

*Hand Book on*  
*Weed Identification*

**Dr. V.S.G.R. Naidu**



**Citation :** Naidu, V.S.G.R. 2012, *Hand Book on Weed Identification* Directorate of Weed Science Research, Jabalpur, India Pp 354.

**Technical support :** Virendra Kumar Kamalvanshi

**Line Drawings :** V.K.S. Meshram

COPYRIGHT © 2012 INDIAN COUNCIL OF AGRICULTURAL RESEARCH

**Published by :**

Director

Directorate of Weed Science Research

Maharajpur, Jablapur-482004 (M.P.)

1.	Preface	i-ii
2.	Leaf Shapes	iii-iv
3.	Scientific Name Index	v-x
4.	Identification Details	1-337
5.	Family Index	339-346
6.	Glossary	347-354



Man has selected his food crops from the many thousand plant species that exist for their nutritional and flavor characteristic rather than through their ability to compete. Growing of crops, as part of agriculture for centuries, has changed the natural vegetation. Weeds grow on soil along with crop plants. But this growth of weed is not desirable in the monoculture system. These undesired plants deplete the nutrients, water and space allotted for the intended crop, and finally cause huge reduction in crop yield. Weeds, in crop field, reduce input efficiency, interfere with agricultural operations, impair quality and act as alternate hosts for several insect pests and diseases. Some weeds release toxic substance which affects the crop growth. The obvious effect of these traits is the hike in cost of cultivation by several folds. Along with this, weeds affect and interfere in the management of all the terrestrial and aquatic resources. They endanger the native biodiversity by choking and deliberate takeover of the native plants. The animals which depend on this native biodiversity for their survival are also getting affected. On the other hand, as part of the primary producers within farming systems, weeds also considered as important components of the agroecosystem. Reductions in abundances of weeds which act as hosts may affect associated insects and other taxa which are beneficial. Thus, weeds have a role within agroecosystems in supporting biodiversity more generally. Weeds play important role as resource in pharmaceuticals and animal nutrition.

Weed biology relates to the plant attributes such as morphology, seed dormancy and germination, physiology of growth, competitive ability and reproductive biology. Knowledge of weed biology is essential for development of both economically and environmentally acceptable weed management systems. It is also essential to understand and predict how weed species, populations and biotypes evolve in response to the selection pressure primarily due to agricultural and related practices. Weed identification is the first step in understanding their biology.

Knowing the weeds that are competing with the desirable crops is important to understand how to manage their populations. It is said that identification is half way to control. The first step in effective weed management is the accurate identification which in turn will help in a basic understanding of the weeds' life cycle. Correct identification can be an important step in making sure that new weeds can be eradicated before they become established. The types of weeds can also tell about the field and its management, and also the best form of direct control. Proper weed identification can help in selecting right herbicide to control a particular weed. Identification is important also with respect to the timing of the herbicide application. Sometimes correct identification can indicate that no action needs to

be taken if the identified plant is not a troublesome weed and also helps in protecting the weeds of economic importance and conserving the biodiversity. Being able to identify the weeds is important as it helps in determining the expected level of the problem as weeds vary in the extent to which they can reduce the yield and quality or to the extent to which they are beneficial. Weed identification may form the first step in balancing the needs for weed control with the requirements for biodiversity and more sustainable production methods.

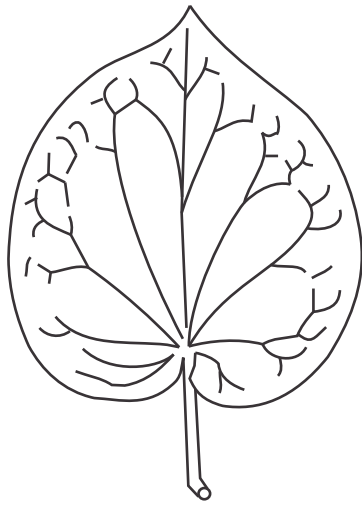
An effort has been made to brought out this publication entitled “*Hand book on Weed Identification*” to help in identifying the weeds easily. I hope this publication would be of great help to scientists, researchers, quarantine officials, academicians and students.

I thank ICAR for giving me the opportunity to serve in this position. The financial support by the Department of Agriculture and Cooperation, Ministry of Agriculture, under National Weed Surveillance project is duly acknowledged. The encouragement by the present and former Directors, scientist colleagues, and technical and other staff members of DWSR is worth to recognize. The support from PIs of the AICRP-WC centres and Area Coordinators of the NIWS is unforgettable. The technical support by Mr. Sandeep Dhagat, Mr. Virendra Kumar Kamalvanshi and Mr. V.K.S. Meshram in shaping up this publication is acknowledged.

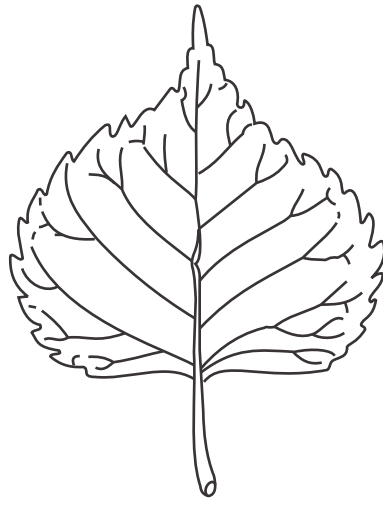
March, 2012

V.S.G.R. NAIDU

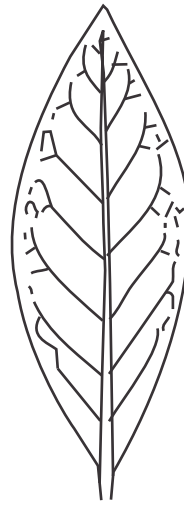
# Leaf shapes



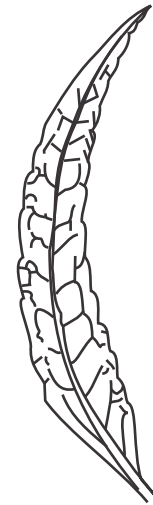
Cordate



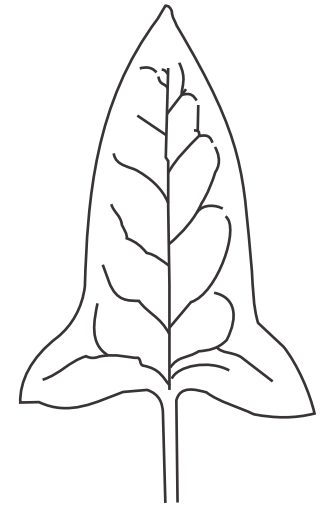
Deltoid



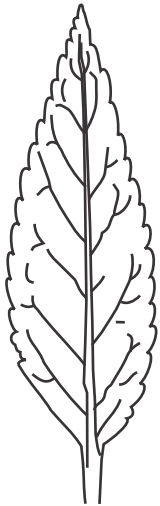
Elliptic



Falcate



Hastate



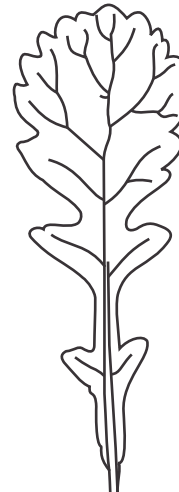
Lanceolate



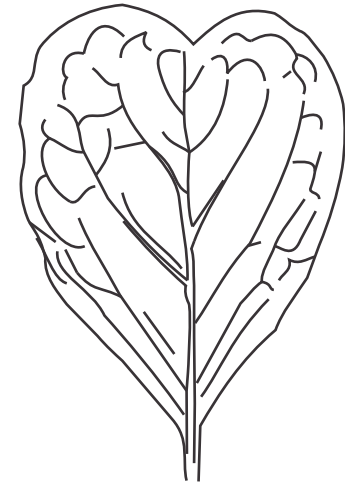
Linear



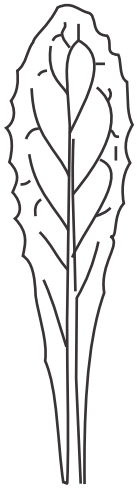
Linear



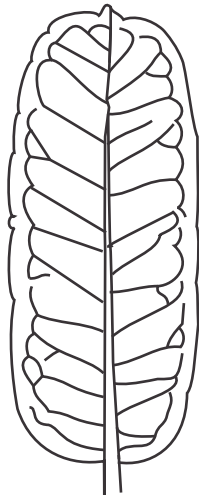
Lyrate



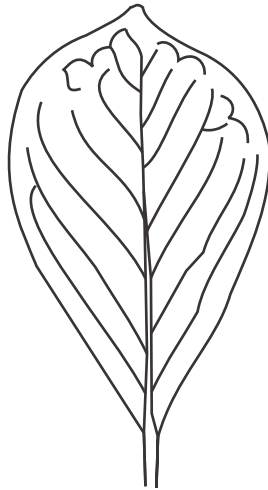
Obcordate



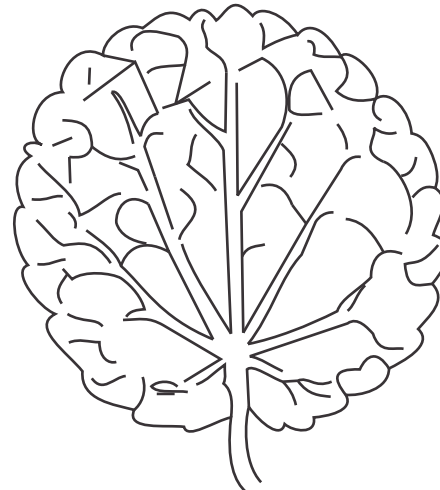
Oblanceolate



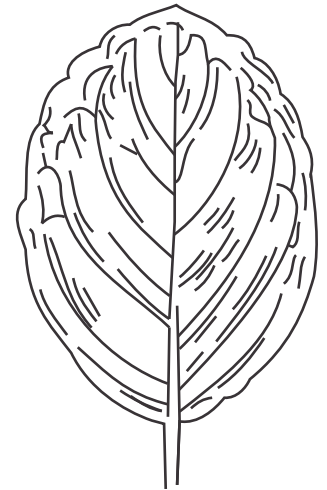
Oblong



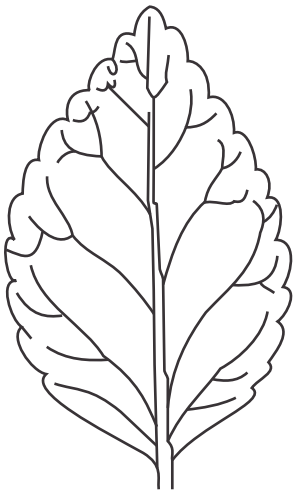
Obovate



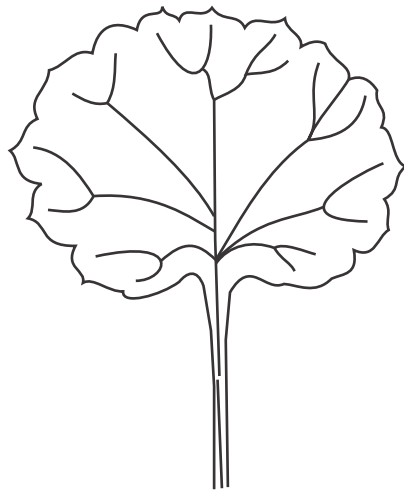
Orbicular



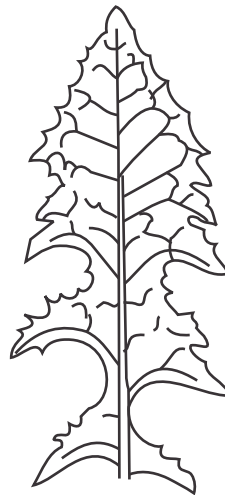
Oval



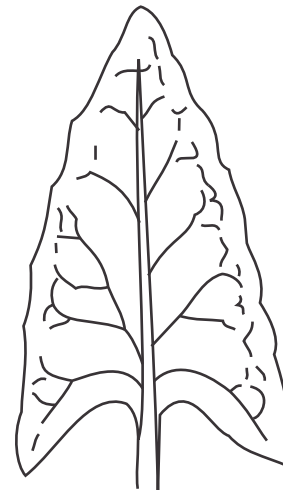
Ovate



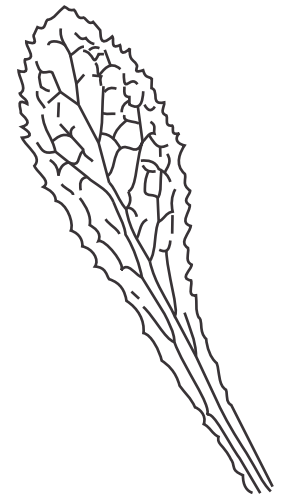
Reniform



Runcinate



Sagittate



Spatulate



# Scientific name index

<i>Abelmoschus ficulneus</i> (L.) Wight & Arn.	1	<i>Andrographis paniculata</i> Wall.	28
<i>Abelmoschus moschatus</i> Medik.	2	<i>Anisomeles indica</i> (L.) O. Kuntze.	29
<i>Abutilon hirtum</i> (Lam.) Sweet.	3	<i>Anisomeles malabarica</i> R.Br.	30
<i>Abutilon indicum</i> (L.) Sweet.	4	<i>Antigonon leptopus</i> Hook. & Arn.	31
<i>Acalypha indica</i> L.	5	<i>Apluda mutica</i> L.	32
<i>Acanthospermum hispidum</i> DC.	6	<i>Argemone mexicana</i> L.	33
<i>Achyranthes aspera</i> L.	7	<i>Arundo donax</i> (L.)	34
<i>Aerva javanica</i> (Burm.f.) Schult.	8	<i>Asphodelus tenuifolius</i> Cav.	35
<i>Aerva lanata</i> (L.) Juss.ex Schult.	9	<i>Asteracantha longifolia</i> (L.) Nees.	36
<i>Aeschynomene indica</i> L.	10	<i>Asystasia gangetica</i> T. Anders.	37
<i>Ageratum conyzoides</i> L.	11	<i>Atylosia scarabaeoides</i> (L.) Benth.	38
<i>Ageratum houstonianum</i> Mill.	12	<i>Avena ludoviciana</i> (L.) Nees.	39
<i>Alternanthera bettzickiana</i> (Regol) Voss.	13	<i>Axonopus compressus</i> Beauv.	40
<i>Alternanthera brasiliana</i> (L.) Kuntze.	14	<i>Barleria cristata</i> L.	41
<i>Alternanthera paronychioides</i> A. St.-Hil.	15	<i>Barleria prionitis</i> L.	42
<i>Alternanthera philoxeroides</i> (Mart.) Griseb.	16	<i>Bergia ammannioides</i> Hayne ex Roth.	43
<i>Alternanthera pungens</i> H. B & K.	17	<i>Bergia capensis</i> L.	44
<i>Alternanthera sessilis</i> (L.) DC.	18	<i>Bidens pilosa</i> L.	45
<i>Alysicarpus bupleurifolius</i> (Linn.) DC.	19	<i>Biophytum sensitivum</i> (L.) Don.	46
<i>Alysicarpus longifolius</i> Wight & Arn.	20	<i>Blainvillea acmella</i> (L.) Philipson.	47
<i>Alysicarpus monilifer</i> (L.) DC.	21	<i>Blepharis maderaspatensis</i> (L.) Roth.	48
<i>Alysicarpus ovalifolius</i> (Schumach.) J. Leonard.	22	<i>Blumea lacera</i> (Burm.f) DC.	49
<i>Alysicarpus vaginalis</i> (L) DC.	23	<i>Blumea oxyodonta</i> DC.	50
<i>Amaranthus spinosus</i> L.	24	<i>Blumea wightiana</i> DC.	51
<i>Amaranthus viridis</i> Hook. F.	25	<i>Boerhavia diffusa</i> L.	52
<i>Ammannia baccifera</i> L.	26	<i>Boerhavia erecta</i> L.	53
<i>Anagallis arvensis</i> L.	27	<i>Borreria hispida</i> (L.) K. Schum.	54

<i>Borreria pusilla</i> (Wall.) DC.	55	<i>Cirsium arvense</i> (L.) Scop.	84
<i>Brachiaria deflexa</i> (Schumach.) Robyns	56	<i>Cleome chelidonii</i> Linn.	85
<i>Brachiaria erusiformis</i> (J.E.Smith) Griseb.	57	<i>Cleome gynandra</i> L.	86
<i>Brachiaria ramosa</i> (L.) Stapf.	58	<i>Cleome monophylla</i> L.	87
<i>Brachiaria reptans</i> Gard. & Hubb.	59	<i>Cleome viscosa</i> L.	88
<i>Cabomba aquatica</i> (Piotr Kuczynski)	60	<i>Clerodendron infortunatum</i> Gaertn.	89
<i>Caesulia axillaries</i> Roxb.	61	<i>Clitoria ternatea</i> L.	90
<i>Calotropis gigantea</i> (L.) Aiton.	62	<i>Cocculus hirsutus</i> (L.) Diels.	91
<i>Calotropis procera</i> (Aiton) Dryand. ex.	63	<i>Coix barbata</i> (Roxb.) R. Br.	92
<i>Cannabis sativa</i> L.	64	<i>Coix lacryma-jobi</i> L.	93
<i>Cardamine hirsuta</i> L.	65	<i>Commelina benghalensis</i> L.	94
<i>Cardiospermum halicacabum</i> L.	66	<i>Commelina diffusa</i> L.	95
<i>Cassia absus</i> L.	67	<i>Commelina forskoolii</i> Vahl.	96
<i>Cassia mimosoides</i> L.	68	<i>Convolvulus arvensis</i> L.	97
<i>Cassia occidentalis</i> (L.) Link.	69	<i>Convolvulus pluricaulis</i> Choisy.	98
<i>Cassia pumila</i> Lam.	70	<i>Conyza bonariensis</i> (L.) Cronq.	99
<i>Cassia tora</i> (L.) Roxb.	71	<i>Conyza Canadensis</i> (L.) Cronq.	100
<i>Catharanthus pusillus</i> (Murr.) G. Don.	72	<i>Corchorus aestuans</i> L.	101
<i>Cayratia trifolia</i> (L.) Domin.	73	<i>Corchorus capsularis</i> L.	102
<i>Celosia argentea</i> L.	74	<i>Corchorus fascicularis</i> L.	103
<i>Centella asiatica</i> L.	75	<i>Corchorus olitorius</i> L.	104
<i>Centrosema pubescens</i> Benth.	76	<i>Corchorus trilocularis</i> Auct.	105
<i>Chenopodium album</i> L.	77	<i>Coronopus didymus</i> (L.) Sm.	106
<i>Chenopodium murale</i> L.	78	<i>Crotalaria medicaginea</i> Lam.	107
<i>Chloris barbata</i> Sw.	79	<i>Crotalaria prostrata</i> Rottl. Ex Willd.	108
<i>Chromolaena odorata</i> L. R.M. king & H. Rob.	80	<i>Crotalaria sagittalis</i> L.	109
<i>Chrozophora plicata</i> (Vahl) A. Juss. ex Spreng	81	<i>Crotalaria verrucosa</i> L.	110
<i>Chrozophora rottleri</i> Klotzsch.	82	<i>Croton bonplandianum</i> Baill.	111
<i>Cichorium intybus</i> L.	83	<i>Cyanotis axillaris</i> Roem. & Schult. F.	112

<i>Cyanotis cristata</i> (Linn.) D. Don	113	<i>Echinops echinatus</i> Roxb.	142
<i>Cyathula prostrata</i> (L.) Blume.	114	<i>Eclipta alba</i> (L.) Hassk.	143
<i>Cynodon dactylon</i> (L.) Pers.	115	<i>Eichhornia crassipes</i> (Mart.) Solms.-Laub.	144
<i>Cyperus brevifolius</i> Rottb.	116	<i>Eleusine indica</i> (L.) Gaertner.	145
<i>Cyperus compressus</i> L.	117	<i>Emilia sonchifolia</i> (L.) DC. Ex Wight.	146
<i>Cyperus difformis</i> L.	118	<i>Eragrostis unioides</i> (Retz.) Nees. Ex Steud	147
<i>Cyperus eragrostis</i> Lam.	119	<i>Eriocaulon sieboldianum</i> Siebold & Zucc. ex Steud.	148
<i>Cyperus haspan</i> L.	120	<i>Euphorbia dracunculoides</i> Lamarck.	149
<i>Cyperus iria</i> L.	121	<i>Euphorbia geniculata</i> Orteg.	150
<i>Cyperus kyllingia</i> L.	122	<i>Euphorbia hirta</i> L.	151
<i>Cyperus rotundus</i> L.	123	<i>Euphorbia hypersifolia</i> L.	152
<i>Cyperus tenuispica</i> L.	124	<i>Euphorbia indica</i> Lam.	153
<i>Cyperus triceps</i> L.	125	<i>Euphorbia microphylla</i> Heyne ex. Roth.	154
<i>Dactyloctenium aegyptium</i> (L.) Willd	126	<i>Euphorbia thymifolia</i> L.	155
<i>Dactyloctenium scindicum</i> Boiss.	127	<i>Evolvulus alsinoides</i> (L.) L.	156
<i>Datura metel</i> L.	128	<i>Evolvulus nummularius</i> (L.) L.	157
<i>Desmodium gangeticum</i> (L.) DC.	129	<i>Fimbristylis dichotoma</i> (L.) Vahl.	158
<i>Desmodium laxiflorum</i> . DC.	130	<i>Fimbristylis miliaceae</i> (L.) Vahl.	159
<i>Desmodium triflorum</i> (L.) DC.	131	<i>Fumaria parviflora</i> Lam.	160
<i>Desmostachya bipinnata</i> Stapf.	132	<i>Galium aparine</i> L.	161
<i>Dichanthium annulatum</i> (Forssk.) Stapf.	133	<i>Glinus lotoides</i> L.	162
<i>Digera arvensis</i> Forssk.	134	<i>Glinus oppositifolius</i> L.	163
<i>Digitaria sanguinalis</i> L. (Scop.)	135	<i>Gnaphalium polycephalum</i> L.	164
<i>Dinebra retroflexa</i> (Vahl) Panzer.	136	<i>Gomphrena decumbens</i> Jacq.	165
<i>Diplocyclos palmatus</i> (L.) C. Jeffrey	137	<i>Grangea maderaspatana</i> (L.) Poir	166
<i>Dyschoriste depressa</i> (L.) Nees.	138	<i>Heliotropium indicum</i> L.	167
<i>Echinochloa colona</i> (L.) Link.	139	<i>Heliotropium ovalifolium</i> Forsk.	168
<i>Echinochloa crusgalli</i> (L.) Beauv.	140	<i>Hemidesmus indicus</i> L. R. Br.	169
<i>Echinochloa glabrescens</i> L.	141	<i>Heteropogon contortus</i> (L.) P. Beauv.	170

<i>Hibiscus lobatus</i> (J.A. Murray) O. Ktze.	171	<i>Lepidium sativum</i> L.	200
<i>Hibiscus panduriformis</i> Burm. f.	172	<i>Leptochloa chinensis</i> (L.) Nees.	201
<i>Hibiscus vitifolius</i> Linn.	173	<i>Leucas aspera</i> Link.	202
<i>Hydrolea zeylanica</i> (L.) Vahl.	174	<i>Leucas cephalotes</i> Roth.	203
<i>Hyptis suaveolens</i> (L.) Poit.	175	<i>Leucas martinicensis</i> R. Br.	204
<i>Imperata cylindrica</i> (L.) Raeusch.	176	<i>Leucas zeylanica</i> (L.) R. Br.	205
<i>Indigofera cordifolia</i> Heyne. ex Roth.	177	<i>Limnocharis flava</i> (L.) Buchenau.	206
<i>Indigofera linifolia</i> (L.f.) Retz.	178	<i>Lindernia antipoda</i> (L.) Alston.	207
<i>Indigofera linnaei</i> Ali.	179	<i>Lindernia ciliata</i> (Colsm.) Panuell.	208
<i>Indoneesiella echioides</i> (L.) Sreem.	180	<i>Lindernia crustacea</i> (L.) F. Muell.	209
<i>Ionidium suffruticosum</i> (L.) Roem. & Sch.	181	<i>Lindernia procumbens</i> (Krock.) Philcox.	210
<i>Ipomoea aquatica</i> Forssk.	182	<i>Ludwigia adscendens</i> (L.) H. Hara.	211
<i>Ipomoea cairica</i> (L.) Sweet.	183	<i>Ludwigia octovalvis</i> (Jacq.) Raven.	212
<i>Ipomoea carnea</i> Jace.	184	<i>Ludwigia parviflora</i> Roxb.	213
<i>Ipomoea coccinea</i> L.	185	<i>Malachra capitata</i> (Linn.) Linn.	214
<i>Ipomoea hederacea</i> (L.) Jacq.	186	<i>Malva parviflora</i> L.	215
<i>Ipomoea obscura</i> (L.) Ker Gawl.	187	<i>Malvastrum coromandelianum</i> (L.) Garcke.	216
<i>Ipomoea pes-caprae</i> (L.) R. Br	188	<i>Marsilea quadrifolia</i> Linn.	217
<i>Ipomoea pes-tigridis</i> L.	189	<i>Martynia annua</i> L.	218
<i>Ipomoea turbinata</i> Lag.	190	<i>Mecardonia procumbens</i> (Mill.) Swall.	219
<i>Ischaemum indicum</i> (Houtt.) Merr.	191	<i>Medicago denticulata</i> Willd.	220
<i>Ischaemum rugosum</i> Salisb.	192	<i>Melilotus alba</i> Medikus.	221
<i>Lagascea mollis</i> Cav.	193	<i>Melilotus indica</i> (L.) All.	222
<i>Lantana camara</i> L.	194	<i>Melochia corchorifolia</i> L.	223
<i>Lathyrus aphaca</i> L.	195	<i>Merremia aegyptia</i> (Linn.) Urban	224
<i>Lathyrus sativus</i> L.	196	<i>Merremia dissecta</i> (Jacq.) Hallier f.	225
<i>Launaea nudicaulis</i> (Linn.) Hook. f.	197	<i>Merremia emarginata</i> (Burm. f.) Hall. f.	226
<i>Launaea sarmentosa</i> (Willd.) Sch.-Bip.	198	<i>Merremia tuberosa</i> (L.) Rendle	227
<i>Leonitis nepetaefolia</i> (L.) R. Br.	199	<i>Mikania micrantha</i> H.B.K.	228

<i>Mimosa invisa</i> C. Mart.	229	<i>Phyllanthus urinaria</i> L.	258
<i>Mimosa pudica</i> L.	230	<i>Phyllanthus virgatus</i> Forst.	259
<i>Mitracarpus villosus</i> (Sw.) DC.	231	<i>Physalis minima</i> L.	260
<i>Mollugo nudicaulis</i> Lam.	232	<i>Physalis peruviana</i> L.	261
<i>Mollugo pentaphylla</i> L.	233	<i>Pluchea lanceolata</i> (DC.) Oliv. & Hiern	262
<i>Monochoria vaginalis</i> (Burm f.) Kunth.	234	<i>Plumbago zeylanica</i> L.	263
<i>Mukia maderaspatana</i> (L.) Roem.	235	<i>Polygonum plebeium</i> R. Br.	264
<i>Murdannia nudiflora</i> (L.) Brenam.	236	<i>Polypogon monspeliensis</i> (L.) Desf.	265
<i>Oldenlandia corymbosa</i> L.	237	<i>Portulaca oleracea</i> L.	266
<i>Oldenlandia diffusa</i> (Willd.) Roxb.	238	<i>Portulaca quadrifida</i> L.	267
<i>Oldenlandia herbacea</i> (L.) Roxb.	239	<i>Pouzolzia zeylanica</i> (L.) Bennet & R. Br.	268
<i>Operculina turpethum</i> (L.) Silva Manso.	240	<i>Pseudognaphalium luteo-album</i> (L.) Hillard & Burt.	269
<i>Oplismenus burmannii</i> (Retz.) P. Beauv.	241	<i>Psoralea corylifolia</i> L.	270
<i>Oxalis corniculata</i> L.	242	<i>Rhynchosia minima</i> DC.	271
<i>Oxalis martiana</i> Zucc.	243	<i>Rottboellia cochinchinensis</i> (Lour.) W.D. Clayton.	272
<i>Parthenium hysterophorus</i> L.	244	<i>Ruellia prostrata</i> Poir.	273
<i>Paspalidium flavidum</i> (Retz.) A. Camus.	245	<i>Ruellia tuberosa</i> L.	274
<i>Paspalum dilatatum</i> Poir.	246	<i>Rumex dentatus</i> L.	275
<i>Paspalum distichum</i> auct. nm L.	247	<i>Rungia pectinata</i> (L.) Nees.	276
<i>Passiflora foetida</i> L.	248	<i>Rungia repens</i> Nees.	277
<i>Pedaliium murex</i> Linn.	249	<i>Saccharum spontaneum</i> L.	278
<i>Pergularia daemia</i> (Forssk.) Choiv.	250	<i>Sacciolepis indica</i> (L.)	279
<i>Peristrophe paniculata</i> (Forssk.) Brummit.	251	<i>Sagittaria guyanensis</i> H. B. K.	280
<i>Phalaris minor</i> Retz.	252	<i>Salvinia molesta</i> Mitchell.	281
<i>Phaseolus trilobus</i> (L.) Aiton & auct.	253	<i>Scoparia dulcis</i> L.	282
<i>Phyla nodiflora</i> (L.) Greene.	254	<i>Sebastiania chamaelea</i> (Linn.) Muell.	283
<i>Phyllanthus maderaspatensis</i> L.	255	<i>Setaria glauca</i> (L.) P. Beauv.	284
<i>Phyllanthus multiflorus</i> Willd.	256	<i>Setaria viridis</i> (L.) P. Beauv.	285
<i>Phyllanthus niruri</i> L.	257	<i>Sida acuta</i> Burm. f.	286

