

STUDIES ON THE BOTANY OF JAMNAGAR DISTRICT (Gujarat)

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Abstract

A general account of the vegetation of Jamnagar district (Gujarat) is presented in the paper. Location, topography, geology and climate are briefly discussed. An enumeration of plants is also appended.

Introduction

The Botany of Jamnagar district is little known, although in a general way the vegetation of Okhamandal including Dwarka has been known mainly due to the efforts of Borgessen (1929), Raizada and Vaid (1957). A short note on the vegetation is provided in the old Imperial Gazetteer for Navanagar, formerly a princely State. More particularly Santapau has published in 1950 botanical account of Navanagar State, followed by Flora of Saurashtra (Part I 1962), mostly based on earlier collections. Ahluwalia (1964, 1965) enumerated medicinal plants of Jamnagar.

The present account of the botany of Jamnagar district is based on a general reconsituting survey and plant collections made by various parties of this office in the district.

The district of Jamnagar is situated between longitude $68^{\circ} 20' - 70^{\circ} 62'$ E and latitude $22^{\circ} 58' - 21^{\circ} - 64'$ N and is bounded on the north by the gulf of Kutch and on the west by the Arabian sea and on the east by the districts of Morvi and Rajkot and south by the Junagadh district.

The district is comprised of 8 talukas viz. Jamnagar, Kolovad, Lalpur, Jodiya and Dharol, Jam Jodhpur, Bhavandmal and Khambhalia and with district headquarters located Jamnagar.

Topographically the country is a dull, generally undiversified plain with occasional isolated hills cropping up unexpectedly over the land. The whole district is cut off by a few rivers viz. Bhadar, Kalubhar and Beti etc. which ultimately fall in the Gulf of Kutch,

Geologically the principal hills are mostly of Trap and Basalt origin intermixed with limestone and marble at times especially in Bhavandmal Taluka. Nummulitic beds are common throughout Okha. (Anony. 1884). In the northern part of the country the soil is light red, alternating with a few outcrops of black mould. Along the coast on the western end, a little interior of Gomti creek and Rozibunder, it is sandy, but inland it is fairly productive ranging from light brown loamy to sandy loamy. In the southern portion, the soil is also light red, but at many places, it is rocky and barren.

TABLE I

Rainfall Data for 50 years (1901 - 1950) in mm.

Place	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annl.
	1	2	3	4	5	6	7	8	9	10	11	12	14
Dwarka	2.5	5.1	2.3	0.5	0.8	44.2	186.9	68.3	38.6	5.3	2.0	1.8	358.3
No. of rainy days	0.3	0.4	0.2	0.0	0.0	2.1	6.3	4.0	0.2	0.3	0.1	0.2	15.9
Jamnagar	1.3	1.8	1.5	0.5	6.1	6.2	225.8	100.1	56.6	7.4	2.3	1.5	466.1
No. of rainy days	0.1	0.2	0.1	0.0	0.3	2.0	0.1	5.4	2.7	0.5	0.3	0.1	20.5

Temperature for 30 years (1931 - 1960)

Jamnagar													
Max. °C	26.4	28.8	32.9	35.5	26.1	35.9	32.3	31.5	31.9	34.4	32.3	27.8	32.1
Min. °C	10.6	13.0	17.6	21.4	25.4	27.1	26.2	25.4	23.9	21.5	16.1	12.1	20.0
Dwarka													
Max. °C	25.4	26.4	28.2	29.7	31.2	31.9	30.2	29.3	29.5	30.7	30.8	27.5	29.2
Min. °C	16.1	17.7	21.5	24.7	27.0	28.2	26.9	26.0	25.4	23.9	20.5	17.0	22.9

Humidity data for 30 years (1931 - 1960)

Jamnagar													
Humidity													
%	60	60	71	68	70	69	82	82	81	76	61	60	70
	37	32	38	42	54	62	72	72	62	47	36	38	58
Dwarka													
Humidity													
%	65	72	78	81	82	81	84	85	84	79	68	63	70
	45	58	68	75	78	77	82	82	78	71	51	43	67

The climate of Jamnagar district on the whole is healthy. Practically the whole of the precipitation, which is due to south-west monsoon is experienced during the months of June-Sept. and in the remaining part of the year except November-February when it receives a few north-westerly showers, the district is almost dry. Month of July is the wettest month. The highest average rainfall is 466.1 mm. The maximum temperature recorded is 35.9 °C and month of June is the hottest in the district. The minimum temperature is 10.6 °C during the month of January. The climate data of the two places, for which the data is available, is given in Table I. (Page 4)

Vegetation

The vegetation of Jamnagar is typically xerophytic in character and even the forests on the slopes of Baroda hills and also where water is abundant show the xerophytic features in the small size of the trees and the abundance of spiny plants, which clearly indicate that at some time during the year water is far from abundant even in the neighbourhood of the many lakes and wells.

The vegetation ranges from Mangrove to dry deciduous with a few scattered grasslands. It can be easily divided into following broad heads i. e. (i) Mangrove (ii) Salt marshes (iii) Sandy strands (iv) Inland scrub forests (v) Grasslands.

(i) Mangrove vegetation

The Gulf of Kutch abounds in extensive mangrove forests, which can be easily observed along Bedi Bunder (Jamnagar) and Pandara Swamps bordering Okha, Rann, but the largest is the Dhasodia forest near Jodiya. The dominant species in this vegetation is *Avicennia marina* var. *acutissima* Stapf et Mold. which forms almost pure strand but at times this is associated with *Avicennia officinalis* Linn., *Rhizophora mucronata* Lam., *Bruguiera gymnorhiza* (Linn.) Lamk., *Ceriops tagal* (Perr.) C. B. Robins and *Aegiceras corniculatum* (Linn.) Blanco. These mangrove swamps are the principal source of fuel.

In the exposed rocky area bordering the Gulf, *Atriplex stocksii* Boiss. and *Salicornia brachiatia* Roxb. are the dominant species forms, the former almost pure formations along the jetty bank of Jodiya. They are associated with species like *Sericostema pauciflorum* Stocks ex Wt., *Ericostemma hyssopifolium* (Willd.) I. C. Verd., *Sa. foetida* Del., *Portulaca* spp., *Limonium stocksii* (Boiss.) O. Ktze., *Polycarpea spicata* Wt. & Arn., and *Sesuvium portulacastrum* (Linn.) Linn. In the rocky crevices plants species viz. *Heliotropium zeylanicum* Lamk., *Policaria angustifolia* DC., *Cissus quadrangularis* Linn., *Andrographis echooides* (Linn.) Nees, *Fagonia cretica* Linn., and *Lepidagathis trinervis* Wall. ex Nees, are commonly observed. Occasionally bushes of *Asparagus demosus* Bak. are seen on less sandy and saline soil.

(ii) Salt marshes

The vegetation in this zone is more or less dominated by *Aeluropes lagopoides* (Linn.) Trin. ex Thw., closely followed by *Sporobolus* spp. The other interesting feature of this

vegetation is the presence of *Cressa cretica* Linn. in patches on dried salt marshes/pans. In this zone, towards sandy areas it is not uncommon to see the mixed herbaceous plant species such as *Cyperus pangorei* Rottl., *Bergia odorata* Edgew., *Oldenlandia umbellata* Linn., *O. corymbosa* Linn. and *Phyla nodiflora* (Linn.) Greene.

(iii) Sandy strands

The sandy tracts of limited extensions are sometimes intercepted in between rocky shore line. Beyond the tidal mark towards the sea-side, and also on the summit of sandy bars of a few pioneers like *Cyperus conglomeratus* and *Asparagus demosus* Baker are found growing in abundance. In these areas the fore-shore is free from vegetation. However, on beach ridge, pure strands of *Ipomoea pes-caprae* (Linn.) Sweet. and *Halopyrum mucronatum* Stapf, are commonly observed. The other associates of these strands are *Cyperus arenarius* Retz., *Launea sarmentosa* (Willd.) Alston, *Convolvulus microphyllus* Schb. ex Spreng., *Gonio-gyna hirta* (Willd.) Ali, *Sprobolus* spp., *Borreria articulata* (Linn. f.) Willd. and *Aeluropes lagopoides* (Linn.) Trin ex Thw.

(iv) Inland scrub forests

The scrub forests on sandy plains are mainly composed of species like *Acacia senegal* Willd., *A. leucophloea* Willd., *A. nilotica* (Linn.) Dal. subsp. *indica* (Benth.) Brenan, *Capparis decidua* (Forsk.) Edgew., *C. grandis* Linn. f., *Maytenus* sp., *Zizyphus* spp., *Mimosa hamata* Willd., *Grewia tenax* (Forsk.) Fiori; *Balanites aegyptiaca* (Linn.) Del., *Commiphora wightii* (Arn.) Bhandari and *Euphorbia nivalis* Buch.-Ham.

