., in Hook. Comp. Bot. Mag. 1: 364. 1836.

Habit: Erect, annual, slender herbs with opposite, ascending branches; stem and branches deeply grooved, pale-green or greyish, hairy.

Phenology: FLS and FRS- August to October.

Sanskrit Name: Kuranti.

Local Name: Dholo agro.

Distribution and Status in the Study Area: A Common weed in cultivated fields and among grasses at Naswadi, Chhota-udepur, Kadipani, Ambadungar, Ghantoli-songir and Sadhli.

Distribution in Gujarat: Throughout, in grasses, common (Shah, 1978).

Local Uses: Plant decoction is useful to improve appetite and blood diseases.

Verbascum Linn.

Nomenclature: Verbascum chinense (L.) Santapau. Fl. Purandhar 90. 1958 and in Rec. Bot. Surv. India. 16: 177.1967; Hook. f. Fl. Brit. India 4: 251. 1884; Cooke, Fl. Pres. Bombay 2: 352, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 510, 1978; Singh, et al., Fl. Maha. Dicot. 2:554. 2000; Scrophularia chinensis L. Mant. Pl. 250. 1771; Celsia coromandeliana Vahl. Symb. Bot. 3: 79. 1794; Verbascum celsioides Benth., in DC. Prodr. 10: 229. 1846; Verbascum coromandeliana (Vahl.) Kuntze. Revis. Gen. Pl. 2: 468. 1891.

Habit: Annual, erect, glandular hairy herbs with both radical and cauline leaves.

Phenology: FLS and FRS- December to April.

Local Name: Kolhatki.

Distribution and Status in the Study Area: A common weed in waste lands, cultivated fields, moist river beds at Chhota-udepur, Panvad, Hampeshwar, Rajuwant, Bordha and Ranbor.

Distribution in Gujarat: Throughout, a weed in waste places and cultivated fields (Shah, 1978).

OROBANCHACEAE

One species belonging to genus Orobanchae, i.e. O. aegyptica represents this family in the area.

Orobanchae Linn.

Nomenclature: Orobanchae aegyptica Pers. Syst. Pl. 2: 181. 1806; Hook. f. Fl. Brit. India 4: 326. 1884; Cooke, Fl. Pres. Bombay 2: 387, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 513, 1978; Singh, et al., Fl. Maha. Dicot. 2:561. 2000; Orobanchae indica Buch.-Ham. ex Roxb. Fl. Ind. 3: 27. 1832.

Habit: 15-30 cm tall, leafless herbs, branched from the base.

Phenology: FLS and FRS- January to March.

Local Name: Vakumbdo.

Distribution and Status in the Study Area: Sparingly seen as a parasite on Nicotiana tabacum and Solanum melongena at Ranbhun and Chhota-udepur only.

Distribution in Gujarat: Kachchh, Saurashtra, North Gujarat, Chhotaudepur; a common parasite on roots of Nicotiana, Lycopersicon, Petunia, Brassica and Cuminum (Shah, 1978).

LENTIBULARIACEAE

One species of the genus Utricularia, i.e. U. inflexa var. stellaris have been observed in the area under this family.

Utricularia Linn.

Nomenclature: Utricularia inflexa var. stellaris (L. f.) Taylor in Mitt. Bot. States Muchen. 4: 96. 1961 and Kew Bull. 18(1): 180. 1964; Hook. f. Fl. Brit. India 4: 328. 1884; Cooke, Fl. Pres. Bombay 2: 389. 1958 (Repr. ed.); Shah, Fl. Guj. 1: 514. 1978; Singh, et al., Fl. Maha. Dicot. 2:567. 2000; S and B 37; Thaker et al., 19-20: 43; Utricularia stellaris Linn. f. Suppl. 86. 1781.

Habit: An aquatic rootless and leafless herb.

Phenology: FLS and FRS- August to November.

Distribution and Status in the Study Area: Commonly found in stagnant water in Narmada river bed at Kawant range and in the Sukhidam pond at Pavi-jetpur.

Distribution in Gujarat: Throughout in ponds, ditches and puddles (Patel, 1984).

GESNERIACEAE

One species of the genus Didymocarpus, i.e. D. pygmaea represents this family in the study area.

Didymocarpus Wall.nom.cons

Nomenclature: Didymocarpus pygmaea C. B. Clarke in A. DC., Monogr. Phan. 5: 82. 1883 and Hook. f. Fl. Brit. India 4: 345. 1884; Shah, Fl. Guj. 1: 516, 1978; Singh, et al., Fl. Maha. Dicot. 2:569. 2000.

Habit: A small, pubescent herb.

Phenology: FLS and FRS- July to November.

Distribution and Status in the Study Area: A rare plant on rocky walls near water canal at Mogra in Kavant range.

Distribution in Gujarat: Dangs, Pavagadh, Devgad Baria, Chhotaudepur, Panchmahals and North Gujarat (Sarneshwar, Kadi); common on old walls (Shah, 1978).

BIGNONIACEAE

In all four species belonging to 4 different genera represents this family in the study area.

Dolichandrone (Fenzl.) Seeman.nom.cons.

Nomenclature: Dolichandrone falcata (Wallich ex DC.) Seem in J. Bot. 8: 381. 1870; Bignonia atrovirens Heyne ex Roth. C. B. Clarke in Hook. f. Fl. Brit. India 4: 380. 1884; Cooke, Fl. Pres. Bombay 2: 329, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 518, 1978; Singh, et al., Fl. Maha. Dicot. 2:574. 2000; Spathodea falcata Wallich ex DC., Prodr. 9: 206. 1845; Dolichandrone lawii Seem., in J. Bot. 8: 380. 1870; Dolichandrone falcata var. lawii Haines. Bot. Bihar. Orissa 4: 658. 1922.

Habit: A straight or crooked 8-10 mt tall tree with ash colored or light black bark exfoliating into irregular scales.

Phenology: FLS- March to May, FRS- June to December.

Local Name: Medhsing.

Distribution and Status in the Study Area: Frequent in all ranges except Chhotaudepur. Seen at Vagasthal, Sadhli, Boriyad, Bhadurpur, Panimines, Ghantoli-songir and Koraj.

Distribution in Gujarat: Throughout in dry deciduous and scrub forests except Kachchh (Shah, 1978).

Local Uses: Paste of the fruits and leaves warmed gently and applied on abdominal pains.

Uses in other regions of Gujarat state: Leaf juice massaged on abdomen of pregnant women to ease delivery; fruit and leaf juices are also fish poisons (North Gujarat, Bhil and Dungrabhil tribe) (Shah and Gopal, 1985). Leaf, fruit and seeds are used as fish poison by the natives of Dharampur forests (Reddy, 1989).

Millingtonia Linn. f.

Nomenclature: Millingtonia hortensis L. f. Suppl. Pl. 291. 1782; C. B. Clarke in Hook. f. Fl. Brit. India 4: 377. 1884; Cooke, Fl. Pres. Bombay 2: 409, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 520, 1978; Singh, et al., Fl. Maha. Dicot. 2:582. 2000.

Habit: 15-20 mt tall trees, with straight trunk and pale-yellowish-grey or brown, rough, corky bark.

Phenology: FLS and FRS - December to March.

Local Name: Deshi Buch.

Distribution and Status in the Study Area: Planted along roadsides at Chhota-udepur, Naswadi and Panimines.

Distribution in Gujarat: Planted in gardens and along roadsides (Shah, 1978).

Local Uses: The wood is used for making agricultural, household and musical instruments.

Oroxylum Vent.

Nomenclature: Oroxylum indicum (L.) Venten. Dec. Gen. Nov. 8. 1808; Hook. f. Fl. Brit. India 4: 378. 1884; Cooke, Fl. Pres. Bombay 2: 401, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 520, 1978; Singh, et al., Fl. Maha. Dicot. 2:575. 2000; Bignonia indica Linn. Sp. Pl. 625. 1753; Bignonia pentandra Lour. Fl. Cochinch 2: 379. 1790; Spathodea indica Pers. Syn. Pl. 2: 173. 1806; Calosanthus indica Blume. Bijdr. 760. 1826.

Habit: 6-8 mt tall trees with straight trunk and light brown bark, branched near top, young branches deeply fissured.

Phenology: FLS and FRS- June to October.

Sanskrit Name: Shyonak, Shyonaka, Shuknas, Dirghavrunt, Tintuk, Kadvadag.

Local Name: Tetu. **PLATE 43**

Distribution and Status in the Study Area: Occasional. Seen at Tejgadh village along roadsides, along Chhota-udepur to Rangpur road and few trees at Dolariya range.

Distribution in Gujarat: In deciduous forests of Dangs, Vyara, Rajpipla and Panchmahals (Shah, 1978).

Local Uses: Bark is astringent and tonic; useful in diarrhoea, dysentery and swellings. Fruits are carminative. Seeds are purgative. Bark powder soaked in water is given in jaundice. Bark decoction is given in urinary troubles. Paste of seeds with milk is given to infants in case of intermittent fever.

Uses in other regions of Gujarat state: Locally called as "Tetoli" in Ratanmahal forests. Bark paste is anti-infective and vermicide. Often applied by the tribals to cure wounds of cattle (Bedi, 1979). Locally called as "Tentu" in Dangs forest division. The timber can be used as dyeing agent; the bark decoction is given as refringent in fevers and jaundice (Shah and Gopal, 1982).

Radermachera Zoll.et Meritzi

Nomenclature: Radermachera xylocarpa (Roxb.) K. Schum., in Engl. and Prantl. Nat. Pflanzenfam. IV. 3b: 243. 1895; C. B. Clarke in Hook. f. Fl. Brit. India 4: 383. 1884; Cooke, Fl. Pres. Bombay 2: 407, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 521, 1978; Singh, et al., Fl. Maha. Dicot. 2:576. 2000; Steenis in Blumea 23: 131. 1976; Bignonia xylocarpa Roxb., Fl. Ind. 3: 108. 1832; Stereospermum xylocarpum Wight. Icon. Pl. Ind. Orient. t. 1335-1336. 1848.

Habit: A deciduous tree 10-15 mt tall with light-grey bark.

Phenology: FLS and FRS- April to September.

Local Name: Khadadsingi.

Distribution and Status in the Study Area: Rare, seen twice only at Kawant and Jamlidam, range Dolariya of Chhota-udepur forest division. In all 2 trees sighted.

PLATE 43

Distribution in Gujarat: Devgadhi Baria, Dangs and Rajpipla (Shah, 1978).

Local Uses: Bark decoction is used in cutaneous infections. The fresh fruits made into fine paste is mixed with Lagenaria leucantha, 'Dudhi' and is used in curing acute eczematous swellings.

PLATE 43



Oroxylum indicum (Linn.) Vent. Locally called as “Tetu”. Common at Tejgadh and Kevdi. Rare at Kawant. Important ethnobotanical plant used by tribals. Closer view of its fruit. (Bignoniaceae)



Radermachera xylocarpa Decne. (Bignoniaceae)
In fruiting. Rare in the area. Only seen at Kawant and Mithibor.

PEDALIACEAE

One species of the genus Sesamum, i.e. S. indicum represents this family in the study area.

Sesamum Linn.

Nomenclature: Sesamum indicum Linn. Sp. Pl. 634. 1753; Cooke, Fl. Pres. Bombay 2: 413, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 524, 1978; Singh, et al., Fl. Maha. Dicot. 2:587. 2000; Sesamum indicum Linn. Sp. Pl. 634. 1753; Backer and Bakh. Fl. Java. 2: 544. 1965; Sesamum mulayanum Nair in BOBSI 5: 252-253. 1963; Sesamum indicum var. subindivisum DC. Pl. Rar. Jard. Genev. 18. 1835.

Habit: Herbs or undershrubs, 50-60 cm tall, with quadrangular, deeply furrowed, glandular-pubescent branches.

Phenology: FLS and FRS- October to December.

Sanskrit Name: Svetatil, Krishnatil.

Local Name: Tal.

Distribution and Status in the Study Area: Cultivated at many places, also as an escape along roads and cultivated fields at Vagasthal, Ambadungar, Kadipani, Satun, Kundal and Bordha.

Distribution in Gujarat: Throughout, cultivated or an escape in waste places (Shah, 1978).

Local Uses: Cultivated by the locals.

MARTYNIACEAE

One species of the genus Martynia, i.e. M. annua represents this family in the study area.

Martynia Linn.

Nomenclature: Martynia annua Linn. Sp. Pl. 618. 1753; C. B. Clarke in Hook. f. Fl. Brit. India 4: 386. 1884; Cooke, Fl. Pres. Bombay 2: 414, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 524, 1978; Singh, et al., Fl. Maha. Dicot. 2:589. 2000; Martynia diandra Gloxin. Observ. Bot. 14. t. 1. 1785.

Habit: Viscidly pubescent, annual herbs, 75-90 cm tall.

Phenology: FLS and FRS- August to October.

Local Name: Vinchhudo.

Distribution and Status in the Study Area: Occasional along roadsides in waste places. The hooked fruits are typical. Seen at Vagasthal, Juna Chhota-udepur, Kawant, Kadipani and Ambadungar. **PLATE 44**

Distribution in Gujarat: Throughout, a weed in waste places; native of Mexico (Shah, 1978).