<i>Sida cordata</i> (Burm.f.) Borssum.	287	<i>Synedrella nodiflora</i> (L.) Gaertn.	313
<i>Sida cordifolia</i> (linn)	288	<i>Tephrosia purpuria</i> (L.) Pers.	314
<i>Sida rhombifolia</i> L.	289	<i>Themeda triandra</i> Forssk.	315
<i>Sida spinosa</i> L.	290	<i>Trianthema portulacastrum</i> L.	316
<i>Sisymbrium irio</i> L.	291	<i>Tribulus terrestris</i> L.	317
<i>Solanum elaeagnifolium</i> Cav.	292	<i>Trichodesma indicum</i> L.	318
<i>Solanum nigrum</i> L.	293	<i>Trichodesma zeylanicum</i> (Burm f.) R. Br.	319
<i>Solanum sisymbriifolium</i> Lam.	294	<i>Tridax procumbens</i> L.	320
<i>Solanum torvum</i> Sw.	295	<i>Trifolium fragiferum</i> L.	321
<i>Solanum viarum</i> Dunal.	296	<i>Trigonella polycerata</i> auct. non Linn.	322
<i>Solanum xanthocarpum</i> Schrad. & Wendl	297	<i>Triumfetta rhomboidea</i> Jacq.	323
<i>Sonchus asper</i> (L.) Hill.	298	<i>Typha angustata</i> Bory & Chaubard.	324
<i>Sonchus oleraceus</i> L.	299	<i>Urena lobata</i> L.	325
<i>Sopubia delphinifolia</i> (L.) Don.	300	<i>Urena sinuata</i> L.	326
<i>Sorghum halapense</i> (L.) Pers.	301	<i>Verbascum chinense</i> (L.) Santapau Fl.	327
<i>Spergula arvensis</i> L.	302	<i>Verbesina encelioides</i> (Cav.) Benth.	328
<i>Sphaeranthus indicus</i> L.	303	<i>Vernonia cinerea</i> (L.) Less.	329
<i>Sphenoclea zeylanica</i> Gaertn.	304	<i>Vicia hirsuta</i> (L.) S.F. Gray.	330
<i>Spigelia anthelmia</i> L.	305	<i>Vicia sativa</i> L.	331
<i>Spilanthes acmella</i> auct. non L.	306	<i>Vicoa auriculata</i> Cass.	332
<i>Spilanthes calva</i> DC.	307	<i>Volutarella divaricata</i> Benth & Hook.	333
<i>Sporobolus diander</i> (Retz.) P. Beauv.	308	<i>Waltheria indica</i> L.	334
<i>Stachytarpetta indica</i> (L.) Vahl.	309	<i>Wedelia chinensis</i> (Osbeck) Merr.	335
<i>Stellaria media</i> (L.) Vill.	310	<i>Xanthium strumarium</i> L.	336
<i>Stemodia viscosa</i> Roxb.	311	<i>Zornia gibbosa</i> Spanoghe.	337
<i>Striga asiatica</i> (L.) Kuntze.	312		

# Family index

## ACANTHACEAE

<i>Andrographis paniculata</i> Wall.	28
<i>Asteracantha longifolia</i> (L.) Nees.	36
<i>Asystasia gangetica</i> T. Anders.	37
<i>Barleria cristata</i> L.	41
<i>Barleria prionitis</i> L.	42
<i>Blepharis maderaspatensis</i> (L.) Roth.	48
<i>Dyschoriste depressa</i> (L.) Nees.	138
<i>Indoneesiella echioides</i> (L.) Sreem.	180
<i>Peristrophe paniculata</i> (Forssk.) Brummit.	251
<i>Ruellia prostrata</i> Poir.	273
<i>Ruellia tuberosa</i> L.	274
<i>Rungia pectinata</i> (L.) Nees.	276
<i>Rungia repens</i> Nees.	277

## AIZOACEAE

<i>Trianthema portulacastrum</i> L.	316
-------------------------------------	-----

## ALISMATACEAE

<i>Sagittaria guyanensis</i> H . B . K.	280
---	-----

## AMARANTHACEAE

<i>Achyranthes aspera</i> L.	7
<i>Aerva javanica</i> (Burm.f.) Schult.	8
<i>Aerva lanata</i> (L.) Juss.ex Schult.	9
<i>Alternanthera bettzickiana</i> (Regol) Voss.	13
<i>Alternanthera brasiliana</i> (L.) Kuntze.	14

<i>Alternanthera paronychioides</i> A. St.-Hil.	15
<i>Alternanthera philoxeroides</i> (Mart.) Griseb.	16
<i>Alternanthera pungens</i> H. B & K.	17
<i>Alternanthera sessilis</i> (L.) DC.	18
<i>Amaranthus spinosus</i> L.	24
<i>Amaranthus viridis</i> Hook. F.	25
<i>Celosia argentea</i> L.	74
<i>Cyathula prostrata</i> (L.) Blume.	114
<i>Digera arvensis</i> Forssk.	134
<i>Gomphrena decumbens</i> Jacq.	165

## APIACEAE

<i>Centella asiatica</i> L.	75
-----------------------------	----

## APOCYNACEAE

<i>Catharanthus pusillus</i> (Murr.) G. Don.	72
--	----

## ASCLEPIADACEAE

<i>Calotropis gigantea</i> (L.) Aiton.	62
<i>Calotropis procera</i> (Aiton) Dryand. ex.	63
<i>Hemidesmus indicus</i> L. R. Br.	169
<i>Pergularia daemia</i> (Forssk.) Choiv.	250

## ASTERACEAE

<i>Acanthospermum hispidum</i> DC.	6
<i>Ageratum conyzoides</i> L.	11
<i>Ageratum houstonianum</i> Mill.	12

<i>Bidens pilosa</i> L.	45	<i>Tridax procumbens</i> L.	320
<i>Blainvillea acmella</i> (L.) Philipson.	47	<i>Verbesina encelioides</i> (Cav.) Benth.	328
<i>Blumea lacera</i> (Burm.f) DC.	49	<i>Vernonia cinerea</i> (L.) Less.	329
<i>Blumea oxyodonta</i> DC.	50	<i>Vicoa auriculata</i> Cass.	332
<i>Blumea wightiana</i> DC.	51	<i>Volutarella divaricata</i> Benth & Hook.	333
<i>Caesulia axillaries</i> Roxb.	61	<i>Wedelia chinensis</i> (Osbeck) Merr.	335
<i>Chromolaena odorata</i> L. R.M. king & H. Rob.	80	<i>Xanthium strumarium</i> L.	336
<i>Cichorium intybus</i> L.	83		
<i>Cirsium arvense</i> (L.) Scop.	84	BORAGINACEAE	
<i>Conyza bonariensis</i> (L.) Cronq.	99	<i>Heliotropium indicum</i> L.	167
<i>Conyza Canadensis</i> (L.) Cronq.	100	<i>Heliotropium ovalifolium</i> Forsk.	168
<i>Echinops echinatus</i> Roxb.	142	<i>Trichodesma indicum</i> L.	318
<i>Eclipta alba</i> (L.) Hassk.	143	<i>Trichodesma zeylanicum</i> (Burm f.) R. Br.	319
<i>Emilia sonchifolia</i> (L.) DC. Ex Wight.	146		
<i>Gnaphalium polycephalum</i> L.	164	BRASSICACEAE	
<i>Grangea maderaspatana</i> (L.) Poir.	166	<i>Cardamine hirsuta</i> L.	65
<i>Lagascea mollis</i> Cav.	193	<i>Coronopus didymus</i> (L.) Sm.	106
<i>Launaea nudicaulis</i> (Linn.) Hook. f.	197	<i>Lepidium sativum</i> L.	200
<i>Launaea sarmentosa</i> (Willd.) Sch.-Bip.	198	<i>Sisymbrium irio</i> L.	291
<i>Mikania micrantha</i> H.B.K.	228		
<i>Parthenium hysterophorus</i> L.	244	CABOMBACEAE	
<i>Pluchea lanceolata</i> (DC.) Oliv. & Hiern	262	<i>Cabomba aquatica</i> (Piotr Kuczynski)	60
<i>Pseudognaphalium luteo-album</i> (L.) Hillard & Burt.	269		
<i>Sonchus asper</i> (L.) Hill.	298	CANNABACEAE	
<i>Sonchus oleraceus</i> L.	299	<i>Cannabis sativa</i> L.	64
<i>Sphaeranthus indicus</i> L.	303		
<i>Spilanthes acmella</i> auct. non L.	306	CAPPARIDACEAE	
<i>Spilanthes calva</i> DC.	307	<i>Cleome chelidonii</i> Linn.	85
<i>Synedrella nodiflora</i> (L.) Gaertn.	313	<i>Cleome gynandra</i> L.	86



<i>Cleome monophylla</i> L.	87	<i>Ipomoea hederacea</i> (L.) Jacq.	186
<i>Cleome viscosa</i> L.	88	<i>Ipomoea obscura</i> (L.) Ker Gawl.	187
		<i>Ipomoea pes-caprae</i> (L.) R. Br	188
CARYOPHYLLACEAE		<i>Ipomoea pes-tigridis</i> L.	189
<i>Spergula arvensis</i> L.	302	<i>Ipomoea turbinata</i> Lag.	190
<i>Stellaria media</i> (L.) Vill.	310	<i>Merremia aegyptia</i> (Linn.) Urban	224
		<i>Merremia dissecta</i> (Jacq.) Hallier f.	225
CHENOPODIACEAE		<i>Merremia emarginata</i> (Burm. f.) Hall. f.	226
<i>Chenopodium album</i> L.	77	<i>Merremia tuberosa</i> (L.) Rendle	227
<i>Chenopodium murale</i> L.	78	<i>Operculina turpethum</i> (L.) Silva Manso.	240
COMMELINACEAE		CUCURBITACEAE	
<i>Commelina benghalensis</i> L.	94	<i>Diplocyclos palmatus</i> (L.) C. Jeffrey	137
<i>Commelina diffusa</i> L.	95	<i>Mukia maderaspatana</i> (L.) Roem.	235
<i>Commelina forskaolii</i> Vahl.	96		
<i>Cyanotis axillaris</i> Roem. & Schult. F.	112	CYPERACEAE	
<i>Cyanotis cristata</i> (Linn.) D. Don	113	<i>Cyperus brevifolius</i> Rottb.	116
<i>Murdannia nudiflora</i> (L.) Brenam.	236	<i>Cyperus compressus</i> L.	117
		<i>Cyperus difformis</i> L.	118
CONVOLVULACEAE		<i>Cyperus eragrostis</i> Lam.	119
<i>Convolvulus arvensis</i> L.	97	<i>Cyperus haspan</i> L.	120
<i>Convolvulus pluricaulis</i> Choisy.	98	<i>Cyperus iria</i> L.	121
<i>Evolvulus alsinoides</i> (L.) L.	156	<i>Cyperus kyllingia</i> L.	122
<i>Evolvulus nummularius</i> (L.) L.	157	<i>Cyperus rotundus</i> L.	123
<i>Ipomoea aquatica</i> Forssk.	182	<i>Cyperus tenuispica</i> L.	124
<i>Ipomoea cairica</i> (L.) Sweet.	183	<i>Cyperus triceps</i> L.	125
<i>Ipomoea carnea</i> Jace.	184	<i>Fimbristylis dichotoma</i> (L.) Vahl.	158
<i>Ipomoea coccinea</i> L.	185	<i>Fimbristylis miliaceae</i> (L.) Vahl.	159

ELATNACEAE		<i>Alysicarpus longifolius</i> Wight & Arn.	20
<i>Bergia ammannioides</i> Hayne ex Roth.	43	<i>Alysicarpus monilifer</i> (L.) DC.	21
<i>Bergia capensis</i> L.	44	<i>Alysicarpus ovalifolius</i> (Schumach.) J. Leonard.	22
		<i>Alysicarpus vaginalis</i> (L.) DC.	23
ERIOCAULACEAE		<i>Atylosia scarabaeoides</i> (L.) Benth.	38
<i>Eriocaulon sieboldianum</i> Siebold & Zucc. ex Steud.	148	<i>Cassia absus</i> L.	67
		<i>Cassia mimosoides</i> L.	68
EUPHORBIACEAE		<i>Cassia occidentalis</i> (L.) Link.	69
<i>Acalypha indica</i> L.	5	<i>Cassia pumila</i> Lam.	70
<i>Chrozophora plicata</i> (Vahl) A. Juss. ex Spreng	81	<i>Cassia tora</i> (L.) Roxb.	71
<i>Chrozophora rottleri</i> Klotzsch.	82	<i>Centrosema pubescens</i> Benth.	76
<i>Croton bonplandianum</i> Baill.	111	<i>Clitoria ternatea</i> L.	90
<i>Euphorbia dracunculoides</i> Lamarck.	149	<i>Crotalaria medicaginea</i> Lam.	107
<i>Euphorbia geniculata</i> Orteg.	150	<i>Crotalaria prostrata</i> Rottl. Ex Willd.	108
<i>Euphorbia hirta</i> L.	151	<i>Crotalaria sagittalis</i> L.	109
<i>Euphorbia hypersifolia</i> L.	152	<i>Crotalaria verrucosa</i> L.	110
<i>Euphorbia indica</i> Lam.	153	<i>Desmodium gangeticum</i> (L.) DC.	129
<i>Euphorbia microphylla</i> Heyne ex. Roth.	154	<i>Desmodium laxiflorum</i> . DC.	130
<i>Euphorbia thymifolia</i> L.	155	<i>Desmodium triflorum</i> (L.) DC.	131
<i>Phyllanthus maderaspatensis</i> L.	255	<i>Indigofera cordifolia</i> Heyne. ex Roth.	177
<i>Phyllanthus multiflorus</i> Willd.	256	<i>Indigofera linifolia</i> (L.f.) Retz.	178
<i>Phyllanthus niruri</i> L.	257	<i>Indigofera linnaei</i> Ali.	179
<i>Phyllanthus urinaria</i> L.	258	<i>Lathyrus aphaca</i> L.	195
<i>Phyllanthus virgatus</i> Forst.	259	<i>Lathyrus sativus</i> L.	196
<i>Sebastiania chamaelea</i> (Linn.) Muell.	283	<i>Medicago denticulata</i> Willd.	220
		<i>Melilotus alba</i> Medikus.	221
FABACEAE		<i>Melilotus indica</i> (L.) All.	222
<i>Aeschynomene indica</i> L.	10	<i>Mimosa invisa</i> C. Mart.	229
<i>Alysicarpus bupleurifolius</i> (Linn.) DC.	19	<i>Mimosa pudica</i> L.	230

<i>Phaseolus trilobus</i> (L.) Aiton & auct.	253	LIMNOCHARITACEAE	
<i>Psoralea corylifolia</i> L.	270	<i>Limnocharis flava</i> (L.) Buchenau.	206
<i>Rhynchosia minima</i> DC.	271		
<i>Tephrosia purpuria</i> (L.) Pers.	314	LYTHRACEAE	
<i>Trifolium fragiferum</i> L.	321	<i>Ammannia baccifera</i> L.	26
<i>Trigonella polycerata</i> auct. non Linn.	322		
<i>Vicia hirsuta</i> (L.) S.F. Gray.	330	MALVACEAE	
<i>Vicia sativa</i> L.	331	<i>Abelmoschus ficulneus</i> (L.) Wight & Arn.	1
<i>Zornia gibbosa</i> Spanoghe.	337	<i>Abelmoschus moschatus</i> Medik.	2
		<i>Abutilon hirtum</i> (Lam.) Sweet.	3
FUMARIACEAE		<i>Abutilon indicum</i> (L.) Sweet.	4
<i>Fumaria parviflora</i> Lam.	160	<i>Hibiscus lobatus</i> (J.A. Murray) O. Ktze.	171
		<i>Hibiscus panduriformis</i> Burm. f.	172
HYDROPHYLLACEAE		<i>Hibiscus vitifolius</i> Linn.	173
<i>Hydrolea zeylanica</i> (L.) Vahl.	174	<i>Malachra capitata</i> (Linn.) Linn.	214
		<i>Malva parviflora</i> L.	215
LAMIACEAE		<i>Malvastrum coromandelianum</i> (L.) Garcke.	216
<i>Anisomeles indica</i> (L.) O. Kuntze.	29	<i>Sida acuta</i> Burm. f.	286
<i>Anisomeles malabarica</i> R.Br.	30	<i>Sida cordata</i> (Burm.f.) Borssum.	287
<i>Hyptis suaveolens</i> (L.) Poit.	175	<i>Sida cordifolia</i> (Linn.)	288
<i>Leonitis nepetaefolia</i> (L.) R. Br.	199	<i>Sida rhombifolia</i> L.	289
<i>Leucas aspera</i> Link.	202	<i>Sida spinosa</i> L.	290
<i>Leucas cephalotes</i> Roth.	203	<i>Urena lobata</i> L.	325
<i>Leucas martinicensis</i> R. Br.	204	<i>Urena sinuata</i> L.	326
<i>Leucas zeylanica</i> (L.) R. Br.	205	<i>Waltheria indica</i> L.	334
		MARSILEACEAE	
LILIACEAE		<i>Marsilea quadrifolia</i> Linn.	217
<i>Asphodelus tenuifolius</i> Cav.	35		

MENISPERMACEAE		PAPAVARACEAE	
<i>Cocculus hirsutus</i> (L.) Diels.	91	<i>Argemone mexicana</i> L.	33
MOLLUGINACEAE		PEDALIACEAE	
<i>Glinus lotoides</i> L.	162	<i>Martynia annua</i> L.	218
<i>Glinus oppositifolius</i> L.	163	<i>Pedaliium murex</i> Linn.	249
<i>Mollugo nudicaulis</i> Lam.	232	PLUMBAGINACEAE	
<i>Mollugo pentaphylla</i> L.	233	<i>Plumbago zeylanica</i> L.	263
NYCTAGINACEAE		POACEAE	
<i>Boerhavia diffusa</i> L.	52	<i>Apluda mutica</i> L.	32
<i>Boerhavia erecta</i> L.	53	<i>Arundo donax</i> (L.)	34
ONAGRACEAE		<i>Avena ludoviciana</i> (L.) Nees.	39
<i>Ludwigia adscendens</i> (L.) H. Hara.	211	<i>Axonopus compressus</i> Beauv.	40
<i>Ludwigia octovalvis</i> (Jacq.) Raven.	212	<i>Brachiaria deflexa</i> (Schumach.) Robyns	56
<i>Ludwigia parviflora</i> Roxb.	213	<i>Brachiaria erusiformis</i> (J.E.Smith) Griseb.	57
OROBANCHACEAE		<i>Brachiaria ramosa</i> (L.) Stapf.	58
<i>Striga asiatica</i> (L.) Kuntze.	312	<i>Brachiaria reptans</i> Gard. & Hubb.	59
OXALIDACEAE		<i>Chloris barbata</i> Sw.	79
<i>Biophytum sensitivum</i> (L.) Don.	46	<i>Coix barbata</i> (Roxb.) R. Br.	92
<i>Oxalis corniculata</i> L.	242	<i>Coix lacryma-jobi</i> L.	93
<i>Oxalis martiana</i> Zucc.	243	<i>Cynodon dactylon</i> (L.) Pers.	115
PASSIFLORACEAE		<i>Dactyloctenium aegyptium</i> (L.) Willd	126
<i>Passiflora foetida</i> L.	248	<i>Dactyloctenium scindicum</i> Boiss.	127
		<i>Desmostachya bipinnata</i> Stapf.	132
		<i>Dichanthium annulatum</i> (Forssk.) Stapf.	133
		<i>Digitaria sanguinalis</i> L. (Scop.)	135
		<i>Dinebra retroflexa</i> (Vahl) Panzer.	136

<i>Echinochloa colona</i> (L.) Link.	139	PONTEDIRIACEAE	
<i>Echinochloa crusgalli</i> (L.) Beauv.	140	<i>Eichhornia crassipes</i> (Mart.) Solms.-Laub.	144
<i>Echinochloa glabrescens</i> L.	141	<i>Monochoria vaginalis</i> (Burm f.) Kunth.	234
<i>Eleusine indica</i> (L.) Gaertner.	145		
<i>Eragrostis unioloides</i> (Retz.) Nees. Ex Steud.	147	PORTULACACEAE	
<i>Heteropogon contortus</i> (L.) P. Beauv.	170	<i>Portulaca oleracea</i> L.	266
<i>Imperata cylindrica</i> (L.) Raeusch.	176	<i>Portulaca quadrifida</i> L.	267
<i>Ischaemum indicum</i> (Houtt.) Merr.	191		
<i>Ischaemum rugosum</i> Salisb.	192	PRIMULACEAE	
<i>Leptochloa chinensis</i> (L.) Nees.	201	<i>Anagallis arvensis</i> L.	27
<i>Oplismenus burmannii</i> (Retz.) P. Beauv.	241		
<i>Paspalidium flavidum</i> (Retz.) A. Camus.	245	RUBIACEAE	
<i>Paspalum dilatatum</i> Poir.	246	<i>Borreria hispida</i> (L.) K. Schum.	54
<i>Paspalum distichum</i> auct. nm L.	247	<i>Borreria pusilla</i> (Wall.) DC.	55
<i>Phalaris minor</i> Retz.	252	<i>Galium aparine</i> L.	161
<i>Polypogon monspeliensis</i> (L.) Desf.	265	<i>Mitracarpus villosus</i> (Sw.) DC.	231
<i>Rottboellia cochinchinensis</i> (Lour.) W.D. Clayton.	272	<i>Oldenlandia corymbosa</i> L.	237
<i>Saccharum spontaneum</i> L.	278	<i>Oldenlandia diffusa</i> (Willd.) Roxb.	238
<i>Sacciolepis indica</i> (L.)	279	<i>Oldenlandia herbacea</i> (L.) Roxb.	239
<i>Setaria glauca</i> (L.) P. Beauv.	284		
<i>Setaria viridis</i> (L.) P. Beauv.	285	SALVINIACEAE	
<i>Sorghum halapense</i> (L.) Pers.	301	<i>Salvinia molesta</i> Mitchell.	281
<i>Sporobolus diander</i> (Retz.) P. Beauv.	308		
<i>Themeda triandra</i> Forssk.	315	SAPINDACEAE	
		<i>Cardiospermum halicacabum</i> L.	66
POLYGONACEAE			
<i>Antigonon leptopus</i> Hook. & Arn.	31	SCROPHULARIACEAE	
<i>Polygonum plebeium</i> R. Br.	264	<i>Lindernia antipoda</i> (L.) Alston.	207
<i>Rumex dentatus</i> L.	275	<i>Lindernia ciliata</i> (Colsm.) Panuell.	208

<i>Lindernia crustacea</i> (L.) F. Muell.	209	TILIACEAE	
<i>Lindernia procumbens</i> (Krock.) Philcox.	210	<i>Corchorus aestuans</i> L.	101
<i>Mecardonia procumbens</i> (Mill.) Swall.	219	<i>Corchorus capsularis</i> L.	102
<i>Scoparia dulcis</i> L.	282	<i>Corchorus fascicularis</i> L.	103
<i>Sopubia delphinifolia</i> (L.) Don.	300	<i>Corchorus olitorius</i> L.	104
<i>Stemodia viscosa</i> Roxb.	311	<i>Corchorus trilocularis</i> Auct.	105
<i>Verbascum chinense</i> (L.) Santapau Fl.	327	<i>Triumfetta rhomboidea</i> Jacq.	323
SOLANACEAE		TYPHACEAE	
<i>Datura metel</i> L.	128	<i>Typha angustata</i> Bory & Chaubard.	324
<i>Physalis minima</i> L.	260	VERBENACEAE	
<i>Physalis peruviana</i> L.	261	<i>Clerodendron infortunatum</i> Gaertn.	89
<i>Solanum elaeagnifolium</i> Cav.	292	<i>Lantana camara</i> L.	194
<i>Solanum nigrum</i> L.	293	<i>Phyla nodiflora</i> (L.) Greene.	254
<i>Solanum sisymbriifolium</i> Lam.	294	<i>Stachytarpetta indica</i> (L.) Vahl.	309
<i>Solanum torvum</i> Sw.	295	VIOLACEAE	
<i>Solanum viarum</i> Dunal.	296	<i>Ionidium suffruticosum</i> Ging.	181
<i>Solanum xanthocarpum</i> Schrad. & Wendl	297	VITIACEAE	
SPHENOCLEACEAE		<i>Cayratia trifolia</i> (L.) Domin.	73
<i>Sphenoclea zeylanica</i> Gaertn.	304	URTICACEAE	
SPIGELIACEAE		<i>Pouzolzia zeylanica</i> (L.) Bennet & R. Br.	268
<i>Spigelia anthelmia</i> L.	305	ZYGOPHYLLACEAE	
STERCULIACEAE		<i>Tribulus terrestris</i> L.	317
<i>Melochia corchorifolia</i> L.	223		

- Aculeate : Covered in prickles.
- Acuminate : Tapering gradually to a protracted point.
- Acute : Sharp or pointed.
- Adaxial : Towards the axis, referring to the surface of an organ that is closest to the axis in bud.
- Annular : Arranged in or forming a ring.
- Apiculate : A short sharp point, not rigid, found at the tip.
- Ascending : Arched upwards in the lower part and becoming erect in the upper part.
- Attenuate : Tapering gradually.
- Auricle : An ear shaped appendage at the base of a leaf, leaflet or corolla lobe; or an ear-like outgrowth at the base of the sheath of some grasses and other monocots.
- Awn : A slender, bristle-like projection, e.g. from the back or tip of the glumes and lemmas in some grasses.
- Axil : The angle between one part of a plant and another part, e.g. a branch and a leaf.
- Beak : A prominent terminal projection, especially of a carpel or fruit.
- Berry : A fleshy or pulpy indehiscent fruit with the seed(s) embedded in the fleshy tissue of the pericarp.
- Biconvex : Convex on both sides.
- Biennial : Completing the full cycle of germination to fruiting in more than one, but not more than two years, and then dying.
- Blade : Lamina; part of the leaf above the sheath or petiole.
- Bract : A leaf-like structure, usually different in form from the foliage leaves, associated with an inflorescence or flower.
- Bracteole : A small bract-like structure borne singly or in a pair on the pedicel or calyx of a flower.
- Broadly : Having a length:breadth ratio between 6:5 and 1:1; if the ratio is less then the shape is described as very broadly.
- Caducous : Falling early before associated organs are mature.
- Caespitose : Growing densely in tufts; having short, closely packed stems.
- Calcareous : Composed of or containing lime or limestone.
- Calyx : The outermost floral whorl usually consisting of sepals or a calyx tube and calyx lobes.

- Capitulum : A dense cluster of sessile, or almost sessile, flowers or florets.
- Capsule : A dry fruit formed from two or more united carpels and dehiscing at maturity to release the seeds.
- Caryopsis : The grass fruit, which has the seed coat united with the ovary wall.
- Caudate : Having a narrow, tail-like appendage.
- Cauline : Borne on the aerial part of a stem.
- Chartaceous : Papery.
- Cinereous : A gray color tinged with black.
- Circumscissile : Opening by a transverse line around the circumference.
- Climber : Growing more or less erect by leaning or twining around another structure.
- Convolute : An arrangement of petals in a bud where each has one side overlapping the neighbouring petal.
- Cordate : A 2-dimensional shape; heart shaped in outline, i.e. having the base broad and distinctly notched.
- Costa : A thickened, linear ridge or the midrib of the pinna in ferns.
- Crenate : With obtuse or rounded teeth which either point forwards or are perpendicular to the margin.
- Crenulate : Minutely crenate.
- Crisped : Very strongly undulate; margins which are wavy in a vertical plane, the waves themselves with secondary waves.
- Crustaceous : Hard, thin and brittle.
- Culm : The aerial stem of grasses, sedges, rushes and other monocots, bearing the cauline leaves and the inflorescence.
- Cuneate : A 2-dimensional shape; obtriangular, i.e. wedge shaped.
- Cuspidate : Somewhat abruptly and sharply concave and constricted into a cusp.
- Cuspidulate : Constricted into a minute cusp.
- Cylindric : A 3-dimensional shape; tubular or rod shaped with a length: breadth ratio of 2:1 to 3:2.
- Cyme : An inflorescence in which each flower, in turn, is formed at the tip of a growing axis, further flowers being formed on branches arising below.
- Decumbent : Spreading horizontally with the apex growing upwards, referring to stems.
- Decussate : Having paired organs with successive pairs at right angles to give four rows.
- Dehiscent : Breaking open at maturity to release the contents.
- Dentate : With sharp, spreading, rather coarse teeth standing out from the margin.