On rocky hilly tracts, the scrubs are mostly formed of bushy clumps of *Euphorbia nivalis* Buch.-Ham. as the dominant species growing in association with *Grewia tenax* (Forsk.) Fiori, *Commiphora wightii* (Arn.) Bhand., *Capparis decidua* (Forsk.) Edgew. and *Clerodendrum multiflorum* (Burm. f.) Ktze.

In saline tracts and river beds, plant species like *Salvadora oleoides* Decne., *S. persica* Linn., *Tamarix* spp., and *Calotropis procera* R. Br. are commonly observed. The other shrubby species of occasional occurrence are *Grewia villosa* Willd., *Capparis decidua* (Forsk.) Edgew., *Cadaba fruticosa* (Linn.) Drue, *Zizyphus nummularia* (Burm. f.) Wt. & Arn. and *Lycium europaeum* Linn.

The ground flora is mainly composed of *Baerhavia diffusa* Linn., *Barleria prionitis* Linn., *Portulaca quadrifida* Linn., *Taverniera cuneifolia* Arn., *Asparagus gonoclados* Bak., *Polycarpea spicata* Wt., & Arn. and *Goniogyna hirta* (Willd.) Ali.

The sandy plain with a layer of gravelly soil, have plant species like *Calotropis gigantea* (Linn.) R. Br., *Euphorbia nivalis* Buch.-Ham., *Clerodendrum multiflorum* (Burm. f.) Ktze., *Capparis decidua* (Forsk.) Edgew. and *Cadaba fruticosa* (Linn.) Drue as the most common shrubs.

The tree species like *Borassus flabellifera* Linn. and *Phoenix sylvestris* (Linn.) Roxb. are fairly common and abundant in the plains near the habitation, quite often forming thickets with *Ficus benghalensis* Linn. and *F. religiosa* Linn. Sometimes *Azadirachta indica* A. Juss. and *Cordia rothii* Roem. and Schult. are observed growing in association with the above palms or singly.

(v) Grasslands

The grasslands can be easily grouped into two major sub-heads depending upon the underlying soil.

(i) Alluvial soil grasslands.

(ii) Rocky soil grasslands

(i) Alluvial soil grasslands :

These grasslands are near rivers etc. and on these grasslands two major communities viz. (i) *Dichanthium-Desmostachya* community and (ii) *Eleusine compressa* community are observed.

(i) *Dichanthium-Desmostachya* community :—

In this community, *Dichanthium annulatum* (Forsk.) Stapf and *Desmostachya bipinnata* (Linn.) Stapf are the dominant species. The other associate grasses are *Cynodon dactylon* (Linn. f.) Pers., *Sporobolus helvolus* (Trib.) Dur. et Schinz., *S. marginatus* (Hochst.) Richb., *Aeluropes lagopoides* (Linn.) Trin., *Panicum antidotale* Retz. and *Dignathia hirtella* Stapf etc. Amongst other herbaceous plants, species like *Indigofera cordifolia* Heyne ex Roth, *I. linifolia* (Linn.) Retz., *Mollugo nudicaulis* Lamk and *Gonoigyna hirta* (Willd.) Ali are more prominent.

(ii) *Eleusine compressa* community :—

In this community, *Eleusine compressa* (Forsk.) Asch. et Sch. is the dominant species and is associated with *Brachlaria ramosa* (Linn.) Stapf, *Cenchrus biflorus* Roxb., *Aristida adscensionis* Linn., *A. hystrix* Linn., *Dactyloctenium aegyptica* (Linn.) P. Beauv., *Eragrostis tremula* Hochst., *E. ciliaris* (Linn.) R. Br., *Elyonurus royleanus* Nees ex A. Rich., and *Cymbopogon jwarancusa* (Jones) Schult. Amongst other herbs, *Blcpharis repens* (Vahl) Roth, *Tephrosia purpurea* Pers., *Indigofera linifolia* (Linn.) Retz., *Gisekia pharnaceoides* Linn., *Trifolium terrestris* Linn., *Indigofera cordifolia* Heyne ex Roth, *Mollugo nudicaulis* Lamk. and *Cyperus arenarius* Retz. are more prominent.

On somewhat saline soil *Aeluropes lagopoides* (Linn.) Trin and *Urochondra setulosa* (Trin.) Hubb. alongwith some cyperaceous members form distinct community.

(ii) Rocky soil grasslands :

On the rocky soil, grass species like *Heteropogon contortus* (Linn.) P. Beauv., *Chrysopogon fulvus* (Spr.) Chiov. are dominant and are associated with *Sehima nervosum* (Rottl.)

Stapf, *Panicum antidotale* Retz., *Cymbopogon jwarancusa* (Jones) Schult., *Eremopogon soueolatus* Stapf, and *Sorghum halepense* (Linn.) Pers. Amongst the herbs *Goniogyna hirta* (Willd.) Ali, *Trianthema portulacastrum* Linn., *Mollugo nudicaulis* Lamk., *Indigofera cordifolia* Heyne ex Roth and *Tribulus terrestris* Linn. are very common.

Dry deciduous forests :

On the northern end of Barda hills *Delonix alata* (Linn.) Gamble forms almost pure forests. The other species in this type of forest are *Salvadora oleoides* Decne, *Tectona grandis* Linn. I. *Mitragyna parvifolia* (Roxb.) Korth and *Anogeissus latifolia* (Roxb.) wall. ex Bedd. On the slopes of the hills are seen species like *Albizia lebbek* (Linn.) Benth., *Wrightia tinctoria* R. Br., *Cassia fistula* Linn., while near the hilly tops *Terminalia crenulata* Roth forms dominant composition along with various species of *Ficus*, and *Delonix alata* (Linn.) Gamble and disappear completely. In Kathiawar regions where good forests are observed, the following species like *Acacia nilotica* (Linn.) Del., *Syzygium cumini* (Linn.) Skeels, and *Azadirachta indica* A. Juss. and *Ficus* species are found in abundance.

In the Laloi regions are seen species like *Bridelia squamosa* (Lamk.) Gehrm., *Tectona grandis* Linn. f., *Delbergia siso* Roxb. *Delonix alata* (Linn.) Gamble, *Albizia lebbeck* (Linn.) Benth. etc. forming mixed deciduous forests.

Flora of the cultivated fields

The flora of the cultivated fields includes herbaceous and shrubby plants rather weeds, which are abundant and common everywhere, and sometimes a dominant feature of the vegetation. The common plant species are *Amaranthus polygamous* Linn. *Bergia odorata* Edgew., *Blumea lacera* DC., *Chenopodium album* Linn., *Chrozophora prostrata* Dalz. *G.rottleri* (Geis.) Juss. ex Spr., *Cleome gynandra* Linn., *Crotalaria medicaginea* Lamk., *Cyperus rotundus* Linn., *Digera muricata* (Linn.) Mart., *Eclipta prostrata* (Linn.) Linn., *Euphorbia hirta* Linn. *Grangea maderaspatana* Linn., *Heliotropium seabrum* Retz., *Merremia emarginata* (Burm. f.) Hall. f., *Polygonum plebeium* R. Br., *Portulaca oleracea* Linn., *Solanum nigrum* Linn., *S. surattense* Burm. f., *Sphaeranthus indicus* Linn., *Stemodia viscosa* Roxb., *Trianthema portulacastrum* Linn., *Vernonia cinerea* (Linn.) Less. and *Withania somnifera* (Linn.) Dunal.

Medicinal plants

A number of medicinal plants are observed growing wild and can be successfully planted in the area. The common species are *Adhatoda vasica* Nees, *Asparagus racemosus* Willd. var. *Javanica* Baker, *Barleria prionitis* Linn., *Helicteres isocoma* Linn., *Withania somnifera* (Linn.) Dunal, *Eclipta prostrata* (Linn.) Linn., *Commiphora wightii* (Arn.) Bhand., *Solanum surattense* Burm. f., *Tribulus terrestris* Linn., *Datura metel* Linn. and *Grewia tenax* (Forsk.) Fiori.