Local Uses: Leaf juice is given in sore throat. Decoction of fruits is given in inflammations. Leaves are externally applied on boils and swellings. Pulp of the fruit is used in ear troubles or ear diseases. Ash of the leaves mixed with root paste and mustard oil is applied in soriasis and dry eczema.

Uses in other regions of Gujarat state: Locally called as "Vanch" by bhil tribal community of Ratanmahal forests. Leaf juice is used to cure sore throat (Bedi, 1979). Two table spoonful doses of root decoction twice a day given to treat skin diseases (North Gujarat, Bhil and Dungrabhil tribe) (Shah and Gopal, 1985).

ACANTHACEAE

This family is represented in the area by a total of 17 species belonging to 12 genera.

Adhatoda Mill.

Nomenclature: Adhatoda vasica Nees in Wallich. Pl. Asiat. Rar. 3: 103. 1832; Hook. f. Fl. Brit. India 4: 540. 1884; Cooke, Fl. Pres. Bombay 2: 493, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 527, 1978; Singh, et al., Fl. Maha. Dicot. 2:639. 2000; Adhatoda zeylanica Medik in Hist. Comment. Acad. Theod.-Palat. 6: 393. 1790; Justicia adhatoda Linn. Sp. Pl. 15. 1753.

Habit: 1 mt tall evergreen undershrubs with spreading, angular, olivaceous-green, glabrous branches.

Phenology: FLS- August to January, FRS- December.

Sanskrit Name: Vasa, Atrushak, Shinhasya.

Local Name: Arduso.

Distribution and Status in the Study Area: Rare in the area, in waste places near human habitation at Dhandhoda village.

Distribution in Gujarat: Cultivated in gardens at some places (Shah, 1978).

Local Uses: The leaf extract is used in cough and cold by the tribals.

Uses in other regions of Gujarat state: The leaf decoction is given in common fever, cough and cold and in asthmatic treatment (Saurashtra) (Shah, Menon and Gopal, 1981).

Barleria Linn.

Nomenclature: Barleria cristata Linn. Sp. Pl. 636. 1753; Hook. f. Fl. Brit. India 4: 488. 1884; Cooke, Fl. Pres. Bombay 2: 460, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 530, 1978; Singh, et al., Fl. Maha. Dicot. 2:599. 2000; Tripathi et al., Fl. Elem. Madhya Pradesh 30. 1994.

Habit: Upto 40-60 cm tall appressed hairy undershrub.

Phenology: FLS- September to November, FRS- October to December.

Sanskrit Name: Nilpushpa, Dasikuruntak.

Distribution and Status in the Study Area: Rare in the hedge along roadsides at Chhota-udepur.

Distribution in Gujarat: Saurashtra, Panchmahals, Dangs in forests undergrowth; rare (Shah, 1978).

Nomenclature: Barleria prattensis Santapau in Kew Bull. 1948: 487. 1949 and in Univ. Bombay. Bot. Mem. 2: 62. 1951; Shah, Fl. Guj. 1: 532, 1978. Singh, et al., Fl. Maha. Dicot. 2:602. 2000.

Habit: Annual, slender, erect or diffuse herbs or undershrubs, 40-50 cm tall, with ascending often geniculate, thinly pubescent branches.

Phenology: FLS and FRS- September to March.

Local Name: Pilo kanta seriyo.

Distribution and Status in the Study Area: Occasional as forest undergrowth at Vagasthal, Rajmahal Chhota-udepur, Kawant, Kadipani, Ambadungar, Satun, Jamlidam, Naswadi and Turkheda.

Distribution in Gujarat: Throughout except Kachchh, in forests undergrowth and in shaded spots (Shah, 1978).

Local Uses: Root decoction is given in dysentery, diarrhoea and its paste mixed with leaves is given in constipation.

Nomenclature: Barleria prionitis Linn. Sp. Pl. 636. 1753; Hook. f. Fl. Brit. India 4: 482. 1884; Cooke, Fl. Pres. Bombay 2: 457, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 532, 1978; Singh, et al., Fl. Maha. Dicot. 2:603. 2000.

Habit: Erect, armed, glabrous shrubs upto 1.5 mt tall with ascending or diffuse branches; spines 1.5-2.5 cm long, appressed hairy, ivory white.

Phenology: FLS and FRS- August to May.

Sanskrit Name: Sahachar, Karanta, Kirkirat.

Local Name: Kurat.

Distribution and Status in the Study Area: Occasional, at times subgregarious, along hedges. A conspicuous plant at least when in full bloom at Panvad, Kikawada, Raipur-kundal, Satun, Jamlidam, Naswadi and Bhadurpur.

Distribution in Gujarat: Throughout, along roadsides and railway lines or in forests undergrowth; common and subgregarious (Shah, 1978).

Local Uses: Root paste is applied on boils and glandular swellings. Juice of fresh leaves is given in catarrhal infections of children. Dried bark decoction is given in cough and cold.

Uses in other regions of Gujarat state: Locally called as "Karanti" in Ratanmahal forests. Bhils apply the leaf infusion to the soles of their feet to harden them to tolerate extreme heat, cold and rough soil (Bedi, 1979).

Blepharis Juss.

Nomenclature: Blepharis repens (Vahl.) Roth. Nov. Pl. Sp. 321. 1821; Hook. f. Fl. Brit. India 4: 479. 1884; Cooke, Fl. Pres. Bombay 2: 425, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 533, 1978; Singh, et al., Fl. Maha. Dicot. 2:607. 2000; Acanthus repens Vahl. Symb. Bot. 2: 76. 1791; Blepharis molluginifolia Pers. Syn. Pl. 2: 180. 1806.

Habit: Upto 15-20 cm long slender, at times radially spreading and rooting at nodes, prostrate, hairy herbs.

Phenology: FLS and FRS- August to December.

Sanskrit Name: Chatuspatri, Uchhata.

Local Name: Utigal.

Distribution and Status in the Study Area: Occasional in waste lands on stony ground and among grasses at Chhota-udepur, Mogra, Jamlidam and Dolariya.

Distribution in Gujarat: Throughout, not common (Shah, 1978).

Carvia Bremek.

Nomenclature: Carvia callosa (Nees) Bremek., in Verh. Acad. Wet. Afd. Natuurk. Sect. 2. 41(1): 187. 1944; Hook. f. Fl. Brit. India 4: 451. 1884; Cooke, Fl. Pres. Bombay 2: 444, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 534, 1978; Singh, et al., Fl.

Maha. Dicot. 2:609. 2000; Strobilanthes callosus Nees in Wallich. Pl. Asiat. Rar. 3: 85. 1832; Strobilanthes grahamianus Wight. Icon. Pl. Ind. Orient. 4(4): t. 1520. 1850.

Habit: An erect compact shrub with distinct purple flowers.

Phenology: FLS- October to November, FRS- October to December.

Local Name: Karvi.

Distribution and Status in the Study Area: Common and gregarious on slopes of hills at Mogra, Kadipani, Ambadungar, Turkheda, Kevdi, Jamlidam and Rangpur.

Distribution in Gujarat: Throughout in dry deciduous forests (Shah, 1978).

Local Uses: Bark and young leaves are boiled in water and given to pregnant ladies for facilitating smooth delivery.

Uses in other regions of Gujarat state: The leaf paste is applied on burns and cuts by the natives of Dangs forest division (Shah and Gopal, 1982). Plant is used for thatching huts by the natives of Dharampur forest (Reddy, 1989).

Eranthemum L.emend.Radlk.

Nomenclature: Eranthemum roseum (Vahl.) R. Br. Prodr. 477. 1810; Hook. f. Fl. Brit. India 4: 420. 1884; Cooke, Fl. Pres. Bombay 2: 439, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 539, 1978; Singh, et al., Fl. Maha. Dicot. 2:623. 2000; Justicia rosea Vahl. Enum. Pl. 1: 165. 1804; Daedalacanthus roseus (Vahl) T. Anderson in J. Linn. Soc. Bot. 9: 487. 1867.

Habit: Upto 1 m tall erect undershrubs with ascending branches.

Phenology: FLS and FRS - November to January.

Local Name: Dashmuli.

Distribution and Status in the Study Area: Fairly common, scattered or sub-gregarious in the forests, quite conspicuous when in full bloom. Seen at Chhota-udepur, Mogra, Kadipani-Hampeshwar road, Koraj, Satun, Raipur-kundal, Naswadi and Lagami.

Distribution in Gujarat: Throughout, in forest undergrowths and shaded spots, common, at some localities abundant (Shah, 1978).

Local Uses: Root paste is given in skin infections. Root decoction is given in insect bite. Its roots mixed with bark of Butea monosperma along with water is given to patient suffering from asthma.

Hygrophila R. Br. emend. Heine.

Nomenclature: Hygrophila auriculata (Schumach.) Heine in Kew Bull. 16: 172. 1962; Hook. f. Fl. Brit. India 4: 408. 1884; Cooke, Fl. Pres. Bombay 2: 428, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 543, 1978; Singh, et al., Fl. Maha. Dicot. 2:636. 2000; Barleria auriculata Schumach., in Schumach. and Thonn., Beskr. Guin. Pl. 285. 1827; Barleria longifolia Linn. Cent. Pl. II: 22. 1756; Asteracantha longifolia (Linn.) Nees in Wallich. Pl. Asiat. Rar. 3: 90. 1832; Hygrophila spinosa T. Anderson in Thwaites. Enum. Pl. Zeyl. 225. 1860; Hygrophila longifolia (Linn.) Jurz in J. Asiat. Soc. Bengal. 39: 78. 1870.

Habit: Armed, erect, annual herbs or undershrubs, 30-50 cm tall, hairy in younger parts, glabrous in older; stem reddish to dark brown.

Phenology: FLS and FRS- October to December.

Sanskrit Name: Kokilakshya, Ikshuraksh.

Local Name: Kantafodio.

Distribution and Status in the Study Area: Occasional in patches along margins of ditches and ponds at Singla, Panvad, Ambadungar and Raipur-kundal.

Distribution in Gujarat: Throughout, in damp places; common, gregarious (Shah, 1978).

Local Uses: Roots and seeds with sugar is given to increase sexual potential. Plant decoction is applied on swellings, leprosy and urinogenital infections. Leaf decoction is useful in gonorrhoea.

Justicia Linn.

Nomenclature: Justicia diffusa Willd. Sp. Pl. 1: 87. 1797; Hook. f. Fl. Brit. India 4: 538. 1884; Cooke, Fl. Pres. Bombay 2: 489, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 545, 1978; Singh, et al., Fl. Maha. Dicot. 2:664. 2000; Rostellaria diffusa (Willd.) Nees in Wallich. Pl. Asiat. Rar. 3: 100. 1832; Rostellularia diffusa (Willd.) Nees in DC., Prodr. 11: 371. 1847.

Habit: Diffuse, hairy, branched herb upto 20-30 cm tall.

Phenology: FLS and FRS- October to November.

Sanskrit Name: Parpat.

Distribution and Status in the Study Area: An occasional weed in cultivated fields at Kadipani-Hampeshwar, Ambadungar and Pavi-jetpur.

Distribution in Gujarat: Throughout, among grasses in shaded spots and in forests undergrowth (Shah, 1978).

Nomenclature: Justicia simplex D. Don. Prodr. Fl. Nepal. 118. 1825; Hook. f. Fl. Brit. India 4: 539. 1884; Cooke, Fl. Pres. Bombay 2: 490, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 548, 1978; Singh, et al., Fl. Maha. Dicot. 2:641. 2000; Rostellaria mollissima Nees in Wallich. Pl. Asiat. Rar. 3: 101. 1832; Rostellularia mollissima (Nees) Nees in DC., Prodr. 11: 373. 1847; Rostellularia japonica (Thunb.) Ellis in BOBSI 22: 196. 1980; Justicia japonica Thunb. Fl. Jap. 20. 1784.

Habit: Annual, erect or diffuse herbs, 20-40 cm tall with geniculately quadrangular branches.

Phenology: FLS and FRS- November to December.

Sanskrit Name: Renuphala.

Distribution and Status in the Study Area: Common among grasses in open ground and in the undergrowth of forest at Kadipani and Dolariya. **PLATE 44**

Distribution in Gujarat: Throughout, everywhere (Shah, 1978).

Lepidagathis Willd.

Nomenclature: Lepidagathis cuspidata Nees in Wallich. Pl. Asiat. Rar. 3: 97. 1832; Hook. f. Fl. Brit. India 4: 519. 1884; Cooke, Fl. Pres. Bombay 2: 474, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 548, 1978; Singh, et al., Fl. Maha. Dicot. 2:646. 2000.

Habit: 30-80 cm tall undershrubs.

Phenology: FLS and FRS- December to April.

Local Name: Paniru.

Distribution and Status in the Study Area: Common in exposed ground on hilly slopes and in the undergrowth of forests at Chhota-udepur, Ganthia-Gabadia, Mogra, Kadipani, Naswadi, Lagami and Ghantoli-songir.

Distribution in Gujarat: In dense forests as forests undergrowth, not common (Shah, 1978).

Nomenclature: Lepidagathis trinervis Wallich ex Nees in Wallich. Pl. Asiat. Rar. 3: 96. 1832; C. B. Clarke in Hook. f. Fl. Brit. India 4: 517. 1885; Cooke, Fl. Pres. Bombay 2: 471, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 549, 1978; Singh, et al., Fl. Maha. Dicot. 2:651. 2000.