Denticulate	: Finely dentate.
Depressed	: Flattened as if pressed down from the top or end; applied to 2 or 3-dimensional shapes, e.g. ovate and obovate or ovoid and obovoid which have a length:breadth ratio of less than 2:3.
Dichasium	: A cyme in which the branches are opposite and approximately equal.
Dichotomous	: Divided almost equally into two parts.
Dioecious	: Having male and female unisexual flowers on different plants.
Divaricate	: Widely spreading.
Echinate	: Bearing stiff, stout, prickly hairs.
Ellipsoid	: A 3-dimensional shape; elliptic in outline and with a length:breadth ratio between 3:2 and 2:1.
Elliptic	: A 2-dimensional shape; oval in outline and with a length:breadth ratio between 3:2 and 2:1.
Elongate	: Lengthened; stretched out.
Emarginate	: Having a broad, shallow notch at the apex.
Entire	: Without any incisions or teeth.
Erect	: Upright; perpendicular.
Exserted	: Protruding beyond some enclosing organ, e.g. referring to stamens which project beyond the corolla or perianth, or to valves which extend beyond the rim of a capsular fruit. Sometimes the stamens are not actually longer than the corolla or perianth but are exserted due to the spreading of the segments.
Farinose	: Covered with mealy dust or powder.
Fascicle	: A cluster.
Fetid	: Having a heavy offensive smell.
Filiform	: Thread-like.
Fimbriate	: Fringed.
Flaccid	: Limp and weak.
Flexuose	: Zig-zagging, often referring to a stem.
Follicle	: A dry fruit, derived from a single carpel and dehiscing along one suture.
Geniculate	: Bent abruptly, with the structure of a knee.
Gibbous	: Characterized by convexity; protuberant.
Glabrescent	: Becoming glabrous.
Glabrous	: Without hairs.

Glaucous	: Blue-green in colour, with a whitish bloom.
Globular	: A 3-dimensional shape; spherical or orbicular; circular in outline.
Hastate	: With a pair of basal lobes which flare outwards; refers to a flat organ, most commonly a leaf.
Herb	: A plant which is non-woody or woody at the base only, the above ground stems usually being ephemeral.
Herbaceous	: Herb-like; often applied to bracts, bracteoles or floral parts that are green and soft in texture.
Hirsute	: With long and rather coarse or stiff hairs, the hairs being less rigid and erect than when referred to as hispid.
Hispid	: With stout, rigid or bristly, erect hairs.
Imparipinnate	: Pinnately compound with a single terminal leaflet and hence with an odd number of leaflets.
Incised	: Cut jaggedly with very deep teeth.
Incrassate	: Obsolete fattened or swollen.
Indumentum	: The type of hairiness commonly found on external parts of plants.
Involucre	: A large bract or whorl of bracts surrounding a flower or an entire inflorescence.
Involute	: With the margins inrolled on the upper (adaxial) surface, referring to a leaf or other flat organ.
Lactiferous	: Forming or conveying milk or milky fluid.
Lanate	: Covered with long hairs which are loosely curled together like wool.
Lanceolate	: Lance shaped, much longer than wide, the widest point below the middle.
Leaflet	: One of the ultimate segments of a compound leaf.
Ligule	: Outgrowth from the inner junction of the grass leaf sheath and blade, often membranous, sometimes represented by a fringe of hairs.
Linear	: A 2-dimensional shape: narrowly rectangular with parallel sides and a length: breadth ratio of at least 12:1.
Lyrate	: Pinnately lobed, with the terminal lobe the largest and the laterals progressively smaller towards the base.
Margin	: The edge of the leaf blade.
Mericarp	: A 1-seeded portion of an initially syncarpous fruit which splits apart at maturity, e.g. in the Apiaceae. Sometimes called a coccus.
Midvein	: The main vascular supply of a simple leaf blade or lamina.
Monoecious	: Having both male and female unisexual flowers on the same individual plant.

Mucro	: A stiff or sharp, short projection of the midvein abruptly terminating an organ.
Mucronate	: Abruptly tipped with a mucro, accompanied or not by a small amount of leaf tissue.
Muricate	: With numerous short hard outgrowths.
Muriculate	: With numerous minute hard outgrowths; a diminutive of muricate.
Narrowly	: Having a length:breadth ratio between 3:1 and 6:1; if the ratio is more than 6:1 then the shape is described as very narrowly, except in the case of very narrowly oblong which is termed linear.
Nut	: Dry indehiscent 1-celled fruit with a hard pericarp.
Obcordate	: A 2-dimensional shape; broad and notched at the tip; heart shaped but attached at the pointed end.
Oblanceolate	: Lanceolate, with the more pointed end at the base.
Oblong	: A 2-dimensional shape; rectangular with a length:breadth ratio between 3:2 and 2:1.
Obovate	: A 2-dimensional shape: similar to ovate but attached at the narrower end and with a length:breadth ratio between 3:2 and 2:1.
Obscure	: Not clearly seen or easily distinguished.
Obtuse	: Blunt or rounded at the apex, the converging edges separated by an angle greater than 90 degrees.
Ocrea	: Sheath formed at the node of a stem by the fusion of two stipules.
Opposite	: Describing leaves or other organs which are borne at the same level but on opposite sides of the stem; of floral parts, on the same radius.
Orbicular	: Of circular outline.
Ovate	: A 2-dimensional shape; resembling a section through the long axis of an egg, attached near the broader end and with a length:breadth ratio between 3:2 and 2:1.
Ovoid	: A 3-dimensional shape; egg shaped; ovate in outline.
Palmate	: Describing a leaf which is divided into several leaflets which arise from the same point.
Papillose	: A small nipple like projection, such as a protuberance on the skin.
Pappus	: A tuft (or ring) of hairs, bristles or scales borne above the ovary and outside the corolla in Asteraceae and possibly representing the calyx; often persisting as a tuft of hairs on a fruit.
Paripinnate	: Pinnate with an even number of leaflets and without a terminal leaflet. A tendril may be terminal on the leaf.
Pedicel	: The stalk of an individual flower. In a single-flowered inflorescence, may refer to a peduncle, or both peduncle and pedicel when undifferentiated. Also used here for the stalk of a spikelet in Poaceae.
Peduncle	: The stalk of an inflorescence.

Peltate	: Attached to the stalk at a point within the margin, i.e. on the lower surface.
Peltate	: Attached to the stalk at a point within the margin, i.e. on the lower surface.
Pendulous	: Drooping; of ovules, attached at the top of the ovary and hanging downwards from an apical placenta.
Perennial	: With a life span extending over more than two growing seasons.
Petiole	: The stalk of a leaf.
Phyllaries	: One of the involucre bracts subtending the flower head of a composite plant.
Pilose	: With slightly stiffened distinct hairs ascending from the surface.
Pinnate	: With the same arrangement as a feather; divided into pinnae; once-compound.
Pinnatifid	: Lobed approximately halfway to midrib. If divided almost to the midrib, then described as deeply pinnatifid or pinnatisect.
Pinnatisect	: Lobed almost to base or midrib.
Procumbent	: Trailing or spreading along the ground but not rooting at the nodes, referring to stems.
Prostrate	: Lying flat on the ground.
Puberulent	: Covered with very short fine straight erect hairs (puberulous).
Pubescent	: Covered with short, soft hairs.
Raceme	: An indeterminate inflorescence with a simple, elongated axis and pedicellate flowers.
Rachilla	: The main axis of a grass spikelet.
Rachis	: The main axis of the spike or other inflorescence of grasses; the axis of a pinna in a bipinnate leaf.
Radiate	: Arranged around a common centre; used here especially to describe an inflorescence of Asteraceae with marginal, female or neuter, ligulate ray-florets and central, perfect or functionally male, tubular, disc florets.
Rambling	: Putting out long shoots and growing over walls or other plants.
Ray	: The marginal portion of the inflorescence of Asteraceae and Apiaceae when distinct from the disc.
Reflexed	: Bent or turned downward.
Reniform	: A 2-dimensional shape; kidney shaped in outline.
Reticulate	: Forming a network or reticulum.
Rhizome	: A creeping stem, usually below ground, consisting of a series of nodes and internodes with adventitious roots.
Rhombic	: A 2-dimensional shape; diamond shaped in outline with the broadest axis in the middle and with a length: breadth ratio between 3:2 and 2:1.

Rosette	: A tuft of leaves or other organs resembling the arrangement of petals in a rose, ranging in form from a hemispherical tuft to a flat whorl.
Schizocarp	: A usually dry fruit which splits longitudinally into indehiscent or tardily dehiscent parts (mericarps or cocci).
Sedge	: A plant of the family Apiaceae, Cyperaceae.
Segment	: A free or almost free part or subdivision of an organ. Calyx and corolla segments are called sepals and petals respectively. In the case of undifferentiated dicotyledonous flowers, the segments are called floral segments.
Serrate	: Toothed so as to resemble a saw; with regular, asymmetric teeth pointing forward.
Sessile	: Without a stalk.
Shrub	: A woody plant usually less than 5 m high and many-branched without a distinct main stem except at ground level.
Simple	: Not divided, e.g. applied to a leaf not divided into leaflets.
Sinuate	: With deep wave-like indentations in a horizontal plane along the margin.
Solitary	: Usually used to describe flowers which are borne singly, and not grouped into an inflorescence.
Spathe	: A large bract ensheathing an inflorescence or its peduncle.
Spathulate	: Spoon shaped; broad at the tip and narrowed towards the base.
Spike	: An unbranched inflorescence of sessile flowers or spikelets.
Spikelet	: The grass flowerhead, generally composed of 2 glumes and one or more florets.
Spine	: A stiff, sharp, pointed structure, formed by modification of a plant organ.
Spinescent	: Ending in a spine; modified to form a spine.
Stellate	: Star shaped, usually referring to hairs with radiating branches.
Stipe	: A stalk or support such as the petiole of a frond or the stalk of an ovary or fruit.
Stipitate	: Having a stalk or stipe, usually of an ovary or fruit.
Stipule	: One of a pair of leaf-like, scale-like or bristle-like structures inserted at the base or on the petiole of a leaf or phyllode.
Stolon	: The creeping stem of a rosetted or tufted plant, giving rise to another plant at its tip, or in Drosera a vertical underground stem connecting the tuber with the above ground parts and bearing adventitious roots.
Tendrill	: A slender organ formed from a modified stem, leaf or leaflet which, by coiling around objects, supports a climbing plant.

Terete	: Circular in cross-section.
Terminal	: At the apex or distal end.
Tomentose	: Covered with not very long cottony hairs, more or less felted together, shorter and less dense than lanate.
Transverse	: Broader than long; applied to 2 or 3-dimensional shapes, e.g. elliptic and oblong or ellipsoid and obovoid which have a length:breadth ratio of less than 5:6.
Trifoliate	: Having three leaves.
Triquetrous	: Acutely 3-angled; triangular in cross-section with concave faces and each corner projected outwards so that the organ has three distinct longitudinal ridges.
Truncate	: With an abruptly transverse end as if cut off.
Tuft	: A densely packed cluster arising from an axis.
Turbinate	: Top shaped; inversely conic.
Umbel	: An inflorescence in which the pedicels originate from one point on top of the peduncle and are usually of equal length.
Undershrub	: Subshrub; a small, usually sparsely branched woody shrub less than 1 m high.
Undulate	: With an edge or edges wavy in a vertical plane; may vary from weakly to strongly undulate or crisped.
Unifoliolate	: A compound leaf which has been reduced to a single, usually terminal leaflet.
Vaginate	: Forming or enclosed in a sheath.
Valve	: One of the parts produced by the splitting of a capsule when ripe or a part of the specialised opening of a capsular fruit.
Verrucose	: Warty.
Viscid	: Sticky on the surface; coated with a thick, syrup-like secretion.
Whorl	: A ring-like arrangement of similar parts arising from a common point or node.

# *Abelmoschus ficulneus* (L.) Wight & Arn.

Common Name : Native rosella  
Family : Malvaceae

- Habit:** An erect undershrub, grows to a height of 0.5 to 1.5 m.
- Stem:** Simple, and short hairy, sometimes prickly, usually thick and fistular.
- Leaves:** 5-8 cm long, 4-7 cm wide, circular, heart-shaped at base, toothed, rough on both sides, 3-5 lobed.
- Flowers:** The flower stalks occur at the end of branches or in leaf axils. They are covered with velvety hairs. The flowers are 5-7 cm across. The flowers have short stalks and are white, turning pink, with a dark purple spot in the centre.
- Fruits:** Capsule 3-3.5 cm long, 1.5-2 cm across, 5 angular, ovoid, simple, hairy, glabrescent, valves membranous.
- Seeds:** 3 mm across, globular, black, glabrous to stellate pilose.



# *Abelmoschus moschatus* Medik.

Common Name : Musk mallow  
Family : Malvaceae

**Habit:** An erect, annual or biennial, hirsute herb or undershrub.

**Stem:** 0.3-1.8 m tall with a stout taproot. Usually clothed with long deflexed hairs.

**Leaves:** 6-22 cm long and 3-24 cm wide, cordate at base, mostly orbicular to transversely elliptic in outline, but variable in shape; lower ovate, acute; upper palmately 3-7-lobed; margins crenate, serrate or irregularly toothed, hairy on both surfaces.

**Flowers:** Flowers usually solitary, axillary, sometimes in few flowered racemes; corolla bright yellow with a purple centre.

**Fruits:** Capsules 6.5-7.5 cm long, oblong-lanceolate, acute, fulvous-hairy.

**Seeds:** Subreniform, black.





# *Abutilon hirtum* (Lam.) Sweet.

Common Name : Florida keys Indian mallow  
Family : Malvaceae

- Habit:** Perennial herb or undershrub, 0.5-2 m tall.
- Stem:** Velvety, branchlets viscid.
- Leaves:** 4-18 cm long and broad, densely stellate, glutinous hairy on both sides mixed with simple hairs, more so on the nerves beneath; usually broadly ovate or ovate-cordate at base, acute to acuminate at apex, crenulate-dentate or serrate, yellowish, yellowish green to green.
- Flowers:** Orange-yellow or yellow; axillary, solitary.
- Fruits:** Schizocarp densely stellate, globose. Mericarps 27 -30, acute at the back, oblong, 10-12 mm long, 6-8 mm broad.
- Seeds:** Reniform, 2-2.5 mm across, with minute, shining, stellate hairs.



## *Abutilon indicum* (L.) Sweet.

Common Name : Country mallow  
Family : Malvaceae

- Habit:** An erect annual shrub, 1-2 m tall.
- Stem:** velvety-pubescent.
- Leaves:** Circular-ovate or heart-shaped with coarsely crenate-serrate margins. The leaves are alternately arranged, and have long stalks and have velvety, soft, pale hairs on them.
- Flowers:** Orange-yellow flowers, 2-3 cm across, occur solitary in axils, on long stalks.
- Fruits:** Circular in shape, consisting of 11-20 radiating hairy carpels, brown when dry; each carpel is flattened, somewhat boat shaped.
- Seeds:** Ovate or sub-orbicular, dull black.



# *Acalypha indica* L.

Common Name : Indian copperleaf  
Family : Euphorbiaceae

- Habit:** Erect annual herb; up to 60 cm tall.
- Stem:** Branches numerous, long, ascending, angular, finely pubescent.
- Leaves:** 2.5 - 7.0 cm long and 2-2.5 cm broad, ovate-rhombic, with long petiole, arranged spirally; blades acute, margins crenate-serrate.
- Flowers:** Flowers unisexual, stalkless, borne on numerous lax, erect, elongate axillary spikes longer than the leaves. Male flowers are minute, crowded distally. Female flowers are scattered along the inflorescence axis, each subtended by a conspicuous semi-cupular leaf-like, toothed, green bract, nearly 7 mm long.
- Fruits:** Capsules, three valved, covered with persistent bracts.
- Seeds:** Ovoid, smooth and pale brown.



# *Acanthospermum hispidum* DC.

Common Name : Bristly starbur  
Family : Asteraceae

- Habit:** Perennial herb or undershrub, 0.5-2 m tall.
- Stem:** Densely hairy, dichotomous (Y-shaped) branching, branches numerous, long, ascending, angular, finely pubescent.
- Leaves:** Elliptic, oblanceolate or obovate, 1.5-7 cm long and 0.7-2 cm wide, acute or obtuse at apex, attenuate and subpetiolate at base, margins shallowly serrate, whitish pilose on both surfaces.
- Flowers:** Yellow, borne in heads in the forks of dichotomous branches.
- Fruits:** Achenes triangular covered with stiff hooked hairs and have either a straight or curved pair of spines at the top.



# *Achyranthes aspera* L.

Common Name : Devil's horsewhip  
Family : Amaranthaceae

- Habit:** An erect or procumbent, annual or perennial herb with spreading branches, usually up to 1 m tall, often with a woody base.
- Stem:** Angular, ribbed, pubescent, simple or branched from the base, often reddish-purplish tinged.
- Leaves:** Opposite, thick, ovate elliptic or obovate-rounded, but variable in shape and size, 4-12 cm long and up to 8 cm wide, velvety-tomentose.
- Flowers:** Greenish-white, numerous, in axillary or terminal spikes up to 75 cm long; bracts membranous, oblong, enclosed in the hardened parianth.
- Fruits:** Utricle, oblong-cylindric, truncate at apex, rounded at base.
- Seeds:** Reddish-brown, sub-cylindrical.



# *Aerva javanica* (Burm.f.) Schult.

Common Name : Desert cotton  
Family : Amaranthaceae

- Habit:** Perennial herb, 0.3-1.5 m tall.
- Stem:** Frequently woody; simple or with long, ascending, sometimes intricate branches. Stem and branches terete, striate, more or less densely whitish or yellowish-tomentose or pannose, when dense the indumentum often appearing tufted.
- Leaves:** Alternate, very variable in size and form, from narrowly linear to suborbicular, densely whitish or yellowish tomentose but usually more thinly so and greener on the upper surface, margins plane or more or less involute, sessile or with a short and indistinct petiole.
- Flowers:** Flowers dioecious. Spikes sessile, cylindrical, dense and stout to slender and interrupted with lateral globose clusters of flowers. Male plants always with more slender spikes.
- Fruits:** Capsule 1-1.5 mm, rotund, compressed.
- Seed:** 0.9-1.25 mm, round, slightly compressed, brown or black, shining and smooth or very faintly reticulate.



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

Common Name : Mountain knot-grass  
Family : Amaranthaceae

- Habit:** A semi erect, many branched, under shrub.
- Stem:** Grows up to 50 cm in height with woolly branches arising from a woody base.
- Leaves:** Simple, alternate, short petioled, tomentose, and become smaller in the flowering twigs; finely pubescent above, white woolly beneath.
- Flowers:** Minute, sessile, greenish or creamy-white, borne in axillary spikes, usually 3-4 together.
- Fruits:** Utricle greenish, round or ovoid, acute, compressed.
- Seeds:** Kidney shaped, small and black.



## *Aeschynomene indica* L.

Common Name : Indian jointvetch  
Family : Fabaceae

- Habit:** Annual undershrub.
- Stem:** Much branched, branches slender, glabrous, slightly muricate with prickle like glandular outgrowths.
- Leaves:** Leaves are compound, 5-10 cm long, with 15-30 pairs of narrow needle-like leaflets, 1-1.5 cm long, rounded at the tips.
- Flowers:** Pale yellow flowers are borne in few flowered racemes. Flowers are about 1 cm long, pea-flower shaped.
- Fruits:** Pods linear, flat, glabrous, smooth, upper margin entire and lower indented, 6-8 jointed with central prominent wrinkles on each joint.
- Seeds:** 2-3 mm long, smooth and black.





# *Ageratum conyzoides* L.

Common Name : Goat weed  
Family : Asteraceae

- Habit:** Erect, often branched, annual herb and often decumbent; up to 120 cm tall.
- Stem:** Much branched and rooting at the base; stem, nodes and younger parts with rather long, partly crispy hairs.
- Leaves:** Opposite or the upper alternate, broadly ovate or rhomboid-ovate to triangular, 2-10 cm long and 1.5-5 cm wide, apex subacute, margins crenate, ciliate, base cuneate, more or less hairy on both surfaces.
- Flowers:** Flowers in flat-topped, peduncled (5-17 mm long) corymbs (60-70 flowers). Flowers white, pale blue or violet with a disagreeable odour.
- Fruits:** Achene oblong, 5-angular, black with pale base, glabrous or slightly hairy, 1.5-2 mm long with awn-tipped, serrate pappus-scales.



# *Ageratum houstonianum* Mill.

Common Name : Flossflower  
Family : Asteraceae

- Habit:** Annual, erect and often much branched herb; 0.3-1 m tall.
- Stem:** Leafy, pilose or villous with spreading hairs.
- Leaves:** Opposite, on rather long, slender petioles, very thin, broadly deltoid-ovate, 4-8 cm long, obtuse or acute, base cordate, coarsely crenate, thinly villous-hirsute.
- Flowers:** Heads numerous, lavender or pale blue, many flowered.
- Fruits:** Achenes black, 1.2 mm long.



# *Alternanthera bettzickiana* (Regol.) Voss.

Common Name : Red calico plant  
Family : Amaranthaceae

- Habit:** Perennial herb, 20-50 cm tall.
- Stem:** Erect or creeping, much branched, apical part quadrangular, basal part cylindric, hairy at apex and nodes.
- Leaves:** Green or red, or tinged red or yellow, oblong, oblong-ovate, or spatulate, hairy when young, glabrescent, base acuminate, margin undulate, apex acute or obtuse, with a mucro.
- Flowers:** Heads 2-5, terminal or axillary, 5-10 mm, sessile.
- Fruits:** Infructescence very much like the inflorescence, i.e. consisting of tightly packed bracts interspersed with pale hairs. Individual fruits slightly more than 1 mm long, enclosed in the persistent perianth segments and bracts.
- Seeds:** Discoid, about 1 mm diameter, testa brown.



# *Alternanthera brasiliana* (L.) Kuntze.

Common Name : Brazilian joyweed  
Family : Amaranthaceae

- Habit:** Herbs or subshrubs, annual or perennial.
- Stem:** Erect, villous, glabrate.
- Leaves:** Sessile; blade ovate to lanceolate, 1-7 × 0.7-1 cm, herbaceous, villous.
- Flowers:** Terminal and axillary, pedunculate; heads white, globose, 0.7-1 cm diameter.
- Fruits:** Utricle, included within tepals, brown, ellipsoid, 2 mm, apex acute.
- Seeds:** Ovoid-oblong, 1.4 mm.



# *Alternanthera paronychioides* A. St.-Hil.

Common Name : Smooth joyweed  
Family : Amaranthaceae

- Habit:** Prostrate, annual creeping herb.
- Stem:** Stem with long crisped hairs on the younger parts.
- Leaves:** Leaf blade is inverted-lance shaped or spatula shaped, 1.5-2 cm long and 0.3-0.5 cm wide, tip obtuse to rounded.
- Flowers:** Stalkless flower-heads are ovoid to spherical, often hairy at base with white papery flowers.
- Fruits:** Utricle orbicular
- Seeds:** Discoid, 1 mm across, faintly reticulate.



# *Alternanthera philoxeroides* (Mart.) Griseb.

Common Name : Alligator weed  
Family : Amaranthaceae

**Habit:** A perennial herb which grows as an emerged, aquatic plant, rooted in the soil or in the substrate below shallow water.

**Stem:** Fistular.

**Leaves:** Dark-green waxy leaves which are lance-shaped and opposite. They are 12-14 cm long and 1.5-2.5 cm wide.

**Flowers:** The inflorescence is white, ball-shaped, 1.5 cm in diameter and papery.

**Seeds:** Disc shaped to flattened wedge shaped, 0.7-0.9 mm diameter, reddish brown, smooth and undulated.

Utricle membranous and rarely open to release the seed. It does not always set viable seed under field conditions, but reproduces vegetatively from axillary buds at each node.



# *Alternanthera pungens* H. B & K.

Common Name : Khaki weed  
Family : Amaranthaceae

- Habit:** A perennial herb with stems prostrate, rarely rising.
- Stem:** About 10-50 cm long, hairy sometimes rooting at the nodes.
- Leaves:** Ovate to obovate, 0.5-4.5 cm long, 0.3-2 cm broad, smooth to sparsely hairy.
- Flowers:** Flowers arise in stalkless, sparsely velvety spikes with spiny bracts and bracteoles.
- Fruits:** 1.2-1.5 mm long, enclosed by the sepals.
- Seeds:** Discoid, 1 mm across, brown.



## *Alternanthera sessilis* (L.) DC.

Common Name : Sessile joyweed  
Family : Amaranthaceae

- Habit:** A prostrate or procumbent, annual or perennial herb.
- Stem:** The stems are generally prostrate, 0.2-1 m high, with strong creeping tap roots, often rooting at the nodes, sometimes floating, creeping or ascending at the tips, cylindrical and slightly hairy, with numerous erect branches.
- Leaves:** Simple, opposite, shortly petiolate or sessile, broadly lanceolate or spatulate to almost linear, 0.6-5 cm long, and 0.3-1 cm wide. They are attenuated at the base, and the apex is acute to blunt, with entire, glabrous or pilose margins.
- Flowers:** Flowers inconspicuous, white, borne in small, axillary, dense, sessile, silvery-white clusters of compressed spikes.
- Fruits:** Utricle cordiform and strongly compressed.
- Seeds:** Dark-brown to black, disc-shaped and shiny, about 0.8-1 mm in diameter.





# *Alysicarpus bupleurifolius* (Linn.) DC.

Common Name : Sweet alyce clover  
Family : Fabaceae

- Habit:** An erect or decumbent-ascending, annual herb.
- Stem:** Glabrous except a line of appressed hairs.
- Leaves:** Linear-lanceolate to oblong, often the lower ones rounded, margins entire.
- Flowers:** Bluish pink in lax terminal racemes.
- Fruits:** Pod stipitate, subterete, glabrous, 4-gonous, 2-6 jointed.
- Seeds:** Ovoid to rounded; smooth olive brown or black.



## *Alysicarpus longifolius* Wight & Arn.

Common Name : Long leaved alyce clover  
Family : Fabaceae

- Habit:** Herbs or subshrubs, annual or perennial.
- Stem:** Slightly striate, glabrous.
- Leaves:** Unifoliolate; petioles 3-10 mm long, leaflets 5-15 cm long, 0.9-1.9 cm broad, oblong or lanceolate, obtuse or subacute, base subcordate, glabrous above, appressly hairy on the nerves beneath.
- Flowers:** Inflorescence dense spicate raceme, 15-30 cm long. Flowers yellow, flushed with red.
- Fruits:** Pods 0.9-1.3 cm long, 2-2.5 mm broad, shortly stalked, slightly moniliform, terete-compressed, 4-6 jointed, minutely pubescent, reticulately veined.
- Seeds:** Ovoid-oblong, 1.4 mm.



## *Alysicarpus monilifer* (L.) DC.

Common Name : Alyce clover  
Family : Fabaceae

- Habit:** Low growing, much branched, annual or perennial herb, 5–50 cm tall.
- Stem:** Much branched, branches pilose, hairs long and spreading.
- Leaves:** Simple; ovate, elliptical or lanceolate, cordate at the base, 2.5–7.5 cm long, prominently nerved, glabrous or sparsely pubescent beneath.
- Flowers:** Racemes spicate, axillary and terminal, 1–15 cm long; flowers lax to dense along racemes.
- Fruits:** Pods distinctly moniliform, 3- to 5-jointed, 1–2 cm long, calyx not longer than first joint; glabrous or sparsely pubescent; articles 2.5–3 mm long and 2–3 mm wide, with a smooth to reticulate surface sculpture.
- Seeds:** Ovoid, smooth, shining brown.