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ENUMERATION OF PLANTS

Botanical Name 1	Habit 2	Botanical Name 1	Habit 2
MAGNOLIACEAE			
<i>Michelia champaca</i> Linn.	Tr.	<i>C. simplicifolia</i> (Camb.)	"
ANNONACEAE	"	<i>Hook. f. & Thoms.</i>	
<i>Annona reticulata</i> Linn.	"	<i>C. viscosa</i> Linn.	"
<i>A. squamosa</i> Linn.	"	CAPPARACEAE	
<i>Polyalthia cerasoides</i> (Benth. & Hook. f.)	"	<i>Cadaba fruticosa</i> (Linn.) Druce	Sh.
<i>Hook. f. Thoms.</i>	"	<i>Capparis decidua</i> (Forsk.) Edgew.	"
<i>P. longifolia</i> (Sooner) Thw.	"	<i>C. grandis</i> Linn. f.	Tr.
MENISPERMACEAE	Cl.	<i>C. sepiaria</i> Linn.	Sh.
<i>Cissampelos pareira</i> Linn.	"	<i>C. spinosa</i> Linn.	"
<i>Cocculus hirsutus</i> (Linn.) Diels	"	<i>C. spinosa</i> var <i>galeata</i> (Fres.)	"
<i>C. pendulus</i> (Forst.) Diels	"	<i>Hook. f. & Thoms.</i>	
<i>Cyclea peltata</i> (Lamk.) Hook f. & Thoms.	"	<i>Crataeva nurvala</i> Buch.-Ham.	Tr.
<i>Tinospora cordifolia</i> (Willd.) Miers	"	<i>Maerua oblongifolia</i> (Forsk.)	"
NELUMBONACEAE	Hb.	A. Rich.	
<i>Nelumbo nucifera</i> Gaertn.		FLACOURTIACEAE	
NYMPHAEACEAE		<i>Flacourtia indica</i> (Burm. f.) Merr.	"
<i>Nymphaea moucharali</i> Burm. f.	"	POLYGALACEAE	
<i>N. pubescens</i> Willd.	"	<i>Polygala abyssinica</i> R. Br. ex Fresen	Hb.
PAPAVERACEAE		<i>P. chinensis</i> Linn.	"
<i>Argemone mexicana</i> Linn.	"	<i>P. eriopetra</i> DC.	"
FUMARIACEAE		CARYOPHYLLACEAE	
<i>Fumaria indica</i> (Haussk.) Pugsley	"	<i>Polycarpea corymbosa</i> (Linn.) Lamk.	"
BRASSICACEAE		<i>P. spicata</i> Wt. & Arn.	"
<i>Brassica juncea</i> Coss.	"	<i>Polycarpon prostratum</i> (Forsk.)	"
<i>B. juncea</i> var. <i>nigra</i> (Linn.) Koch.	"	Aschets. & Schwein. f.	"
<i>B. juncea</i> var. <i>cleracea</i> Linn.	"	PORTULACACEAE	
<i>Coronopus didymus</i> (Linn.) Sm.	"	<i>Portulaca oleracea</i> Linn.	"
<i>Lepidium sativum</i> Linn.	"	<i>P. pilosa</i> Linn.	"
<i>Raphanus sativus</i> Linn.	"	<i>P. quadrifida</i> Linn.	"
CLEOMACEAE		TAMARICACEAE	
<i>Cleome gynandra</i> Linn.	"	<i>Tamarix dioica</i> Roxb.	Sh.
		<i>T. stricta</i> Boiss.	"
		<i>T. troupili</i> Hole	"

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Botanical Name 1	Habit 2	Botanical Name 1	Habit 2
ELATINACEAE			
<i>Bergia ammannioides</i> Roxb. ex Roth	Hb.	<i>Sida cordata</i> (Burm. f.) Borss	Hb.
<i>B. odorata</i> Edgew.	"	<i>Sida cordifolia</i> Linn.	"
MALVACEAE			
<i>Abelmoschus esculentus</i> (Linn.) Moench	"	<i>S. mysorensis</i> Wt. & Arn.	"
<i>A. manihot</i> (Linn.) Medic.	"	<i>S. ovata</i> Forsk.	"
<i>Abutilon fruticosum</i> Guill. & Perr.	"	<i>S. rhombifolia</i> Linn. ssp. <i>rhombifolia</i>	"
<i>A. glaucum</i> (Cav.) Sweet	"	<i>S. spinosa</i> Linn.	"
<i>A. hirtum</i> (Lamk.) Sweet	"	<i>Thespesia lampas</i> (Cav.) Dalz. & Gibbs	Sh.
<i>A. indicum</i> (Linn.) Sweet	"	<i>T. populnea</i> (Linn.) Sol. ex Correa	Tr.
<i>A. ramosum</i> Guill. Perr. & Rich	"	<i>Urena lobata</i> Linn.	Hb.
<i>A. theophrasti</i> Medic.	"	BOMBACACEAE	
<i>Althaea rosea</i> (Linn.) Cav.	"	<i>Bombax ceiba</i> Linn.	Tr.
<i>Gossypium arboreum</i> Linn. var. <i>arboreum</i>	Tr.	STERCULIACEAE	
<i>G. arboreum</i> var. <i>obtusifolium</i> (Roxb.) Roberty	Sh.	<i>Helicteres isora</i> Linn.	Sh.
<i>G. barbadense</i> Linn.	"	<i>Melhania futteyporensis</i> Munro ex Mast.	"
<i>G. hirsutum</i> Linn.	"	<i>Melochia corchorifolia</i> Linn.	Hb.
<i>G. stocksii</i> Mast.	"	<i>Sterculia urens</i> Roxb.	Tr.
<i>Hibiscus caesius</i> Garcke	Hb.	<i>Waltheria indica</i> Linn.	Hb.
<i>H. cannabinus</i> Linn.	"	TILIACEAE	
<i>H. lobatus</i> (J. A. Murray) O. Ktze	"	<i>Corchorus aestuans</i> Linn.	Hb.
<i>H. ovalifolius</i> (Forsk.) Vahl.	"	<i>C. capsularis</i> Linn.	"
<i>H. palmatus</i> Forsk.	"	<i>C. depressus</i> (Linn.) Stocks	"
<i>H. punctatus</i> Dalz.	Sh.	<i>C. fascicularis</i> Lamk.	"
<i>H. rosasinensis</i> Linn.	"	<i>Corchorus olitorius</i> Linn.	"
<i>H. trionum</i> Linn.	Hb.	<i>C. trilocularis</i> Linn.	"
<i>H. vitifolius</i> Linn.	"	<i>Grewia damine</i> Guert.	Sh.
<i>Kydia calycina</i> Roxb.	Tr.	<i>G. flavescens</i> Juss.	"
<i>Malvastrum coronandelianum</i> (Linn.) Garcke	Hb.	<i>G. hirsuta</i> Vahl.	"
<i>Paronia ceratocarpa</i> Dalz. ex Mast.	"	<i>G. subinequalis</i> DC.	"
<i>P. procumbens</i> (Wt. & Arn.) Walp.	"	<i>G. tenax</i> (Forsk.) Fiori.	"
<i>Senra incana</i> Cav.	"	<i>G. tiliacefolia</i> Vahl.	Tr.
		<i>G. villosa</i> Willd.	Sh.
		<i>Triumfetta rhomboidea</i> Jacq.	Hb.
		<i>T. rotundifolia</i> Lamk.	"

Botanical Name 1	Habit 2	Botanical Name 1	Habit 2
LINACEAE			
<i>Linum usitatissimum</i> Linn.	Hb.	<i>Maytenus emarginata</i> (Willd.)	Sh.
MALPIGHIACEAE		Ding Hou.	
<i>Stigmaphyllon</i>	Cl.	RHAMNACEAE	
<i>periplocaefolium</i> A. Juss.		<i>Zizyphus glabra</i> Heyne ex Roth	"
ZYGOPHYLLACEAE		<i>Z. mauritiana</i> Lamk.	Tr.
<i>Fagonia cretica</i> Linn.	Hb.	<i>Z. nummularia</i> (Burm. f.)	Sh.
<i>Tribulus terrestris</i> Linn.	"	Wt. & Arn.	
OXILIDACEAE		<i>Z. venoplia</i> Mill.	"
<i>Biophytum sensitivum</i> (Linn.) DC.	"	<i>Z. xylopyra</i> (Retz.) Willd.	Tr.
<i>Oxalis corniculata</i> Linn.	"	VITACEAE	
GERANIACEAE		<i>Ampelocissus latifolia</i> (Roxb.)	Cl.
<i>Monsonia senegalensis</i> Guill. & Perr.	"	Planch.	
BALSAMINACEAE		<i>Cayratia trifolia</i> (Linn.) Domin	"
<i>Impatiens balsamina</i> Linn.	"	<i>Cissus quadrangularis</i> Linn.	"
RUTACEAE		SAPINDACEAE	
<i>Aegle marmelos</i> (Linn.) Corr.	Tr.	<i>Cardiospermum halicacabum</i> Linn.	Hb.
<i>Citrus aurantium</i> Linn.	"	<i>Dodonea viscosa</i> (Linn.) Jacq.	Sh.
<i>C. medica</i> Linn.	"	<i>Sapindus emarginatus</i> Vahl.	Tr.
<i>Limonia acidissima</i> Linn.	"	ANACARDIACEAE	
<i>Murraya koenigii</i> (Linn.) Sprengl.	"	<i>Anachardium occidentale</i> Linn.	"
<i>M. paniculata</i> (Linn.) Jack.	"	<i>Lannea coromandelica</i> (Houtt.) Merr.	"
SIMAROUBACEAE		<i>Mangifera indica</i> Linn.	"
<i>Ailanthus excelsa</i> Roxb.	"	<i>Rhus myzorensis</i> Heyne ex Wt. & Arn.	Sh.
<i>Balanites aegyptiaca</i> (Linn.) Del.	"	MORINGACEAE	
BURSERACEAE		<i>Moringa concanensis</i> Niemmo	Tr.
<i>Boswellia serrata</i> Roxb. ex Colebr.	"	ex Daiz. & Gibbs.	
<i>Commiphora wightii</i> (Arn.) Bhandari	Sh.	<i>M. oleifera</i> Lamk.	"
MELIACEAE		FABACEAE	
<i>Azadirachta indica</i> A. Juss.	Tr.	<i>Abrus precatorius</i> Linn.	Cl.
<i>Melia azaderach</i> Linn.	"	<i>Aeschynomene indica</i> Linn.	Hb.
<i>Syzygium febrifuga</i> Juss.	"	<i>Alliagi pseudalhagi</i> (M. Bieb.) Desv.	Sh.
CELASTRACEAE		<i>Alysicarpus glumaceus</i> (Vahl) DC.	Hb.
<i>Cassine glauca</i> (Rottb.) O. Ktze.	"	<i>A. longifolius</i> Wt. & Arn.	"
<i>Celastrus paniculatus</i> Willd.	Cl.	<i>A. monilifer</i> (Linn.) DC.	"
		<i>A. procumbens</i> (Roxb.) Schindler	"
		<i>A. pubescens</i> Law ex Wt.	"