Habit: A perennial, suffrutescent herb with slender, erect or diffuse branches.

Phenology: FLS- December to January, FRS- January to April.

Local Name: Harancharo.

Distribution and Status in the Study Area: Common on slopes of hills and in open grass lands at Gabadia, Dhadagam, Ranbor and Bhadurpur.

Distribution in Gujarat: Throughout, among grasses, common (Shah, 1978).

Neuracanthus Nees

Nomenclature: Neuracanthus sphaerostachyus (Nees) Dalz., in Kew Journ. Bot. 2: 140. 1850; Hook. f. Fl. Brit. India 4: 491. 1884; Cooke, Fl. Pres. Bombay 2: 465, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 550, 1978; Singh, et al., Fl. Maha. Dicot. 2:652. 2000; Ch and O 179; S and B 40; Lepidagathis sphaerostachya Nees in DC. Prodr. 11: 254. 1847.

Habit: An erect, simple or branched, suffruticose herb, 25-30 cm tall.

Phenology: FLS- August to October, FRS- August to December.

Local Name: Ganthera.

Distribution and Status in the Study Area: Occasional in drying wet places among open forest at Chhota-udepur, Satun, Ambadungar and Pavi-jetpur.

Distribution in Gujarat: Throughout, common (Shah, 1978).

Local Uses: Root decoction is used in ringworms whereas mixed with Sesamum oil is applied on skin ulcers.

Peristrophe Nees.

Nomenclature: Peristrophe bicalyculata (Retz.) Nees in Wallich. Pl. Asiat. Rar. 3: 113. 1832; Hook. f. Fl. Brit. India 4: 554. 1884; Cooke, Fl. Pres. Bombay 2: 495, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 551, 1978; Singh, et al., Fl. Maha. Dicot. 2:657. 2000; Peristrophe paniculata (Forsk.) Brummitt in Kew Bull. 38: 451. 1983; Dianthera paniculata Forsk. Fl. Aegypt.-Arab. 7. 1775; Dianthera bicalyculata Retz., in Vet. Acad. Handl. 297. t. 9. 1775; Justicia bicalyculata (Retz.) Nees in Wallich. Pl. Asiat. Rar. 3: 113. 1832.

Habit: Erect herbs, 1 mt tall with spreading or geniculately ascending, 4-6 angled hairy branches.

Phenology: FLS and FRS- October to January.

Sanskrit Name: Kakajangha, Sulomsha, Nadikanta, Prachibola.

Local Name: Kali adhedi.

Distribution and Status in the Study Area: Common in waste places along roadsides in hedges and at times in the forest undergrowth at Kadipani, Turkheda, Koraj, Lagami, Jamlidam, Ghelvant to Dumali road and Raipur-kundal.

Distribution in Gujarat: Throughout, in hedges and in forest undergrowth (Shah, 1978).

Local Uses: Plant decoction along with cereals is used as antidote against insect bite. Leaf paste is useful in boils and wounds.

Ruellia L.emend.Bremek.

Nomenclature: Ruellia tuberosa Linn. Sp. Pl. 635. 1753; Shah, Fl. Guj. 1: 553, 1978. Singh, et al., Fl. Maha. Dicot. 2:669. 2000; Tripathi et al., Fl. Elem. Madhya Pradesh 122. 1994.

Habit: A suberect or diffuse, perennial herb with tuberous roots; stem and branches obtusely 4-gonous, pubescent in younger parts, glabrous in older.

Phenology: FLS and FRS- January to May.

Distribution and Status in the Study Area: Occasional in shaded places at Mughnavant, Lagami and Lachharas.

Distribution in Gujarat: Native of America, found in as a weed in gardens and cultivated fields (Shah, 1978).

Rungia Nees.

Nomenclature: Rungia pectinata (Linn.) Nees in DC., Prodr. 11: 470. 1847; Rungia parviflora (Retz.) Nees var. muralis C. B. Clarke in Hook. f. Fl. Brit. India 4: 550. 1884; Cooke, Fl. Pres. Bombay 2: 478, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 554, 1978; Singh, et al., Fl. Maha. Dicot. 2:672. 2000; Justicia pectinata Linn. Cent. Pl. II: 3. 1756; Rungia parviflora (Retz.) Nees var. pectinata (Linn.) C. B. Clarke in Hook. f. Fl. Brit. India 4: 550. 1884.

Habit: 15-20 cm tall, erect or diffuse, thinly pubescent or almost glabrous, annual herbs.

Phenology: FLS and FRS- September to February.

Local Name: Khadselio.

Distribution and Status in the Study Area: Common throughout the area explored in open exposed ground, in hedges and undergrowth of forests at Panvad, Kawant, Kadipani and Jamlidam.

Distribution in Gujarat: Throughout, common in shaded spots (Shah, 1978).

Nomenclature: Rungia repens (L.) Nees in Wallich Pl. Asiat. Rar. 3: 110. 1832; Hook. f. Fl. Brit. India 4: 549. 1884; Cooke, Fl. Pres. Bombay 2: 480, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 554, 1978; Singh, et al., Fl. Maha. Dicot. 2:672. 2000; Justicia repens Linn. Sp. Pl. 15. 1753.

Habit: Annual, suffruticose herbs, suberect or diffuse, hairy, at times branches radially spreading.

Phenology: FLS and FRS- August to December.

Distribution and Status in the Study Area: A common weed among grasses and in cultivated fields at Kawant, Mogra, Bhadurpur and Mithibor.

Distribution in Gujarat: Throughout, a weed among grasses and cultivated fields (Shah, 1978).

VERBENACEAE

A total of 7 species belonging to 6 different genera have been observed in the area under this family.

Clerodendrum Linn.

Nomenclature: Clerodendrum inerme (L.) Gaertn. Fruct. Sem. Pl. 1: 271. t. 57. 1788; Hook. f. Fl. Brit. India 4: 589. 1885; Cooke, Fl. Pres. Bombay 2: 511, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 559, 1978; Singh, et al., Fl. Maha. Dicot. 2:690. 2000; Volkameria inermis Linn. Sp. Pl. 637. 1753.

Habit: A straggling shrub, with sarmentose branches; bark greyish brown, lenticellate.

Phenology: FLS and FRS- July to October.

Sanskrit Name: Bharangi, Agnimanth, Ganikarika, Vajayantika.

Local Name: Jutho-mendhi.

Distribution and Status in the Study Area: A hedge plant in gardens at Chhota-udepur.

Distribution in Gujarat: Throughout; common as hedge (Shah, 1978).

Local Uses: The decoction of all parts of the plant is used in treatment of lunacy and other mental disorders.

Nomenclature: Clerodendrum multiflorum (Burm. f.) Kuntze. Revis. Gen. Pl. 3: 526. 1891; C. B. Clarke in Hook. f. Fl. Brit. India 4: 590. 1885; Cooke, Fl. Pres. Bombay 2: 511, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 559, 1978; Singh, et al., Fl. Maha. Dicot. 2:690. 2000; Volkameria multiflorum Burm. f. Fl. Ind. 137. t. 45. f. 1. 1769; Clerodendron phlomidis L. f. Suppl. Pl. 292. 1782.

Habit: A small tree or large shrub with ash colored bark.

Phenology: FLS and FRS- November to February.

Sanskrit Name: Agnimanth, Vataghni, Brahmayastika, Padma, Brahmani.

Local Name: Arni.

Distribution and Status in the Study Area: Frequent in hedges at Panvad, Kawant, Bhadurpur and Udhwania.

Distribution in Gujarat: Throughout, in hedges on plains (Shah, 1978).

Local Uses: Roots are bitter, tonic; given in rheumatic affections. Leaf juice is given in digestive complaints.

Uses in Other regions of Gujarat State: Leaf juice is given internally to regain consciousness (Bhil and Nayaka tribe of North Gujarat) (Bhatt and Sabnis, 1987).

Gmelina Linn.

Nomenclature: Gmelina arborea Roxb. Pl. Corom. 3: 41-42. t. 246. 1818 and Fl. Ind. 3: 84. 1832; Premna tomentosa Miq. C. B. Clarke in Hook. f. Fl. Brit. India 4: 581. 1885; Cooke, Fl. Pres. Bombay 2: 504, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 560, 1978; Singh, et al., Fl. Maha. Dicot. 2:692. 2000.

Habit: Upto 12-15 mt tall tree with straight trunk and greyish-yellow, smooth bark.

Phenology: FLS- March to May, FRS- May to June.

Sanskrit Name: Sriparni, Bhadvaparni.

Local Name: Savan.

Distribution and Status in the Study Area: Sparingly seen in some forest areas of Ganthia-gabadia, Vagasthal, Zoz, Kundal and Lagami.

Distribution in Gujarat: Throughout; not frequent; seldom planted (Shah, 1978).

Local Uses: Leaf decoction is demulcent and used in gonorrhoea, cough and worms.

Uses in other regions of Gujarat state: Fruits are eaten by the local tribal bhil community (Bedi, 1979). The ripe fruits are eaten by the tribals of Dangs forest division. The pulp of the wood is used in paper industry (Shah and Gopal, 1982). Root is a bitter tonic and laxative; fresh juice used as demulcent, chiefly in

gonorrhoea (North Gujarat, Bhil and Dugrabhil tribe) (Shah and Gopal, 1985). Wood is used for making musical instruments. Ripe fruits are eaten by the natives of Dharampur forest division (Reddy, 1989).

Lantana Linn.

Nomenclature: Lantana camara (L.) Moldenke in Torrey 34: 9. 1934; Hook. f. Fl. Brit. India 4: 562. 1885; Cooke, Fl. Pres. Bombay 2: 498, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 562, 1978; Singh, et al., Fl. Maha. Dicot. 2:693. 2000; Santapau in BOBSI 3: 18. 1961; Lantana aculeata Linn. Sp. Pl. 627. 1753; Lantana camara auct. non. Linn. 1753.

Habit: A straggling or scandent prickly shrub with pale to yellowish brown bark.

Phenology: FLS and FRS- Almost throughout the year.

Local Name: Dhanidaria.

Distribution and Status in the Study Area: Occasional weed in hedges along roads and waste places, very rare in the dense forests undergrowth at Jamlidam and Panimines.

Distribution in Gujarat: Throughout, everywhere; common; native of tropical America (Shah, 1978).

Local Uses: The leaves have excellent healing properties and is used as a poultice on cuts and wounds. Decoction of leaves and fruits is used as an ointment for wounds.

Uses in other regions of Gujarat state: Plant is used as an hedge around agricultural fields (Dharampur forests) (Reddy, 1989). Locally called as "Markhi" in Dangs forests (Waghai). The Gamit and Warli tribe uses the root extract orally in vomiting and root paste is externally applied on body swellings (Maheshwari, Sikarwar and Painuli, 1994).

Phyla Lour.

Nomenclature: Phyla nodiflora (L.) E. Greene. Pittonia 4: 46. 1899; Hook. f. Fl. Brit. India 4: 563. 1885; Cooke, Fl. Pres. Bombay 2: 499, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 562, 1978; Singh, et al., Fl. Maha. Dicot. 2:693. 2000; Verbena nodiflora Linn. Sp. Pl. 20. 1753; Lippia nodiflora (L.) Rich., in Michx. Fl. Bor.-Amer. 2: 15. 1803.

Habit: A trailing, perennial, glabrescent herb, somewhat woody, often with radially spreading branches and rooting at nodes.

Phenology: FLS and FRS- November to December.

Sanskrit Name: Vashira.

Local Name: Ratvelio.

Distribution and Status in the Study Area: Frequent in patches in wet places and in river beds at Chhota-udepur, Vagasthal and Panimines.

Distribution in Gujarat: Throughout, in small or large patches, common (Shah, 1978).

Local Uses: Plant is febrifuge and diuretic; used as ointment on swellings and wounds. Infusion of leaves is given to children in gastrointestinal troubles.

Tectona L.f.nom.cons.

Nomenclature: Tectona grandis L. f. Suppl. Pl. 151. 1782; Hook. f. Fl. Brit. India 4: 570. 1885; Cooke, Fl. Pres. Bombay 2: 503, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 564, 1978; Singh, et al., Fl. Maha. Dicot. 2:696. 2000.

Habit: Large deciduous trees, 10-15 m tall with straight trunk; bark pale brown, rough, exfoliating into irregular scales, younger branches quadrangular, channeled and stellately tomentose.

Phenology: FLS- August to October, FRS- September to December.

Sanskrit Name: Saka, Mahapatra, Dwardaru, Kharchand.

Local Name: Sag.

Distribution and Status in the Study Area: Common throughout the forest division. Seen at Vagasthal, Kevdi, Rangpur, Boriyad, Naswadi, Raipur-kundal, Koraj and Mithibor.

Distribution in Gujarat: Throughout in deciduous forests except some parts of Banaskantha and Rajkot districts; common (Shah, 1978).

Local Uses: Bark is astringent. Bark juice is given in dysentery and diarrhoea. Bark powder is given in vomiting. Bark decoction is given in stomach and abdominal pains. Bark juice is given as a remedy for jaundice. Young leaves or tender leaves mixed with *Solanum indicum* is made into paste and is applied for three days twice in chronic ulcerative perforations. The wood is used to make agricultural implements and household furnitures.