## *Alysicarpus ovalifolius* (Schumach.) J. Leonard.

Common Name : Over-leafed alysicarpus  
Family : Fabaceae

- Habit:** Annual herb, erect-spreading, 20-60 cm tall.
- Stem:** Stiff and pubescent.
- Leaves:** Unifoliolate, leaflets 1-10 cm long, 0.6-3 cm broad, elliptic or oblong to narrowly lanceolate, acute to emarginate, mucronate, puberulous.
- Flowers:** Inflorescence terminal or leaf-opposed or paniculate, peduncle 3-4 cm long. Flowers orange-buff to pink or reddish violet, rarely whitish.
- Fruits:** Pod 1.8-2.5 cm long, 2-8-seeded, not constricted, each 1-seeded part 2.5-4 mm long, 2.0-2.5 mm broad, puberulous.
- Seeds:** Brown, slightly compressed, oblong-ellipsoid.



## *Alysicarpus vaginalis* (L) DC.

Common Name : White moneywort  
Family : Fabaceae

- Habit:** A decumbent-ascending or prostrate perennial herb.
- Stem:** 30-90 cm tall with glabrous branches.
- Leaves:** Simple, variable in size and shape on a single plant, 0.7-4 cm long and 0.7-1.5 cm wide, broadly to narrowly oblong or obovate, base subcordate or truncate, apex acute or emarginate, usually hairy.
- Flowers:** Small, red or pinkish yellow, borne in pairs subtended by a stipule-like bract, in lax, downy, axillary or terminal racemes up to 5 cm long.
- Fruits:** Pods nearly round or cylindrical, up to 2.5 cm long, 6-9-jointed.
- Seeds:** Smooth, brownish-yellow, 2-mm in diameter.



## *Amaranthus spinosus* L.

Common Name : Spiny pigweed  
Family : Amaranthaceae

- Habit:** An erect, branched, annual or perennial herb, varying in colour from green to purple.
- Stem:** 30-60 cm tall with hard, straight, paired axillary spines.
- Leaves:** Long-petioled, oblong, ovate-elliptic or lanceolate, acute or obtuse, base cuneate, generally 1-6 cm long and 0.5-2.6 cm wide.
- Flowers:** Minute, grayish-green, borne in dense axillary clusters or terminal spikes.
- Fruits:** Dehiscent utricle.
- Seeds:** Oblong, 1.0-1.4 mm long, 0.7-1.0 mm wide, black, compressed, shining.



## *Amaranthus viridis* Hook. F.

Common Name : Slender amaranth  
Family : Amaranthaceae

- Habit:** An erect annual herb.
- Stem:** 6 to 100 cm tall, glabrous to pubescent, pubescent especially upwards.
- Leaves:** Glabrous or pubescent on the veins of the lower surface; petioles long (up to 10 cm), occasionally longer than the blade; blade ovate to rhombic-oblong, 2-7 x 1.5-5.5 cm, base tapered to blunt, tip rounded, minutely mucronate, barely to clearly emarginate.
- Flowers:** Green, unisexual, male and female intermixed, in slender axillary to terminal paniculate spikes 2-12 cm long and 2-5 mm wide, or in dense axillary clusters in the lower part of the stem.
- Fruits:** Capsule nearly globose 1.25-1.75 mm long, not rupturing or rupturing irregularly, surface rough.
- Seeds:** 1-1.25 mm, round, slightly compressed, dark brown to black with a paler thick border.



## *Ammannia baccifera* L.

Common Name : Blistering ammannia  
Family : Lythraceae

- Habit:** An erect annual herb.
- Stem:** 10-50 cm tall, somewhat 4-angled, slender, smooth and more or less purplish.
- Leaves:** The leaves are oblong, oblanceolate, or narrowly elliptic, about 3.5 centimeters long; those on the branches are very numerous, small, and 1 to 1.5 centimeters long with narrowed base and pointed or somewhat rounded tip.
- Flowers:** The flowers are small, about 1.2 mm long, greenish or purplish, and borne in dense axillary clusters.
- Fruits:** The capsules are nearly spherical, depressed, about 1.2 mm in diameter, purple, and irregularly circumsciss above the middle.
- Seeds:** The seeds are black.





# *Anagallis arvensis* L.

Common Name : Scarlet pimpernel  
Family : Primulaceae

- Habit:** A low-growing annual, up to 30 cm tall.
- Stem:** Branching, decumbent, repent, or erect, herbaceous, 4-angled, glabrous to pubescent, sometimes rooting at the nodes.
- Leaves:** Opposite, entire, sessile, ovate, to 2 cm long, 1.3 cm broad, clasping or not, with brown speckles below, variously pubescent, margins somewhat tuberculate.
- Flowers:** Solitary flowers arise from the area between the stem and leaves (leaf axils) and occur on relatively long stalks (pedicels); bright blue.
- Fruits:** Capsule, globose.
- Seeds:** 1.3 mm long, trigonous, brown.



## *Andrographis paniculata* Wall.

Common Name : Kalmegh  
Family : Acanthaceae

- Habit:** An annual herb.
- Stem:** Much branched, 0.3-1 m tall; stem and branches sharply quadrangular with longitudinal furrows and wings on the angles of the younger parts.
- Leaves:** Simple, opposite, short-petioled, glabrous, elliptic to lanceolate, narrowed at both ends, acute at apex, 2.5-8 cm long and 2.5 cm wide.
- Flowers:** Flowers small, white with purplish blotches or rose-coloured, borne in lax, spreading terminal and axillary paniced racemes.
- Fruits:** Fruit a linear-oblong, compressed capsule, acute at both ends, 1.9 cm long and 0.3 cm wide.
- Seeds:** Numerous, subquadrate and yellowish-brown.



## *Anisomeles indica* (L.) O. Kuntze.

Common Name : Indian catmint  
Family : Lamiaceae

- Habit:** An erect, camphor-scented, variable herb or woody shrub, up to 2 m tall.
- Stem:** Quadrangular and softy pubescent.
- Leaves:** Thick, broadly ovate, 4-10 cm long and 2-6 cm wide, base rounded or subcordate, apex acute, margins crenate-serrate, hairy to softy pubescent on both sides; petioles 1-7.5 cm long.
- Flowers:** Flowers borne in dense whorls in leaf axils below and in dense, spiked inflorescences, 8-32 cm long above; light purple or dark red with a deep blue lower lip.
- Fruits:** Nutlets 2.5 mm long, broadly ovoid with rounded ends, smooth, polished, turning black when ripe.



## *Anisomeles malabarica* R.Br.

Common Name : Malabar catmint  
Family : Lamiaceae

- Habit:** An erect, aromatic herb, up to 2 m tall.
- Stem:** Softly white tomentose.
- Leaves:** Oblanceolate, serrate, acute or acuminate, base truncate, cartaceous.
- Flowers:** Pink-violet, in axillary and terminal dense spikes.
- Fruits:** Nutlets 2.5 mm long, broadly ovoid with rounded ends, smooth, polished, turning black when ripe.



# *Antigonon leptopus* Hook. & Arn.

Common Name : Coral vine  
Family : Polygonaceae

- Habit:** Climbing perennial vine.
- Stem:** The vine can easily grow to 30-40 ft (9-12 m) in length and uses its tendrils to rapidly climb up, over and upon any nearby object.
- Leaves:** Ovate, heart-shaped and undulate, soft, pronounced veins on underside.
- Flowers:** Inflorescence paniculate, the branches bearing flowers in clusters along the rachis, the rachis tip tendrillate; flowers reddish or light pink, or white. The actual flowers are tiny but the sepals are larger and provide the brilliant colors that range from white to rose-pink to deep coral flowered varieties.
- Fruits:** Achenes conical, sharply 3-angled above.



# *Apluda mutica* L.

Common Name : Mauritian grass  
Family : Poaceae

- Habit:** A rambling perennial grass.
- Stem:** Culm up to 3 m long, rooting from the lower nodes, glabrous, much branched in upper part, branches flexuous.
- Leaves:** Leaf-blades are flat, 5-25 cm long, 2-10 mm wide, cut-off at the tip.
- Flowers:** Inflorescence a leafy panicle, solitary, simple raceme or spike, each enclosed in a spathe. Spikelets in trios, one sessile, two pedicelled.
- Fruits:** Caryopsis ellipsoid.



## *Argemone mexicana* L.

Common Name : Mexican prickly poppy  
Family : Papavaraceae

- Habit:** An erect prickly annual herb.
- Stem:** Up to 1.2 m tall with yellow sap.
- Leaves:** Sessile, with slightly incised undulated margins and white veins, spiny on margins, midrib and veins beneath.
- Flowers:** Yellow, 2.5-7.5 cm in diameter, with 4-6 petals.
- Fruits:** Capsules 2-4 cm long, elliptic or oblong, prickly, rarely unarmed.
- Seeds:** Numerous, small, round, blackish-brown, deeply reticulate and pitted.



## *Arundo donax* (L.)

Common Name : Giant reed  
Family : Poaceae

- Habit:** A very tall and robust, bamboo-like, perennial grass.
- Stem:** Spreading clumps of thick culms.
- Leaves:** 30-60 cm long, 5 cm wide, arranged conspicuously in two opposite ranks on the culms. The margins are sharp to touch.
- Flowers:** Inflorescence is a 30-60 cm long, purplish, aging to silver, plume that stands above the foliage.





## *Asphodelus tenuifolius* Cav.

Common Name : Onion weed  
Family : Liliaceae

- Habit:** An annual, slender herb with a short root stock.
- Stem:** Erect, hollow, cylindrical stem up to 50 cm high, shorter than scape.
- Leaves:** Numerous, all basal, hollow, slender, gradually acuminate to a point, 10 to 40 cm long the base sheathing, smooth to minutely hairy, seeming to rise as a 'bunch' from the soil, usually shorter than scapes.
- Flowers:** Scapes many from the base, much branched, 30-60 cm. Flowers laxly racemose, light purple, with white fading.
- Fruits:** Capsule globose, faintly 3-gonous
- Seeds:** Triangular, pitted, black grayish in color, 2-3 mm long, finely and shortly papillose.



## *Asteracantha longifolia* (L.) Nees.

Common Name : Waterleaf  
Family : Acanthaceae

- Habit:** An erect, thorny, strigose-hispid herb; up to 60 cm tall.
- Stem:** The stem is square and thickened at nodes and hairy. The bark is dark brown.
- Leaves:** Whorled, lanceolate, dentate, acuminate, base cuneate, scabrous, sub-sessile.
- Flowers:** Pink or blue-purple; sessile, in axillary whorls, surrounded by yellowish stiff spines.
- Fruits:** Capsule 1 cm. long, linear oblong, pointed glabrous, and about 8 seeded.



## *Asystasia gangetica* T. Anders.

Common Name : Ganges primrose  
Family : Acanthaceae

- Habit:** Suberect to climbing subshrub.
- Stem:** 4-angled with pilose to glabrescent twigs.
- Leaves:** Lamina elliptic-ovate to deltoid, 2-5 x 1.5-3.5 cm with up to 2 cm long petiole, grey-pubescent to glabrate, base truncate to rounded, the margins crenulate to entire, apically acute or shortly acuminate.
- Flowers:** Flowers in terminal, 1-sided, lax raceme; yellow to creamy-white with purple streaks on throat.
- Fruits:** Capsule oblong, up to 2.8 cm long including stipe, pubescent, 4-seeded.
- Seeds:** Irregularly obovate, 3-5 x 0.5-3 mm, tuberculate rugose.



## *Atylosia scarabaeoides* (L.) Benth.

Common Name : Showy pigeonpea  
Family : Fabaceae

- Habit:** A perennial climber or trailer, forming thick mats.
- Stem:** Stems often reddish, covered with short, ferruginous pubescence. Root-stocks woody and slender.
- Leaves:** Trifoliate, leaflets up to 4.5 cm long and 2.2 cm wide, elliptic to elliptic-oblong, acute to obtuse, subcoriaceous, grey-pubescent and strongly nerved beneath.
- Flowers:** Yellow, 0.8 cm long, in 1-2 cm long corymbose racemes, or reduced to 1-2 on short peduncles.
- Fruits:** Pods up to 2.5 cm long and 6 mm wide, densely clothed with golden, appressed hairs, 2-6 seeded.
- Seeds:** 5 mm long and 3 mm wide, reddish, mottled brown or black.



## *Avena ludoviciana* (L.) Nees.

Common Name : Wild oat  
Family : Poaceae

- Habit:** An annual tufted grass with erect culms.
- Stem:** Culm height varies from 25 to 120 cm.
- Leaves:** Blades are coloured dark green, grow up to 40 cm and show a membraneous ligule, which is 1-6 mm long and often irregularly toothed. Sheaths are smooth or slightly hairy, especially in younger plants.
- Flowers:** The inflorescence is a loose, open panicle with 2-3-flowered pedicelled spikelets. As a specific trait of *Avena* species, lemmas have 2-3 awns arising from the back which are mostly dark-coloured, bent and 3-4 cm long. Each of the 2-3 florets has an oval abscission scar at its base, causing them to fall separately.
- Grains:** 6-8 mm long.



## *Axonopus compressus* (Sw.) Beauv.

Common Name : Blanket grass  
Family : Poaceae

- Habit:** A creeping, stoloniferous, perennial grass.
- Stem:** Culms erect, 15 to 16 cm high, solid, laterally compressed, the stolons strongly branched, rooting at each node.
- Leaves:** Leaf sheaths strongly compressed, finely hairy along the outer margin, otherwise smooth, the nodes densely pubescent; ligule very short, fringed with short hairs; blade lanceolate, flat, 4 to 15 cm long, 2.5 to 15 mm wide, with broadly rounded base and blunt apex, often fringed with hairs;
- Flowers:** Inflorescence with slender peduncles, two to four, seldom eight, developing successively, the secondary and succeeding inflorescences remaining hidden inside the sheath but ultimately projecting beyond the sheath. Peduncle smooth, bearing at its apex two slender, one-sided spikes, usually 5 to 8 cm long, often with a third below them, rarely a fourth.
- Fruits:** Spikelets oblong, rather acute, 2 to 2.5 mm long, 1 to 1.25 mm wide, pale green or tinged with purple, solitary on alternate sides of rachis and forming two rows, ciliate on the margins.
- Grains:** Caryopsis yellowish brown, about 1.25 mm long.



## *Barleria cristata* L.

Common Name : Crested Philippine violet  
Family : Acanthaceae

- Habit:** An erect or diffuse herb, up to 1 m tall.
- Stem:** Appressed hairy, densely hairy at the nodes; branches and bracteoles spiny.
- Leaves:** Elliptic-oblong to lanceolate, 6.3-13 cm long and 2.5-4.5 cm wide, acute or acuminate, hairy on both sides.
- Flowers:** Bluish-purple, pink or white, pubescent outside, born in 1-4 flowered axillary and terminal spikes.
- Fruits:** Capsules 1.6 cm long, ellipsoid or ablong, acute at both ends, 4-seeded.
- Seeds:** 4 mm in diameter, orbicular, compressed, silky-hairy.



## *Barleria prionitis* L.

Common Name : Porcupine flower  
Family : Acanthaceae

- Habit:** A much-branched, perennial, usually prickly shrub, up to 3 m tall.
- Stem:** With whitish stems and rounded branches.
- Leaves:** Opposite, elliptic, acuminate, lineolate, bristle-tipped, entire, 9-18 cm long and 2.5-5.7 cm wide, glabrous above, young leaves often pubescent beneath.
- Flowers:** Orange-yellow or cream-coloured, sessile, borne in axillary foliaceous bristle-tipped bracts.
- Fruits:** Capsules ovoid, 1.8-2.5 cm long with a tapering beak, 2-seeded.
- Seeds:** Compressed, ovate, clothed with silky appressed hairs.





## *Bergia ammannioides* Hayne ex Roth.

Common Name : Jerry water-fire  
Family : Elatinaceae

- Habit:** Annual, 8-35 cm tall, erect or somewhat decumbent, branched herb of moist places.
- Stem:** Stem and branches mostly pinkish, glandular pubescent, rarely sub-glabrous.
- Leaves:** Opposite, subsessile or shortly petiolate, oblong-obovate, elliptic oblong, lanceolate or oblanceolate, 4-25 mm long, 2-15 mm broad, apex acute, margin minutely and distinctly serrate, glandular pubescent or almost glabrous.
- Flowers:** Inflorescence dense or loose axillary fasciculate cyme of 6-12 or more flowers. Flowers reddish.
- Fruits:** Capsule reddish, ovoid or subglobose, margins of the valves incurved.
- Seeds:** Seeds minute, with rounded ends, dark brown, shining, somewhat reticulate.



## *Bergia capensis* L.

Common Name : Cape ash  
Family : Elatinaceae

- Habit:** Herbs annual, 15-30 cm tall.
- Stem:** Prostrate and rooting in lower part, terete, slightly fleshy, glabrous; branches erect.
- Leaves:** Leaf blade elliptic-lanceolate, obovate-lanceolate, or obovate, 1-4 × 0.2-1 cm, papery, base acuminate, margin minutely serrulate or subentire, apex acute or attenuate.
- Flowers:** Flowers arranged into small, axillary cymes, subsessile or with short pedicel 1-5 mm, very small, pink.
- Fruits:** Capsule subglobose, 1.8 mm in diameter, longitudinally 5-grooved, 5-septicidal.
- Seeds:** Oblong, minute, angular or transversely striate.



## *Bidens pilosa* L.

Common Name : Spanish needles  
Family : Asteraceae

- Habit:** An erect, simple or much-branched annual or perennial herb, 60-90 cm tall.
- Stem:** Glabrous or more or less pubescent, quadrangular, grooved; branches opposite.
- Leaves:** Very variable, sometimes trifoliate, but usually consisting of 2 sub opposite pairs of leaflets and a larger, deeply 3-lobed, terminal leaflets.
- Flowers:** The inflorescence is an isolated or grouped pedunculated capitula, emerging from the leaf axil. Heads borne singly at the ends of long, slender, nearly leafless branches; narrow, discoid, the disk 4-6 mm wide at anthesis; ray florets white or pale-yellow and disk florets yellow.
- Fruits:** Achenes 0.8-1.7 cm long, linear, quadrangular, slightly tapering towards the apex, black, glabrous, bearing a few pale stiff hairs on the angles in the upper part; pappus bristles 2-4, straw-coloured, 2-3 mm long.



## *Biophytum sensitivum* (L.) Don.

Common Name : Life plant  
Family : Oxalidaceae

- Habit:** An annual herb, up to 25 cm tall.
- Stem:** Slender, erect with a rosette of leaves at top.
- Leaves:** Sensitive to touch, pinnately compound. Crowded into a rosette atop the stem, 3.8-12.7 cm long, leaflets 3-12 pairs, opposite, oblong, the terminal pair is the largest.
- Flowers:** Dimorphic, yellow, 0.8 cm across, on peduncles of varying lengths up to 10 cm.
- Fruits:** Capsules globose or elliptic, shining, 5-valved, approximately 3.5 mm long.
- Seeds:** Minute with obliquely transverse tubercled ridges.



## *Blainvillea acmella* (L.) Philipson.

Common Name : Para cress flower  
Family : Asteraceae

- Habit:** An erect herb, 0.3-1.2 m high.
- Stem:** Much branched, bristly-hairy.
- Leaves:** Elliptic to ovate, up to 12 cm long, 8 cm wide, base wedge-shaped, margins serrate-crenate, tip sharp, 3-veined from base, bristly-hairy.
- Flowers:** Flower heads are slightly elongated, bell-shaped. Ray florets are whitish, 35 in number, irregularly 3-parted, 10-12 mm long. Disc florets whitish, 5-parted, 3-4 mm long.
- Fruits:** Achenes are narrowly obovoid, 35 mm long, pappus of weak bristles up to 1 mm long, on the edge of a shallow cup.



## *Blepharis maderaspatensis* (L.) Roth.

Common Name : Creeping Blepharis  
Family : Acanthaceae

- Habit:** A small pubescent herb.
- Stem:** Wiry prostrate stems, rooting at the nodes.
- Leaves:** Leaves in whorls of 4, unequal-sided, elliptic to obovate, 2.5-5 cm long.
- Flowers:** White, pink or pale blue with a yellow spot on the lower lip, borne solitary or in clusters of 2-3 in leaf axils, surrounded by white membranous bracts with green veins, the apical margins of which are furnished with hairy bristles.
- Fruits:** An ovoid capsule, 0.6-0.8 cm long, 2-seeded.



## *Blumea lacera* (Burm.f) DC.

Common Name : Malay blumea  
Family : Asteraceae

**Habit:** An erect, glandular, annual herb with a strong odor.

**Stem:** Simple or branched, hairy, very leafy and 1-2 ft in height.

**Leaves:** Obovate or oblanceolate, 5-12 cm long, 2-6 cm wide, smaller towards the top, stalked, and toothed or (rarely) lobulated at the margins.

**Flowers:** The bright yellow flowering heads are about 8 mm across, borne on short axillary cymes, and collected in terminal, spike-like panicles.

**Fruits:** The achenes are not ribbed, somewhat 4-angled and smooth.



## *Blumea oxyodonta* DC.

Common Name : Spiny leaved blumea  
Family : Asteraceae

- Habit:** Perennial herb, 15-40 cm high.
- Stem:** Stems usually numerous, prostrate or ascending, finely pubescent.
- Leaves:** Sessile, elliptic to obovate, 1-5 × 0.5-1.5 cm, both surfaces sparsely to densely villous and stipitate glandular, base cuneate, margin with a few sharp subspinose teeth, apex acute.
- Flowers:** Capitula few in terminal and axillary panicles; yellow.
- Fruits:** Achenes white, unribbed, 0.6 mm long; pappus white, 3-4 mm.





## *Blumea wightiana* DC.

Common Name : Soft blumea  
Family : Asteraceae

- Habit:** An aromatic herb, growing up to 80 cm tall.
- Stem:** Erect, simple or branched from the base, glandular-hairy.
- Leaves:** Ovate-oblong, 1–9.5 cm long, 0.6–5 cm wide, sharply toothed, densely silky hairy on both surfaces, upper leaves smaller, acute to apiculate, base acute, sessile, lower leaves rounded or obtuse, base tapering, petiolate.
- Flowers:** Rose to pink flowers are borne in dense flat-topped clusters. Flower-heads are bell-shaped.
- Fruits:** Achenes oblong, 0.5 mm long, sparsely to densely hairy; pappus white, 2–4 mm long.



## *Boerhavia diffusa* L.

Common Name : Red spiderling  
Family : Nyctaginaceae

**Habit:** A very variable, diffusely branched, pubescent or glabrous, prostrate herb.

**Stem:** Creeping, often purplish, swollen at the nodes, up to 1.2 m long with a stout woody root stock.

**Leaves:** Long-petioled, ovate or oblong-cordate, entire or sinuate, usually whitish and smooth beneath and rough green on upper surface.

**Flowers:** Flowers red, pink or white, borne in small umbels arranged in axillary and terminal panicles.

**Fruits:** Ovate, oblong, 1.3 cm long, five-ribbed, pubescent, viscid, glandular.



## *Boerhavia erecta* L.

Common Name : Erect spiderling  
Family : Nyctaginaceae

- Habit:** Perennial, erect herb, up to 1 m tall.
- Stem:** Terete, thickened at nodes, green or purple, commonly sticky.
- Leaves:** Leaves in unequal pairs, petiolate, glandular, finely hairy, 10-40 x 5-25 mm (larger leaves), and 5-30 x 4-20 mm (smaller leaves).
- Flowers:** Inflorescence of axillary and terminal panicles, or umbel-like, with 3-9 flowers per group; flowers white to pink.
- Fruits:** 4 mm long, thin-walled, ribbed, becoming sticky when wet.
- Seeds:** Club-shaped, longitudinally-ribbed.



## *Borreria hispida* (L.) K. Schum.

Common Name : Shaggy buttonweed  
Family : Rubiaceae

- Habit:** A procumbent herb with a stout taproot.
- Stem:** Quadrangular, hirsute, hispid or subglabrous, usually with long internodes.
- Leaves:** Leaves sessile, 1.3-5 cm long and 0.8-2 cm wide, oblong or elliptic, apex acute, scabrid, pubescent or nearly glabrous with scabrid or ciliate margins.
- Flowers:** Blue, pale mauve or white, 4-6 together in a whorl within a stipular cup.
- Fruits:** Capsules 5 mm long, hard, usually hairy, ellipsoid, rounded at both ends.
- Seeds:** 3-4 mm long, oblong or ovoid, ventrally grooved, granulate, brown.



## *Borreria pusilla* (Wall.) DC.

Common Name : Tiny false buttonweed  
Family : Rubiaceae

- Habit:** Annual herb, 5-20 cm tall.
- Stem:** Mostly unbranched, quadrangular, angles scabrid.
- Leaves:** Opposite and verticillate, 2-5 x 0.5-0.7 cm linear or narrowly elliptic, more or less sessile, acute and attenuate, margin and midrib beneath scabrid, with 2-3 pairs of lateral nerves.
- Flowers:** Inflorescence axillary with dense globose heads, 5-10 mm in diameter; flowers white.
- Fruits:** Capsule 2-2.5 mm long, narrowed at base, pubescent above, glabrous below.
- Seeds:** Polished, shining, 1.75-2 x 0.7 mm.



## *Brachiaria deflexa* (Schumach.) Robyns

Common Name : Annual brachiaria  
Family : Poaceae

- Habit:** Tufted annual, 15-125 cm high.
- Stem:** Weak, ascending, culms.
- Leaves:** Leaf-blades flat, 4-25 cm long and 4-22 mm wide, rounded to the base.
- Flowers:** Inflorescence a false panicle of 4-24 often compound racemes on an axis, 5-18.5 cm long, racemes 2-10 cm in length with a triquetrous rhachis.
- Fruits:** Spikelets pedicelled, borne in pairs, one of a pair on a longer pedicel (up to 15 mm long) than the other; spikelets broadly elliptic, glabrous to pubescent 2.5-3.5 mm long with a short stipe up to 0.5 mm long.



## *Brachiaria erusiformis* (J.E.Smith) Griseb.

Common Name : Sweet signal grass  
Family : Poaceae

- Habit:** Annual grass.
- Stem:** Spreading culms rooting at the lower nodes. Flowering culms up to 45 cm high.
- Leaves:** Blades slightly hairy, flat, usually less than 7 cm long and only up to 4.5 mm wide.
- Flowers:** Panicle 5-7 cm long with several appressed to ascending racemes up to 2.3 cm long; rachis pubescent.
- Fruits:** Spikelets about 2.5 mm long, slightly hairy.



## *Brachiaria ramosa* (L.) Stapf.

Common Name : Browntop millet.  
Family : Poaceae

- Habit:** Annual, mostly 10-70 cm tall.
- Stem:** Angular, ribbed, thickened above the node, more or less densely hairy.
- Leaves:** Flat, lanceolate leaf-blades 2-25 cm long and 4-25 mm wide.
- Flowers:** Inflorescence of 3-25 racemes on an axis, 3-10 cm long. Racemes, 1-10 cm in length, the longer ones branched, bearing paired short pedicelled spikelets on a triquetrous rhachis.
- Fruits:** Spikelets elliptic, 2.5-3.5 mm long, acute to cuspidate.





## *Brachiaria reptans* Gard. & Hubb.

Common Name : Running grass  
Family : Poaceae

- Habit:** Annual grass.
- Stem:** Usually with decumbent stems, rooting at the nodes; culms 15-60 cm high.
- Leaves:** Leaf-blades narrowly lanceolate to lanceolate, 2-7 cm long, 3-15 mm wide.
- Flowers:** Inflorescence of 5-15 racemes on an axis, 1-8 cm long; racemes 14 cm long, bearing paired spikelets crowded on a triquetrous rhachis with hirsute pedicels.
- Fruits:** Spikelets narrowly ovate to broadly elliptic, 1.5-2.2 mm long, glabrous, acute, without a stipe.



## *Cabomba aquatica* (Piotr Kuczynski)

Common Name : Yellow cabomba  
Family : Cabombaceae

- Habit:** Submersed and floating-leaved aquatic plant.
- Stem:** Stems emerge at intervals from slender roots.
- Leaves:** Lamina of the floating leaves peltate, broadly elliptic to ovate, margins entire. Divisions of submerged leaves three-dimensionally ramifid, non-planar, terminal divisions narrow and linear. Young floating leaves raised 0.5 cm above surface of water by thick petiole
- Flowers:** Solitary, raised above the water surface on a long pedicel; yellow



## *Caesulia axillaries* Roxb.

Common Name : Pink node flower  
Family : Asteraceae

- Habit:** Glabrous, erect or decumbent herb.
- Stem:** 15-45 cm tall.
- Leaves:** 5-15 cm long, lanceolate-oblong or narrowly lanceolate, semi-amplexicaul.
- Flowers:** Pale blue, lilac or white in globose, compound heads.
- Fruits:** Achenes obovoid, dark brown, ribbed, flattened.