Botanical Name 1	Habit 2	Botanical Name 1	Habit 2
<i>A. rugosus</i> (Willd.) DC.	Hb.	<i>I. volutea</i> (Burm. f.) Merr.	"
<i>A. styracifolius</i> DC.	"	<i>I. cordifolia</i> Heyne ex Roth	"
<i>Arachis hypogaea</i> Linn.	"	<i>I. glandulosa</i> Roxb. ex Willd.	"
<i>Astlosia scarabaeoides</i> (Linn.) Benth.	"	<i>I. hirsuta</i> Linn.	"
<i>Butea monosperma</i> (Lamk.) Taub.	Tr.	<i>I. hochstetteri</i> Bak.	"
<i>B. superba</i> Roxb.	Cl.	<i>I. linifolia</i> (Linn. f.) Retz.	"
<i>Canavalia gladiata</i> (Jacq.) DC.	"	<i>I. oblongifolia</i> Forsk.	Sh.
<i>C. maritima</i> (Aubl.) Urb.	"	<i>I. tinctoria</i> Linn.	Hb.
<i>Cicer arietinum</i> Linn.	Hb.	<i>I. tita</i> Linn. f.	"
<i>Clitoria ternatea</i> Linn.	Cl.	<i>I. uniflora</i> Buch.-Ham. ex Roxb.	"
<i>Crotalaria bifaria</i> Linn. f.	Hb.	<i>Lablab purpureus</i> (Linn.) Sweet	Cl.
<i>C. burhia</i> Ham. ex Benth.	"	<i>Lotus garcinii</i> DC.	Hb.
<i>C. hirsuta</i> Willd.	"	<i>Medicago sativa</i> Linn.	"
<i>C. juncea</i> Linn.	"	<i>Melilotus indica</i> Ali.	"
<i>C. medicaginea</i> Lamk.	"	<i>Mucuna pruriens</i> Hook.	Cl.
<i>C. orixensis</i> Willd.	"	<i>Ougeinia cojeinensis</i> (Roxb.) Hochreut.	Tr.
<i>C. triquetra</i> Dalz.	"	<i>Phaseolus vulgaris</i> Linn.	Hb.
<i>C. vestita</i> Bak.	"	<i>Pisum sativum</i> Linn.	Cl.
<i>Cyamopsis tetragonolobus</i> (Linn.) Taub.	"	<i>Psoralea corylifolia</i> Linn.	Hb.
<i>Dalbergia latifolia</i> Roxb.	Tr.	<i>Pterocarpus marsupium</i> Roxb.	Tr.
<i>D. sissoo</i> Roxb.	"	<i>Pueraria thunbergiana</i> Benth.	Cl.
<i>Derris indica</i> (Lamk.) Bennett	"	<i>P. tuberosa</i> Roxb. (DC)	"
<i>Desmodium dichotomum</i> (Willd.) DC.	Hb.	<i>Rhynchosia minima</i> (Linn.) DC	"
<i>D. laxiflorum</i> DC.	"	<i>R. minima</i> (L.) DC. var. <i>axisflora</i> Baker	"
<i>D. triflorum</i> (Linn.) DC.	"	<i>R. viscosa</i> (Roth) DC.	"
<i>Dolichos trilobus</i> Linn.	"	<i>Sesbania cannabina</i> (Retz.) Perr.	Sh.
<i>Geissaspis cristata</i> Wt. & Arn.	"	<i>S. grandiflora</i> (Linn.) Pers.	Tr.
<i>Glycine javanica</i> Linn.	Cl.	<i>S. sesban</i> (Linn.) Merrill	"
<i>Goniogyna hirta</i> (Willd.) Ali	Hb.	<i>Taverniera cuneifolia</i> Arn.	Hb.
<i>Indigofera argentea</i> Burm. f.	"	<i>Tephrosia candida</i> DC.	Sh.
<i>I. caerulea</i> Roxb. var. <i>monosperma</i> Sant.	"	<i>T. hamiltonii</i> J. E. Drumm.	Hb.
<i>I. caerulea</i> Roxb. var. <i>occidentalis</i> Gillett & Ali	"	<i>T. hirta</i> Ham.	"
<i>I. constricta</i> Trim.	"	<i>T. jannagarensis</i> Sant.	"
		<i>T. pumila</i> Pers.	"

	Botanical Name 1	Habit 2		Botanical Name 1	Habit 2
	<i>T. purpurea</i> (Linn.) Pers.	Hb.		<i>Delonix elata</i> (Linn.) Gamble	Tr.
	<i>T. strigosa</i> (Dalz.) Sant. & Maheshw.	"		<i>D. regia</i> (Boj.) Raf.	"
	<i>T. sub triflora</i> Hochst. ex Baker	"		<i>Parkinsonia aculeata</i> Linn.	Sh.
	<i>Teramnus labialis</i> (Linn. f.) Spreng.	Cl.		<i>Peltophorum pterocarpum</i> (DC.)	Tr.
	<i>Trigonella foenum-graecum</i> Linn.	Hb.		Baker ex K. Heyne	
	<i>T. ocellata</i> Delile	Cl.		<i>Saraca asoca</i> (Roxb.) de Wilde	"
	<i>Uraria picta</i> Desv.	"		<i>Tamarindus indica</i> Linn.	"
	<i>Vicia sativa</i> Linn.	"			MIMOSACACEAE
	<i>Vigna aconitifolia</i> (Jacq.) Marechal	Hb.		<i>Acaea chundra</i> (Roxb.) Willd.	"
	<i>V. angularis</i> (Willd.) W. F. Wight	"		<i>A. ferruginea</i> DC.	Sh.
	<i>V. mungo</i> (Linn.) Hepper	Cl.		<i>A. leucophloea</i> Willd.	Tr.
	<i>V. radiata</i> (Linn.) Wilczek	"		<i>A. milotica</i> (Linn.) Del	"
	<i>V. trilobata</i> (Linn.) Verde.	"		<i>A. pennata</i> (Linn.) Willd.	Cl.
	<i>V. trilobata</i> (Linn.) Verde.	Hb.		<i>A. senegal</i> Willd.	Sh.
	<i>V. unguiculata</i> (Linn.) Walp.	Cl.		<i>Albizia lebbeck</i> (Linn.) Benth.	Tr.
	<i>Zornia gibbosa</i> Span	Hb.		<i>A. odoratissima</i> (Linn. f.) Benth.	"
				<i>Dichrostachys cinerea</i> (Linn.)	Sh.
				Wt. & Arn.	
				<i>Leucaena leucocephala</i> (Lamk.)	Tr.
				De Wit.	
	<i>Bauhinia purpurea</i> Linn.	Tr.		<i>Mimosa hamata</i> Willd.	Sh.
	<i>B. racemosa</i> Lamk.	"		<i>M. pudica</i> Linn.	Hb.
	<i>B. tomentosa</i> Linn.	"		<i>Neptunia triquetra</i> Benth.	Tr.
	<i>Caesalpinia crista</i> Linn.	Cl.		<i>Pithecellobium dulce</i> (Roxb.) Benth.	"
	<i>C. pulcherrima</i> (Linn.) Sw.	Sh.		<i>Prosopis cineraria</i> (Linn.) Druce	"
	<i>Cassia absus</i> Linn.	Hb.		<i>P. juliflora</i> (SW.) DC.	Sh.
	<i>C. angustifolia</i> Vahl	"		<i>Samanea saman</i> (Jacq.) Merr.	Tr.
	<i>C. auriculata</i> Linn.	Sh.			SAXIFRAGACEAE
	<i>C. fistula</i> Linn.	Tr.			
	<i>C. italica</i> (Mill.) Lamk. ex	Hb.		<i>Vahlia dichotoma</i> (Murr.) O. Ktze.	Hb.
	F. W. Andrews	"			CRASSULACEAE
	<i>C. mimosoides</i> Linn.	"		<i>Kalanchoe pinnata</i> (Lamk.) Pers.	"
	<i>C. occidentalis</i> Linn.	"			RHIZOPHORACEAE
	<i>C. rumila</i> Lamk.	"			
	<i>C. roxburghii</i> DC.	Sh.		<i>Ceriops tagal</i> (Pers.) C. B. Robins	Tr.
	<i>C. siamea</i> Lamk.	Tr.		<i>Bruguiera gymnorhiza</i> (Linn.) Lamk.	Sh.
	<i>C. sophera</i> Linn.	Sh.		<i>Rhizophora mucronata</i> Lamk.	Tr.
	<i>C. surattensis</i> Burm. f.	"			
	<i>C. tota</i> Linn.	"			