Uses in other regions of Gujarat state: The leaves are used in making dinner plates in Saurashtra (Shah, Menon and Gopal, 1981). Wood: Valuable timber for making furniture and agricultural implements. Leaves: thatching material (Dharampur forests) (Reddy, 1989).

Vitex Linn.

Nomenclature: Vitex negundo Linn. Sp. Pl. 638. 1753; Hook. f. Fl. Brit. India 4: 583. 1885; Cooke, Fl. Pres. Bombay 2: 508, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 565, 1978; Singh, et al., Fl. Maha. Dicot. 2:699. 2000.

Habit: An evergreen, large shrub or tree upto 6 m tall with spreading branches, at times compact and almost bushy; trunk straight or crooked; bark light-blackish-brown, longitudinally fissured.

Phenology: FLS and FRS- September to April.

Sanskrit Name: Nirgundi, Indranika, Shephalika.

Local Name: Nargod.

Distribution and Status in the Study Area: Occasional in stony rivebeds of river Orsang at Pavi-jetpur range.

Distribution in Gujarat: Throughout, in river beds and waste places; common; occasionally cultivated (Shah, 1978).

Local Uses: Leaves are aromatic, tonic and vermifuge. Its paste is useful in rheumatism and gonorrhoea. Leaves and bark mixed together are applied on ringworms and other skin diseases. Leaves are dried, gently warm and then it is used for bath to remove general weakness and debility.

Uses in other regions of Gujarat state: Locally called as "Nirgundi" by the tribals of North Dangs forest division. The root paste is applied on piles (Shah and Gopal, 1982). Locally called as "Nirgad" in Dangs forests (Mahal). The leaf juice is orally taken in headache (Maheshwari, Sikarwar and Painuli, 1994).

LAMIACEAE

In all 10 species belonging to 3 different genera represents this family in the study area.

Anisomeles R. Br.

Nomenclature: Anisomeles heyneana Bth., in Wall. Pl. As. Rar. 1: 59. 1830; C. B. Clarke in Hook. F. Fl. Brit. India 4: 672. 1885; Cooke, Fl. Pres. Bombay 2: 543, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 568, 1978; Singh, et al., Fl. Maha. Dicot. 2:715. 2000; Ch and O 191.

Habit: A shrub or undershrub, slender, simple or sparingly branched, glabrous or thinly pubescent, 70-80 cm tall.

Phenology: FLS and FRS- August to January.

Sanskrit Name: Spruhka.

Distribution and Status in the Study Area: Rare, seen only once on way from Kadipani to Hampeshwar. In all 3 plant individuals were collected.

Distribution in Gujarat: Dangs, Vyara, Rajpipla and Pavagadh (Shah, 1978).

Nomenclature: Anisomeles indica (L.) Kuntze. Revis. Gen. Pl. 2: 512. 1891; Hook. f. Fl. Brit. India 4: 672. 1885; Cooke, Fl. Pres. Bombay 2: 543, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 568, 1978; Singh, et al., Fl. Maha. Dicot. 2:715. 2000; Nepeta indica Linn. Sp. Pl. 571. 1753; Anisomeles ovata R. Br., in W. T. Aiton. Hortus Kew. ed. 2. 3: 1811; Ballota disticha Linn. Mant. Pl. 83. 1767.

Habit: Erect, suffruticose, pubescent, undershrubs with much spreading branches.

Phenology: FLS and FRS- August to October.

Local Name: Chardharo.

Distribution and Status in the Study Area: Common, in the forests undergrowth and as a weed in hedges along roadsides at Rajmahal Chhota-udepur, Kawant, Mogra, Kariabar, Jamlidam and Naswadi.

Distribution in Gujarat: Throughout, a road side weed (Shah, 1978).

Local Uses: Plant is carminative, astringent and tonic. Leaf decoction is used in uterine affections.

Leucas R. Br.

Nomenclature: Leucas aspera (Willd.) Link. Enum. Hort. Berol. Alt. 2: 113. 1822; Hook. f. Fl. Brit. India 4: 690. 1885; Cooke, Fl. Pres. Bombay 2: 548, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 572, 1978; Singh, et al., Fl. Maha. Dicot. 2:726. 2000; Phlomis aspera Willd. Enum. Pl. Hort. Berol. 2: 621. 1809.

Habit: Densely hairy, erect, 20-25 cm tall herbs, lower branches at times diffuse.

Phenology: FLS and FRS- August to January.

Local Name: Kubi.

Distribution and Status in the Study Area: Frequent, a weed in cultivated fields at Vagasthal, Ambadungar, Turkheda and Raipur-kundal.

Distribution in Gujarat: Throughout; common and abundant (Shah, 1978).

Uses in other regions of Gujarat state: The tender shoots are consumed as vegetable by the tribals of Saurashtra (Shah, Menon and Gopal, 1981).

Nomenclature: Leucas biflora (Vahl.) R. Br. Prodr. 504. 1810; Hook. f. Fl. Brit. India 4: 683. 1885; Cooke, Fl. Pres. Bombay 2: 553, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 572, 1978; Singh, et al., Fl. Maha. Dicot. 2:726. 2000; Phlomis biflora Vahl. Symb. Bot. 3: 77. 1794; Nepeta indica Burm. f. Fl. Ind. 126. 1768.

Habit: A slender, procumbent or straggling hairy herb upto 30-40 cm long and sparingly branched.

Phenology: FLS and FRS- November to February.

Distribution and Status in the Study Area: A common weed on edges of cultivated fields and grass lands at Rajmahal Chhota-udepur, Zoz, Panvad, Ranbor, Naswadi, Jamlidam and Juna Chhota-udepur.

Distribution in Gujarat: North to South Gujarat (Shah, 1978).

Local Uses: Leaf paste is applied in cardiac pains. Plant paste is given internally to cure stomach pain.

Nomenclature: Leucas cephalotes (Koenig ex Roth) Spreng. Syst. Veg. 2: 743. 1825; Hook. f. Fl. Brit. India 4: 689. 1885; Cooke, Fl. Pres. Bombay 2: 549, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 572, 1978; Singh, et al., Fl. Maha. Dicot. 2:727. 2000; Phlomis cephalotes Koenig ex Roth. Nov. Pl. Sp. 262. 1821; Leucas capitata Desf., in Mem. Mus. Hist. Nat. Paris 11: 8. t. 4. 1824.

Habit: An erect, annual, appressed pubescent herb, 20-30 cm tall.

Phenology: FLS and FRS- August to December.

Sanskrit Name: Dronapushpi, Kutumbak.

Local Name: Jangli Kubo.

Distribution and Status in the Study Area: Observed only at some locations among grasses at Juna Chhota-udepur, Naswadi, Kawant and Ambadungar.

Distribution in Gujarat: Throughout, scattered; occasional (Shah, 1978).

Local Uses: Plant is stimulant and diaphoretic. Fresh juice of the leaves is applied on skin diseases. Plant decoction is used as domestic remedy for cold, cough and fever.

Nomenclature: Leucas stricta Heyne ex Benth., in Wallich. Pl. Asiat. Rar. 1: 61. 1830; Hook. f. Fl. Brit. India 4: 688. 1885; Cooke, Fl. Pres. Bombay 2: 551, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 574, 1978; Singh, et al., Fl. Maha. Dicot. 2:735. 2000.

Habit: Annual, 20-30 cm tall, hispid herb, with diffuse branches.

Phenology: FLS and FRS- August to October.

Local Name: Dosino kubo.

Distribution and Status in the Study Area: Rare, seen only at Vagasthal and Juna Chhota-udepur in shaded places along forests paths.

Distribution in Gujarat: Broach, Chhota-udepur and North Gujarat (Shah, 1978).

Local Uses: Leaves are used as vegetable.

Nomenclature: Leucas urticaefolia (Vahl.) R. Br. Prodr. 504. 1810; Hook. F. Fl. Brit. India 4: 680. 1885; Cooke, Fl. Pres. Bombay 2: 547, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 574, 1978; Singh, et al., Fl. Maha. Dicot. 2:736. 2000; Phlomis urticaefolia Vahl. Symb. Bot. 3: 76. 1794.

Habit: Erect, annual herbs with quadrangular pubescent stem and branches upto 30-40 cm tall.

Phenology: FLS and FRS- September to October.

Local Name: Kubo.

Distribution and Status in the Study Area: Rare, observed in the forests of Ambadungar as undergrowth.

Distribution in Gujarat: Throughout, common (Shah, 1978).

Ocimum Linn.

Nomenclature: Ocimum basilicum Linn. Sp. Pl. 597. 1753; Hook. f. Fl. Brit. India 4: 608. 1885; Cooke, Fl. Pres. Bombay 2: 523, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 577, 1978; Singh, et al., Fl. Maha. Dicot. 2:766. 2000; Ocimum americanum Linn. Cent. Pl. 1: 15. 1755; Ocimum thyrsoflorum Linn. Mant. Pl. 84. 1767; Ocimum basilicum Linn. var. thyrsoflorum (L.) Benth., in Wallich. Pl. Asiat. Rar. 2: 13. 1830.

Habit: 20-25 cm tall pubescent aromatic herbs.

Phenology: FLS and FRS- Almost throughout the year.

Sanskrit Name: Arjak, Gandhpatra, Uragandh, Kutherak.

Local Name: Damro.

Distribution and Status in the Study Area: Sparingly seen in hedges at Ghelvant and Nani-sadhli.

Distribution in Gujarat: Cultivated, also as an escape (Shah, 1978).

Local Uses: Leaf juice is administered to remove alcoholic intoxication.

Uses in other regions of Gujarat state: Locally called as "Ran tulsi" in Dharampur forest division. Leaves are used in curries and pickles and also as smelling agent in cooking (Reddy, 1989).

Nomenclature: Ocimum canum Sims. Bot. Mag. 51. t. 2452. 1824; Hook. f. Fl. Brit. India 4: 607. 1885; Cooke, Fl. Pres. Bombay 2: 521, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 578, 1978; Singh, et al., Fl. Maha. Dicot. 2:741. 2000.

Habit: Erect, pubescent, much branched herbs 25-30 cm tall.

Phenology: FLS and FRS- August to December.

Sanskrit Name: Ajaka, Gambhara, Kuthera.

Local Name: Jungli tulsi.

Distribution and Status in the Study Area: A common weed in cultivated fields and waste lands at Chhota-udepur, Kawant, Sadhli, Naswadi, Jamlidam and Nani-sadhli.

Distribution in Gujarat: Throughout; common (Shah, 1978).

Local Uses: Juice of the leaves is given in cold and bronchitis and its decoction is given in dysentery and diarrhoea. Leaves are made into paste and mixed with Cassia tora seeds to remove itching caused due to skin diseases.

Uses in other regions of Gujarat state: Locally called as "Jangli tulsi" in Ratanmahal forests. Seeds and roots are used for fermenting and flavouring country liquor (Bedi, 1979).

Nomenclature: Ocimum tenuiflorum Linn. Sp. Pl. 597. 1753; Hook. F. Fl. Brit. India 4: 609. 1885; Cooke, Fl. Pres. Bombay 2: 521, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 578, 1978; Singh, et al., Fl. Maha. Dicot. 2:743. 2000; Keng in Steenis. Fl. Malesiana Ser. 1. 8: 378. 1978; Ocimum sanctum Linn. Mant. Pl. 85. 1767; Ocimum inodorum Burm. f. Fl. Ind. 130. 1768.

Habit: Perennial woody, softly hairy herbs, 20-30 cm tall.

Phenology: FLS and FRS- Almost throughout the year.

Sanskrit Name: Devdandhupi, Sursa, Vrunda.

Local Name: Tulsi.

Distribution and Status in the Study Area: Common 'Holy-basil' plant planted at many places; also as an escape near human habitation.

Distribution in Gujarat: Cultivated or an escape (Shah, 1978).

Local Uses: Kept as a sacred plant near temples and houses. The leaf decoction is used in cough, cold, fever, bronchitis, gastric disorders and vomiting.

Uses in other regions of Gujarat state: The leaves are used for flavouring tea. A strong decoction of leaves in tea brings down the fever by producing excessive perspiration in the patient. It is also effective in bronchitis and gastric disorders in children (Saurashtra) (Shah, Menon and Gopal, 1981). Locally called as "Sabji" in Dharampur forest division. Plant is used as mosquito repellent (Reddy, 1989).

NYCTAGINACEAE

Two species belonging to two genera viz., Boerhaavia and Bougainvillea represents this family in the area.

Boerhaavia Linn.

Nomenclature: Boerhaavia diffusa Linn. Sp. Pl. 3. 1753; Boerhaavia repens Linn. var. diffusa (L.) Hook. f. Fl. Brit. India 4: 709. 1885; Cooke, Fl. Pres. Bombay 2: 563, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 583, 1978; Singh, et al., Fl. Maha. Dicot. 2:773. 2000; Mukherjee in J. Econ. Tax. Bot. 5: 582. 1984.

Habit: A perennial, diffuse herb; stem and branches, slender, pale-green, sometimes reddish-purple, nodose, terete striate, glandular and hairy.

Phenology: FLS and FRS- July to February.

Sanskrit Name: Punarnava, Raktapunarnava.