## *Calotropis gigantea* (L.) Aiton.

Common Name : Crown flower  
Family : Asclepiadaceae

- Habit:** Large shrub, which looks like a small tree; up to 5 m tall.
- Stem:** Woody with yellowish-white bark. Young stems and branches covered with soft, loosely appressed, whitish, waxy or some times powdery pubescence.
- Leaves:** Fleshy, obovate or obovate-oblong, apex acute, rarely rounded, base cordate, 6-20 cm long and 3-8 cm wide, glaucous green, smooth above, cottony below.
- Flowers:** 14-15 mm long and 3-4.5 cm in diameter; clusters of waxy flowers that are either white or lavender in colour. Each flower consists of five pointed petals and a small, elegant "crown" rising from the centre.
- Fruits:** A follicle.
- Seeds:** Broadly ovate, flattened, brown in color 2.5-3.2 cm long including the white tuft of hairs at the pointed end.



## *Calotropis procera* (Aiton) Dryand. ex.

Common Name : Swallo-wort  
Family : Asclepiadaceae

- Habit:** A hardy, erect, pubescent evergreen shrub.
- Stem:** Angular, ribbed, thickened above the node, more or less densely hairy.
- Leaves:** Leaves sessile, broadly ovate, ovate-oblong, elliptic or obovate, acute or mucronate, slightly cordate and auricled at base, cottony-pubescent when young, glabrous when full-grown, 5-23 cm long and 4-9 cm wide, pale green above, white tawny beneath.
- Flowers:** White to pink, tinged with purple.
- Fruits:** Follicle subglobose, ellipsoid or ovoid, recurved, generally 10-14 cm long.
- Seeds:** Numerous, ovoid, acute narrowly margined, light brown, with a white tuft of silky hair (coma) at the pointed end.



## *Cannabis sativa* L.

Common Name : Hemp  
Family : Cannabaceae

- Habit:** Annual herb, usually erect; up to 5 m tall.
- Stem:** Stems variable, with resinous pubescence, angular, sometimes hollow.
- Leaves:** Basal leaves opposite, the upper leaves alternate, stipulate, long petiolate, palmate, with 3-11, rarely single, lanceolate, serrate, acuminate leaflets up to 10 cm long, 1.5 cm broad.
- Flowers:** Flowers monoecious or dioecious, the male in axillary and terminal panicles, apetalous; female flowers in the axils and terminally with 5 yellowish petals.
- Fruits:** A brown, shining achene, variously marked or plain.



## *Cardamine hirsuta* L.

Common Name : Hairy bittercress  
Family : Brassicaceae

- Habit:** An erect annual or biennial herb, up to 40 cm high.
- Stem:** Stem arise from basal rosette of leaves; glabrous, green or sometimes purplish.
- Leaves:** Leaf has about 5-7 roundish, sometimes stalked leaflets on each side and a larger one at the end.
- Flowers:** Occurs in clusters at the end of the flowering stem; small, white.
- Fruits:** Siliqua noticeably overtop the unopened flowers; narrow, compressed.



# *Cardiospermum halicacabum* L.

Common Name : Balloonvine  
Family : Sapindaceae

- Habit:** An annual or sometimes perennial climber.
- Stem:** Pubescent.
- Leaves:** Leaves alternate, deltoid, biternate, 3-8 cm long, petioles 2-3.8 cm long; leaflets deeply dentate or lobed, acuminate, lateral leaflets oblong or ovate, terminal leaflets rhomboid-lanceolate.
- Flowers:** Flowers white, 3-4 mm long, in few-flowered umbellate cymes, with a pair of peduncles modified into tendrils.
- Fruits:** Capsules depressed-pyriform, 3-valved, covered with bladder-like calyx, winged at the angles.
- Seeds:** Globose, black, smooth, 4-6 mm in diameter, with a small white, heart-shaped aril.





## *Cassia absus* L.

Common Name : Pig's senna  
Family : Fabaceae

- Habit:** An erect annual herb.
- Stem:** 15-60 cm tall, stems and branches covered with grey, bristly, viscous hairs.
- Leaves:** Leaves paripinnate; rachis bearing a linear gland between leaflets of one or both pairs; leaflets 2 pairs, membranous, 1.6-4 cm long and 0.8-2.5 cm wide (the terminal pair the largest), elliptic to elliptic-obovate, apex rounded, base asymmetrical.
- Flowers:** Yellow or reddish-yellow, borne in narrow leaf-opposed, few-flowered racemes, 2-13 cm long.
- Fruits:** Pods compressed, thin, linear oblong, 2.5-4.5 cm long, clothed with bristly hairs, elastically dehiscent.
- Seeds:** 5-8 per pod, obovate or rhombic, dark brown, shining.



## *Cassia mimosoides* L.

Common Name : Feather-leaved cassia  
Family : Fabaceae

- Habit:** A diffuse, erect, annual or perennial herb.
- Stem:** Up to 1 m high, pubescent.
- Leaves:** Leaves 4-10 cm long, with a concave gland just below the lowest pair of leaflets; upper surface of rachis usually serrate-or crenate between the leaflets; leaflets generally 30-50 pairs, crowded, overlapping, linear-oblong, rigidly coriaceous, 2-9 mm long and 0.5-2 mm wide, apex acute, mucronate.
- Flowers:** Yellow, solitary or in groups of 2-3, axillary.
- Fruits:** Pods flat, linear or linear-oblong, moderately pubescent, dehiscent, about 3.5 cm long and 0.6 cm wide.
- Seeds:** Brown, rhombic, 2-4 mm long and 1-2 mm wide.



## *Cassia occidentalis* (L.) Link.

Common Name : Coffee senna  
Family : Fabaceae

- Habit:** An erect, fetid, woody herb or undershrub.
- Stem:** 60-150 cm tall, smooth, purplish or green.
- Leaves:** Alternate, pinnate, 15-20 cm long, stipulate with a sessile dark brown gland near the base of the petiole; leaflets 3-5 pairs, opposite, short-stalked, membranous, ovate or lanceolate, 3-9 cm long and 1.5-4 cm wide, base rounded, apex acute or attenuate, glabrous above, glaucous beneath.
- Flowers:** Yellow, in short, few-flowered axillary or terminal racemes.
- Fruits:** Pods recurved, glabrous, compressed, 10-13 cm long and 0.8 cm wide.
- Seeds:** Dark olive-green, ovoid, compressed, smooth, hard, shiny seeds, 6 mm long and 4 mm wide.



## *Cassia pumila* Lam.

Common Name : Dwarf cassia  
Family : Fabaceae

- Habit:** A prostrate, suberect or erect herb.
- Stem:** Numerous, spreading, 30 cm long; branches slender, clothed with white hairs.
- Leaves:** Leaves 2-5 cm long, rachis hairy, common petiole 3-4 mm long with a stalked gland on the petiole below; leaflets 10-20 pairs, 6-13 mm long and 2.5-3 mm wide, linear-oblong, very unequal-sided, apex rounded and apiculate, nerves conspicuous beneath.
- Flowers:** Yellow, usually solitary or 2-3 together, supra-axillary; pedicels very short and slender.
- Fruits:** Pods 2.5-3.8 cm long and 0.4-0.5 cm wide, with oblique partitions between the seeds, linear, flat, glabrous or with a few scattered hairs.
- Seeds:** Brown, obovoid-cuneate, compressed, rectangular, shiny.



## *Cassia tora* (L.) Roxb.

Common Name : Sicklepod  
Family : Fabaceae

- Habit:** A fetid, annual herb or undershrub.
- Stem:** 0.3-1 m tall with glabrous branches.
- Leaves:** Leaves 6-12.5 cm long; leaflets in 2-4 opposite pairs with a conical gland between each of the two lowest pairs of leaflets; blades 1.5-5 cm long and 1.5-2.5 cm wide, membranous, ovate-oblong, apex acute to subacute, often mucronate, base acute to asymmetrically rounded.
- Flowers:** Usually in pairs, on very short axillary peduncle; pale yellow, upper petal 2-lobed and the others entire.
- Fruits:** Pods stout, 4-angled, 15-25 cm long, containing 25-30 seeds.
- Seeds:** 4-5 mm long, rhomboidal, yellowish brown to tan red, shiny.



## *Catharanthus pusillus* (Murr.) G. Don.

Common Name : Tiny periwinkle  
Family : Apocynaceae

- Habit:** An erect, glabrous annual herb.
- Stem:** Up to 60 cm tall, much branched with 4-angled branches.
- Leaves:** Leaves lanceolate, 2-7 cm long and 0.5-2 cm wide, apex acuminate; petioles 1.5-5 mm long.
- Flowers:** Solitary or in pairs, white.
- Fruits:** Small, divaricate, membranous follicles, in pairs.
- Seeds:** Subcylindrical, black and ribbed.



## *Cayratia trifolia* (L.) Domin.

Common Name : Bush Grape  
Family : Vitaceae

- Habit:** A perennial climber.
- Stem:** Up to 7 m long and 4.5 cm in diameter; stems woody at the base only.
- Leaves:** Alternate, trifoliate; tendrils slender, leaf-opposed; leaflets thick, generally 3.8-5.7 cm long and 2.2-3.2 cm wide, ovate-lanceolate to obovate or rotund-ovate, apex acute, mucronate, base rounded, obtuse or acute, margins crenate to serrate, more or less pubescent on both surfaces.
- Flowers:** Borne in branched, divaricate, pubescent, long-peduncled, axillary or terminal cymes, up to 8 cm long and broad.
- Fruits:** Berries white, globose or turbinate, fleshy, 1.2-2 cm long, 2-4 seeded.
- Seeds:** Triangular, rounded and rugose on the back, cuneate on the face.



## *Celosia argentea* L.

Common Name : Cock's comb  
Family : Amaranthaceae

- Habit:** An erect annual herb.
- Stem:** Up to 1 m tall with angular stems and grooved branched.
- Leaves:** Linear-lanceolate to elliptic-lanceolate, acuminate, narrowed at the base, entire, up to 12 cm long and 4 cm wide.
- Flowers:** White or pink, glistening, borne in feathery, conical to cylindrical spikes.
- Fruits:** Membranous utricle.
- Seeds:** 1.3-1.5 mm long, 1.0-1.2 mm wide, glossy black, slightly reticulate.





## *Centella asiatica* L.

Common Name : Asiatic pennywort  
Family : Apiaceae

- Habit:** Perennial herb.
- Stem:** Prostrate, slender, creeping with long stolans and nearly glabrous or hairy on young parts.
- Leaves:** Cordate or hastate or orbicular or reniform or sub entire or palmately lobed consisting of long petiole and small stipules. Leaf blades are dentate, crenate with thick radiate veins and dark green in color. Leaves are glabrous on both surfaces.
- Flowers:** Inflorescence simple umbel of 3 – 6 flowers at the ends of slender peduncles arising from the axils of leaves and much shorter than petioles supported below by an involucre of 2–boat shaped membranous persistent bracts. Flowers are small, sessile and dark pink in color.
- Fruits:** Carpels oblong, sub-cylindric, curved and less in length, much laterally compressed, readily separating into 2 indehiscent halves (mericarps) united by a very narrow plane of junction.



## *Centrosema pubescens* Benth.

Common Name : Butterfly pea.  
Family : Fabaceae

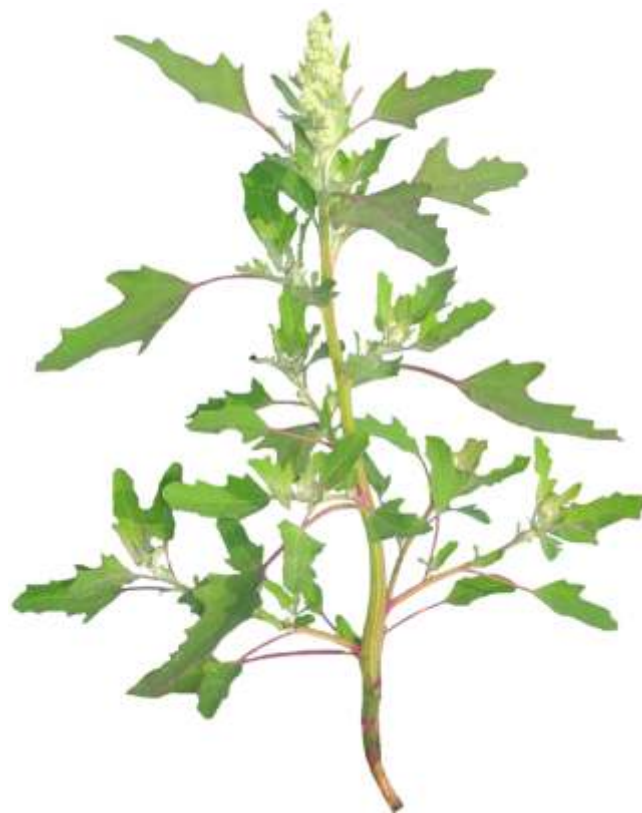
- Habit:** Vigorous, trailing, twining and climbing perennial herb.
- Stem:** Very leafy and slightly hairy.
- Leaves:** Trifoliate; leaflets dark green elliptic or ovate-elliptic, obtuse or shortly obtusely acuminate, about 4 x 3.5 cm, slightly hairy, especially on the lower surface. Stipules long, persistent.
- Flowers:** Large and showy, borne in axillary racemes. Each flower has two striate bracteoles. Flowers bright or pale lilac on either side of a median greenish-yellow band with numerous dark violet stripes or blotches.
- Fruits:** Pod linear with prominent margins, 7.5 to 15 cm long, flat, thick, straight or slightly twisted, acuminate, dark brown when ripe, containing up to 20 seeds.
- Seeds:** Shortly oblong to squarish with rounded corners, 4-5 x 3-4 mm, brownish-black, mottled darker blotches.



## *Chenopodium album* L.

Common Name : Common lambsquarter  
Family : Chenopodiaceae

- Habit:** A polymorphous, non-aromatic, erect herb.
- Stem:** 0.3-3 m tall with angled stems that are often striped green, red or purple, clammy to the touch.
- Leaves:** Leaves very variable in size and shape, rhomboid, deltoid to lanceolate, upper leaves entire, lower ones toothed or irregularly lobes, 10-15 cm long, with petioles often as long as leafblades.
- Flowers:** Green, borne in clusters forming a compact or loosely paniced axillary spike.
- Fruits:** Utricle.
- Seeds:** Round, compressed, black and shining.



# *Chenopodium murale* L.

Common Name : Nettle-leaved goosefoot  
Family : Chenopodiaceae

- Habit:** An erect or prostrate and ascending, bushy, rather stout, herbaceous annual, up to 90 cm high.
- Stem:** Usually branched from the base, branches ascending; glabrous to sparsely farinose. stems occasionally red-striped.
- Leaves:** Alternate along the stems, dark green; 1-10 cm long, 1-5.5 cm wide, deltoid to rhombic-ovate, apex acute or obtuse, base cuneate to truncate or subcordate, margins coarsely and irregularly sinuate-dentate or laciniate.
- Flowers:** Flowers in small glomerules, in lax or dense axillary and terminal, short, cymose panicles, some arising from the lower leaf axils. Flower clusters covered with a mealy substance.
- Fruits:** Utricle with membranous pericarp; pericarp adherent to seed.
- Seeds:** Horizontal, tiny, about 1.5 mm in diameter, lens-shaped/disk-shaped, margins acute with conspicuous thin rim, dull black, surface finely, shallowly punctulate.



## *Chloris barbata* Sw.

Common Name : Purple chloris  
Family : Poaceae

- Habit:** A tufted, erect, annual or short-lived perennial grass.
- Stem:** 0.3-1.0 m or more tall, largely glabrous. The erect and branching stems, which are sometimes bent at the base, are smooth and usually flattened. They are purple or pink at the base, simple or branched, 3-5-noded, rooting at the lower nodes.
- Leaves:** The leaf blades are flat and narrow, linear-lanceolate, 10-20 cm long, 2-3 mm wide and usually bluish-green with rough edges. The sheaths are smooth and 2-6 cm long; The ligule is 0.5-1.0 mm long, membraneous and fringed with short hairs.
- Flowers:** A whorl of 5-15 digitate spikes which are densely clustered. The spikes are usually ascending, purple and 5-8 cm long with three-flowered spikelets (one fertile flower). These are purplish and densely overlapping, with three slender awns.
- Grain:** Pale brown, tapering at both ends and 1-2 mm long, enclosed within the persistent lemma and palea.



# *Chromolaena odorata* L. R.M. King & H. Rob

Common Name : Siam weed  
Family : Asteraceae

- Habit:** A herbaceous to woody perennial with a bushy habit which forms a very dense thicket.
- Stem:** Up to 2 m tall. Terete and become woody. Twigs are slightly striolate longitudinally, pubescent, opposite-decussate.
- Leaves:** Simple, opposite-decussate and without stipules. They are rhomboid-ovate to ovate with an acute apex and a cuneate base. The blades are trinerved a few millimetres after the base, roughly crenate-serrate beyond their maximum breadth, slightly pubescent above and pubescent with numerous small yellow dots below.
- Flowers:** Capitula are grouped in 1, 3 or 5 convex trichotomic corymbs, 5-10 cm in diameter, at the end of the twigs. Colour ranges from pale-lilac to white.
- Fruit:** Cypsela is composed of a 3-4-mm-long fusiform blackish achene, with five beige barbelate ribs, overtopped by a pappus of about 30 barbelate beige capillary bristles which are 4-5 mm long.



# *Chrozophora plicata* (Vahl) A. Juss. ex Spreng

Common Name : Giradol  
Family : Euphorbiaceae

- Habit:** Prostrate or more or less erect, annual or perennial herb, up to 50 cm.
- Stem:** Branched. Most parts densely covered in greyish stellate hairs.
- Leaves:** Rhombic-ovate, up to 7 × 5 cm with a long petiole, plicate-undulate, especially when young, 3-5 veined from the base with 2 dark purple glands at the base; margin more or less entire or obscurely toothed.
- Flowers:** Flowers in leaf-opposed or pseudo-axillary inflorescence, covered in stellate hairs, unisexual. Male flowers orange-yellow or pinkish; female flowers, crimson-red.
- Fruits:** 5 × 9 mm, 3-lobed, densely covered in stellate hairs, reddish or bluish-purple when ripe.



## *Chrozophora rottleri* Klotzsch.

Common Name : Rottler's chrozophora  
Family : Euphorbiaceae

- Habit:** An erect herb, up to 60 cm high.
- Stem:** Lower part of stem is naked, upper part hairy.
- Leaves:** Stalked, 3.5-9.5 cm long, 2.3-8 cm wide, ovate to circular, with wavy margin. The leaves are densely hairy on both sides.
- Flowers:** Small, yellowish. Male flower petals ovate. Female flower sepals triangular, acute.
- Fruit:** A capsule.





# *Cichorium intybus* L.

Common Name : Chicory  
Family : Asteraceae

- Habit:** An erect or subscandent annual herb up to 1m high.
- Stem:** Glabrous to sparsely strigose and scabrous, herbaceous, branching, erect, with milky sap, from a massive taproot.
- Leaves:** Alternate. Basal leaves lyrate pinnatifid, 30 cm long, 6 cm wide, dentate, pubescent above and below, hirsute on midrib below. Cauline leaves lanceolate to linear, clasping, entire, much reduced.
- Flowers:** Inflorescence - Typically 1-3 axillary flowers in upper portion of stems. Some flowers terminal. Lower flowers with reduced leaf (bract) subtending. Upper flowers with no bract or bract reduced and scalelike. Blue to lilac.
- Fruits:** Achenes -2mm long; pappus of short scales.



## *Cirsium arvense* (L.) Scop.

Common Name : Canada Thistle  
Family : Asteraceae

**Habit:** A perennial herb spreading rapidly by horizontal roots which give rise to aerial shoots.

**Stem:** 30-150 cm tall, slender, green, freely branched.

**Leaves:** Alternate, the base sessile and clasping or shortly decurrent; leaves generally oblong in outline, margin variable from entire to deeply pinnately segmented, spiny.

**Flowers:** Plants dioecious, all heads of a plant either male or female. Male heads globular, somewhat smaller than the flask-shaped female heads. Florets all tubular, rose-purple to pinkish, less commonly white. Florets of female heads 23-26 mm long; florets of male heads 12-14 mm long.

**Fruit:** Achenes 2.5-4 x 1 mm, straight or slightly curved, straw or light-brown. Pappus copious, white, feathery, 20-30 mm long on mature achenes.



## *Cleome chelidonii* Linn.

Common Name : Celandine spider flower  
Family : Capparidaceae

- Habit:** Annual herb.
- Stem:** Base stout, branchlets pubescent.
- Leaves:** Basally 5-7 foliate, apically 3-foliate; leaflets obovate.
- Flowers:** Rose colored, in racemes.
- Fruit:** Capsule obscurely striate.
- Seeds:** Small, spirally round, brown to black.



## *Cleome gynandra* L.

Common Name : African spider flower  
Family : Capparidaceae

- Habit:** Annual, erect, glandular-pubescent herb, 50-100 cm tall.
- Stem:** Angular, ribbed, thickened above the node, more or less densely hairy.
- Leaves:** Five foliate; leaflets subsessile, 3-9 X 1.5-4 cm, elliptic-obovate, apex subacute, base cuneate, pubescent.
- Flowers:** At first corymbose, elongating into a densely bracteate racemes. Flowers white
- Fruits:** Capsule 5-9 cm long, cylindrical, striate with 5 mm long beak; glandular, pubescent.
- Seeds:** 1.2 mm across, rugose, dark brown.



## *Cleome monophylla* L.

Common Name : Spindle pod  
Family : Capparidaceae

- Habit:** An erect stocky annual herb, 60 cm height,
- Stem:** Branched, pubescent with some hairs gland-tipped.
- Leaves:** 2–7.5 x 0.3–2.5 cm., linear-lanceolate to oblong, acute or subacute at the apex, rounded or slightly cordate at the base, entire, pubescent on both sides with hairs often glandular.
- Flowers:** Inflorescence a raceme, elongating in fruit; flowers pale rose or mauve.
- Fruits:** Capsule up to 10 cm. long, narrowly linear, puberulous, straight or slightly curved, narrowed to both ends with up to 6 longitudinal nerves on each valve.
- Seeds:** Dark brown, 1.8 mm in diameter, radially ridged with the ridges bearing minute puberulous incrustations.



## *Cleome viscosa* L.

Common Name : Tick weed  
Family : Capparidaceae

**Habit:** An erect, simple or sparsely branched, unarmed annual herb.

**Stem:** Up to 1.5 m tall with a strong, penetrating and unpleasant odour; stems grooved, densely clothed with glandular or simple hairs.

**Leaves:** Leaves 3-5 foliate, densely glandular-pubescent when young, petioles of the lower leaves 2.5-5 cm long, those of the upper leaves 0.4-3.8 cm; leaflets elliptic-oblong or obovate, 2-4.3 cm long and 0.8-2.5 cm wide, base cuneate to attenuate, apex acute or obtuse.

**Flowers:** Flowers various shades of yellow or white to pinkish or purple, 1.3 cm long, borne in the axils of reduced leaf-like bracts in lax corymbose racemes.

**Fruit:** A slender, erect, glandular pubescent cylindrical capsule, 5-12 cm long.

**Seeds:** About 1 mm in diameter, granular, black or dark brown.



## *Clerodendron infortunatum* Gaertn.

Common Name : Hill glory bower  
Family : Verbenaceae

- Habit:** A shrub.
- Stem:** Erect, 0.5–4 m high, with no branches.
- Leaves:** Simple, opposite; both surfaces sparsely villous-pubescent, elliptic, broadly elliptic, ovate or elongate ovate, 3.5–20 cm wide, 6–25 cm long, dentate.
- Flowers:** Inflorescence in terminal, peduncled, few-flowered cyme; flowers white with purplish pink or dull-purple throat, pubescent.
- Fruits:** Berry, globose, turned bluish-black or black when ripe, enclosed in the red accrescent fruiting-calyx.



## *Clitoria ternatea* L.

Common Name : Asian pigeonwings  
Family : Fabaceae

- Habit:** A annual or perennial herb.
- Stem:** Slender, climbing or suberect.
- Leaves:** Odd-pinnate, leaf rachis up to 8 cm long; leaflets 5-7, 2-5 cm long and 1.2-3 cm wide, elliptic, apex obtuse, base cuneate to rounded, obtuse or retuse, glabrous above, pubescent beneath.
- Flowers:** Flowers ranging in colour from white to deep blue, axillary, solitary; peduncles 0.6-1 cm long.
- Fruits:** Pod linear-oblong, flat, 10 cm long and 1 cm wide, sharply beaked, appressed hairy.





## *Cocculus hirsutus* (L.) Diels.

Common Name : Ink berry  
Family : Menispermaceae

- Habit:** A scandent tomentose climber.
- Stem:** Straggling with striate branches.
- Leaves:** Variable in shape; the lower leaves of the main branches larger, sometimes 3-5-lobed, upper leaves smaller, narrowly to broadly ovate to elliptic; pubescent on both surfaces.
- Flowers:** Small, unisexual, pale yellow; male with 6 stamens, borne in small axillary panicles; female with 4-6 carpels, borne 2-3 together in axillary clusters.
- Fruits:** A compressed pea-sized drupe, purplish-black.
- Seeds:** Circular-coiled, dull-white to grey, surface rough.



## *Coix barbata* (Roxb.) R. Br.

Common Name : None  
Family : Poaceae

**Habit:** A tall, robust, branching, monoecious perennial grass.

**Stem:** Culms 0.9-1.9 m tall with softly bearded nodes.

**Leaves:** Linear, usually 15-30 cm long and 0.6-2.2 cm wide, apex acuminate, midrib stout, margins scabrid; leaf sheaths long, smooth or hairy; ligule a narrow ridge.

**Flowers:** Inflorescence a terminal panicle of racemose spikelets on slender peduncle, male at the top and female below.

**Seeds:** Grain enveloped in thickened lower legumes, 5-7 mm long.



# *Coix lacryma-jobi* L.

Common Name : Job's tears  
Family : Poaceae

- Habit:** A stout, much-branched annual grass.
- Stem:** Culms 0.9-1.5 m tall, spreading below, rooting at the lower nodes, internodes smooth, polished.
- Leaves:** 10-50 cm long and 1.5-5 cm wide, narrowed from a broad cordate base to an acuminate tip, smooth on both surfaces, margins spinulosely serrate; midrib stout; sheaths long, smooth; ligule a very narrow membrane.
- Flowers:** Borne in 2.5-6.3 cm long racemes, nodding or drooping from long peduncles; male racemes 1.5-4 cm long, erect, spikelets mostly paired; female racemes enclosed within a beadlike auricle, which is white to green or bluish, globose, 0.6-1.2 cm long, hard.
- Fruit:** Utricle, oblong-cylindric, truncate at apex, rounded at base.
- Seeds:** Subcylindric, truncate at apex, reddish brown.



## *Commelina benghalensis* L.

Common Name : Tropical spiderwort  
Family : Commelinaceae

**Habit:** A creeping or procumbent annual herb, 60-90 cm long.

**Stem:** Dichotomously branched with diffuse branches, often rooting at nodes.

**Leaves:** Leaves 2.5-7.5 cm long and 1.3-3.8 cm wide, ovate or oblong, apex obtuse, base unequal-sided, rounded, cuneate or cordate, sessile or short-petioled, pubescent or villous on both surfaces.

**Flowers:** Spathes 1-3 together, funnel-shaped, auricled on one side, pubescent or hirsute; flowers blue, borne in branched cymes.

**Fruit:** Capsules 0.6 cm long, pyriform, membranous.

**Seeds:** Oblong, closely pitted.



## *Commelina diffusa* L.

Common Name : Climbing dayflower  
Family : Commelinaceae

- Habit:** A creeping herb.
- Stem:** Rooting at the nodes.
- Leaves:** Sessile, ovate or lanceolate, entire, acuminate, base sub cordate, chartaceous.
- Flowers:** Blue, 1-3 in cymes; spathes complicate.
- Fruit:** Broadly oblong acuminate.
- Seeds:** Tuberculate, reticulate, brown.



## *Commelina forskaolii* Vahl.

Common Name : Rat's ear

Family : Commelinaceae

- Habit:** Herbs, annual or perennial, up to 30 cm tall.
- Stem:** Erect to ascending, mat-forming.
- Leaves:** Oblong or lanceolate-oblong to oblong-elliptic, 1.5-6 x 0.4-1.1 cm, margins strongly undulate, completely glabrous or adaxially sparsely pilose.
- Flowers:** Distal cyme usually exserted, 1-flowered; spathes solitary, pedunculate, strongly inflated; flowers blue.
- Fruits:** Capsules 3-locular, 2-valved.
- Seeds:** Brown, smooth, 2.5 mm long.