Botanical Name 1	Habit 2	Botanical Name 1	Habit 2
COMBRETACEAE			
<i>Anogeissus latifolia</i> (Roxb.) Wall. ex Bedd.	Tr.	<i>Cucumis callosus</i> (Rottl.) Soga. ex Cogn. & Harms	"
<i>Combretum ovalifolium</i> Roxb.	Cl.	<i>C. melo</i> Linn.	"
<i>Quisqualis indica</i> Linn.	"	<i>C. prophetarum</i> Linn.	"
<i>Terminalia arjuna</i> (Roxb. ex DC.) Wt. & Arn.	Tr.	<i>C. sativus</i> Linn.	"
<i>T. alata</i> Heyne ex Roth	Sh.	<i>Cucurbita maxima</i> Duch.	"
<i>T. catappa</i> Linn.	Tr.	<i>Diplocyclos palmatus</i> (Linn.) Jeff.	"
<i>T. crenulata</i> Roth	"	<i>Kedrostis rostrata</i> (Rottl.) Cogn.	"
MYRTACEAE			
<i>Callistomom rigidus</i> R. Br.	Sh.	<i>Lagenaria siceraria</i> (Mol.) Standl.	"
<i>Eucalyptus globulus</i> Labill.	Tr.	<i>Luffa acutangula</i> (Linn.) Roxb.	"
<i>E. robusta</i> Sm.	"	<i>Luffa cylindrica</i> (Linn.) M. J. Roem.	Cl.
<i>Psidium guajava</i> Linn.	"	<i>L. echinata</i> Roxb.	"
<i>Syzygium cumini</i> (Linn.) Skeels	"	<i>L. tuberosa</i> Roxb.	"
<i>S. rubicundum</i> Wt. & Arn.	"	<i>Momordica charantia</i> Linn.	"
LYTHRACEAE			
<i>Ammania baccifera</i> Linn.	Hb.	<i>M. dioica</i> Roxb. ex Willd.	"
<i>A. desertorum</i> Blatt. & Hallb	"	<i>Mukia maderaspatana</i> (Linn.) Roem.	"
<i>A. multiflora</i> Roxb.	"	<i>Trichosanthes bracteata</i> (Lamk.)	"
<i>Lawsonia inermis</i> Linn.	Sh.	Voigt.	
<i>Woodfordia fruticosa</i> (Linn.) Kurz	"	<i>T. cucumerina</i> Linn.	"
PUNICACEAE			
<i>Punica granatum</i> Linn.	Tr.	CACTACEAE	
PASSIFLORACEAE			
<i>Passiflora edulis</i> Sims.	Cl.	<i>Opuntia elatior</i> Mill.	Sh.
<i>P. foetida</i> Linn.	"	MOLLUGINACEAE	
CARICACEAE			
<i>Carica papaya</i> Linn.	Tr.	<i>Gisekia pharnaceoides</i> Linn.	Hb.
CUCURBITACEAE			
<i>Citrullus lanatus</i> (Thunb.) Mansf.	Cl.	<i>Glinus lotoides</i> Linn.	"
<i>Coccinia grandis</i> (Linn.) Voigt.	"	<i>G. oppositifolius</i> (Linn.) DC.	"
<i>Corallocarpus epigaeus</i> C. B. Cl.	"	<i>Mollugo nudicaulis</i> Lamk.	"
<i>Ctenolepis cerasiformis</i> (Stocks) Hook. f.	"	<i>M. pentaphylla</i> Linn.	"
FICOIDACEAE			
APIACEAE			
<i>Sesuvium portulacastrum</i> (Linn.) Linn.		<i>Sesuvium portulacastrum</i> (Linn.) Fenzl.	Sh.
<i>S. sesuvioides</i> (Fenzl.) Verdc.		<i>Trianthema decandra</i> Linn.	Hb.
<i>T. portulacastrum</i> Linn.		<i>T. triquetra</i> Rottl. ex Willd.	"
<i>Centella asiatica</i> (Linn.) Urb.		<i>Anethum graveolens</i> Linn.	"

Botanical Name 1	Habit 2	Botanical Name 1	Habit 2
<i>Coriandrum sativum</i> Linn.	Hb.	<i>Ageratum conyzoides</i> Linn.	Hb.
<i>Daucus carota</i> Linn.	"	<i>Bidens biernata</i> (Lour.)	"
<i>Foeniculum vulgare</i> Gaertn.	"	Merr. & Sch.	
<i>Trachispermum coticum</i> (Linn.) Link.	"	<i>Blainvillea acmella</i> (Linn.) Philipson	"
ALANGIACEAE			
<i>Alangium salvifolium</i> (Linn. f.) Wang	Tr.	<i>Blumea eriantha</i> DC.	"
RUBIACEAE			
<i>Adina cordifolia</i> (Roxb.)	"	<i>B. laciniata</i> (Roxb.) DC.	"
Hook. f. ex Brand.	"	<i>B. solidaginoides</i> (Poir.) DC.	"
<i>Borreria articulata</i> (Linn. f.)	Hb.	<i>Caesulia axillaris</i> Roxb.	"
F. N. Will.	"	<i>Dicoma tomentosa</i> Cass.	"
<i>B. pusilla</i> (Wall.) DC.	"	<i>Echinops echinatus</i> Roxb.	"
<i>Dentella repens</i> (Linn.)	"	<i>Eclipta prostrata</i> (Linn.) Linn.	"
J. R. & G. Forst.		<i>Emilia sonchifolia</i> (Linn.) DC.	"
<i>Gardenia resinifera</i> Roth	Tr.	<i>Glossocardia boswellia</i> (Linn. f.) DC.	"
<i>Hydrophylax maritima</i> Linn. f.	Hb.	<i>Gnaphalium luteo-album</i> Linn.	"
<i>Hymenodictyon excelsum</i> (Roxb.)	Tr.	<i>Helianthus annus</i> Linn.	"
Wall.		<i>Helichrysum cutchica</i> (Cl.)	"
<i>Ixora arborea</i> Roxb. ex Sm.	Sh.	Rolla Rao et Desh.	
<i>I. brachiata</i> Roxb.	"	<i>Laggera alata</i> (Don)	"
<i>I. coccinea</i> Linn.	"	Sch.-Bip. ex Oliver	
<i>Kohautia aspera</i> (Heyne ex Roth)	Hb.	<i>Leuanea fallax</i> (Jacob & Spach.)	"
Bremek.		O. Kuntze	
<i>Mitragyna parvifolia</i> (Roxb.) Korth	Tr.	<i>L. glomerata</i> Hook. f.	"
<i>Morinda citrifolia</i> Linn.	"	<i>L. resedifolia</i> (Linn. f.) Druce	"
<i>M. tomentosa</i> Heyne ex Roth	"	<i>L. surmentosa</i> (Willd.) Alist.	"
<i>Oldenlandia affinis</i> (Roem. et Shult.)	Hb.	<i>Lactuca runcinaria</i> DC.	"
DC.		<i>Phluechea arguata</i> Boiss.	"
<i>O. corymbosa</i> Linn.	"	<i>P. lanceolata</i> Clarke	"
<i>O. herbacea</i> (Linn.) Roxb.	"	<i>Pullaria angustifolia</i> DC.	"
<i>O. umbellata</i> Linn.	"	<i>Sclerocearpus africanus</i> Jacq.	"
<i>Xeromphis spinosa</i> (Thunb.) Keay	Tr.	<i>Siegesbeckia orientalis</i> Linn.	"
ASTERACEAE			
<i>Acanthospermum hispidum</i> DC.	Hb.	<i>Sonchus oleraceus</i> Linn.	"
<i>Adenostemma layenia</i> (Linn.)	"	<i>Spilanthes paniculata</i> Wall. ex DC.	"
O. Ktze.		<i>Tagetes patula</i> Linn.	"
		<i>Taraxacum officinale</i> Wig.	"
		<i>Tridax procumbens</i> Linn.	"
		<i>Vernonia anthelmintica</i> Willd.	"