Local Name: Satodi.

Distribution and Status in the Study Area: Common and abundant in patches in waste lands at Vagasthal, Chhota-udepur, Sadhli, Adtia, Kawant, Kadipani, Kundal and Jamlidam.

Distribution in Gujarat: Throughout, common and abundant (Shah, 1978).

Local Uses: Roots are diuretic, laxative and expectorant. Its decoction is used in asthma, anaemia, jaundice and inflammations. Leaf juice is given in liver complaints. Decoction of entire plant is used in body swellings.

Uses in other regions of Gujarat state: Locally called as "Satadi thiked" by bhil community. Root decoction is used to cure fever. Leaves are used as vegetable (Bedi, 1979). Locally called as "Ghetuli" in North Gujarat (Bhil and Dungrabhil tribe). Leaf juice or paste is applied in ophthalmia; root powder is blood purifier and presumed to hasten delivery labour (Shah and Gopal, 1985). 5 gm of bruised leaves of this plant are applied externally in eye diseases by Vasava tribe of Rajpipla forest

division (Shah and Gopal, 1986). Bhil, Dhanka, Nayaka and Dubada tribe of North Gujarat apply the root paste to cure worms (Bhatt and Sabnis, 1987).

Bougainvillea Comm ex. A. L. de Juss. corr. Spach. nom cons.

Nomenclature: Bougainvillea spectabilis Willd. Sp. Pl. 2: 348. 1799; Cooke, Fl. Pres. Bombay 2: 567, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 584, 1978; Singh, et al., Fl. Maha. Dicot. 2:776. 2000.

Habit: A scandent or straggling shrub with leaves and stem pubescent at least in younger parts.

Phenology: FLS - Almost throughout the year.

Local Name: Boganvel.

Distribution and Status in the Study Area: Grown as an ornamental at N. R. College campus, Chhota-udepur.

Distribution in Gujarat: Grown as an ornamental throughout Gujarat (Shah, 1978).

AMARANTHACEAE

A total of 11 species belonging to 8 genera represents this family in the area.

Achyranthes Linn.

Nomenclature: Achyranthes aspera Linn. Sp. Pl. 204. 1753; Hook. f. Fl. Brit. India 4: 730. 1885; Cooke, Fl. Pres. Bombay 2: 580, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 587, 1978; Singh, et al., Fl. Maha. Dicot. 2:778. 2000.

Habit: Much branched pubescent herbs with spreading, opposite, nodose 4-gonous branches.

Phenology: FLS and FRS- October to May.

Sanskrit Name: Apamarga, Shikeri, Pratiyakpushpi, Adhyasalpa, Kharmanjira, Mayurak, Markati.

Local Name: Andhedi.

Distribution and Status in the Study Area: Very common weed in hedges along roads and cultivated fields at Kikawada, Panimines and Jamlidam.

Distribution in Gujarat: Throughout, common (Shah, 1978).

Local Uses: Plant is purgative and diuretic. Its decoction is used in dropsy, piles, boils, skin eruptions, colic and insect bite. Plant juice is given in diarrhoea, dysentery and rheumatism. Decoction of leaves is given in kidney troubles. Plant ash with water and sugar is given in respiratory troubles. Plant juice is applied on soriasis and eczema.

Uses in other regions of Gujarat state: Locally called as "Andaro" in Ratanmahal forests. Leaf juice is anti-dote to insect bite. Plant decoction is used to cure coughs (Bedi, 1979). Locally called as "Agheda" in Rajpipla forest division (Vasava tribe). Root decoction is used to relieve body pain. Fresh root is boiled in water and the patient is advised to take bath with the boiled water. It gives immediate relief (Shah and Gopal, 1986).

Aerva Forsk.nom.cons.

Nomenclature: Aerva lanata (L.) Juss. ex Schult. Syst. Veg. 5: 564. 1819; Hook. f. Fl. Brit. India 4: 728. 1885; Cooke, Fl. Pres. Bombay 2: 578, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 588, 1978; Singh, et al., Fl. Maha. Dicot. 2: 780. 2000; Achyranthes lanata Linn. Sp. Pl. 204. 1753; Illecebrum lanatum (L.) L. Mant. Pl. 344. 1771.

Habit: An erect or suberect herb, 20-50 cm tall, grey-tomentose.

Phenology: FLS and FRS- July to April.

Sanskrit Name: Astmabayda.

Local Name: Velaro.

Distribution and Status in the Study Area: Common among grasses in waste lands and along roads at Panvad, Mogra, Mithibor, Satun, Borkhad, Koraj, Jamlidam, Naswadi and Bhadurpur.

Distribution in Gujarat: Throughout, common (Shah, 1978).

Local Uses: Plant is anthelmintic and diuretic. Roots are demulcent and diuretic. Root decoction is given in headache.

Uses in other regions of Gujarat state: Locally called as "Gorakh Bhanja" in Ratanmahal forests. Root juice is applied on forehead to cure headache (Bedi, 1979). Locally called as "Nano gorakh ganjo" in North Gujarat (Bhil, Dungrabhil and Kathodia tribe). Decoction of flowers and seed powder given for urinary complaints (Shah and Gopal, 1985).

Alternanthera Forsk.

Nomenclature: Alternanthera paronychoides St. Hill. Voy. Distr. Diam. 2: 439. 1833; Mears and Gills in J. Arnold. Arb. 58: 62. 1977; Shah, Fl. Guj. 1: 590, 1978. Singh, et al., Fl. Maha. Dicot. 2: 782. 2000.

Habit: Prostrate or suberect, slender, pilose herb with geniculately ascending or at times radially spreading branches.

Phenology: FLS and FRS- December to May.

Distribution and Status in the Study Area: Rare among grasses at Bhadurpur village.
Distribution in Gujarat: Broach and Rajpipla, among grasses in moist riverbeds; rare (Shah, 1978).

Nomenclature: Alternanthera sessilis (L.) R. Br. ex DC. Cat. Pl. Hort. Monsp. 4: 77. 1813; Hook. f. Fl. Brit. India 4: 731. 1885; Cooke, Fl. Pres. Bombay 2: 584, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 591, 1978; Singh, et al., Fl. Maha. Dicot. 2:783. 2000; Gomphrena sessilis Linn. Sp. Pl. 225. 1753; Alternanthera nodiflora R. Br. Prodr. 417. 1810.

Habit: Much branched nearly glabrous, diffuse or prostrate herbs, 10-30 cm long and rooting at lower nodes.

Phenology: FLS and FRS- Almost throughout the year.

Sanskrit Name: Matkshaksi.

Distribution and Status in the Study Area: Common at Vagasthal, Chhota-udepur, Gabadia, Ghelvant, Mogra, Adtia, Jamlidam and Naswadi.

Distribution in Gujarat: Throughout, in moist ground, gregarious (Shah, 1978).

Local Uses: Stem and leaf decoction is used in insect bite. Plant is galactagogue and febrifuge. Root decoction is given to cure gastro-intestinal pains.

Amaranthus Linn.

Nomenclature: Amaranthus hybridus Linn. var. paniculatus (L.) Thell., in Asch. and Graebn. Syn. 5(1): 247. 1914; Hook. f. Fl. Brit. India 4: 718. 1885; Cooke, Fl. Pres. Bombay 2: 573, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 592, 1978; Singh, et al., Fl. Maha. Dicot. 2: 785. 2000; Amaranthus crunetus Linn. Syst. (ed. 10) 2: 1269. 1759; Amaranthus paniculatus Linn. Sp. Pl. (ed. 2) 1406.

Habit: A branched herb, 30-100 cm tall; stem and branches green when young, bright to dark purple when old, terete, striate and glabrous in older parts.

Phenology: FLS and FRS- November to December.

Local Name: Rajgaro.

Distribution and Status in the Study Area: An escape along roadsides at Chhota-udepur and Sadhli. Also cultivated .

Distribution in Gujarat: Cultivated, also as an escape (Shah, 1978).

Local Uses: Consumed by the locals.

Uses in other regions of Gujarat state: Locally called as "Rajgiro" in Dangs forest division. Leaves are consumed as vegetable. The grains are of inferior quality but they are sometimes consumed by the tribals (Shah and Gopal, 1982).

Nomenclature: Amaranthus spinosus Linn. Sp. Pl. 991. 1753; Hook. f. Fl. Brit. India 4: 718. 1885; Cooke, Fl. Pres. Bombay 2: 573, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 593, 1978; Singh, et al., Fl. Maha. Dicot. 2: 787. 2000.

Habit: Erect or diffuse, armed, glabrous, annual herbs with spines.

Phenology: FLS and FRS- Almost throughout the year.

Sanskrit Name: Kantakitanduliya.

Local Name: Tandaljo.

Distribution and Status in the Study Area: Common, scattered or subgregarious, along roads, cultivated fields and waste grass lands at Sadhli, Panvad and Jabugam.

PLATE 44

Distribution in Gujarat: Throughout, common and abundant (Shah, 1978).

Local Uses: Roots are used in gonorrhoea, eczema and colic. Leaves and roots made into paste is applied on burns and boils. Leaves are used as vegetables by the locals.

Uses in other regions of Gujarat state: Locally called as "Kantalo" in Dharampur forest division. Shoots is used as vegetable (Reddy, 1989).

Nomenclature: Amaranthus tricolor Linn. Sp. Pl. 989. 1753; Hook. f. Fl. Brit. India 4: 719. 1885; Cooke, Fl. Pres. Bombay 2: 574, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 594, 1978; Singh, et al., Fl. Maha. Dicot. 2: 788. 2000; Amaranthus tristis Linn. Sp. Pl. 989. 1753; Amaranthus mangostanus Linn. Cent. Pl. I. 32. 1755; Amaranthus polygamus Linn. Cent. Pl. I. 32. 1755; Amaranthus gangeticus Linn. Syst. Nat. ed. 10. 2. 1268.

Habit: A stout herb, 50-60 cm tall, simple or branched, if branched lower branches diffuse.

Phenology: FLS and FRS- September to December.

Sanskrit Name: Alpamarish, Meghnad, Pathyasak.

Distribution and Status in the Study Area: An occasional weed, scattered or subgregarious in cultivated fields and along road sides at Kikawada, Kadipani and Hampeshwar.

Distribution in Gujarat: Throughout, a road side weed, not common (Shah, 1978).

Celosia Linn.

Nomenclature: Celosia argentea Linn. Sp. Pl. 205. 1753; Hook. f. Fl. Brit. India 4: 715 and 716. 1885; Cooke, Fl. Pres. Bombay 2: 570, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 594, 1978; Singh, et al., Fl. Maha. Dicot. 2: 789. 2000; Celosia argentea Linn. Sp. Pl. 205. 1753; Celosia coccinea Linn. Sp. Pl. ed. 2. 297. 1762.

Habit: Erect, annual, glabrous herbs, branched from the middle.

Phenology: FLS and FRS- July to January.

Sanskrit Name: Sirivallika.

Local Name: Lampadi.

Distribution and Status in the Study Area: Common and abundant in waste places along roadsides at Kikawada, Kawant, Turkheda, Zoz, Lagami, Dhandhoda, Bordha and Raipur-kundal. **PLATE 44**

Distribution in Gujarat: Throughout, scattered or sub gregarious; common (Shah, 1978).

Local Uses: Tender shoots are used as vegetable.

Uses in other regions of Gujarat state: Locally called as "Lambdi" in Dangs forest division. The flowers and seeds are used in diarrhoea, urinary troubles and excessive menstrual discharge (Shah and Gopal, 1982).

Digera Forsk.

Nomenclature: Digera muricata (L.) Mart. Beitr. Amarantac. 77. n. 2. 1825 and in Nova Acta Leop. 13(1): 285. 1826; Hook. f. Fl. Brit. India 4: 717. 1885; Cooke, Fl. Pres. Bombay 2: 572, 1958 (Repr. ed.); Shah, Fl. Guj. 1: 595, 1978; Singh, et al., Fl. Maha. Dicot. 2: 790. 2000; Achyranthes muricata Linn. Sp. Pl. ed. 2. 295. 1762; Achyranthes alternifolia Linn. Mant. Pl. 50. 1767; Digera arvensis Forsk. Fl. Aegypt.-Arab. 65. 1775.

Habit: Annual, erect, slender herbs; stem and branches shallowly to deeply grooved, terete, dark-green often tinged purple, rarely completely light purple, glabrous, flexuous in younger parts.

Phenology: FLS and FRS- June to November.

Sanskrit Name: Manjirika, Kunanjar, Aranyavastuk.

Local Name: Kanjro.

PLATE 44



Martynia annua Linn.
(Martyniaceae) in flowering.
Commonly seen in open places.



Amaranthus spinosus Linn.
(Amaranthaceae) Seen along
edges of agricultural fields.



Justicia simplex D. Don.
(Acanthaceae) in flowering. C-
udepur forests division.



Celosia argentea Linn.
(Amaranthaceae) in flowering.

Distribution and Status in the Study Area: Common and abundant at Juna Chhota-udepur, Kikawada, Kawant, Mogra, Satun and Ghantoli-songir.

Distribution in Gujarat: Throughout, common (Shah, 1978).

Local Uses: Plant is laxative in excessive doses. Seed decoction is useful in urinary discharges.