## *Convolvulus arvensis* L.

Common Name : Field bindweed  
Family : Convolvulaceae

**Habit:** A herbaceous perennial growing from a very deep root system. Shoots develop from adventitious buds on the deep root system at almost any depth down to 1 m.

**Stem:** Slender, to 1.5 m long, twining anticlockwise, glabrous or finely pubescent.

**Leaves:** Alternate, petiolate, variable in shape, lanceolate or ovate to narrow-oblong, 1.2-5.0 cm long, acute at the apex, entire but often hastate-sagittate at the base, glabrous or pubescent with scattered crisped hairs.

**Flowers:** White or pink, axillary, solitary, peduncles, 2.5-5 cm long, slender with a pair of small linear bracts at the apex from which the pedicels arise; pedicels 3-25 mm long.

**Fruit:** Capsules 6-8 mm in diameter, globose, glabrous.

**Seeds:** Subtrigonal, dark reddish-brown, glabrous or puberulous.



## *Convolvulus pluricaulis* Choisy.

Common Name : Aloe weed  
Family : Convolvulaceae

- Habit:** A slender, procumbent or suberect herb.
- Stem:** Up to 50 cm long with a woody rootstock.
- Leaves:** 1.2-2.5 cm long, linear-oblong or the upper elliptic, apex obtuse, mucronate, base tapering, villous on both sides, leaf margins slightly hairy, short-petioled.
- Flowers:** Axillary or on short lateral branches, sessile or short-pedicelled, 1-3 together; pale rose or rose-yellow.
- Fruits:** An ellipsoid or globose capsule, 0.3 cm long, smooth.
- Seeds:** Brown to black, 5-7 mm, oval, flat to slightly concave on one side, convex on the other side; minutely puberulous.





## *Conyza bonariensis* (L.) Cronquist.

Common Name : Asthmaweed  
Family : Asteraceae

- Habit:** Erect perennial, 20-75 cm tall.
- Stem:** Erect with stiff hairs, branching at the base, decreasing upwards.
- Leaves:** Narrow, lanceolate, grey to green color, 2-6 cm long, coarsely toothed and covered with fine hairs; upper leaves are smaller and linear.
- Flowers:** Inflorescence much branched; capitulum is greater than 2 mm in diameter.
- Fruits:** Cypsela linear shaped, 1.5 mm long, straw colored, covered in hairs with 16-20, noticeably longer, at the top that are white or pink.



## *Conyza Canadensis* (L.) Cronq.

Common Name : Canadian horseweed  
Family : Asteraceae

- Habit:** An annual herb, up to 1 m high.
- Stem:** Stout central stem unbranched, ridged and covered with long white hairs.
- Leaves:** Alternate around the stem, (appearing almost whorled) differ little in length except beneath the inflorescence, creating a columnar effect. Leaves narrowly lanceolate or oblanceolate, with a few teeth towards the outer tip, and fine white hairs along the margins.
- Flowers:** Several flowering stems appear at the apex, which branches frequently and spread upward and outward, terminating in a multitude of tiny composite flowers. Disc florets yellow and ray florets white.
- Fruits:** Achenes are light brown and have tuft of white or light brown hairs.



## *Corchorus aestuans* L.

Common Name : East Indian jew's mallow  
Family : Tiliaceae

**Habit:** An erect or spreading, much branched, annual herb, 20-60 cm tall.

**Stem:** Stem and branches purple, pilose.

**Leaves:** Lanceolate to ovate, 2-9.5 cm long, 1-5 cm broad, oblique or obtuse at the base, serrate, basal serratures prolonged into setaceous appendages or not.

**Flowers:** Cyme antiphyllous, very shortly pedunculate, mostly 2, rarely 3-flowered. Flowers golden yellow, 1 cm across.

**Fruit:** Capsules solitary or paired, with 3 fairly stout wings, 10-25 mm long, 4-6 mm in diameter, truncate and terminating in 3, bifid, radiating, 3-7 mm long beaks at apex, 3-loculed, locules transversely septate or aseptate.

**Seeds:** Blackish-brown, angular, rough, obliquely truncate at both ends.



## *Corchorus capsularis* L.

Common Name : White jute  
Family : Tiliaceae

- Habit:** A large, glabrous, annual herb or undershrub.
- Stem:** Up to 3 m tall.
- Leaves:** 3-5 costate, ovate-lanceolate or linear-lanceolate, 5.5-15 cm long, 1.5-8 cm broad, acute or acuminate, coarsely serrate, basal serratures backwardly prolonged into setaceous appendages.
- Flowers:** Yellow, 8-10 mm across, pedicellate.
- Fruit:** Capsule subglobose-globose, 10-12 mm in diameter, beakless and depressed at apex, scabrous, ridged, tuberculate or muricate, 5-loculed, locules aseptate.
- Seeds:** Cuneiform, 2 mm long, brown, glabrous.



## *Corchorus fascicularis* L.

Common Name : Tall wild jute  
Family : Tiliaceae

- Habit:** Annual, sub-erect, 50-60 cm tall herb.
- Stem:** Woody with scaly bark.
- Leaves:** 3-costate, elliptic-oblong or lanceolate to narrowly ovate, 1.5-6 cm long, 0.5-2 cm broad, glabrous, serrate, basal serratures not prolonged into filiform appendages, obtuse.
- Flowers:** Cyme a fascicle of 2-8 flowers, antiphyllous, very shortly pedunculate. Flowers yellow.
- Fruits:** Capsules 2-8 in each fascicle, sessile, 1-1.5 cm long, with 1-2 mm long entire beak, somewhat triangular, pubescent, 3-loculed.
- Seeds:** Wedge shaped, 1.5 mm long, angular, black, obliquely truncate at both ends.



## *Corchorus olitorius* L.

Common Name : Jew's mallow  
Family : Tiliaceae

- Habit:** An erect, subglabrous, annual or biennial herb, up to 2 m tall.
- Stem:** Basally woody, branched.
- Leaves:** 3-5 costate, lanceolate to ovate-lanceolate, 2.2-9 cm long, 1.8-4.2 cm broad, glabrous except the scattered hairy veins, serrate, basal serratures prolonged into filiform deflexed appendages, acute or acuminate.
- Flowers:** Cyme 1 or 2-flowered, antiphyllous, shortly pedunculate. Flowers yellow, 12-15 mm across; subsessile.
- Fruit:** Capsules 1 or 2 together, 2-7.2 cm long, with 4-5 mm long, entire beak, 4-5 mm across, 10-angled, glabrous, 5-loculed, locules transversely septate.
- Seeds:** Greenish-black, triangular, ovate, 2 mm long.



## *Corchorus trilocularis* Auct.

Common Name : Cotton weed  
Family : Tiliaceae

- Habit:** An erect or suberect, annual herb, 30-60 cm tall.
- Stem:** Stem and branches glabrous.
- Leaves:** 3-4 costate, oblong-lanceolate or linear-lanceolate or somewhat elliptic-obovate, 1.5-9 cm long, 0.6-2.2 cm broad, crenate-serrate, basal serratures prolonged into filiform spreading appendages or not, acute.
- Flowers:** Cyme 1-4 flowered, antiphyllous, short peduncled. Flowers yellow, 1 cm across, subsessile.
- Fruit:** Capsules 1-3 together, erect, cylindrical, 1.5-4 cm long, 2 mm in diameter, not ribbed, glabrous, terminated by 3 spreading bifid tips, 3-loculed, locules aseptate.
- Seeds:** Angular, obliquely truncate at both ends, black.



## *Coronopus didymus* (L.) Sm.

Common Name : Lesser swine-cress  
Family : Brassicaceae

- Habit:** An annual herb.
- Stem:** Repent, decumbent, or ascending, multiple from the base, radiating from a central point; glabrous, terete, green.
- Leaves:** Alternate, petiolate, pinnate, 4-5 cm long, 2 cm broad, glabrous. Divisions of the leaves opposite, lobed or devided again, acute, linear-elliptic to linear oblong.
- Flowers:** Inflorescence a small raceme, up to 4 cm long, opposite to one of the stem leaves, compact. Flowers minute, greenish.
- Fruits:** Glabrous, 3-4 mm broad, 2 mm long, slightly compressed, sub-globose, 2-seeded.





# *Crotalaria medicaginea* Lam.

Common Name : Trefoil rattlepod.  
Family : Fabaceae

- Habit:** A herb or shrub, prostrate to erect, 1 m tall.
- Stem:** Slender, branched, appressed silky pubescent; stipules filiform, 2-3 mm .
- Leaves:** 3-foliolate; leaflets oblanceolate, obovate-oblong, or ovate-oblong, abaxially densely silky pubescent, adaxially glabrescent, base cuneate, apex obtuse, truncate or retuse.
- Flowers:** Racemes terminal or leaf opposed, many flowered; flowers yellow.
- Fruits:** Pods globose, 3-5 mm in diameter, slightly exserted beyond the calyx, pubescent, 2-seeded, apex shortly beakled.
- Seeds:** Subcylindric, truncate at apex, reddish brown.



## *Crotalaria prostrata* Rottl. Ex. Willd.

Common Name : Rattlepod  
Family : Fabaceae

- Habit:** A prostrate annual herb.
- Stem:** Branches slender, densely spreading pubescent to white appressed pilose.
- Leaves:** Simple; petiole very short; leaf blade elliptic to ovate-oblong, 1-3 × 0.5-1 cm, both surfaces with trichomes, base oblique, apex obtuse.
- Flowers:** Racemes terminal or leaf-opposed, 2-8 flowered; flowers yellow.
- Fruits:** Pod cylindric, 1 cm long, 10-15-seeded.



# *Crotalaria sagittalis* L.

Common Name : Arrowhead rattlebox  
Family : Fabaceae

- Habit:** An annual herb, 15-30 cm high.
- Stem:** Light green, terete, hairy.
- Leaves:** Alternate, 2-6 cm long and about one-third as much across; they are elliptic to oblong, flat, smooth along their margins. Both the upper and lower sides are hairy. The upper surface is medium green, while the lower surface is gray-green. Each leaf has a single central vein that is prominent. The petioles are hairy and short.
- Flowers:** Racemes of 1-4 flowers are produced oppositely from some of the leaves. Flowers are yellow.
- Fruits:** The seed pods are initially light green, but they later turn dark brown or black at maturity. Full-sized seedpods are 2.5-4 cm long and about 1/3 as much across; each seedpod contains several seeds.



## *Crotalaria verrucosa* L.

Common Name : Blue rattlesnake  
Family : Fabaceae

- Habit:** Erect sub-shrub.
- Stem:** Branchlets 4-angled, pubescent.
- Leaves:** Simple, ovate or broadly rhomboid, entire, obtuse, acute, pubescent, stipules semi-lunate.
- Flowers:** Bluish-white, in leaf opposed or terminal racemes.
- Fruits:** Pods oblong, cylindric, prominently nerved, thinly pubescent, exceeding the calyx.



## *Croton bonplandianum* Bail.

Common Name : Three-leaved caper  
Family : Euphorbiaceae

- Habit:** Herb or subshrub.
- Stem:** Woody, well branched.
- Leaves:** Ovate-lanceolate, serrulate, acute, base acute with sessile glands.
- Flowers:** Unisexual, yellowish green, in spikes; male flower pedicellate, in fascicles; female ones solitary, sessile.
- Fruit:** Capsule 3-lobed with stellate hairs.



# *Cyanotis axillaris* Roem. & Schult. F.

Common Name : Spreading dayflower  
Family : Commelinaceae

- Habit:** A branched prostrate or sub-erect, fleshy annual rooting at the nodes.
- Stem:** Round, pinkish, growing to a length of 1.5 feet or more.
- Leaves:** Simple, up to 3 inches long, narrowly oblong, acute, alternate and sheathing at their base; sheaths are dilated, clasping the stem, and ciliate with long hairs on margins and sides.
- Flowers:** Blue, in axillary cymose clusters, partly hidden by the leaf sheaths.
- Fruit:** Loculicidal capsule, beaked at the top.
- Seeds:** Grayish, truncate at base with small conical point at the top and pitted.



## *Cyanotis cristata* (L.) D. Don.

Common Name : Crested cat ears  
Family : Commelinaceae

- Habit:** An annual herb, 10--35 cm high.
- Stem:** Creeping, often branched.
- Leaves:** Leaves all cauline; leaf blade oblong, lanceolate, ovate-lanceolate, or narrowly elliptic, 2-8 × 0.8-2 cm, abaxially glabrous or sparsely arachnoid.
- Flowers:** Cincinni often solitary, terminal or also axillary if 2 together; peduncle absent or to 9 cm; bracts 1-1.5 cm. Flowers blue or purple.
- Fruits:** Capsule columnar, trigonous, 2.5 mm long, hirsutus at apex.
- Seeds:** Gray-brown, pitted.



## *Cyathula prostrat* (L.) Blume.

Common Name : Pasture weed  
Family : Amaranthaceae

- Habit:** Perennial herbs or undershrubs.
- Stem:** Angular, ribbed, thickened above the node, more or less densely hairy.
- Leaves:** Opposite; the blades entire.
- Flowers:** Clustered on a rachis of a long raceme on short jointed stalks. Perfect flowers in each cluster of 1-3; sterile flowers reduced to fascicled hooks.
- Fruit:** Utricle, ellipsoid, thin walled, indehiscent, 1-seeded.





## *Cynodon dactylon* (L.) Pers.

Common Name : Bermuda grass  
Family : Poaceae

**Habit:** Perennial grass.

**Stem:** The rhizomes are mainly in the top 10 cm of the soil. They spread horizontally for several meters, with nodes at approximately 10 cm intervals, each with 2-3 scale leaves and a single axillary bud. In dense stands, shoots developing from buds on rhizomes or runners tend to be erect and quite short, up to 25 cm high, but develop into prostrate runners under less dense conditions.

**Leaves:** Leaf blades are usually dull grey-green, flat, up to 15 cm long and 3-5 mm wide, tapering to an abrupt point, finely parallel-ribbed on both surfaces, without a conspicuous midrib. Ligule is very short but with a conspicuous fringe of white hairs.

**Flowers:** The inflorescence is supported on a culm up to 25 cm high and consists of a single whorl of 3-7 narrow racemes, each 3-8 cm long. Spikelets are 2-2.5 mm long, in two rows, closely appressed to the rachis.



# *Cyperus brevifolius* Rottb.

Common Name : Mullimbimby couch  
Family : Cyperaceae

- Habit:** A slender perennial (living greater than 1 season) sedge, 15-30 cm high.
- Stem:** Triangular in cross-section and smooth. Very long, slender, creeping, pink/brown rhizomes (underground stems) with roots below every stem.
- Leaves:** Shiny green, 1-2 mm wide and channeled. The leaves are considerably shorter than the stems. The name *brevifolius* means short-leaved.
- Flowers:** Inflorescence or spikelet (flowerhead) is a green and egg-shaped, with around 100 tiny flowers per head. The flowerheads protrude above the plant.
- Fruits:** Tiny nut with both surfaces being convex. Each nut is pear-shaped to elliptic and yellow-brown in colour.



## *Cyperus compressus* L.

Common Name : Poorland flatsedge  
Family : Cyperaceae

- Habit:** An erect glabrous, caespitose annual (sometimes biannual), 5-75 cm high. Its roots are tufted, fine and numerous.
- Stem:** Erect, tufted, slender or rigidulous, glabrous, compressed, trigonous and 0.5-2.0 mm thick. The base is covered with red-purple, usually entire and non-fibrous, loose, open leaf sheaths.
- Leaves:** The leaves are as long as or shorter than the stem. They are subcoriaceous, flat, 1.5-4.0 mm, broad, greyish-green, narrowly linear and taper gradually to a fine acuminate apex.
- Flowers:** The inflorescence has umbellate spikes, some of the rays (usually 3-4) are well developed and up to 8 cm long. The spikelets are strongly compressed laterally and there are 4-7 in each ultimate condensed umbellate spike. These are 1.5-3.5 cm long, 3-5 mm wide and grey-green, streaked with crimson.
- Fruits:** Nutlets are shortly stipitate, obovoid, broadly triquetrous, 1.5-1.7 mm long with three prominent angles and three concave sides. They are dark brown or blackish-brown, apiculate and glossy.



## *Cyperus difformis* L.

Common Name : Variable flatsedge  
Family : Cyperaceae

- Habit:** An annual sedge, sometimes behaving as a perennial, varies in height from 6-80 cm.
- Stem:** Smooth, triangular, slightly winged and 0.7-3.0 mm thick. The roots are numerous, fibrous and reddish.
- Leaves:** Smooth, (or slightly scabrid on the midrib and margin), flat, linear, 5-25 cm long or often two-thirds of the plant height, 2-6 mm wide, sometimes reduced to sheaths. Sheaths are tubular, united, green to reddish-brown and without leaf blades at the base.
- Flowers:** Inflorescence consists of dense, globose, umbellate heads, simple or compound, 5-15 mm in diameter, with 10-60 stellately spreading spikelets.
- Fruits:** Nutlets, 0.6-0.8 mm long and 0.3-0.4 mm wide, triangular, obovate-elliptic, yellowish-brown or pale-brown, minutely papillose.



# *Cyperus eragrostis* Lam.

Common Name : Pale galingale  
Family : Cyperaceae

- Habit:** Tufted perennial, with very short rhizome.
- Stem:** Culms trigonous, smooth, 25–90 cm high, 2–4 mm diameter.
- Leaves:** Slightly septate-nodulose, as long as culms or shorter, 4–8 mm wide.
- Flowers:** Inflorescence simple to decompound with up to 12 primary branches to 12 cm long; digitate clusters 10–50 mm diameter.
- Fruits:** Nut triquetrous, obovoid, about half as long as glume, 1–1.4 mm long, 0.5 mm diameter, dark brown to greyish.



## *Cyperus haspan* L.

Common Name : Haspan flatsedge  
Family : Cyperaceae

- Habit:** Perennial stoloniferous herb.
- Stem:** Slender, triquetrous, obscurely winged.
- Leaves:** Linear, flat, light green.
- Flowers:** Inflorescence compound; spikelets oblong, clustered in groups.
- Fruit:** Nutlets broadly ovate, trigonous, cream yellow.



# *Cyperus iria* L.

Common Name : Ricefield flatsedge  
Family : Cyperaceae

- Habit:** An annual sedge, sometimes behaving as a perennial. 8 to 60 cm high.
- Stem:** The culms are tufted, triangular, glabrous, green and 0.6-3.0 mm thick. The roots are numerous, short and yellowish-red.
- Leaves:** Linear-lanceolate, usually all shorter than the culm, 1-8 mm wide, flat, and scabrid on the margin and major ribs; leaf sheaths are green to reddish-brown, membraneous and envelope the culm at the base.
- Flowers:** Inflorescence is simple or compound, usually open, 1-20 cm long and 1-20 cm wide, with groups of spikes which are either sessile or on 0.5-15.0 cm long peduncles (rays). Spikelets are erect-spreading, crowded, 6-24-flowered, 2-13 mm long, 1.5-2.0 mm wide, golden to yellowish-green.
- Fruits:** Nutlet, 1.0-1.5 mm long, 0.6-0.7 mm wide, obovate, triangular in cross section, dark-brown to almost black; the surface is almost smooth.



# *Cyperus kyllingia* L.

Common Name : White head spike sedge  
Family : Cyperaceae

- Habit:** Tufted perennial, 5-45 cm tall.
- Stem:** Stems crowded or remote, solid, rather stiff, sharply three-angular, smooth, 1-1.5 mm in diameter.
- Leaves:** 2-4, well developed, soft to rather stiff, kelled, linear, margins of the upper part scabrous, usually shorter than the stems.
- Flowers:** Inflorescence terminal, head-like, ovoid-globose to ellipsoid, 8-12 x 6-10 mm; initially pure white, later rusty brown.
- Fruits:** Nut biconvex, compressed, oblong to oblong-obovate, apiculate, yellow to darkish brown to glossy black, very finely warted, 1.3-1.5 x 0.5-0.7 mm.





# *Cyperus rotundus* L.

Common Name : Purple nutsedge  
Family : Cyperaceae

- Habit:** A perennial sedge.
- Stem:** Hard, fragrant, globose-ovoid tubers, up to 1.2 cm long and 0.3-0.7 cm in diameter; culms solitary or few together, sparsely tufted, erect, 10-75 cm tall, 3-angled at top.
- Leaves:** Narrowly linear, shorter or longer than stem, 0.4-0.8 cm wide, dark green above, pale beneath.
- Flowers:** Inflorescence a simple or compound umbel, rays 2-8, each up to 7.5 cm long, bearing short spikes of 3-10 spreading, red-brown spikelets.
- Fruits:** Nuts oblong to ovate-oblong, 3-sided, 1.3-1.5 mm long and 0.5-0.7 mm wide, maturing brown.



## *Cyperus tenuispica* L.

Common Name : Slender spiked sedge  
Family : Cyperaceae

- Habit:** Annual, erect, slender, tufted herb.
- Stem:** Slender, triquetrous, finely ribbed.
- Leaves:** Flat, linear, acute, scaberulous; sheaths grey.
- Flowers:** Inflorescence a compound umbel; spikelets narrowly linear, stellately spreading.
- Fruits:** Nuts small, subglobose, trigonous, apiculate, purplish.



# *Cyperus triceps* Rottb.

Common Name : None  
Family : Cyperaceae

- Habit:** An annual or perennial, tufted, erect herb.
- Stem:** Slender, triquetrous, dark green, incrassate at base.
- Leaves:** Flat or folded, flaccid, scabrid; sheaths light yellow.
- Flowers:** Inflorescence capitate, often 3 (rarely 1-5) lobed spikes; central one sub-globose, or oblong, lateral ones globose.
- Fruits:** Nuts biconvex, oblong, laterally compressed, apiculate.



## *Dactyloctenium aegyptium* (L.) Willd

Common Name : Crowfoot grass  
Family : Poaceae

- Habit:** Annual, very variable, grass, 10-44 cm high.
- Stem:** Erect or creeping culms, rooting from the profusely branched nodes.
- Leaves:** Linear, tapering to a fine point, 2-10 cm long and 0.2-0.4 cm wide, flat, glaucous, glabrous or hispid; leaf sheaths striate, the lower whitish; ligules membranous, very short.
- Flowers:** Inflorescence comprised of 2-6 digitate spikes, 0.5-4 cm long, olive-grey; spikelets 2-5 flowered, spreading at right angles, pendulous, strongly striate.
- Fruits:** Grain 0.5-1 mm long, subglobose, reddish, very rugose.



## *Dactyloctenium scindicum* Boiss.

Common Name : None  
Family : Poaceae

- Habit:** Stoloniferous perennial grass, 7-45 cm high.
- Stem:** Mat forming, with erect, slender culms from the swollen base .
- Leaves:** Leaf-blades flat or folded, 1-11 cm long, 1.5-3 mm wide, hispid with tubercle-based hairs.
- Flowers:** Inflorescence of 3-5 spikes, each 0.8-2 cm long in a compact head.
- Fruits:** Grain 0.7-1 mm long, transversely rugose.



## *Datura metel* L.

Common Name : Thorn apple  
Family : Solanaceae

**Habit:** An erect, soft-stemmed shrub usually less than 1 m tall.

**Stem:** Branches somewhat zig-zag, almost glabrous, green or reddish-tinged to almost black.

**Leaves:** Large, acrid-smelling when crushed, triangular-ovate in outline, irregularly toothed or lobed, 7.5-15 cm long and 3.2-7.5 cm wide, largest leaves usually towards the ends of shoots, apex acute or acuminate.

**Flowers:** Erect, solitary in leaf axils, tubular to funnel-shaped; white to violet or purple on the outside and white within.

**Fruits:** A globose capsule, usually covered with stout tubercles or prickles, borne on a short, thick drooping peduncle; capsule 4-valved or irregularly dehiscent near the apex.

**Seeds:** Yellowish-brown, flat.



## *Desmodium gangeticum* (L.) DC

Common Name : Sal leaved desmodium  
Family : Fabaceae

- Habit:** A common undershrub, usually 0.6-1.2 m tall.
- Stem:** Simple, straight, irregularly angled; branches densely hairy.
- Leaves:** Unifoliate; leaflets membranous, broadly elliptic to ovate or sometimes lanceolate, 9-12.5 cm long and 3.5-6.3 cm wide, base rounded or acute, apex acute or acuminate, margins somewhat wavy, usually glabrescent on upper surface, pale green and clothed with soft whitish appressed hairs beneath.
- Flowers:** Flowers violet or white, borne in fascicles of 2-5 flowers in lax, 40-60-flowered, terminal and axillary racemes, 15-30 cm long.
- Fruits:** Pod linear to slightly curved, 1.2-2 cm long and 2 mm wide; joints 4-8, reticulate, longer than broad, indehiscent, sparsely clothed with minute hooked hairs.



## *Desmodium laxiflorum* DC.

Common Name : Loose flowered desmodium  
Family : Fabaceae

- Habit:** An erect herb or undershrub, up to 1.2 m tall.
- Stem:** With quadrangular, appressed-pubescent branches.
- Leaves:** Alternate, trifoliate; leaflets ovate-elliptic, apex acute to acuminate, silky-pubescent beneath, membranous, up to 14 cm long and 8 cm wide.
- Flowers:** Flowers 2-5 per bract, borne on 25-40 cm long racemes; standard white, other petals blue, both covered with yellowish-white hairs.
- Fruits:** Pods linear with straight sutures, 2.5-3.8 cm long and less than half as wide, joints 6-10, with hooked hairs.





## *Desmodium triflorum* (L.) DC.

Common Name : Three flowered tickerfoil  
Family : Fabaceae

- Habit:** A wiry, spreading, perennial herb, up to 0.5 m long.
- Stem:** With a radial growth habit, often rooting at basal nodes, sparsely pilose.
- Leaves:** Alternate, trifoliate; leaflets obcordate, emarginated at apex, cuneate at base, margins entire, upper surface glabrous, lower with sparse appressed hairs; terminal leaflet 4-9 mm long and 3-10 mm wide, lateral leaflets smaller.
- Flowers:** Inflorescence sessile, leaf-opposed fascicles of 2-4 flowers; purplish or bluish.
- Fruits:** Pod linear or oblong, 1-1.5 cm long, continuous along upper suture, indented on lower suture, with 4-5 reticulate joints, 3-5-seeded.



# *Desmostachya bipinnata* Stapf.

Common Name : Halfa grass.  
Family : Poaceae

- Habit:** A harsh, rhizomatous perennial grass.
- Stem:** Stout, up to 1.2 m high.
- Leaves:** Up to 65 cm long, 3.8-10.5 mm wide when unrolled. Lower leaf-sheaths are leathery, often densely flabellate towards the base of the culm.
- Flowers:** Inflorescence is up to 60 cm long. Spikes are clustered or spaced, 14 cm long. Spikelets are 3-17 flowered, narrowly ovate to linear-oblong, 3-10 mm long. Lower glume 0.7-1.5 mm long, upper glume 1.1-2.0 mm long. Lemmas are straw-coloured or suffused with purple, 1.8-2.7 mm long.



## *Dichanthium annulatum* (Forsk.) Stapf.

Common Name : Kleberg's bluestem  
Family : Poaceae

- Habit:** Perennial tussock, sometimes stoloniferous.
- Stem:** Culms geniculately ascending; pronounced annulus of radiating, 3-5 mm long white hairs on the nodes.
- Leaves:** Leaf blade linear, to about 30 cm long and 2-7 mm wide, margins sparsely pubescent and scaberulous.
- Flowers:** Inflorescence a sub-digitate panicle, comprising 2-15 pale green or purplish racemes, each 3-7 cm long; geniculate, twisted awn 8-25 mm long, arising from the upper lemma of the sessile spikelet.
- Fruits:** Caryopsis oblong to obovate, dorsally compressed, 2 mm long.



## *Digera arvensis* Forssk.

Common Name : False amaranth  
Family : Amaranthaceae

- Habit:** An annual herb, 30-60 cm high.
- Stem:** With spreading branches.
- Leaves:** Variable, 2-7.5 cm long and 1.3-4.5 cm wide, ovate or elliptic, acute or rounded at the apex, sometimes with reddish margins, glabrous.
- Flowers:** Flowers pink, borne in threes in lax, axillary, pedunculate spikes, 2.5-12.5 cm long.
- Fruits:** Globose, approximately 0.3 cm in diameter.
- Seeds:** Yellowish-brown.



## *Digitaria sanguinalis* L.(Scop.)

Common Name : Large crabgrass  
Family : Poaceae

- Habit:** A prostrate or ascending annual grass.
- Stem:** Prostrate, spreading, branched and rooting at nodes.
- Leaves:** 3-20 cm long, 3-10 mm wide, with hairs on both the surfaces. Sheaths hairy and closed. Leaves and sheaths may turn dark red or maroon with age.
- Flowers:** Seed head composed of 4-6 branches (spikes) at the top of the stems, each approximately 3-15 cm long.
- Fruits:** Caryopsis shiny, yellowish-brown, 2-3 mm long.