Botanical Name 1	Habit 2	Botanical Name 1	Habit 2
<i>V. cinerascens</i> Sch.-Bip.	Hb.	<i>C. spinarum</i> Linn.	Cl.
<i>V. cinerea</i> (Linn.) Tass.	"	<i>Catharanthus pusillus</i> (Murr.)	Hb.
<i>Xanthium strumarium</i> Linn.	"	G. Don	
GOODENIACEAE		<i>C. roseus</i> (Linn.) G. Don	"
<i>Scaevola taccada</i> (Gaertn.) Roxb.	Sh.	<i>Holarhena antidysenterica</i> (Heyne ex Roth) A. DC.	Tr.
PLUMBAGINACEAE		<i>Netum indicum</i> Mill.	Sh.
<i>Limonium stocksii</i> (Biss.) O. Kuntze	"	<i>Pianeria alba</i> Linn.	Tr.
<i>Plumbago indica</i> Linn.	Hb.	<i>Rawolfia serpentina</i> (Linn.)	Hb.
<i>P. zeylanica</i> Linn.	"	Benth. ex Kurz	
<i>Vogelia indica</i> Gibbs. ex Wt.	"	<i>R. tetraphylla</i> Linn.	"
PRIMULACEAE		<i>Thevetia peruviana</i> (Pers.)	Tr.
<i>Anagallis arvensis</i> Linn.	"	K. Schum.	
var. <i>caerulea</i> (Schreb.)		<i>Wrightia tinctoria</i> R. Br.	"
Greb. & Godr.		<i>W. tomentosa</i> Roem. & Schult	"
MYRSINACEAE		ASCLEPIADACEAE	
<i>Aegiceras corniculatum</i> (Linn.)	Sh.	<i>Calotropis gigantea</i> (Linn.) R. Br.	Sh.
Blanco		<i>C. procera</i> (Ait.) R. Br.	"
SAPOTACEAE		<i>Ceropegia bulbosa</i> Roxb.	Hb.
<i>Madhuca longifolia</i> (Koen.)	Tr.	<i>Cosmosigma racemosum</i> (Roxb.)	Cl.
Macbride var. <i>longifolia</i>		Wt.	
<i>M. achras</i> (Mill.) Fosberg	"	<i>Cynanchum callilata</i> Ham.	"
<i>Monnieria elengi</i> Linn.	"	<i>R. Dregea volubilis</i> (Linn. f.)	"
EBENACEAE		Beath. ex Hook. f.	
<i>Diospyros melanoxylon</i> Roxb.	"	<i>Gymnema sylvestre</i> (Retz.) Schult.	"
OLEACEAE		<i>Holostemma annulare</i> (Roxb.)	"
<i>Jasminum auriculatum</i> Vahl	Cl.	K. Schum.	
<i>J. azoricum</i> Linn.	"	<i>Leptadenia pyrotechnica</i>	"
<i>J. officinale</i> Linn.	Sh.	(Forsk.) Decne.	
<i>J. sambac</i> (Linn.) W. Ait.	Tr.	<i>L. reticulata</i> (Retz.) Wt. & Ara.	"
<i>Nyctanthes arbor-tristis</i> Linn.	"	<i>Pentatropis spiralis</i> (Forsk.) Decne.	"
<i>Schrebera swietenoides</i> Roxb.	"	<i>Pergularia daemia</i> (Forsk.) Chiou.	"
SALVADORACEAE		<i>Sarcostemma acidum</i> (Roxb.) Voigt	"
<i>Salvadora oleoides</i> Decne.	"	<i>Cecamene ematica</i> R. Br.	"
<i>S. persica</i> Linn.	"	<i>Tylophora indica</i> (Burm. f. + Mett.)	"
APOCYNACEAE			
<i>Carissa congesta</i> Wt.	Sh.		

Botanical Name 1	Habit 2	Botanical Name 1	Habit 2		
PERIPLOCACEAE					
<i>Cryptostegia grandiflora</i> R. Br.	Cl.	<i>C. rhynchospermus</i> Hochst. ex Choisy	Hb.		
<i>Hemidesmus indicus</i> (Linn.) Schult.	"	<i>Cressa cretica</i> Linn.	"		
GENTIANACEAE					
<i>Canscora diffusa</i> R. Br.	Hb.	<i>Cuscuta chinensis</i> Lamk.	Cl.		
<i>Enicostemma hyssopifolium</i> (Willd.) L. C. Verd.	"	<i>C. hyalina</i> Roth	"		
<i>Exacum petiolare</i> Griseb.	"	<i>C. reflexa</i> Roxb.	"		
<i>Hoppea dichotoma</i> Willd.	"	<i>Evolvulus alsinoides</i> (Linn.) Linn.	Hb.		
<i>Nymphoides indica</i> (Linn.) O. Kuntze	"	<i>Hewittia sublobata</i> (Linn. f.)	Cl.		
EHRETIACEAE					
<i>Cordia crenata</i> Del.	Tr.	O. Kuntze			
<i>C. dichotoma</i> Forst. f.	"	<i>Ipomoea aquatica</i> Forsk.	Hb.		
<i>C. gharaf</i> (Forsk.) Ephrenb. ex Asch.	"	<i>I. arachnosperma</i> Welw.	Cl.		
BORAGINACEAE					
<i>Goldenia procumbens</i> Linn.	Hb.	<i>I. eriocarpa</i> R. Br.	"		
<i>Heliotropium bacciferum</i> Forsk.	"	<i>I. illustris</i> (C. B. Cl.) Prain	"		
<i>H. indicum</i> Linn.	"	<i>I. nil</i> (Linn.) Roth	"		
<i>H. marifolium</i> Retz.	"	<i>I. obscura</i> (Linn.) Ker-Gawl	"		
<i>H. ovalifolium</i> Forsk.	"	<i>I. pescaprae</i> (Linn.) Sweet	"		
<i>H. paniculatum</i> R. Br.	"	<i>I. pes-tigridis</i> Linn.	"		
<i>H. strigosum</i> Willd.	"	<i>I. soplaria</i> Koen. ex Roxb.	"		
<i>H. subulatum</i> (Hochst. ex DC.) Vatke	"	<i>I. sindica</i> Stapf	"		
<i>H. supinum</i> Linn.	"	<i>Jacquemontia paniculata</i> (Burm. f.) Hall. f.	"		
<i>H. zeylanicum</i> Lamk.	"	<i>Merremia aegyptica</i> (Linn.) Urb.	"		
<i>Sericostema pauciflorum</i> Stocks ex Wt.	"	<i>M. emarginata</i> (Burm. f.) Hall. f.	Hb.		
<i>Trichodesma indicum</i> R. Br.	"	<i>M. quinquefolia</i> (Linn.) Hall. f.	Cl.		
CONVOLVULACEAE					
<i>Argyreia cuneata</i> Ker Gawl.	Cl.	<i>Operculina turpethum</i> (Linn.) Silva Manso	"		
<i>A. nervosa</i> (Burm. f.) Boj.	"	<i>Rivea hypocrateriformis</i> Choisy	"		
<i>Convolvulus arvensis</i> Linn.	Hb.	<i>Seddera latifolia</i> Hochst. & Steud. ex Hochst.	Sh.		
<i>C. auricomus</i> (Rich.) Bhandhari	"				
<i>C. microphyllus</i> Sieb. ex Spr.	"				
SOLANACEAE					
<i>Capsicum annuum</i> Linn.			Hb.		
<i>C. frutescens</i> Linn.			"		
<i>Cestrum nocturnum</i> Linn.			Sh.		
<i>Datura innoxia</i> Mill.			"		
<i>D. metel</i> Linn.			"		
<i>Lycium barbarum</i> Linn.			"		
<i>L. europaeum</i> Linn.			"		