Uses in other regions of Gujarat state: Locally called as "Lol-kanjaro" in North Gujarat (Bhil and Dugrabhil tribe). Decoction of flowers and seeds given for bronchitis (Shah and Gopal, 1985). Tender shoots are used as vegetable by the natives of Dharampur forest division (Reddy, 1989).

Gomphrena Linn.

Nomenclature: Gomphrena celosioides Mart. Beitr. Amarantac. 93. 1825; Gamble, Fl. Madras Presi. 2: 1179. 1925; Shah, Fl. Guj. 1: 595, 1978. Singh, et al., Fl. Maha. Dicot. 2: 790. 2000; Gomphrena decumbens auct. non. Jacq. 1804.

Habit: A trailing or procumbent, pilose herb; hairs white from bulbous bases.

Phenology: FLS and FRS- July to October.

Distribution and Status in the Study Area: Common among grasses in waste places at Juna Chhota-udepur, Vagasthal, Koraj and Panimines.

Distribution in Gujarat: Throughout; common, native of tropical America (Shah, 1978).

Local Uses: The tender leaf paste is kept on abdominal pains and also in constipation and gas troubles.

Nothosaerva Wt.

Nomenclature: Nothosaerva brachiata (L.) Wight. Icon. Pl. Ind. Orient. 6: 1. 1853; Hook. f. Fl. Brit. India 4: 726. 1885; Cooke, Fl. Pres. Bombay 2: 580, 1958 (Repr. ed); Shah, Fl. Guj. 1: 596, 1978; Singh, et al., Fl. Maha. Dicot. 2: 791. 2000; Achyranthes brachiata Linn. Mant. Pl. 50. 1767; Illecebrum brachiatum (L.) Linn. Mant. Pl. 213. 1771; Psuedanthus brachiatus (L.) Wight. Icon. Pl. Ind. Orient. 5(2): 3. t. 1776.

Habit: Annual herbs, with opposite, ascending, terete, shallowly grooved, glabrous branches.

Phenology: FLS and FRS- December to May.

Distribution and Status in the Study Area: Occasional, seen in moist places at Ambadungar.

Distribution in Gujarat: Throughout, in drying moist grounds and cultivated fields (Shah, 1978).

CHENOPODIACEAE

One species of the genus Chenopodium, i.e. C. album represents this family in the area.

Chenopodium Linn.

Nomenclature: Chenopodium album Linn. Sp. Pl. 219. 1753; Hook. f. Fl. Brit. India 5: 3. 1886; Cooke, Fl. Pres. Bombay 2: 586, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 599, 1978; Singh, et al., Fl. Maha. Dicot. 2: 795. 2000; Ch and O 201; S and B 43.

Habit: Annual, erect, compact, glabrous herbs with alternate ascending branches.

Phenology: FLS and FRS- December to March.

Sanskrit Name: Vastuk, Sharpatra, Shatrat, Yavshak.

Local Name: Chil chod.

Distribution and Status in the Study Area: A common weed in cultivated fields and in drying alluvial Orsang riverbeds at Ghelvant and Moti-dumali.

Distribution in Gujarat: Throughout, a weed in cultivated fields; common (Shah, 1978).

Local Uses: Plant is laxative and anthelmintic. The plant decoction is used in cough.

Uses in other regions of Gujarat state: Leaf poultice put on abdomen to treat prolapsed womb (North Gujarat, Bhil and Dunggrabhil tribe) (Shah and Gopal, 1985).

BASELLACEAE

One species of the genus Basella, i.e. B. rubra represents this family in the area.

Basella Linn.

Nomenclature: Basella rubra Linn. Sp. Pl. 272. 1753; Hook. f. Fl. Brit. India 5: 20. 1886; Cooke, Fl. Pres. Bombay 2: 594, 1958 (Repr. ed).; Shah, Fl. Guj. 1: 601, 1978; Singh, et al., Fl. Maha. Dicot. 2: 799. 2000.; Basella cordifolia Lam. Encycl. 1: 382. 1785; Basella alba Linn. Sp. Pl. 272. 1753.

Habit: A perennial, twining, much branched herb with bright pinkish red to deep purple stem and branches.

Phenology: FLS and FRS- September to January.

Sanskrit Name: Upadaki, Upadikka, Potaki, Malava.

Local Name: Poi.

Distribution and Status in the Study Area: An escape in cultivated fields at Ghelvant, Rangpur and Boriyad.

Distribution in Gujarat: Cultivated, often an escape, at some places naturalized (Shah, 1978).

Local Uses: Consumed by the locals as vegetable.

POLYGONACEAE

Two species of the two different genera viz., Polygonum and Rumex represents this family in the area.

Polygonum Linn.

Nomenclature: Polygonum glabrum Willd. Sp. Pl. 2: 447. 1799; Hook. f. Fl. Brit. India 5: 34. 1886; Cooke, Fl. Pres. Bombay 3: 5, 1958 (Repr. ed).; Shah, Fl. Guj. 2: 604, 1978; Singh, et al., Fl. Maha. Dicot. 2: 805. 2000.; Persicaria glabra Gomez in Ann. Inst. Segunda Enset. Habana. 2: 278. 1896.

Habit: Erect, rigid, glabrous upto 30 cm tall simple or branched herbs.

Phenology: FLS and FRS- October to January.

Local Name: Bosi.

Distribution and Status in the Study Area: Occasional, scattered or subgregarious near water courses at Naswadi, Bordha and Satun.

Distribution in Gujarat: Throughout (except Kachchh and Saurashtra) along riverbanks and margins of the ditches, not common (Shah, 1978).

Local Uses: Plant is used as febrifuge. Infusion of leaves is used in dysentery and diarrhoea. Root decoction is used in piles and jaundice. Plant juice is used in cold and cough. Leaf paste is applied externally in abdominal pains.

Uses in other regions of Gujarat state: Stem paste applied on dislocated bones in children, treatment to be taken every day for about a week and it is said to set the bones after dislocation (North Gujarat, Bhil and Dugrabhil tribe) (Shah and Gopal, 1985). Bark is grounded thoroughly and then mixed with water and boiled for half an hour. Then this boiled decoction is given to the patient orally in menorrhagia (Rajpipla forest division, Vasava tribe) (Shah and Gopal, 1986). Whole plant is made into paste which is taken with water to kill intestinal worms (Bhatt and Sabnis, 1987).

Rumex Linn.

Nomenclature: Rumex dentatus L. Mant. 2: 226. 1771; Hook. f. Fl. Brit. India 5: 59. 1886; Cooke, Fl. Pres. Bombay 3: 10, 1958 (Repr. ed.); Shah, Fl. Guj. 2: 604, 1978; Singh, et al., Fl. Maha. Dicot. 2: 809. 2000.; Rumex klotzschianus Meisn., in DC., Prodr. 14(1): 57. 1856; Rumex dentatus auct. non. Linn. 1771.

Habit: Simple or branched, annual, glabrous herbs, 20-35 cm tall.

Phenology: FLS and FRS- February to April.

Distribution and Status in the Study Area: Rare in the area, found growing in moist ground at Jamlidam and in the Orsang riverbeds.

Distribution in Gujarat: In moist ground in riverbeds at Bulsar, Broach, Rajpipla; occasional (Shah, 1978).

LORANTHACEAE

One species of the genus Dendrophthoe, i.e. D. falcata represents this family in the study area.

Dendrophthoe Mart.

Nomenclature: Dendrophthoe falcata (L. f.) Etting., in Denkschr. Akad. Wissench. Math. Nat. 32: 52. 1872; Hook. f. Fl. Brit. India 5: 214. 1886; Cooke, Fl. Pres. Bombay 3: 42, 1958 (Repr. ed.); Shah, Fl. Guj. 2: 607, 1978; Singh, et al., Fl. Maha. Dicot. 2: 838. 2000.; Loranthus falcatus L. f. Suppl. Pl. 211. 1782; Loranthus longiflorus Desr., in Lam. Encycl. 3: 598. 1792.

Habit: Shrubby parasites, with divaricate branches, swollen at nodes; bark brown, lenticellate.

Phenology: FLS- December to May, FRS- January to June.

Sanskrit Name: Vanda, Vandak, Vruksharohini, Vruksharuha, Apadrohini.

Local Name: Vando.

Distribution and Status in the Study Area: Common parasite on Boswellia serrata, Acacia chundra, Anogeissus latifolia, Tectona grandis, Mangifera indica, Diospyros melanoxylon and Vitex negundo at Sadhli, Kawant, Boriyad, Mithibor, Dolariya, Jamlidam, Ghantoli-songir and Kundal.

Distribution in Gujarat: Throughout, a common parasite on several hosts (Shah, 1978).

Local Uses: Bark is astringent and narcotic; used for checking excessive bleeding during menstruation. Bark decoction is also used on cuts, wounds and piles.

Uses in other regions of Gujarat state: Ripe fruits eaten by the tribals of Dharampur forests (Reddy, 1989).

VISCACEAE

One species of the genus Viscum, i.e. V. articulatum represents this family in the area.

Viscum Linn.

Nomenclature: Viscum articulatum Burm. f. Fl. Ind. 311. 1768; Hook. f. Fl. Brit. India 5: 226. 1886; Cooke, Fl. Pres. Bombay 3: 47, 1958 (Repr. ed).; Shah, Fl. Guj. 2: 608, 1978; Singh, et al., Fl. Maha. Dicot. 2: 847. 2000.; Viscum nepalense Spreng. Syst. Veg. 4: 47. 1827.

Habit: A dichotomously branched, leafless parasite; branches dark green, flattened striate, thickened at nodes.

Phenology: FLS and FRS- February to April.

Distribution and Status in the Study Area: At times seen in forests on trees such as Acacia chundra and Cassine glauca at Sadhli, Koraj, Kevdi and Mithibor.

Distribution in Gujarat: Dangs, Rajpipla, Pavagadh, Saurashtra and Kachchh; not common (Shah, 1978).

SANTALACEAE

One species of the genus Santalum, i.e. S. album represents this family in the area.

Santalum Linn.

Nomenclature: Santalum album Linn. Sp. Pl. 349. 1753; Hook. f. Fl. Brit. India 5: 231. 1886; Cooke, Fl. Pres. Bombay 3: 49, 1958 (Repr. ed).; Shah, Fl. Guj. 2: 608, 1978; Singh, et al., Fl. Maha. Dicot. 2: 850. 2000..

Habit: A small upto 7 mt tall tree with spreading branches and deeply vertically cracked light-blackish-brown rough bark.

Phenology: FLS- August to December, FRS- January to April.

Sanskrit Name: Chandana-vriksha.

Local Name: Chandan.

Distribution and Status in the Study Area: Planted at Adtia and Lachharas in Chhota-udepur forest division. Also sighted in temple primses at Chhota-udepur and Vagasthal.

Distribution in Gujarat: Planted, seldom wild (Rajpipla-Gumandev); rather rare (Shah, 1978).

Local Uses: Considered as sacred by the locals.

EUPHORBIACEAE

This family is represented in the area by a total of 14 species belonging to 7 different genera.

Acalypha Linn.

Nomenclature: Acalypha ciliata Forsk. Fl. Aegypt.-Arab. 162. 1775; Hook. F. Fl. Brit. India 5: 417. 1886; Cooke, Fl. Pres. Bombay 3: 109, 1958 (Repr. ed.); Shah, Fl. Guj. 2: 611, 1978; Singh, et al., Fl. Maha. Dicot. 2: 855. 2000..

Habit: 20-40 cm tall, erect annuals; stems obtusely angular, pale green, pubescent in younger parts, appressed hairy in older ones.

Phenology: FLS and FRS- August to December.

Local Name: Dadari.

Distribution and Status in the Study Area: An occasional herb seen in the undergrowth of forests and in cultivated fields at Vagasthal, Singla, Ghelvant, Ganthia-Gabadia and Kadipani.

Distribution in Gujarat: Throughout, a weed in moist ground (Shah, 1978).

Local Uses: The leaf paste mixed with the powder of Curcuma is effective in various skin diseases.

Nomenclature: Acalypha indica Linn. Sp. Pl. 1003. 1753; Hook. f. Fl. Brit. India 5: 416. 1886; Cooke, Fl. Pres. Bombay 3: 108, 1958 (Repr. ed.); Shah, Fl. Guj. 2: 611, 1978; Singh, et al., Fl. Maha. Dicot. 2: 856. 2000..

Habit: A 15-25 cm tall herb; stem and branches striate, hirsute in younger parts, almost glabrous in older.

Phenology: FLS and FRS- August to September.

Sanskrit Name: Aristamanjari, Arittanunjayrie, Harittamanjari.

Local Name: Dadaro.

Distribution and Status in the Study Area: Occasional in waste places under the tree shade also as a road side weed and in moist riverbeds at Juna Chhota-udepur and Kevdi.

Distribution in Gujarat: Throughout, common everywhere (Shah, 1978).

Local Uses: Plant is useful in the treatment of asthma and bronchitis, rheumatism, pneumonia and asthma. Leaf decoction is used in insect bite and syphilitic ulcers.