## *Dinebra retroflexa* (Vahl.) Panzer.

Common Name : Viper grass  
Family : Poaceae

**Habit:** An annual or perennial grass, up 50 cm or more tall.

**Stem:** Culms usually straggling from a decumbent base, much branched, rooting at nodes, infrequently erect, green or purplish green.

**Leaves:** Linear, 2-2.5 x 0.3-0.5 cm, glabrous or thinly pilose, apex acuminate.

**Flowers:** Inflorescence 6-20 cm long, narrowly elliptic-oblong to pyramidal, open raceme 0.5-4 cm, stiff, ascending when young, reflexing and finally decumbent from the axis at maturity, rachis flattened, narrowly winged.

**Fruits:** Spikelets narrowly cuneate.



## *Diplocyclos palmatus* (L.) C. Jeffrey

Common Name : Native bryony  
Family : Cucurbitaceae

- Habit:** A tuberous, slender annual vine.
- Stem:** Glabrous with forked tendrils.
- Leaves:** Ovate-suborbicular in outline, 7.5-15 cm long, base cordate, blade membranous, scabrid above with minute red scales, smooth or slightly scabrid beneath; lobes lanceolate, acute to acuminate, margins coarsely, irregularly serrate or sinuate and distantly denticulate.
- Flowers:** Small, greenish-yellow, the female flowers borne in fascicles, the male solitary.
- Fruits:** Berry rounded, 2-3 cm in diameter, bluish-green with eight vertical white streaks, ripening red.
- Seeds:** Brown, obovate, compressed, 4 mm long and 3 mm wide, encircled by a prominent raised band.



## *Dyschoriste depressa* Nees.

Common Name : Dwarf snakerherb  
Family : Acanthaceae

- Habit:** Perennial (rarely shrubby) herb with well-developed rootstock, up to 60 cm long.
- Stem:** Procumbent or trailing, rooting or not (rarely erect in pyrophytic forms subglabrous to densely whitish pubescent).
- Leaves:** Obovate, apex broadly rounded to retuse with a small triangular tip, on both sides glabrous to sparsely pubescent, often only along midrib and veins with glabrous lamina, margin distinctly crisped-ciliate.
- Flowers:** Flowers in condensed axillary cymes with 1-3 flowers; white, pale blue to blue or mauve to violet.
- Fruits:** Capsule 8-14 mm long, shorter than calyx (rarely same length).
- Seeds:** 2-3 mm long.





## *Echinochloa colona* (L.) Link.

Common Name : Jungle rice  
Family : Poaceae

- Habit:** An annual grass, 1m or taller.
- Stem:** Culms stout, erect to decumbent, often branching from the base.
- Leaves:** Sheath glabrous, ligule absent or occasionally represented by a rim of very short hairs, leaf blades glabrous, elongate, 5-15 mm wide, light green.
- Flowers:** Panicle erect or nodding, green or purple-tinged, 10-20 cm long. Racemes numerous, 2-4 cm long, spreading, ascending, sometimes branched.
- Fruits:** Caryopsis ovate, obtuse, usually 2.5-3.5 mm long. Seed white to hyaline with longitudinal ridges on the convex surface.



## *Echinochloa crusgalli* (L.) Beauv.

Common Name : Barnyard grass

Family : Poaceae

- Habit:** Robust, tufted annual grass, erect or at the base decumbent and rooting at the nodes, 20-150 cm tall.
- Stem:** Culms cylindrical, glabrous, filled with white spongy pith.
- Leaves:** Leaf sheaths glabrous or the margin or the exposed part of it fimbriate, 9-13 cm long. Blades merging into the sheath, linear, with a broad, rounded base and acute top; rough-margined, glabrous or at the base with a few long hairs, smooth or the upper surface minutely bristly.
- Flowers:** Inflorescence an apical panicle of 5-40 spike-like racemes, all turned to one side, with shortly ascending branches, the crowded spikelets at one side only, initially erect, later often bent down, 5-21 cm long.
- Fruits:** Caryopsis ovoid to obovoid, compressed, 1.5-2 mm long.



# *Echinochloa glabrescens* Munro. ex Hook. f.

Common Name : None  
Family : Poaceae

- Habit:** An erect, closely tufted, annual grass, 50-100 cm high.
- Stem:** Culms erect or slightly decumbent at the base.
- Leaves:** Sheaths tightly clasping the stem, leaf blades strap-like, 10-20 cm long, 5-8 cm wide, with a long, thin apex.
- Flowers:** Inflorescence a closely branched panicle, 10-20 cm long.
- Fruits:** Spikelets numerous, with or without awns (1-3 mm long, if present).



## *Echinops echinatus* Roxb.

Common Name : Indian globethistle  
Family : Asteraceae

- Habit:** A rigid, pubescent, annual herb, up to 1 m tall.
- Stem:** Erect with branches widely spreading from the base.
- Leaves:** Alternate, sessile, 7.5-12.5 cm long, oblong, pinnatifid, covered with cottony wool beneath, the lobes triangular and oblong, sinuate and spiny, the spines often 2.5 cm long.
- Flowers:** Flower heads white or purple, compact, globose, 2.5-3.8 cm in diameter, clustered at the ends of the branches.
- Fruits:** Achenes 4 mm long, densely villous; pappus short, yellowish, forming a short cylindrical bush above the achene.



## *Eclipta alba* (L.) Hassk.

Common Name : False daisy

Family : Asteraceae

**Habit:** A prostrate, ascending or erect, rough-hairy annual herb, up to 90 cm tall.

**Stem:** Much-branched, slender, reddish, covered with short, stiff hairs, rooting at the lower nodes.

**Leaves:** Opposite, simple, rough, dull green, ovate to oblong-lanceolate, 2-10 cm long, 1-3 cm wide, apex acute or blunt, base attenuate, margin entire or slightly serrate, pubescent, mostly sessile, the lower leaves sometimes short-petioled.

**Flowers:** Flower heads up to 1 cm in diameter, a cluster of sessile white flowers, in upper axils or terminal, solitary or two heads together. Ray flowers white.

**Fruits:** Achenes light-brown to black, laterally-flattened, wedge-shaped, 2-3 mm long, 0.9 mm wide. Apex with short, usually white hairs that are easily broken off but two hornlike projections often remain, pappus absent. The rest of the achene is glabrous and covered with many small warts.



## *Eichhornia crassipes* (Mart.) Solms.

Common Name : Water hyacinth  
Family : Pontederiaceae

**Habit:** A free-floating or partly rooting perennial aquatic herb.

**Stem:** With numerous, long, fibrous roots, short leafy.

**Leaves:** In rosettes, spoon or paddle-shaped, apex rounded, 5-20 cm wide; petioles turbinate swollen and spongy, enabling the plant to float.

**Flowers:** Mauve, lilac or blue, funnel-shaped, 2.5-3.8 cm long.

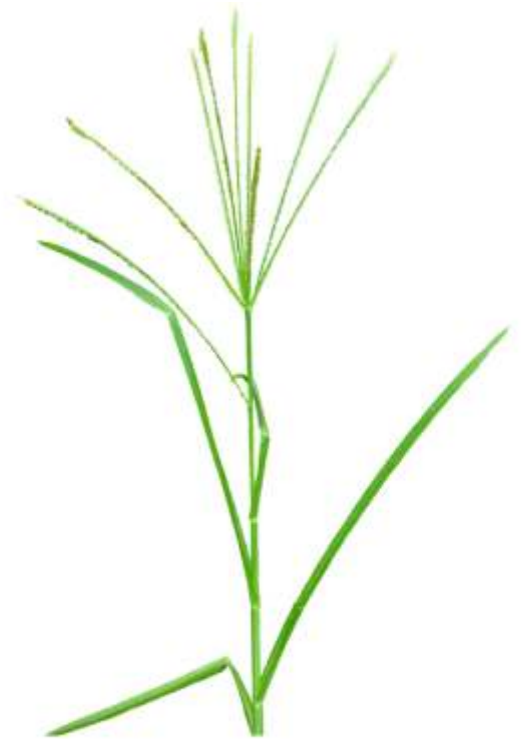
**Fruits:** Capsule, many-seeded.



## *Eleusine indica* (L.) Gaertner.

Common Name : Goosegrass  
Family : Poaceae

- Habit:** An annual grass.
- Stem:** Erect, slender, flattened, radiating outwards from a central distinctive white center.
- Leaves:** 2-14 inches long, 3-8 mm wide, without hairs or only sparsely hairy, and folded along the midvein. The ligule is 1-2 mm long, fringed, uneven, and membranous. Sheaths are flattened, whitish at the base, and sparsely hairy in the collar region.
- Flowers:** Seed heads composed of 2-13 spikes each 1.5 to 6 inches long, 3-7 mm wide, in clusters at the top of stems. Two rows of flattened spikelets occur along each spike.
- Seeds:** Light brown to black, 1-2 mm long.



## *Emilia sonchifolia* (L.) DC. Ex Wight.

Common Name : Red tassel flower  
Family : Asteraceae

- Habit:** Annual herb up to 40 cm tall.
- Stem:** Slender, erect or diffuse .
- Leaves:** Very variable; the lower petioled, lyrate or obovate, toothed or entire; the upper (cauline leaves) more or less emplexicaul and auricled, usually acute.
- Flowers:** Pink or purplish, borne in solitary or corymbose heads up to 1.3 cm long; peduncles very slender, nodding when young.
- Fruits:** Achenes 0.3 cm long, narrowly oblong, 5-ribbed, brown, scabrid on the ribs, attachment to a white, soft pappus.





## *Eragrostis unioloides* (Retz.) Nees. Ex Steud

Common Name : Chinese lovegrass

Family : Poaceae

- Habit:** Erect or decumbent, annual grass.
- Stem:** Solitary or tufted.
- Leaves:** Opposite, elliptic or obovate, form an acute or obtuse base, acuminate or rounded at apex.
- Flowers:** Inflorescence an oblong panicle, 10 cm long, spikelets two flowered, ovate-oblong, extremely compressed, purplish-red when mature. 4-7 mm long, the florets closely imbricate.
- Fruits:** Caryopsis compressed, ellipsoid, about 0.8 mm long.



# *Eriocaulon sieboldianum* Siebold & Zucc. ex Steud.

Common Name : None  
Family : Eriocaulaceae

- Habit:** A small, tufted, annual herb, 10-15 cm tall.
- Stem:** Angular, ribbed, thickened above the node, more or less densely hairy.
- Leaves:** 3-6 x 0.1 cm, linear, glabrous.
- Flowers:** Peduncles many; heads white, globose.
- Seeds:** Oblong-globose, finely, transversely striate.



## *Euphorbia dracunculoides* Lam.

Common Name : Dragon spurge  
Family : Euphorbiaceae

- Habit:** Annual or short-lived perennial, 10-40 cm tall.
- Stem:** Slender, sometimes branched basally, 3-7 mm thick, branches ascending.
- Leaves:** Linear-oblong, 1-3 cm x 2.5-4 mm, base truncate or subattenuate below, rounded higher up, margin entire, apex rounded or obtuse.
- Flowers:** Cyathium sessile; Male flowers many, not exerted from involucre. Female flower ovary exerted from cup, smooth, glabrous.
- Fruits:** Capsule subglobose, 3.5 × 3.5 mm, smooth or obscurely reticulate, glabrous.
- Seeds:** Ovoid-terete, 2.5 × 1.5-2 mm, gray or dark gray, adaxially striate; caruncle present, stipitate.



## *Euphorbia geniculata* Orteg.

Common Name : Wild poinsettia  
Family : Euphorbiaceae

- Habit:** Erect, annual herb, up to 1.2 m tall.
- Stem:** Fistular, ribbed, branched in the upper part, glabrous or thinly hairy towards the apex, greenish or purplish in appearance.
- Leaves:** Alternate below, opposite above, broadly ovate, elliptic, obovate, or panduriform, rarely linear, blades 4-12 cm long, 0.3-7 cm wide, glabrous or pilose, margins entire to coarsely serrate, apex acute, short-acuminate, or short-cuspidate, base rounded to cuneate.
- Flowers:** Cyathia in dense terminal cymes; involucre 2-2.5 mm high, glabrous.
- Fruits:** Capsules subglobose, 3-4 mm long, glabrous.
- Seeds:** Seeds dark brownish gray to black, sometimes mottled, truncate-ovoid, angled, 2-2.5 mm long, coarsely tuberculate, ecarunculate.



## *Euphorbia hirta* L.

Common Name : Asthma herb  
Family : Euphorbiaceae

- Habit:** An erect or procumbent annual herb, 15-50 cm high.
- Stem:** Densely clothed with yellow hairs; branches often 4-angled.
- Leaves:** Opposite, 1.3-3.8 cm long and 0.6-1.6 cm wide, obliquely elliptic, apex acute, base usually unequal-sided, margins serrulate or dentate, hairy, dark green above and pale beneath.
- Flowers:** Numerous, less than 1.3 mm long, crowded in small, globose, greenish-yellow axillary cymes.
- Fruits:** Capsules minute, 1.25 mm in diameter, trigonous, appressed hairy.
- Seeds:** Angular, 0.8 mm long, light reddish-brown.



## *Euphorbia hypericifolia* auct.

Common Name : Graceful sandmat  
Family : Euphorbiaceae

- Habit:** Prostrate or decumbent-ascending, annual herb, up to 40 cm high.
- Stem:** Often much branched from the base, often tinged with copper or reddish purple crispy-hairy or patent-hairy or glabrous.
- Leaves:** Petiolate, glabrous and dark green above, appressed-pubescent on the lower surface.
- Flowers:** Cymes dense on long peduncles.
- Fruits:** Depressed-globose.
- Seeds:** Smooth to transversely ribbed, corrugated, 4-angled.



## *Euphorbia indica* Lam.

Common Name : None  
Family : Euphorbiaceae

- Habit:** Annual herb, up to 60 cm tall.
- Stem:** Decumbent-ascending, suberect or erect, sparingly puberulous or pubescent.
- Leaves:** Elliptic-oblong, 1-3 x 0.5-1.5 cm, obtuse, obliquely rounded at the base, serrulate except at the base on the inner margin, subtriplinerved, green above, paler beneath.
- Flowers:** Cyathia aggregated together into loose clusters, terminating short axillary shoots; cyathial glands purplish, with white or pale pink orbicular petaloid appendages.
- Fruits:** Trigonous, 1.5 x 2 mm, smooth, sparingly pubescent or glabrous.
- Seeds:** 1 x 0.8 mm, ovoid, roundly-quadrangular, shallowly rugulose to almost smooth, grey, ecarunculate.



## *Euphorbia microphylla* Heyne ex Roth.

Common Name : None  
Family : Euphorbiaceae

- Habit:** Annual herb, 10-20 cm tall.
- Stem:** Many from base, prostrate, 1-2 mm thick, light red or red.
- Leaves:** Opposite, scalelike, 3-5 × 2-3 mm, base extremely oblique, margin subentire, apex rounded.
- Flowers:** Cyathia single or paired, axillary, peduncle absent. Male flowers 3-5, not exerted from involucre or reaching margin. Female flower pedicellate, nearly reaching margin of involucre.
- Fruits:** Capsule 3-angular, globose, 1.5 × 1.5 mm, smooth, glabrous.
- Seeds:** Ovoid-angulate, light yellow, smooth.





## *Euphorbia thymifolia* L.

Common Name : Gulf sandmart  
Family : Euphorbiaceae

- Habit:** Annual herb, up to 20 cm long, 1-3 mm in diameter.
- Stem:** Delicate, usually stolon-shaped, multiramose, sparsely pilose.
- Leaves:** Opposite, elliptic, oblong or obovate, 4 - 8 mm long, 2-5 mm wide, apex rounded, base oblique, in-equilateral, rounded or subcordate, margins serrulate, rarely entire, sparsely pilose on both surfaces, rarely glabrous.
- Flowers:** Inflorescences solitary or severally clustered at leaf axils. Male flowers several, slightly exceeding involucre. Female flower 1, stipes of ovaries very shorter.
- Fruits:** Appressed-pubescent, trivalved cocci.
- Seeds:** Long, ovoid-tetragonal, 0.7 mm long, 0.5 mm in diameter, scarlet.



## *Evolvulus alsinoides* L.

Common Name : Slender dwarf morning glory  
Family : Convolvulaceae

- Habit:** A prostrate, annual or perennial herb.
- Stem:** With spreading, wiry, silky hairy branches arising from a woody rootstock and many spreading branches.
- Leaves:** Alternate, subsessile to short-petioled, variable in shape: broadly ovate, elliptic or lanceolate, 0.8-2.6 cm long and up to 1 cm wide, acute to rounded at both ends, hairy on both sides.
- Flowers:** Blue or white, campanulate to subrotate, 0.5-0.6 cm long and wide, born 1-3 together on axillary peduncles 0.6-4 cm long.
- Fruits:** Globose 4-valved, usually 4-seeded, capsule, 0.3-0.4 cm long, glabrous.
- Seeds:** Pale brown to black, ovoid, 1.5-1.7 mm long.



## *Evolvulus nummularius* (L.) L.

Common Name : Roundleaf bindweed  
Family : Convolvulaceae

- Habit:** Perennial herb, 20-40 cm high.
- Stem:** Several, rooting at nodes, prostrate, slender, villous or scabrous.
- Leaves:** Nearly circular, 1.3-1.7 x 1.2-1.4 cm, glabrous or appressed pilose abaxially, base cordate to rounded, apex rounded or emarginate.
- Flowers:** 1 or 2 per leaf axil; white.
- Fruits:** Capsule ovoid, 2-3 mm in diameter.
- Seeds:** Brown, ovoid-trigonous, minutely tuberculate.



## *Fimbristylis dichotoma* (L.) Vahl

Common Name : Forked fimbry  
Family : Cyperaceae

- Habit:** Annual or short lived perennial, 10-70 cm tall.
- Stem:** Culms slender to rather stout, compressed.
- Leaves:** Leaf blade pilose with tubercle based hairs on both sides.
- Flowers:** Corymb simple, compound or decompound; spikelets ovoid to ovoid-ellipsoid, 3-10 mm long.
- Fruits:** Nuts obovate to broadly ovate, 0.7-1.25 mm long, creamy, each side cancellated with 7-13 rows of transversely oblong cells.



## *Fimbristylis miliacea* (L.) Vahl.

Common Name : Grass-like fimbry  
Family : Cyperaceae

- Habit:** A tufted, erect sedge that can grow as an annual or perennial.
- Stem:** Culms slender, 40-60 cm tall, four or five angled and often somewhat flattened.
- Leaves:** 1.5-2.5 mm wide, up to 40 cm long, basal leaves half as long as culm, linear, threadlike and stiff, two-ranked, with sheaths.
- Flowers:** Inflorescence a rather lax and diffuse compound umbel, 6-10 cm long, spikelets globose or ovate, 2.5-4 mm long, 1.5-2 mm wide, round or acute at apex, reddish brown.
- Fruits:** Achenes are obovoid, trigonous, biconvex, apiculate; 0.6 to 1 mm long, 0.75 mm wide and pale ivory to brown and are covered with a network of very fine crosswise lines.



## *Fumaria parviflora* Lam.

Common Name : Fineleaf fumitory

Family : Fumariaceae

- Habit:** Annual herb, up to 60 cm tall.
- Stem:** Slender, much branched and succulent.
- Leaves:** 2-3 pinnatisect, 2-5 cm long, segments linear-ob lanceolate, apiculate.
- Flowers:** Purplish-red, spurred, in terminal or leaf opposed, bracteate racemes.
- Fruits:** Nuts globose, 2-3 mm in diameter, rugose when dry.



## *Galium aparine* L.

Common Name : Stickywilly  
Family : Rubiaceae

- Habit:** An annual, up to 3 m high.
- Stem:** Square in cross section.
- Leaves:** Long and narrow, borne in whorls of between 4-10 at intervals along the stem.
- Flowers:** Flowers are extremely inconspicuous, consisting of small clusters of white, four petalled flowers, produced in the axils of the leaves.
- Fruits:** Small, hard, spherical, green at first before becoming purple.



## *Glinus lotoides* L.

Common Name : Lotus sweetjuice  
Family : Molluginaceae

- Habit:** A prostrate or ascending, annual herb, 15-45 cm long.
- Stem:** Much branched, stellately hairy, usually with a long, stout taproot, spreading and forming a loose mat.
- Leaves:** Opposite or falsely whorled, broadly obovate or suborbicular, 1-2.5 cm long and 0.8-1.5 cm wide, villous on both surfaces, apex apiculate, narrowed at the base, margins finely crenulate-denticulate.
- Flowers:** Pinkish or greenish, in axillary fascicles, 1-6 together.
- Fruits:** Capsule ovoid, shorter than sepals, 5-valved.
- Seeds:** Minute, black, glossy, ovovoid, with raised tubercular points and a distinct white scale at the hilum, extended into a long filiform structure, curving around the seed.





## *Glinus oppositifolius* L.

Common Name : Bitter cumin  
Family : Molluginaceae

**Habit:** Erect or ascending, some times prostrate, annual herb.

**Stem:** Slender, numerous, dichotomously branched.

**Leaves:** 1.3 x 2.2 cm long in whorls of 4-5, unequal, oblanceolate, or linear lanceolate, or sometimes spatulate.

**Flowers:** Small, white, in axillary fascicles of 2 or more with long filiform pedicels.

**Fruits:** Capsule ellipsoid, a little shorter than sepals.



## *Gnaphalium polycephalum* L.

Common Name : White balsam  
Family : Asteraceae

- Habit:** An annual herb, 30-60 cm high.
- Stem:** Erect, branched above.
- Leaves:** Alternate, 7.5 cm long. 0.75 cm broad, tapering at base, sessile, margins little wavy, smooth above.
- Flowers:** Tubular, white, in obovate heads in a terminal and close paniced corymb.



# *Gomphrena decumbens* Jacq.

Common Name : Prostrate globe-amaranth  
Family : Acanthaceae

- Habit:** An annual or perennial, prostrate or decumbent herb.
- Stem:** Clothed with white, shaggy hairs.
- Leaves:** Subsessile, 1.5-5 x 0.5-1.5 cm, spatulate or oblong-lanceolate, acute, entire.
- Flowers:** White in sessile, terminal, subglobose heads or spikes, up to 4 cm long, pilose on the back.
- Seeds:** 1.5 x 1 mm, black, shining.



## *Grangea maderaspatana* (L.) Poir

Common Name : Madras carpet  
Family : Asteraceae

- Habit:** Annual, prostrate or procumbent herb.
- Stem:** Trailing, glandular, pubescent.
- Leaves:** 1.3-7 cm, sinuately pinnatifid, coarsely serrate, dentate, sparsely hairy on both surfaces.
- Flowers:** Capitula somewhat flattened to conical, terminal, solitary or 2-3 together, each capitulum 6-13 mm in diameter.
- Fruits:** Achene 2 mm long, pappus a short fimbriate tube.



## *Heliotropium indicum* L.

Common Name : Indian heliotrope  
Family : Boraginaceae

- Habit:** Annual or perennial herb, 30-80 cm tall.
- Stem:** Erect, slightly woody at the base, unbranched or branches few.
- Leaves:** Alternate or sometimes subopposite, distinctly petiolate, petioles to 5 cm long, blade long-decurrent on petiole from a subtruncate base, ovate-deltoid, margin slightly wavy-crisped, 2.5-10 cm long, 1-5 cm wide, acute (blunt).
- Flowers:** Inflorescence terminal, simple or rarely once-forked, flowers along one side, sessile, tip coiled, axis up to 20 cm long; lowest flowers opening first; flowers pale violet (lilac) with a yellow throat, but fading to dull white.
- Fruits:** 3.5 mm long, ovoid, ribbed, separating into 2 nutlets each 2-celled, 3-3.5 mm long.



## *Heliotropium ovalifolium* Forsk.

Common Name : Grey leaf heliotrope  
Family : Boraginaceae

- Habit:** Perennial herb, up to 90 cm tall.
- Stem:** Much branched with woody base, young branches silvery pubescent.
- Leaves:** Alternate, simple, elliptic to obovate, 5.5 x 2.5 cm, base cuneate, apex retuse, mucronate or acute.
- Flowers:** Inflorescence a spike like cyme, silky hairy, flowers arranged in two ranks.
- Fruits:** Splitting into 4 nutlets, densely hairy.



## *Hemidesmus indicus* (L.) R. Br.

Common Name : False sarsaparilla  
Family : Asclepiadaceae

- Habit:** A twining or prostrate perennial shrub.
- Stem:** Slender, cylindrical, thickened at nodes.
- Leaves:** Simple, opposite or whorled, short-petioled, variable in shape from broadly ovate to oblong-elliptical, linear or linear-lanceolate, obtuse or apiculate, 3-10 cm long and 0.3-3.5 cm wide, base acute, rounded or truncate, apex rounded or emarginate and apiculate, leathery, dark green above.
- Flowers:** Small, greenish-yellow outside and purplish inside, crowded in subsessile axillary cymes shorter than leaves.
- Fruits:** Follicle glabrous, often purplish, slender, cylindrical, sometimes curved, 10-12 cm long and 0.5-0.6 cm wide, divaricate.
- Seeds:** Black, flattened, ovate-oblong with a silvery coma.



## *Heteropogon contortus* (L.) Roem. & Schult.

Common Name : Spear grass

Family : Poaceae

**Habit:** A densely tufted, gregarious, perennial grass; 30-150 cm long.

**Stem:** Stems slender, erect or decumbent below with leafy at the base.

**Leaves:** Leaf blades flat, linear, rigid, 4-30 cm long and 0.2-0.5 cm wide, apex shortly acuminate, sparsely ciliate towards the base; basal sheaths laterally compressed, keeled, glabrous; ligule short, truncate.

**Flowers:** Borne in terminal. Solitary, spiked racemes, 3-7.5 cm long, the awns forming a twisted spire at the top.

**Fruits:** Spikelets sessile, 0.5-0.8 cm long including the callus, closely imbricating, lower ones awnless, male or neuter, upper ones female, long-awned, bearded with reddish-brown hairs.





## *Hibiscus lobatus* (J. A. Murray) O. Ktze.

Common Name : Lobed leaf mallow  
Family : Malvaceae

- Habit:** Annual herb, 0.5-1.3 m tall.
- Stem:** Young stems pubescent, pilose or tomentellous.
- Leaves:** Leaf-lamina 2-12 × 1.5-10 cm, suborbicular to ovate in outline, varying on the same individual from not lobed to deeply 3-5 palmatilobed or incised, usually pubescent on both surfaces with additional longer simple hairs on the veins and 2-4-pronged hairs mainly on the lower surface, lobes sometimes secondarily pinnately lobed or incised, apex acute to subcaudate, margin bluntly toothed or crenate or irregularly lobed, base slightly to distinctly cordate.
- Flowers:** 12 cm in diameter, white to yellowish, in few-flowered terminal racemes.
- Fruits:** Capsule 10 × 7 mm, oblong-ellipsoid, pubescent, with awns 1.5-2 mm long.
- Seeds:** 1.5-1.3 mm, irregularly prismatic, minutely verruculose, otherwise glabrous.



## *Hibiscus panduriformis* Burm.

Common Name : Yellow hibiscus  
Family : Malvaceae

- Habit:** Shrub-like perennial, up to 2.5 m tall.
- Stem:** With a woody base and stellate hairs.
- Leaves:** Almost round in outline, shallowly 3-5 lobed, hairy on both surface.
- Flowers:** Solitary, axillary, yellow with a dark centre, turning apricot-orange with age.
- Fruits:** Capsule sub-spherical, 1.5 mm in diameter.
- Seeds:** 3 x 2 mm, crescent to kidney-shaped, densely pubescent.



## *Hibiscus vitifolius* Linn.

Common Name : Tropical rose mallow  
Family : Malvaceae

- Habit:** A herb and almost a shrub, up to 2.5 m tall.
- Stem:** Erect, densely velvety-hairy.
- Leaves:** 2.5-6 cm long, 2.5 cm broad, sub-cordate, rounded at the base, acute at apex, serrate to crenate, not lobed or shallowly 3-7 lobed, broadly ovate to orbicular, densely pubescent on both the surfaces.
- Flowers:** Occur singly in leaf axils, yellow with a large purple centre.



## *Hydrolea zeylanica* (L.) Vahl

Common Name : Ceylon hydrolea  
Family : Hydrophyllaceae

**Habit:** Soft, unarmed, herbaceous perennial, but flowering the first year from seed, therefore seemingly annual, 7-100 cm tall or more, often repent.