Botanical Name 1	Habit 2	Botanical Name 1	Habit 2
<i>Lycopersicon lycopersicum</i> (Linn.) Karsten	Hb.	<i>Tecomella undulata</i> (Sm.) Seem.	Sh.
<i>Physalis minima</i> Linn.	"	MARTYNIACEAE	
<i>P. peruviana</i> Linn.	"	<i>Martynia annua</i> Linn.	Hb.
<i>Solanum dubium</i> Fresen	"	PEDALIACEAE	
<i>S. incanum</i> Linn.	"	<i>Pedalium murex</i> Linn.	"
<i>S. indicum</i> Linn.	"	<i>Sesamum indicum</i> Linn.	"
<i>S. melongena</i> Linn.	Sh.	<i>S. laciniatum</i> Klein. ex Willd.	"
<i>S. nigrum</i> Linn.	Hb.	ACANTHACEAE	
<i>S. surattense</i> Burm. f.	"	<i>Adhatoda vasica</i> Nees	Sh.
<i>S. trilobatum</i> Linn.	"	<i>Andrographis paniculata</i> (Burm. f.) Wall. ex Nees	Hb.
<i>Withania somnifera</i> (Linn.) Dunal	Sh.	<i>Aystasia dalzelliana</i> Sant.	"
SCROPHULARIACEAE		<i>Borleria prionitis</i> Linn.	Sh.
<i>Bacopa monnieri</i> (Linn.) Pennell	Hb.	<i>Blepharis repens</i> (Vahl) Roth	Hb.
<i>Dopatrium juncceum</i> (Roxb.) Buch.-Ham. ex Benth.	"	<i>B. linariaefolia</i> Pers.	"
<i>Kickxia ramosissima</i> (Wall.) Janchen	"	<i>Dipteracanthus patidius</i> (Jacq.) Nees	Hb.
<i>Limnophila indica</i> (Linn.) Druce	"	<i>Elytraria acaulis</i> (Linn. f.) Lindau	"
<i>Lindenbergia indica</i> (Linn.) Kuntze	"	<i>Eranthemum purpureascens</i> Wt. ex Nees	"
<i>Peplidium maritimum</i> (Linn.) Wettst.	"	<i>Haplopanthus verticillatus</i> (Roxb.) Nees	Sh.
<i>Schweinfurthia sphaerocarpa</i> A. Br.	"	<i>Hygrophila auriculata</i> (Schumach.) Heine	"
<i>Sopubia delphinifolia</i> (Roxb.) G. Don.	"	<i>Indoneasiella echiooides</i> (Linn.) Sreem.	"
<i>Stemodia viscosa</i> Roxb.	"	<i>Justicia simplex</i> D. Don	Hb.
<i>Striga angustifolia</i> (D. Don) Saldhana	"	<i>Lepidagathis cuspidata</i> (Wall.) Nees	"
<i>Striga densiflora</i> (Benth.) Benth	"	<i>L. trinervis</i> Wall. ex Nees	"
<i>S. gesnerioides</i> (Willd.) Vatke	"	<i>Monechma debilis</i> (Forsk.) Nees	"
<i>S. hirta</i> Lour.	"	<i>Peristrophe bicalyculata</i> (Retz.) Nees	"
OROBANCHACEAE		<i>Rostellularia procumbens</i> (Linn.) Nees	"
<i>Cistanche tubulosa</i> Wt.	"	<i>Ruellia tuberosa</i> Linn.	"
BIGNONIACEAE		<i>Rungia elegans</i> Dalz.	"
<i>Kigelia pinnata</i> DC.	Tr.	<i>R. parviflora</i> Nees	"
<i>Spathodea campanulata</i> Beauv.	"	<i>R. pectinata</i> (Linn.) Nees	"
<i>Stereospermum personatum</i> (Hassk.) Chatterjee	"	AVICENNIACEAE	
<i>Tecoma stans</i> (Linn.) H. B. K.	Sh.	<i>Avicennia marina</i> var. <i>acutissima</i> Stapf & Mold.	Sh.
		<i>A. officinalis</i> Linn.	"

Botanical Name 1	Habit 2	Botanical Name 1	Habit 2
VERBENACEAE			
<i>Clerodendrum multiflorum</i> (Burm. f.) O. Kuntze.	Sh.	<i>B. diffusa</i> Linn.	Hb.
<i>C. viscosum</i> Vent.	"	<i>B. verticillata</i> Poit.	"
<i>Gmelina arborea</i> Roxb.	Tr.	<i>Bougainvillea spectabilis</i> Willd.	Cl.
<i>Lantana camara</i> Linn. var. <i>aculeata</i> (Linn.) Mold.	Sh.	<i>Mirabilis jalapa</i> Linn.	Hb.
<i>Phyla nodiflora</i> (Linn.) Greene	Hb.	AMARANTHACEAE	
<i>Premna resinosa</i> Sch.	Sh.	<i>Achyranthes aspera</i> Linn.	"
<i>Pelva cordifolia</i> (Linn. f.) Druce	"	<i>Aerua lanata</i> (Linn.) Juss.	"
<i>Stachytarpheta jamaicensis</i> (Linn.) Vahl	Hb.	<i>A. persica</i> (Burm.) Merrill	"
<i>Tectona grandis</i> Linn. f.	Tr.	<i>A. sanguinolenta</i> (Linn.) Blume	"
<i>Vitex negundo</i> Linn.	Sh.	<i>Alternanthera sessilis</i> (Linn.) DC.	"
LAMIACEAE			
<i>Aercephalus indicus</i> (Burm. f.) O. Kuntze	Hb.	<i>Amaranthus cruentus</i> Desf.	"
<i>Anisochilus carnosus</i> Wall.	"	<i>A. hybridus</i> Linn.	"
<i>Anisomeles indica</i> (Linn.) O. Kuntze	"	var. <i>paniceolatus</i> Thell.	
<i>A. malabarica</i> R. Br.	"	<i>A. lividus</i> Linn.	"
<i>Coleus amboinicus</i> Lour.	Hb.	<i>A. spinosus</i> Linn.	"
<i>Lavandula bipinnata</i> (Roth) O. Kuntze	"	<i>A. tricolor</i> Linn.	"
<i>Leucas aspera</i> (Willd.) Link	"	<i>Celosia argentea</i> Linn.	"
<i>L. cephalotes</i> Spreng	"	<i>Digera muricata</i> (Linn.) Mart.	"
<i>L. urticifolia</i> (Vahl) J. Donn	"	<i>Gomphrena celosioides</i> Mart.	"
<i>Ocimum americanum</i> Linn.	"	<i>Nothosaerva brachiata</i> (Linn.) Wt.	"
<i>O. basilicum</i> Linn.	Sh.	<i>Psyllotachya sericea</i> (Koen. ex Roxb.) Hook. f.	"
<i>O. gratissimum</i> Linn.	"	<i>Pugalla lappacea</i> (Linn.) Juss	"
<i>O. sanctum</i> Linn.	"	<i>Telanthera ficoidea</i> Moq.	"
<i>Salvia santolinaefolia</i> Boiss.	Hb	BASELLACEAE	
PLANTAGINACEAE			
<i>Plantago pumila</i> Willd.	"	<i>Basella alba</i> Linn.	Cl.
NYCTAGINACEAE			
<i>Boerhavia chinensis</i> (Linn.) Aschers & Schweinf.	"	CHENOPODIACEAE	
		<i>Arthrocnemum indicum</i> (Willd.) Moq.	Hb.
		<i>Atriplex stockii</i> Boiss.	"
		<i>Chenopodium album</i> Linn.	"
		<i>C. murale</i> Linn.	"
		<i>Salicornia brachiata</i> Roxb.	Sh.
		<i>Salsola foetida</i> Del.	Hb.
		<i>Suaeda fruticosa</i> Forsk. ex Gilg	"
		<i>S. maritima</i> (Linn.) Dumort.	Hb.

Botanical Name 1	Habit 2	Botanical Name 1	Habit 2
<i>S. nudiflora</i> Moq. POLYGONACEAE	Sh.	<i>E. orbiculata</i> H. B. K. <i>E. parviflora</i> Linn. <i>E. prostrata</i>	Hb. "
<i>Polygonum plebeium</i> R. Br. var. <i>plebeium</i> PHYTOLOCACEAE	Hb.	<i>E. thymifolia</i> Linn. <i>E. tirucalli</i> Linn. <i>Jatropha curcas</i> Linn. <i>J. gossypifolia</i> Linn.	" Sh. "
<i>Ravina humilis</i> Linn. ARISTOLOCHIACEAE	"	<i>Phyllanthus amarus</i> Schum. & Thoms.	Hb.
<i>Aristolochia bracteolata</i> Lamk. <i>A. indica</i> Linn. LAURACEAE	Cl.	<i>P. asperidatus</i> Hutchins <i>P. maderaspatensis</i> Linn. <i>P. simplex</i> Retz.	" "
<i>Cassytha filiformis</i> Linn. LORANTHACEAE	"	<i>P. urinaria</i> Linn. <i>Ricinus communis</i> Linn.	" Sh.
<i>Dendrophthoe falcata</i> (Linn. f.) Etting <i>Viscum articulatum</i> Burm. SANTALACEAE	Sh.	<i>Securinega leucopyrus</i> (Willd.) Muell.-Arg. <i>Tragia cannabina</i> Linn. f.	" Muell.-Arg. Cl.
<i>Santalum album</i> Linn. EUPHORBIACEAE	Tr.		MORACEAE
<i>Acalypha ciliata</i> Forsk. <i>A. indica</i> Linn. <i>Baliospermum monianum</i> (Willd.) Muell.-Arg.	Hb. " Sh.	<i>Ficus amplissima</i> Sm. <i>F. arnottiana</i> Miq. <i>F. benghalensis</i> Linn. <i>F. carica</i> Linn. <i>F. microcarpa</i> Linn. f.	Sh. Tr. " " Sh.
<i>Bridelia retusa</i> (Linn.) Spreng. <i>B. squamosa</i> (Lamk.) Gehrm. <i>Chrozophora prostrata</i> Dalz. <i>C. rotitieri</i> (Geis.) Juss. ex Spreng.	"	<i>F. racemosa</i> Linn. <i>F. religiosa</i> Linn.	Tr. "
<i>Cicca acida</i> (Linn.) Merr. <i>Dalechampia indica</i> Wt. <i>D. scandens</i> Linn. <i>Drypetes roxburghii</i> (Wall.) Hurst.	Sh. Cl. "	<i>Morus alba</i> Linn.	Sh.
<i>Embilica officinalis</i> Gaertn. <i>Euphorbia clarkeana</i> Hook. f. <i>E. heterophylla</i> Linn. <i>E. hirta</i> Linn. <i>E. neriifolia</i> Linn. <i>E. nivalia</i> Buch.-Ham.	Tr. Hb. " Sh. "		ULMACEAE
		<i>Holoptelea integrifolia</i> (Roxb.) Planch.	Tr.
			URTICACEAE
		<i>Boehmeria scabrella</i> (Roxb.) Gaud. <i>Pilea microphylla</i> (Linn.) Liebm.	Sh. Hb.
		<i>Pouzolzia zeylanica</i> (Linn.) Benn.	"
			CANNABINACEAE
		<i>Cannabis sativa</i> Linn.	"
			CASURINACEAE
		<i>Casuarina equisetifolia</i> J. B. & G. Forst.	Tr.