Baliospermum Blume

Nomenclature: Baliospermum montanum (Willd.) Muell.-Arg., in DC. Prodr. 15(2.2): 1125. 1866; Hook. f. Fl. Brit. India 5: 461. 1886; Cooke, Fl. Pres. Bombay 3: 106, 1958 (Repr. ed); Shah, Fl. Guj. 2: 612, 1978; Singh, et al., Fl. Maha. Dicot. 2: 862. 2000.; Jatropha Montana Willd. Sp. Pl. 4: 563. 1805; Baliospermum axillare Blume. Bijdr. 604. 1826; Baliospermum polyandrum Wight. Icon. Pl. Ind. Orient. 5(2): t. 1885. 1852.

Habit: 60-80 cm tall, stout, erect undershrubs.

Phenology: FLS- October to December, FRS- December to April.

Sanskrit Name: Danti, Udemberparni, Nikumbha, Mululak.

Local Name: Datio.

Distribution and Status in the Study Area: Occasionally seen along hedges and in undergrowth of forests at Kevdi, Udhwania, Vagasthal, Panimines and Naswadi.

Distribution in Gujarat: Throughout, everywhere; common at some places, otherwise occasional (Shah, 1978).

Local Uses: Seeds are purgative. Decoction of the root is used in dropsy and jaundice. Leaf decoction is used in bronchitis. Seed oil is used in rheumatism.

Uses in other regions of Gujarat state: Locally called as "Danti" in Ratanmahal forests. Branches are used as remedy for toothache by bhil tribal community (Bedi, 1979). Locally called as "Dantan" in North Gujarat (Bhil tribe). Stem when chewed relieves toothache; seeds are strongly purgative (Shah and Gopal, 1985). Tender shoots are used as toothbrushes to relieve toothache by the natives of Dharampur forest division (Reddy, 1989).

Bridelia Willd.

Nomenclature: Bridelia retusa (L.) Spreng. Syst. Veg. 3: 48. 1826; Hook. f. Fl. Brit. India 5: 268. 1886; Cooke, Fl. Pres. Bombay 3: 68, 1958 (Repr. ed); Shah, Fl. Guj. 2: 614, 1978; Singh, et al., Fl. Maha. Dicot. 2: 864. 2000.; Cluytia retusa Linn. Sp. Pl. 1042. 1753.

Habit: 7-10 mt tall, deciduous trees with straight trunk and greyish bark.

Phenology: FLS and FRS- July to October.

Sanskrit Name: Mahavira.

Local Name: Asran.

Distribution and Status in the Study Area: Occasional at Kevdi and Lagami forests of Chhota-udepur range.

Distribution in Gujarat: Throughout in dry deciduous forests; not frequent (Shah, 1978).

Local Uses: Bark is astringent. Bark decoction is used in the treatment of joint stiffness and bone fractures. Bark paste is applied on wounds and cuts. Leaf decoction is used in diarrhoea. Bark juice along with leaf paste is used in eye troubles.

Uses in other regions of Gujarat state: The tender leaves sometimes serve as a fodder for cattle. The fruit decoction is given as an emmenagogue (Dangs forest division) (Shah and Gopal, 1982).

Nomenclature: Bridelia squamosa (Lam.) Gehrm., in Engl. Bot. Jahrb. 41. 95: 30. 1958 (Repr. ed.); Hook. f. Fl. Brit. India 5: 268. 1886; Shah, Fl. Guj. 2: 615, 1978; Singh, et al., Fl. Maha. Dicot. 2: 867. 2000.; Santapau in J. Bombay. Nat. Soc. 50: 308. 1951; Cluytia squamosa Lam. Encycl. 5: 54. 1790; Bridelia retusa var. squamosa Muell. Arg., in DC. Prodr. 15(2.2): 493. 1866.

Habit: Deciduous trees, 8-12 mt tall with yellow bark.

Phenology: FLS and FRS- June to September.

Local Name: Asan.

Distribution and Status in the Study Area: Occasional in Turkheda and Kundal forest areas of Chhota-udepur forest division.

Distribution in Gujarat: Pavagadh and Saurashtra (Shah, 1978).

Euphorbia Linn.

Nomenclature: Euphorbia hirta Linn. Sp. Pl. 454. 1753; Hook. f. Fl. Brit. India 5: 250. 1886; Cooke, Fl. Pres. Bombay 3: 64, 1958 (Repr. ed.); Shah, Fl. Guj. 2: 623, 1978; Singh, et al., Fl. Maha. Dicot. 2: 880. 2000.; Euphorbia pilulifera Linn. Sp. Pl. 454. 1753.

Habit: Annual, slender herbs, 10-20 cm tall, branched from root stock; stem and branches terete, faintly striate, clothed with yellow hairs.

Phenology: FLS and FRS- Almost throughout the year.

Sanskrit Name: Putisoa.

Local Name: Nagal-dudhali.

Distribution and Status in the Study Area: A common weed along roads and in waste lands in the area. Seen at Kadipani, Naswadi, Turkheda, Dolariya, Boriyad, Panimines, Dhadagam, Udhwania, Vagasthal and Jamlidam.

Distribution in Gujarat: Throughout, everywhere; common (Shah, 1978).

Local Uses: Plant is used in worms, bowel complaints and cough. Plant decoction is used in dysentery. Plant decoction is given in bronchitis. Milky latex is used in skin inflammations.

Uses in other regions of Gujarat state: Locally called as "Rati" in Saurashtra. The leaf paste and juice are applied on ring worms and scabies (Shah, Menon and Gopal, 1981). Fresh leaves are used as vegetable by the tribals of Dharampur forest division (Reddy, 1989).

Nomenclature: Euphorbia ligularia Roxb. Fl. Ind. 2: 465. 1832 Hook. f. Fl. Brit. India 5: 255. 1886; Cooke, Fl. Pres. Bombay 3: 59, 1958 (Repr. ed.); Shah, Fl. Guj. 2: 624, 1978; Singh, et al., Fl. Maha. Dicot. 2: 882. 2000.; Euphorbia nerifolia Linn. Sp. Pl. 451. 1753.

Habit: Succulent shrubs, upto 2 mt tall; stem and branches light to dark green, woody and terete in older parts, strongly 3-angled in younger parts.

Phenology: FLS- November to April.

Sanskrit Name: Guda, Adhoguda, Snuhi, Samantdugdha, Sehund, Vrajvriksha.

Local Name: Thor.

Distribution and Status in the Study Area: Occasional as hedge plant in Pavi-jetpur and Chhota-udepur range of forest division.

Distribution in Gujarat: As a hedge plant in many places (Shah, 1978).

Local Uses: Used as a hedge or fencing around cultivated fields.

Uses in other regions of Gujarat state: Milky juice is said to be antidote in snake bite (Bedi, 1979). Used as an hedge plant in Dharampur forest division (Reddy, 1989).

Nomenclature: Euphorbia nivulia Buch.-Ham., in Trans. Linn. Soc. Bot. 14: 286. 1825; Hook. f. Fl. Brit. India 5: 255. 1886; Shah, Fl. Guj. 2: 624, 1978; Singh, et al., Fl. Maha. Dicot. 2: 882. 2000.; Euphorbia nerifolia Roxb. Fl. Ind. 2: 467. 1832.

Habit: Erect shrubs upto 2.5 mt tall with green, cylindrical, jointed, often whorled branches, armed with spines, old parts with thick corky bark.

Phenology: FLS- February to April.

Sanskrit Name: Struhi, Sudha, Sudhavriksha, Mahavriksha.

Local Name: Thor.

Distribution and Status in the Study Area: Seen as a hedge at Juna Chhota-udepur.

Distribution in Gujarat: Throughout, as a hedge plant; common in Saurashtra (Shah, 1978).

Local Uses: Used as fencing around cultivated fields and also around houses.

Nomenclature: Euphorbia tirucalli Linn. Sp. Pl. 452. 1753; Hook. f. Fl. Brit. India 5: 254. 1886; Cooke, Fl. Pres. Bombay 3: 66, 1958 (Repr. ed).; Shah, Fl. Guj. 2: 627, 1978; Singh, et al., Fl. Maha. Dicot. 2: 885. 2000..

Habit: Succulent, unarmed shrubs upto 2 mt tall with distinct dichotomous branching and milky juice; stem and branches cylindrical, smooth and oligaceous green.

Phenology: FLS- August to October, FRS- Not seen.

Sanskrit Name: Dugdhika, Naga-arjuni.

Local Name: Kharsani.

Distribution and Status in the Study Area: Found as hedge at Chhota-udepur.

Distribution in Gujarat: Throughout, as hedges; also naturalized in some places (Shah, 1978).

Uses in other regions of Gujarat state: The milky latex is applied on arrow head poisons by the tribals of Dangs forest division (Shah and Gopal, 1982). Plant: grown as a hedge plant around cultivated fields. Latex: cattle poison and arrow head poison (Reddy, 1989).

Jatropha Linn.

Nomenclature: Jatropha curcas Linn. Sp. Pl. 1006. 1753; Hook. f. Fl. Brit. India 5: 383. 1886; Cooke, Fl. Pres. Bombay 3: 95, 1958 (Repr. ed).; Shah, Fl. Guj. 2: 628, 1978; Singh, et al., Fl. Maha. Dicot. 2: 891. 2000..

Habit: A soft wooded shrub or a small tree with a straight trunk and greyish-yellow, smooth bark.

Phenology: FLS and FRS- August to December.

Sanskrit Name: Kananeranda.

Local Name: Ratanjot.

Distribution and Status in the Study Area: Raised as a hedge around cultivated fields at Chhota-udepur, Sadhli, Singla, Adtia, Vagasthal and Koraj.

Distribution in Gujarat: Throughout, mostly planted as hedge or an escape, native of Tropical America (Shah, 1978).

Local Uses: Used for fencing cultivated fields.

Uses in other regions of Gujarat state: Locally called as "Ratanjot" by bhil tribal community. Oil from the seeds is used for burning in lamps (Bedi, 1979). Hedge plant around cultivated fields. Juice: fish poison. Seed oil: for burning (Reddy, 1989).

Nomenclature: Jatropha gossypifolia Linn. Sp. Pl. 1006. 1753; Hook. f. Fl. Brit. India 5: 383. 1886; Cooke, Fl. Pres. Bombay 3: 94, 1958 (Repr. ed.); Shah, Fl. Guj. 2: 629, 1978; Singh, et al., Fl. Maha. Dicot. 2: 892. 2000..

Habit: Erect shrubs upto 1.5 mt tall; stems and branches glabrous crimson-red to deep reddish brown.

Phenology: FLS and FRS- Almost throughout the year.

Sanskrit Name: Dravanti, Putrasrini, Sambari, Chitra.

Local Name: Deshi-ratanjyot.

Distribution and Status in the Study Area: Common in waste ground and in hedges at Juna Chhota-udepur, Satun, Kundal and Jamlidam.

Distribution in Gujarat: Naturalized in many parts, as a roadside weed; native of Brazil (Shah, 1978).

Mallotus Lour.

Nomenclature: Mallotus philippensis (Lam.) Muell. Arg., in Linnaea 34: 196. 1865-1866; Hook. f. Fl. Brit. India 5: 442. 1886; Cooke, Fl. Pres. Bombay 3: 113, 1958 (Repr. ed.); Shah, Fl. Guj. 2: 630, 1978; Singh, et al., Fl. Maha. Dicot. 2: 894. 2000.; Croton philippense Lam. Encycl. 2: 206. 1786.

Habit: A small tree upto 6-10 mt height; trunk crooked; bark grey, young shoots rusty tomentose.

Phenology: FLS and FRS- October to January.

Sanskrit Name: Kampillak, Rechanaka, Raktang, Raktaphala.

Local Name: Kapilo.

Distribution and Status in the Study Area: A rare tree in the forests areas of Turkheda and Jamlidam.

Distribution in Gujarat: In deciduous forests of South and Central Gujarat and Saurashtra; common at Dangs; not frequent at other places (Shah, 1978).

Local Uses: Fruit powder is used in intestinal worms. It is also used as a purgative and in ringworms and scabies. Dye is obtained from the fruit.

Uses in other regions of Gujarat state: Locally called as "Kanku" in Dharampur forest division. Red powder 'Kanku' obtained from fruit surface, used by tribal women as vermilion on forehead (Reddy, 1989).

Phyllanthus Linn.Sensulato.

Nomenclature: Phyllanthus emblica Linn. Sp. Pl. 982. 1753; Hook. f. Fl. Brit. India 5: 289. 1886; Cooke, Fl. Pres. Bombay 3: 81, 1958 (Repr. ed).; Shah, Fl. Guj. 2: 619, 1978; Singh, et al., Fl. Maha. Dicot. 2: 873. 2000.; Emblica officinalis Gaertn. Fruct. Sem. Pl. 2: 122. t. 108. 1790.

Habit: Deciduous trees, 10-12 mt tall with spreading and often pendent branches; bark yellowish to grey brown, peeling off in irregular flakes.

Phenology: FLS and FRS- April to October.

Sanskrit Name: Amlika.

Local Name: Amla.

Distribution and Status in the Study Area: Occasional in the forests at Singla, Panvad, Turkheda and Kundal.

Distribution in Gujarat: In deciduous forests; occasional; also planted in gardens and along road sides (Shah, 1978).

Local Uses: Fruit is most probably the richest source of Vitamin C and is acrid, cooling, refrigerent, diuretic and laxative. Its decoction is useful in diarrhoea, dysentery, anaemia, jaundice, cough and dyspepsia. Leaf decoction is given in cough and bronchitis. Bark juice is applied on burns. Both the bark and leaf decoction mixed together is used in abdominal pains.