Botanical Name 1	Habit 2	Botanical Name 1	Habit 2
GNETACEAE			
<i>Ephedra peduncularis</i> Boiss.	Sh.	<i>C. diffusa</i> Burm. f.	"
HYDROCHARITACEAE		<i>C. hasskaril</i> C. B. Cl.	"
<i>Hydrilla verticillata</i> (Linn. f.) Royle	Hb.	JUNCACEAE	
<i>Vallisneria spiralis</i> Linn.	"	<i>Juncus maritimus</i> Lamk.	"
CANNACEAE		PALMACEAE	
<i>Canna indica</i> Linn.	Sh.	<i>Barassus flabellifer</i> Linn.	Tr.
MUSACEAE		<i>Cocos nucifera</i> Linn.	"
<i>Musa paradisiaca</i> Linn.	"	<i>Hyphaene indica</i> Becc.	Sh.
HAEMODORACEAE		<i>Nypa fruticans</i> Warumb	"
<i>Sansevieria zeylanica</i> Willd.	Hb.	<i>Phoenix sylvestris</i> (Linn.) Roxb.	Tr.
AMARYLLIDACEAE		PANDANACEAE	
<i>Crinum asiaticum</i> Linn.	"	<i>Pandanus odoratissimus</i> Linn. f.	Sh.
<i>C. latifolium</i> Linn.	"	TYPHACEAE	
HYPONIDACEAE		<i>Typha angustata</i> Bory & Chaub.	Hb.
<i>Curculigo orchoides</i> Gaertn.	"	<i>T. elephantina</i> Roxb.	"
AGAVACEAE		ARACEAE	
<i>Agave americanus</i> Linn.	Sh.	<i>Amorphophallus cunnumatus</i> (Schott) Engler	"
DIOSCOREACEAE		<i>Colocosia esculenta</i> (Linn.) Schott	"
<i>Dioscorea bulbifera</i> Linn.	Cl.	<i>Pistia stratiotes</i> Linn.	"
<i>D. hispida</i> Dennst.	"	NAJADACEAE	
LILIACEAE		<i>Najas marina</i> Linn	Hb.
<i>Allium cepa</i> Linn.	Hb.	POTAMOGETONACEAE	
<i>Asparagus demosus</i> Baker	Cl.	<i>Potamogeton nodosus</i> Poir	"
<i>A. gonaclados</i> Baker	"	<i>P. pectinatus</i> Linn.	"
<i>A. racemorus</i> Willd. var. <i>javanicus</i> Baker	"	ALISMATACEAE	
<i>A. tenuifolius</i> Cav	Hb.	<i>Limnophyton obtusifolium</i> Linn. Miq.	"
<i>Dracaena</i> sp.	Sh.	CYPERACEAE	
<i>Gloriosa superba</i> Linn.	Cl.	<i>Cyperus arenaria</i> Retz.	"
<i>Urginea indica</i> (Roxb.) Kunth.	Hb.	<i>C. conglomeratus</i> Rottb.	"
COMMELINACEAE		<i>C. michelianus</i> (Linn.) Link	"
<i>Amischophacelus axillaris</i> (Linn.) Rolla Rao et Kammathy	"	<i>C. pangorei</i> Rottb.	"
<i>Commelinia benghalensis</i> Linn.	"	<i>C. rotundus</i> Linn.	"
<i>C. forskaalii</i> Vahl	"	<i>C. stoloniferus</i> Retz.	"
		<i>C. squarrosum</i> Linn.	"
		<i>C. triceps</i> (Rottb.) Endl.	"

Botanical Name 1	Habit 2	Botanical Name 1	Habit 2
<i>Eleocharis strobilifera</i> Kuntze	Hb.	<i>Echinochloa colonum</i> (Linn.) Link	Gr.
<i>E. geniculata</i> (Linn.) Roem & Schult.	"	<i>Elyonurus royleanus</i> Nees ex A. Rich	"
<i>Fimbristylis dichotoma</i> (Linn.) Vahl	"	<i>Eragrostis cilianensis</i> (Linn.) R. Br.	"
<i>F. sieberiana</i> Kunth	"	<i>E. tenella</i> (Linn.) P. Beauvois ex	
<i>Scirpus maritimus</i> Linn.	"	Roem. & Schult.	"
<i>S. roylei</i> (Nees) Parker	"	<i>Hackelochloa granularis</i> (Linn.) O.	
POACEAE		Kuntze	"
<i>Aeluropus lagopoides</i> (Linn.) Trin. ex Thw.	Gr.	<i>Halopyrum mucronatum</i> (Linn.) Stapf	"
<i>Aphuda mutica</i> Linn.	"	<i>Heteropogon contortus</i> (Linn.) Beauvois ex Roem. & Schult.	"
<i>Arisida adscensionis</i> Linn.	"	<i>Ischaemum mollis</i> Hook. f.	"
<i>A. funiculata</i> Trin. & Ruprecht.	"	<i>Iseilema arthropurpurea</i> Hack.	"
<i>Arundo donax</i> Linn.	"	<i>Melanocenchrus jacquemontii</i> Jaub. & Spach.	"
<i>Bracharia ramosa</i> (Linn.) Stapf	"	<i>Panicum antidotale</i> Retz.	"
<i>Cenchrus biflorus</i> Roxb.	"	<i>P. millaceum</i> Linn.	"
<i>C. ciliaris</i> Linn.	"	<i>P. turgidum</i> Forsk.	"
<i>C. setigerus</i> Vahl	"	<i>Paspalidium germinatum</i> (Forsk.) Stapf	"
<i>Chloris barbata</i> (Linn.) Sw.	"	<i>Pennisetum typhoides</i> (Burm.) Stapf & C. E. Hubb.	"
<i>C. montana</i> Roxb.	"	<i>Saccharum officinarum</i> Linn.	"
<i>Chrysopogon fulvus</i> (Spreng.) Chiov.	"	<i>S. spontaneum</i> Linn.	"
<i>Crypsis schoenoides</i> (Linn.) Lamk.	"	<i>Setaria verticillata</i> (Linn.) Beauvois	"
<i>Cymbopogon citratus</i> (DC.) Stapf	"	<i>Spinifex littoreus</i> (Burm. f.) Merr.	"
<i>C. jwarancusa</i> (Jones) Schult.	"	<i>Sporobolus coromandelianus</i> (Retz.) Kunth	"
<i>C. mertensii</i> (Roxb.) Wats.	"	<i>S. diander</i> (Retz.) P. Beauvois	"
<i>C. parkeri</i> Stapf	"	<i>S. helvolus</i> (Trin.) Dur. & Schinz	"
<i>Cynodon dactylon</i> (Linn.) Pers.	"	<i>S. marginatus</i> Hochst. ex A. Rich.	"
<i>Dactyloctenium aegyptium</i> (Linn.) P. Beauvois	"	<i>S. tremulus</i> (Willd.) Kunth	"
<i>D. sinicum</i> Boiss.	"	<i>Tetrapogon tenellus</i> (Roxb.) Chiov.	"
<i>Dendrocalamus strictus</i> Nees	"	<i>Tragus biflorus</i> Schult.	"
<i>Desmostachya bipinnata</i> (Linn.) Stapf	"	<i>Triticum aestivum</i> Linn.	"
<i>Dichanthium annulatum</i> (Forsk.) Stapf	"	<i>Urochondra setulosa</i> (Trin.) C. E. Hubb.	"
<i>Digitaria ascendens</i> (H. B. K.) Henr.	"	<i>Zea mays</i> Linn.	"
<i>D. pinnata</i> (Hochst.) T. Cooke	"		
<i>D. hirtella</i> Stapf	"		