Uses in other regions of Gujarat state: The fruits are eaten raw or variously pickled into jams. They are one of the important component of 'Trifala churna' (Shah, Menon and Gopal, 1981). Locally called as "Monj" in Dangs forest division. The fruits are edible and pickled. The seed decoction is given in urinary troubles (Shah and Gopal, 1982).

Nomenclature: Phyllanthus fraternus Webster in Contrib. Gray Herb. 176: 53. 1955 and Journ. Arn. Arb. 38: 309. 1957; Hook. f. Fl. Brit. India 5: 298. 1886; Cooke, Fl. Pres. Bombay 3: 84, 1958 (Repr. ed).; Shah, Fl. Guj. 2: 632, 1978; Singh, et al., Fl.

Maha. Dicot. 2 :898. 2000.; Phyllanthus niruri auct. non. Linn. Sp. Pl. 1753; Ch and O 210.

Habit: Annual, slender herbs 10-20 cm tall.

Phenology: FLS and FRS- July to December.

Sanskrit Name: Bhumyamalaki, Tamalki, Bhudhatri.

Local Name: Bhoy aml.

Distribution and Status in the Study Area: A common weed in cultivated fields, waste lands and moist river beds at Chhota-udepur, Ranbor, Jamlidam, Lagami and Adtia.

Distribution in Gujarat: Throughout; common; according to Webster (1955) it is a native of Western India (Shah, 1978).

Local Uses: Roots are used as a remedy for jaundice and other hepatic complaints. Decoction of leaves is used in gonorrhoea, diarrhoea and dysentery. Leaf juice is used in ulcers.

Ricinus Linn.

Nomenclature: Ricinus communis Linn. Sp. Pl. 1007. 1753; Hook. f. Fl. Brit. India 5: 457. 1886; Cooke, Fl. Pres. Bombay 3: 125, 1958 (Repr. ed).; Shah, Fl. Guj. 2: 633, 1978; Singh, et al., Fl. Maha. Dicot. 2: 1001. 2000..

Habit: A large shrub upto 1.5 m tall; bark light grey; stem and branches cylindrical, with scars of fallen leaves.

Phenology: FLS and FRS- December to March.

Sanskrit Name: Panchangul, Eranda, Chitrabij, Gandharvahastak.

Local Name: Divalo.

Distribution and Status in the Study Area: Cultivated at Jabugam and Chhota-udepur range of forest division.

Distribution in Gujarat: Throughout, cultivated or an escape (Shah, 1978).

Local Uses: Cultivated by the locals on minor scale.

ULMACEAE

One species of the genus Holoptelea, i.e. H. integrifolia represents this family in the area.

Holoptelea Planch.

Nomenclature: Holoptelea integrifolia (Roxb.) Planch., in Ann. Sci. Nat. Bot. Ser. III. 10: 259. 1848; Hook. f. Fl. Brit. India 5: 481. 1886; Cooke, Fl. Pres. Bombay 3: 127, 1958 (Repr. ed).; Shah, Fl. Guj. 2: 637, 1978; Singh, et al., Fl. Maha. Dicot. 2: 911.

2000.; Ulmus integrifolia Roxb. Pl. Corom. 56. t. 78. 1796-1798 and Fl. Ind. 2: 68. 1832.

Habit: A deciduous tree, 3-6 m tall with straight trunk; bark greyish white or ash colored, smooth, exfoliating into small scales.

Phenology: FLS and FRS- December to June.

Sanskrit Name: Chirabilva.

Local Name: Kanjo.

Distribution and Status in the Study Area: Occasionally seen along road sides, rare in the forests at Chhota-udepur range and Naswadi.

Distribution in Gujarat: Throughout, frequent (Shah, 1978).

Local Uses: Bark juice is gently warmed and applied externally on swellings and rheumatic pains. Its decoction is given to animals in intestinal worms. Its bark mixed with the decoction of bark of Pterocarpus marsupium and Kydia calycina is used to cure abdominal and intestinal pains.

Uses in other regions of Gujarat state: Locally called as "Kanjivo" in Dangs forest division. Ploughs, yokes, carts and handles of brooms are prepared out of the wood. The seeds are edible (Shah and Gopal, 1982). Locally called as "Pipdio" in Dharampur forest division. Wood: for making agricultural implements; Leaf: fish poison (Reddy, 1989).

MORACEAE

In all six species belonging to the genus Ficus have been observed in the area under this family.

Ficus Linn.

Nomenclature: Ficus amplissima Sm., in Rees. Cycl. 14. n. 98. 1810; Hook. f. Fl. Brit. India 5: 515. 1886; Cooke, Fl. Pres. Bombay 3: 150, 1958 (Repr. ed.); Shah, Fl. Guj. 2: 643, 1978; Singh, et al., Fl. Maha. Dicot. 2: 933. 2000.; Ficus tsiela Roxb. ex Buch.-Ham., in Trans. Linn. Soc. Bot. 15: 149. 1826; Ficus indica Willd. Sp. Pl. 4: 1146. 1806.

Habit: 5-10 m tall trees with light grey, smooth bark.

Phenology: Receptacles - April to October.

Local Name: Payar.

Distribution and Status in the Study Area: Planted along roadsides from Pavi-jetpur to Chhota-udepur road.

Distribution in Gujarat: Dangs, Pavagadh, Panchmahals, North Gujarat, Saurashtra and Kachchh; occasional in later location (Shah, 1978).

Local Uses: Fruits are used to wash ulcerative perforations and its decoction is used in bronchitis.

Nomenclature: Ficus asperrima Roxb. Fl. Ind. 3: 554. 1832; King in Hook. f. Fl. Brit. India 5: 554. 1886; Cooke, Fl. Pres. Bombay 3: 153, 1958 (Repr. ed.); Shah, Fl. Guj. 2: 644, 1978; Singh, et al., Fl. Maha. Dicot. 2: 936. 2000.; Ficus exasperata Vahl. Enum. Pl. 2: 197. 1805.

Habit: 3-5 m tall trees with straight trunk and smooth, grey bark.

Phenology: Receptacles - January to April.

Sanskrit Name: Plakshya, Kharapatra.

Local Name: Bhoi-umber.

Distribution and Status in the Study Area: Occasionally seen at Jamlidam, range Dolariya of Chhota-udepur forest division.

Distribution in Gujarat: In deciduous forests of South and Central Gujarat; not common (Shah, 1978).

Local Uses: Bark and leaf decoction is used in enlargement of spleen.

Nomenclature: Ficus benghalensis Linn. Sp. Pl. 1059. 1753; Hook. f. Fl. Brit. India 5: 499. 1886; Cooke, Fl. Pres. Bombay 3: 145, 1958 (Repr. ed.); Shah, Fl. Guj. 2: 644, 1978; Singh, et al., Fl. Maha. Dicot. 2: 934. 2000..

Habit: A large evergreen tree, 15-20 mt tall with straight trunk and horizontal branches bearing aerial columnar roots; bark grey to greyish brown and rough.

Phenology: Receptacles - January to June.

Sanskrit Name: Vata, Bahupad, Vaishnav-nallaya.

Local Name: Vad.

Distribution and Status in the Study Area: Common throughout the area. **PLATE 45**

Distribution in Gujarat: Throughout; wild, self-sown or planted as a shade tree (Shah, 1978).

Local Uses: Milky juice from fruits is applied on rheumatic pains. Bark decoction is used in diabetes. Leaf paste is applied on swellings. Paste of the young buds are useful in diarrhoea and dysentery. The plant is believed to be sacred and worshiped by the tribals of Chhota-udepur forest division.

Uses in other regions of Gujarat state: Root decoction said to be used for diabetes. Milky latex applied for muscular pains and as anodyne in rheumatism (North Gujarat, Bhil and Dungrabhil tribe) (Shah and Gopal, 1985). Bark infusion is mixed in milk and administered orally for curing urethral diseases in ladies, particularly in the burning sensation caused while passing urine (Vasava tribe, Rajpipla forest division) (Shah and Gopal, 1986). Young shoots: used as toothbrushes; Leaves: for making dinner plates and drinking cups (Dharampur forests) (Reddy, 1989).

Nomenclature: Ficus hispida L. f. Suppl. Pl. 442. 1782; King in Hook. f. Fl. Brit. India 5: 522. 1886; Cooke, Fl. Pres. Bombay 3: 151, 1958 (Repr. ed); Shah, Fl. Guj. 2: 647, 1978; Singh, et al., Fl. Maha. Dicot. 2: 937. 2000.; Ficus oppositifolia Roxb. Pl. Corom 2: 14. t. 124. 1799; Ficus daemona Koenig ex Vahl. Enum. Pl. 2: 198. 1805.

Habit: A large bushy shrub or a small tree with rough stem and branches.

Phenology: Receptacles - December to March.

Sanskrit Name: Jantuphala, Yagnodumbar, Sadaphala.

Local Name: Dhed-umbero.

Distribution and Status in the Study Area: Common, but not abundant. Found in the forests along water courses and in hedges along roads at Panvad, Sadhli, Naswadi, Raipur-kundal and Panimines. **PLATE 45**

Distribution in Gujarat: Throughout, along roads and in forests (Shah, 1978).

Local Uses: The decoction of seeds and bark are purgative. Leaf poultice is useful in boils and swellings.

Nomenclature: Ficus racemosa Linn. Sp. Pl. 1060. 1753; Hook. f. Fl. Brit. India 5: 535. 1886; Cooke, Fl. Pres. Bombay 3: 5, 1958 (Repr. ed).; Shah, Fl. Guj. 2: 646, 1978; Singh, et al., Fl. Maha. Dicot. 2: 939. 2000.; Ficus glomerata Roxb. Pl. Coromandel 2: 13. t. 123. 1799.

Habit: Large evergreen trees 8-10 m tall; bark greyish or blackish brown, rough and fissured.

Phenology: Receptacles- April to August.

Sanskrit Name: Udembera.

Local Name: Umaro.

Distribution and Status in the Study Area: Scattered throughout the area, seen at Dhandhoda, Ghelvant and Kikawada villages. **PLATE 45**

PLATE 45



Ficus benghalensis Linn.
(Moraceae) in fruiting. Sacred
plant worshiped by the tribals.



Ficus hispida Linn. f.
(Moraceae) in fruiting. Locally
called as "Dhed-umberdo".



Ficus glomerata Roxb. (Moraceae) in
fruiting. Commonly seen along roadsides
and edge of agricultural fields.

Distribution in Gujarat: Throughout, common (Shah, 1978).

Local Uses: Sap of the leaves is given in diabetes. Leaf paste is applied in bilious affections. Fruit decoction along with milky latex is given in diarrhoea and also popular local application for rheumatic joints and pains. The latex is used in eye and ear complaints.

Uses in other regions of Gujarat state: Locally called as "Bhuimber" in Dharampur and Dangs forests. Ripe receptacles are edible (Shah and Gopal, 1982, Reddy, 1989). Bark extract is orally administered in dysentery by Kotwalia tribe of Dangs forests (Waghai) (Maheshwari, Sikarwar and Painuli, 1994).

Nomenclature: Ficus religiosa Linn. Sp. Pl. 1059. 1753; Hook. f. Fl. Brit. India 5: 513. 1886; Cooke, Fl. Pres. Bombay 3: 149, 1958 (Repr. ed.); Shah, Fl. Guj. 2: 646, 1978; Singh, et al., Fl. Maha. Dicot. 2: 940. 2000.; Ficus peepal Griff. Not. Pl. Asiat. 4: 393. 1854.

Habit: 10-16 m tall, trees with grey or greyish black, rough bark.

Phenology: Receptacles- January to April.

Sanskrit Name: Pippala, Asvattha, Bodhidrum.

Local Name: Pipado.

Distribution and Status in the Study Area: Planted or self-sown at many places in the area.

Distribution in Gujarat: Throughout, planted or self-sown (Shah, 1978).

Local Uses: Bark is astringent; useful in gonorrhoea and scabies. Fruits are laxative. Young shoots and leaves are purgative.

Uses in other regions of Gujarat state: The bark is astringent. The fruit is laxative. Young fruits are said to increase fertility in women (Shah and Gopal, 1982).

CASUARINACEAE

One species belonging to the genus Casuarina, i.e. C. equisetifolia represents this family in the area.

Casuarina Linn.

Nomenclature: Casuarina equisetifolia Linn. Amoen. Acad. 4: 143. 1759; Hook. f. Fl. Brit. India 5: 598. 1886; Cooke, Fl. Pres. Bombay 3: 161, 1958 (Repr. ed.); Shah, Fl. Guj. 2: 648, 1978; Singh, et al., Fl. Maha. Dicot. 2: 949. 2000.; Casuarina muricata Roxb. Fl. Ind. 3: 519. 1832.

Habit: Evergreen trees, 10-12 m tall, with brown to blackish brown bark, branches slender.

Phenology: FLS and FRS- April to June.

Local Name: Saru.

Distribution and Status in the Study Area: Occasional along riverbanks of Orsang river at Pavi-jetpur (near Orsang river Bridge).

Distribution in Gujarat: Extensively planted along seashores for soil reclamation, also an ornamental (Shah, 1978).