**Stem:** Repeatedly branched, glabrous below the flowering branches.

**Leaves:** Glabrous or very thinly puberulent on the petiole, veiny below, lanceolate to elliptic, 2-12 cm long, 6-12 mm wide, on winged petioles up to 5 mm long.

**Flowers:** Flowers in irregularly bracted racemes or panicles, the inflorescence branches, pedicels, and calyces stipitate glandular; flowers blue.

**Fruits:** Capsular, 4-4.5 mm high, septicidally dehiscent, seated in the persistent calyx.

**Seeds:** Numerous, less than 0.5 mm long.



## *Hyptis suaveolens* (L.) Poit.

Common Name : Pignut  
Family : Lamiaceae

**Habit:** A rigid, , sweetly aromatic herb, sometimes up to 2 m tall.

**Stem:** Erect, much-branched, obtusely quadrangular.

**Leaves:** Very variable, broadly ovate to suborbicular, margins crenate-serrulate, tomentose and dotted with oil globules beneath; lower leaves 12 cm long and 9 cm wide, base subcordate, upper leaves smaller, base acute.

**Flowers:** Small, blue, borne 2-4 together in axillary or terminal heads in racemes.

**Fruits:** Nutlets blackish-brown, ovoid-oblong, compressed, 0.3 cm long, pubescent with mucilaginous hairs.



# *Imperata cylindrica* (L.) Raeusch.

Common Name : Cogon grass  
Family : Poaceae

- Habit:** A perennial grass.
- Stem:** Culms are short, erect and arise from rhizomes. The rhizomes are tough, white, commonly 1 m long but can be considerably more, extensively branched and covered with papery scale leaves at the nodes.
- Leaves:** Stiff, linear-lanceolate, up to 120 cm long and 4-18 mm wide, with a prominent white midrib, scabrid margin and pointed tip. The ligule is an inconspicuous membrane.
- Flowers:** Inflorescence is a white, spike-like panicle, terminal, fluffy, 5-20 cm long and up to 2.5 cm in diameter. Spikelets are numerous, 3.5-5.0 mm long, each surrounded by a basal ring of silky hairs 10 mm long.
- Fruits:** Grain is oblong, pointed, brown and 1-1.5 mm long.



## *Indigofera cordifolia* Heyne. ex Roth.

Common Name : Heart leaf indigo  
Family : Fabaceae

- Habit:** Prostrate, annual herb, 8-15 cm long.
- Stem:** Branched, hairy.
- Leaves:** Simple, 6-16 mm long, 4-13 mm broad, nearly stalkless, broadly ovate, heart-shaped, obtuse tipped, ending in a sharp point. Leaves are velvety hairy on both sides.
- Flowers:** Inflorescence is nearly stalkless, 4-8 flowered head; flowers bright red, pea-shaped.
- Fruits:** 4-5 mm long, oblong, densely pubescent, 2-seeded.



## *Indigofera linifolia* (L.f.) Retz.

Common Name : None  
Family : Fabaceae

- Habit:** A slender, trailing or procumbent, annual herb, to 45 cm long.
- Stem:** Numerous, much-branched, stems and leaves covered by silvery pubescence.
- Leaves:** Linear, 3 cm long and 0.4 cm wide.
- Flowers:** Deep pink to bright red, 5-8 mm long, borne in subsessile racemes.
- Fruits:** Pod 1.5-2 mm long, globose, hard, silvery pubescent, apiculate, 1-seeded.





## *Indigofera linnaei* Ali.

Common Name : Birdsville indigo  
Family : Fabaceae

- Habit:** A small trailing, annual or perennial herb.
- Stem:** Much-branched, grey pubescent, with a woody rootstock; branches 30-45 cm long.
- Leaves:** Nearly sessile, imparipinnate, rachis 1.5-2 cm long; leaflets usually 7-9, alternate, subsessile, oblong-ovate, 3-12 mm long and 1.5-5 mm wide, obtuse or emarginated at apex, cuneate at base, appressedly white pubescent on both surfaces.
- Flowers:** Small, borne in sessile or short-peduncled 10-20-flowered axillary spikes up to 1.5 cm long; bright red, slightly exserted.
- Fruits:** Pods 3-4 mm long and 1.5-2 mm in diameter, oblong, cylindrical, more or less clothed with white appressed hairs.
- Seeds:** Globose.



## *Indoneesiella echioides* (L.) Sreem.

Common Name : False waterwillow  
Family : Acanthaceae

- Habit:** An erect, annual herb, up to 60 cm tall.
- Stem:** Grooved, quadrangular, clothed with spreading hairs.
- Leaves:** 3.2-7.5 cm long and 1-2.5 cm wide, oblong or sub-elliptic, obtuse, sparsely hairy, ciliate along margins, base cuneate.
- Flowers:** Numerous, with a pink or white corolla with dark purple blotches on the lower lip, densely pubescent outside, borne along the upper side of a slender, glandular-hairy rachis, in axillary racemes.
- Fruits:** Capsules 1-1.3 cm long and half as broad, compressed, acute at both ends, hairy.
- Seeds:** Oblong, up to 2.5 mm long, not compressed, pitted, glabrous.



## *Ionidium suffruticosum* (L.) Roem. & Sch.

Common Name : Spade flower  
Family : Violaceae

- Habit:** A small perennial herb, 15-30 cm tall.
- Stem:** With a woody base, numerous diffuse or ascending branches.
- Leaves:** Subsessile, linear to oblanceolate, 4-5 cm long and 0.2-0.8 cm wide, margins entire or serrate.
- Flowers:** Solitary, axillary, red or purple, pedicels 6-12 mm long, erect slender.
- Fruits:** Small subglobose capsules, 0.6 cm in diameter.
- Seeds:** Ovoid, longitudinally striate, yellowish-white, 1.5 mm long.



## *Ipomoea aquatica* Forssk.

Common Name : Water spinach  
Family : Convolvulaceae

- Habit:** A sprawling vine, annual or perennial, creeping on mud or floating on water; up to 3 m long, to 1 cm in diameter.
- Stem:** Terete, branched, hollow and succulent when floating, otherwise solid and firm.
- Leaves:** Emerged, glabrous, alternate; petioles succulent when grown in water, 3-20 cm long; blades greenish-brown, triangular, ovate, lanceolate, or linear, entire to dentate, 3-15 cm long, 1-12 cm across, bases truncate, cordate, hastate, or sagittate, lobes rounded to acute, entire to dentate.
- Flowers:** Inflorescences axillary cymes, with one to a few flowers; peduncles 0.5-18 cm long. Flowers perfect, hypogenous, large and showy, funnel shaped, glabrous, pink, often with darker eye, sometimes white or cream.
- Fruits:** A capsule, glabrous, globose to ovoid, 8-10 mm long.
- Seeds:** Brown or black, mostly pubescent, 3-ranked, rounded on back, about 5 mm long, about 4 mm wide.



## *Ipomoea cairica* (L.) Sweet.

Common Name : Cairo morning glory  
Family : Convolvulaceae

- Habit:** An extensive perennial climber.
- Stem:** Tubercled with tuberous rootstock.
- Leaves:** Ovate to orbicular in outline, 3-10 cm long and wide, deeply palmately 5-7-lobed, the lobes lanceolate to ovate or elliptic, acute or obtuse and mucronate at the apex, 3-5 cm long.
- Flowers:** Purple, blue-purple or white with a purple centre, funnel-shaped, 4.6-6 cm long, borne 1 or 3 together in axillary cymes.
- Fruits:** Capsular, subglobose, 1-1.2 cm long, glabrous.
- Seeds:** Subglobose to ovoid, blackish to tan, 0.4-0.6 cm long, densely short-tomentose, sometimes with long silky trichomes along the edges.



## *Ipomoea carnea* Jacq.

Common Name : Bush morning glory  
Family : Convolvulaceae

- Habit:** A robust, perennial shrub, 1-5 m tall.
- Stem:** Branched, luster green with milky latex.
- Leaves:** Ovate-lanceolate, pubescent, particularly beneath.
- Flowers:** Flowers in clusters at the ends of branches, pale to deep pink, darker in the corolla throat.
- Fruits:** Capsule glabrous, dehiscent, brown.



## *Ipomoea coccinea* L.

Common Name : Red star  
Family : Convolvulaceae

- Habit:** A vine or shrub, up to several metres long.
- Stem:** Slender or scandent.
- Leaves:** Ovate, broadly cordate, 6-12 cm long, apex acute or acuminate, margins subentire, angled or broadly 3-5 lobed.
- Flowers:** Erect, red, borne in long-peduncled, few-flowered axillary cymes, up to 15 cm long.
- Fruits:** Capsules subglobose or ovoid, 0.6 cm in diameter.



## *Ipomoea hederacea* (L.) Jacq.

Common Name : Ivy leaf morning glory  
Family : Convolvulaceae

- Habit:** An annual vine.
- Stem:** Twining or climbing.
- Leaves:** Alternate, hairy, petioled, 2-5 inches long and distinctly 3-lobed or ivy shaped.
- Flowers:** 1-2 inches long, with petals fused into a funnel; purple or blue or white in color.
- Fruits:** Capsule, spherical, 3-locular, brown.





## *Ipomoea obscura* (L.) Ker Gawl.

Common Name : Obscure morning glory  
Family : Convolvulaceae

- Habit:** Herabceous, twining annual or perennial, 1-2 m long.
- Stem:** Thinly angular; axial parts glabrous, spreading pubescent or almost wooly.
- Leaves:** Cordate-circular or ovate, ocassionally reniform, 2-8 x 1.6-8, glabrous or sparsely pilose, base cordate, margins entire or minutely undulate, apex attenuate, acute.
- Flowers:** Inflorescence 1-3 flowered peduncle; flowers white or pale yellow with darker mediapetaline band and a purple centre.
- Fruits:** Capsule conical-ovoid or somewhat globose, 6-8 mm in diameter, apiculate.
- Seeds:** Black-brown, 4-5 mm, densely grey-brown tomentellous.



## *Iopomoea pes-caprae* (L.) R. Br..

Common Name : Goat's foot  
Family : Convolvulaceae

- Habit:** An evergreen perennial vine.
- Stem:** Flexible, 1.3 cm in diameter, branches freely and roots at the nodes.
- Leaves:** Fleshy, leathery, 10 cm long, notched at the apex, creating two equal lobes.
- Flowers:** Very showy, pink to lavender purple, funnel shaped.
- Fruits:** Round, less than 5 inches, hard, not showy.



## *Iopomoea pes-tigridis* L.

Common Name : Tiger foot morning glory  
Family : Convolvulaceae

- Habit:** Annual vine.
- Stem:** Spreading or climbing, with long, spreading yellow hairs.
- Leaves:** Up to 11 cm long and 13 cm wide, sometimes entire but usually deeply palmately 5-9-lobed, lobes narrowly oval to obovate, narrowed above and below, 1.6-7 cm long and 1-2.8 cm wide, thinly pubescent to strigose on both surfaces.
- Flowers:** Inflorescence few-flowered bracteate head on pubescent peduncle up to 14 cm long; flowers white, pink or purple, if coloured then with a darker throat, funnel-shaped, 3.5-5 cm long.
- Fruits:** Capsular, ovoid, papery, brown, glabrous, 0.8-0.9 cm long and about 0.5 cm in diameter.
- Seeds:** Black, 0.4 cm long, usually grey pubescent.



## *Ipomoea turbinata* Lag.

Common Name : Lilac bell  
Family : Convolvulaceae

- Habit:** A large annual, glabrous vine.
- Stem:** Muricate.
- Leaves:** 7-18 cm long and 6-13 cm wide, ovate to orbicular, glabrous, base cordate, apex acute to acuminate, margins entire.
- Flowers:** Inflorescence a few flowered peduncle, 3-6 cm long; flowers funnel shaped, lavender to purplish.
- Fruits:** Capsular, ovoid, apiculate, 1.8-2 cm long and 1.3 to 1.7 cm in diameter.
- Seeds:** Ovoid, smooth, shiny, black, 1 cm long.



## *Ischaemum indicum.*

Common Name : Indian murainagrass  
Family : Poaceae

- Habit:** Perennial grass; 6-75 cm tall.
- Stem:** Erect, geniculate or decumbent and rooting at the lower nodes, sometimes creeping extensively to form colonies, the internodes glabrous, the nodes usually pilose on the sheath base, sometimes nearly glabrous.
- Leaves:** 3-11 cm long, 2-6 mm wide, linear to linear-lanceolate, usually at least sparsely pubescent, sometimes villous, pseudopetioles not developed, the base gradually narrowed to abruptly rounded, the tip acuminate, the margins scaberulous.
- Flowers:** Racemes two 1-5 cm long, appressed to spreading; peduncle glabrous, usually long-exserted;
- Fruits:** Caryopsis 1.2-1.3 mm long, 0.6-0.7 mm wide, fitting into the lower hump of the upper glume.



## *Ischaemum rugosum* Salisb.

Common Name : Wrinkled duck-beak  
Family : Poaceae

- Habit:** A vigorous annual (in strongly desiccating soil) or short-lived perennial, up to 1.5 m tall.
- Stem:** Tufted, sometimes with stilt roots, rooting at the nodes, with erect, slanting or ascending, often much-branched culms.
- Leaves:** The leaf blades are acuminate, the lower ones narrowed gradually to the base; 30 cm long, 1.5 cm wide; the margin is cartilaginous and scabrid, the base densely hairy. The ligule is variable, a brownish membrane, 6 mm deep.
- Flowers:** The inflorescence is terminal, apparently simple when young, but separating with age into its two constituent racemes, usually 7-10 cm long; each raceme with the spikelets arranged in pairs, one sessile, one pedicelled, on one side of the triangular, hairy rachis.
- Fruits:** Spikelets are boat shaped; yellowish brown, shiny; lower glume of the sessile spikelets is membranous with distinct transverse ridges (hence rugosum).



## *Lagascea mollis* Cav.

Common Name : Silk leaf  
Family : Asteraceae

- Habit:** An annual herb, 50-100 cm tall.
- Stem:** Sometimes purplish, with stipitate glandular hairs on young parts.
- Leaves:** Opposite, simple, ovate, with toothed margin, 3-5 cm long; silky beneath.
- Flowers:** Tiny white-cream colored flowers occur in a composite head 2-3 cm across. The heads are surrounded by silky leaves.
- Fruits:** Achenes brown or black, 3 mm long, setuliferous near apex; pappus a minute crown, pubescent.
- Seeds:** Subcylindric, truncate at apex, reddish brown.



## *Lantana camara* L.

Common Name : Wild sage  
Family : Verbenaceae

- Habit:** A perennial shrub, 2-5 m tall.
- Stem:** Woody, 4-angled, often bearing recurved prickles.
- Leaves:** Serrated leaves are ovate to ovate-lanceolate (up to 10 cm long and 7.5 cm wide) and usually light colored.
- Flowers:** Yellow and pink, later turning orange then red and sometimes blue or purple.
- Fruits:** Black, fleshy drupes, borne in clusters, 3-6 mm in diameter and contain 1-2 seeds.





## *Lathyrus aphaca* L.

Common Name : Yellow pea  
Family : Fabaceae

- Habit:** A suberect annual herb.
- Stem:** Scrambling or trailing, glabrous.
- Leaves:** Leaflets modified into long tendrils; stipules ovate-rounded, 0.5-3 X 1-2 cm, appressed to stem.
- Flowers:** Yellow, axillary, solitary, on long peduncles.
- Fruits:** Pods are glabrous, straight or incurved, 2-3.5 cm long and 0.3-0.8 cm wide, with 6-8 seeds.
- Seeds:** Ellipsoid to globose, usually flattish with a glossy, smooth, dark purple-brown to black surface, sometimes spotted to marbled.



# *Lathyrus sativus* L.

Common Name : Grass pea  
Family : Fabaceae

- Habit:** A much-branched, straggling or climbing, herbaceous annual; 25-60 cm long.
- Stem:** Quadrangular with winged margins. Stipules are prominent, narrowly triangular to ovate with a basal appendage.
- Leaves:** Pinnate leaves are opposite, consisting of one or two pairs of linear-lanceolate leaflets, 5-7.5 x 1 cm, and a simple or much-branched tendril. Leaflets are entire, sessile, cuneate at the base and acuminate at the top.
- Flowers:** Axillary, solitary, about 1.5 cm long, and may be bright blue, reddish purple, red, pink, or white.
- Fruits:** Pods are oblong, flat, slightly bulging over the seeds, about 2.5-4.5 cm in length, 0.6-1.0 cm in width and slightly curved; dorsal part of the pod is 2-winged, shortly beaked and contains 3-5 small seeds.
- Seeds:** 4-7 mm in diameter, angled and wedge-shaped; white, brownish-grey or yellow, although spotted or mottled forms also exist.



# *Launaea nudicaulis* (Linn.) Hook. f.

Common Name : Bold-leaf launaeae  
Family : Asteraceae

**Habit:** Perennial herb with a taproot and often shoot bearing lateral roots, up to 40-50 cm high.

**Stem:** A short woody caudex.

**Leaves:** One or a few basal leaf rosettes, each usually with several procumbent to ascending-erect, divaricately branched, occasionally straggling flowering stems; Caudical leaves 2-12 x 0.5-3.5 cm, rather variable, narrowly spatulate in outline, sinuate-dentate to irregularly pinnatifid to mostly runcinate, with acute apex and acute segments, margin sinuate-dentate and denticulate.

**Flowers:** Inflorescence of a flowering stem ending in a single capitulum and with a variable number of flowering branches; peduncles 2-15 mm long, wiry, spreading-erect; flowers usually yellow.

**Fruits:** Achenes 2.6-5.5 x 0.5-1.0 mm, heteromorphic, with 4 main ribs, smooth to somewhat transversely wrinkled, pale.



## *Launaea sarmentosa* (Willd.) Sch. Bip.

Common Name : Beach Launaea  
Family : Asteraceae

- Habit:** An annual or perennial, rosulate, creeping, glabrous.
- Stem:** Stems several, flagelliform, creeping, 20-90 cm, branched; nodes 4-15 cm apart, with adventitious roots and secondary leaf rosettes.
- Leaves:** Rosette leaves spatulate, 3-8 × 0.6-1 cm, sinuate-dentate to pinnately lobed, attenuate towards base, margin weakly to distinctly denticulate, apex acute, obtuse, or rounded.
- Flowers:** Capitulum solitary, terminating secondary leaf rosettes along stems, with usually 14-18 florets; corolla yellow.
- Fruits:** Achenes weakly dimorphic, brownish to blackish, columnar to cylindric, 3-5 mm; outer achenes with 5 thick soft ribs, smooth, apex pointed to subtruncate; inner achenes with 4 ribs. Pappus 4-8 mm, caducous with pappus disk.



## *Leonitis nepetaefolia* (L.) R. Br.

Common Name : Lion's ear  
Family : Lamiaceae

- Habit:** A herb or shrub, 1.2-2.6 m tall.
- Stem:** Stem and branches obtusely 4-angled, deeply grooved on opposite sides, finely tomentose.
- Leaves:** Upper leaves ovate-lanceolate, 5.6-8.5 cm long and 1.5-2.6 cm wide, acute at base; lower leaves ovate to broadly ovate, 4-20 cm long and 3-15 cm wide, broadly rounded or truncate at base; all leaves acute to subacute at apex with crenate-serrate margins.
- Flowers:** Orange-scarlet, bristly, borne in dense, globose, axillary whorls, 3.8-6.3 cm in diameter; floral leaves lanceolate, deflexed; bracts linear, up to 16 mm long, strongly spinous-pointed, deflexed, pubescent.
- Fruits:** Nutlets oblong-ovoid, about 0.4 cm in diameter, obliquely truncate with ribbed margins.



## *Lepidium sativum* L.

Common Name : Pepper grass  
Family : Brassicaceae

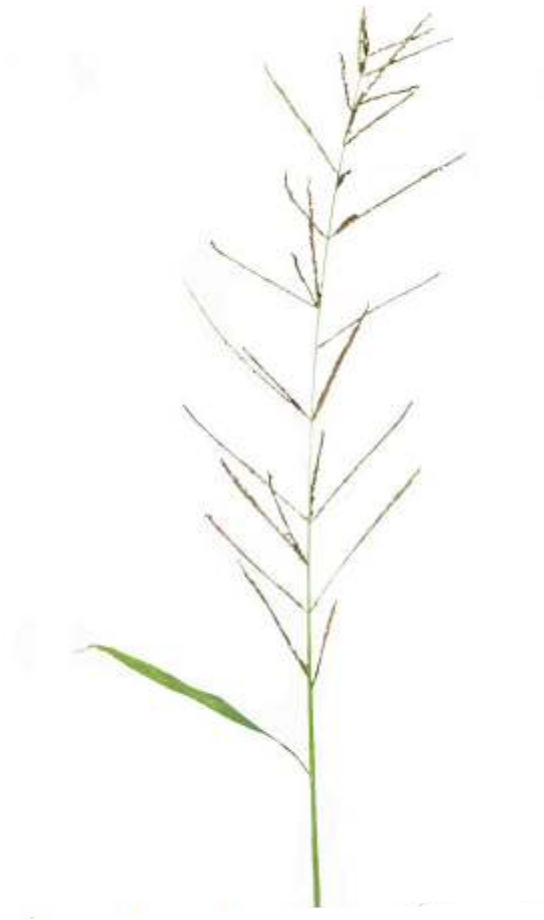
- Habit:** A small herbaceous annual; 15-45 cm tall.
- Stem:** Erect, branched, glabrous.
- Leaves:** Variable, entire or variously lobed or pinnatisect. Lower leaves long-petioled, twice pinnatisect; upper leaves sessile, linear, linear-oblong or pinnatifid.
- Flowers:** Small, white in long racemes.
- Fruits:** An ovoid, flattened silique, measuring 4.5-6.5 mm X 3-4 mm, pale green to yellowish, with prominent apical wings.
- Seeds:** Sub-ovoid, flattened, measuring 2-3 mm X 1.5 mm, wingless and reddish brown.



## *Leptochloa chinensis* (L.) Nees.

Common Name : Chinese sprangletop  
Family : Poaceae

- Habit:** An aquatic or semi-aquatic tufted annual or perennial grass.
- Stem:** Stout to slender, erect or geniculate culms up to 1.5 m tall, often rooting at the lower nodes.
- Leaves:** Leaf-sheath loose, subglaucous, smooth, up to 10 cm long; ligule a fringed, hairy membrane, 1-2 mm long; leaf-blade linear, up to 50 cm x 1 cm, long-attenuate, flat or folded, scabrid above.
- Flowers:** Inflorescence 10-60 cm long, composed of numerous slender racemes scattered along an elongate central axis; racemes flexuous, 2-13 cm long, erect or laxly ascending.
- Fruits:** Spikelets 3-7 flowered, narrowly elliptical-oblong, 2-3 mm, subsessile, often purplish, disarticulating above the glumes and between the florets.
- Seeds:** Caryopsis ellipsoid-oblongoid, 6-9 mm long, brown, smooth or wrinkled.



## *Leucas aspera* (Willd.) Link.

Common Name : Common leucas  
Family : Lamiaceae

- Habit:** An annual herb; 15-45 cm tall.
- Stem:** Erect , usually much diffusely branched from below, stout, hispid. Branches quadrangular, hispid.
- Leaves:** Linear or oblong, 2.5 to 7.5 cm long with blunt tips and scalloped margins.
- Flowers:** Whorls are large, terminal and axillary, about 2.5 cm in diameter and crowded with white bell shaped flowers.
- Fruits:** Nutlets long-oblong sub-truncate at the apex, smooth and brown.
- Seeds:** Subcylindric, truncate at apex, reddish brown.





## *Leucas cephalotes* (Roth) Spreng.

Common Name : none  
Family : Lamiaceae

- Habit:** An annual, erect, scaberulous, stout herb, about 0.6-0.9 m tall.
- Stem:** Stem and branches quadrangular.
- Leaves:** 3.8-7.5 cm long, ovate or ovate-lanceolate, crenate-serrate, hairy.
- Flowers:** Sessile, in large, globose, dense, terminal whorls, 2.5-5 cm across; white.
- Fruits:** Nutlets, oblong, small, dull grey to pale black.



## *Leucas martinicensis* R. Br.

Common Name : Whitewort  
Family : Lamiaceae

- Habit:** An erect annual herb, up to 1m high.
- Stem:** Usually unbranched, finely hairy.
- Leaves:** Opposite, ovate to ovate-lanceolate, margins coarsely serrate-crenate.
- Flowers:** Inflorescence of several spaced, many-flowered verticils with long thistle-like calyx teeth. Flowers small, white.
- Fruits:** Nutlets dark brown, oblong-ovoid, 1.5 mm long, shiny.



## *Leucas zeylanica* (L.) R. Br.

Common Name : Ceylon slitwort  
Family : Lamiaceae

- Habit:** An erect, pubescent or hispidly hairy annual herb up to 50 cm tall.
- Stem:** Grooved with quadrangular branches.
- Leaves:** Opposite, 2.5-7.5 cm long and 0.8-1.3 cm wide; linear or linear-lanceolate, apex obtuse, margins entire or slightly serrate, often slightly recurved, hispid on both sides, base tapering.
- Flowers:** White, sessile or nearly so, born in terminal whorls, 1.3-2 cm in diameter.
- Fruits:** Nutelets small, obovoid-oblong, dark brown or black, shining.



## *Limnocharis flava* (L.) Buchenau.

Common Name : Yellow velvetleaf  
Family : Limnocharitaceae

- Habit:** Perennial aquatic herb.
- Stem:** A short thick erect rhizome, the scapes erect, 20-40 cm high.
- Leaves:** Erect or ascending, not floating, often exceeding the scapes, long-petiolate, the petiole vaginate; leaf blades variable in shape, lanceolate to oblong-elliptic, sometimes broadly ovate, mostly 8-18 cm long, acute to rounded at the apex, attenuate at the base.
- Flowers:** Inflorescences umbelliform, 2-12 flowered, the pedicels 3-4 cm long, somewhat dilated and trigonous above; flowers yellow, about 1.5 cm broad.
- Fruits:** Follicles about 1 cm long.



## *Lindernia antipoda* (L.) Alston.

Common Name : Sparrow false pimpernel  
Family : Scrophulariaceae

- Habit:** Annual or perennial herbs.
- Stem:** Erect or decumbent, and then usually rooting at lower nodes, branched at base, glabrous.
- Leaves:** Elliptic to oblanceolate or obovate, 1-2.5 cm long, 0.6-0.8 cm wide, glabrous, margins entire to remotely serrate, sessile.
- Flowers:** Solitary in the leaf axils or sometimes appearing racemose by reduction of upper leaves; pale violet or violet blue to pale blue or white.
- Fruits:** Capsules cylindrical, 5-14 mm long.
- Seeds:** Oblong to ellipsoid, 0.5 mm long, reticulate.



## *Lindernia ciliata* (Colsm.) Panuell.

Common Name : Fringed false pimpernel  
Family : Scrophulariaceae

- Habit:** Annual herb, 20 cm tall.
- Stem:** Erect or diffuse, much branched; branches decumbent, sometimes rooting from last node.
- Leaves:** Sessile or short petiolate; leaf blade oblong to lanceolate-oblong, 0.7-4.5 X 0.3-1.2 cm, glabrous, base amplexicaul, margin densely aristate-serrate, apex acute to obtuse.
- Flowers:** Racemes terminal;. Flowers light purple or white.
- Fruits:** Capsule cylindric, as long as persistent calyx, apex mucronate.
- Seeds:** Irregularly triangular.



## *Lindernia crustacea* (L.) F. Muell.

Common Name : Malaysian false pimpinell  
Family : Scrophulariaceae

- Habit:** An erect or prostrate, glabrous annual herb; up to 30 cm tall.
- Stem:** Diffusely branched, rooting at the lower nodes.
- Leaves:** Ovate, 0.5-2 cm long and 0.4-1.5 cm wide, apex acute or obtuse, base rounded or subcordate, margins entire to crenate-serrulate.
- Flowers:** Axillary, solitary, 6 mm long, blue-white; lower lip with a yellow spot at the base.
- Fruits:** Capsule ellipsoid, oblong, apiculate with a persistent style, 3-5 mm long and 2-3 mm wide.



## *Lindernia procumbens* (Krock.) Philcox.

Common Name : Prostrate false pimpernel  
Family : Scrophulariaceae

- Habit:** An annual herb, 5-20 cm tall.
- Stem:** Erect, cespitose, basally much branched, glabrous.
- Leaves:** Sessile, elliptic to oblong, somewhat rhomboid, 1-2.5 X 0.6-1.2 cm, glabrous, margin entire or weakly obtusely toothed, apex obtuse to rounded.
- Flowers:** Axillary, solitary, pink to purple.
- Fruits:** Capsule globose to ovoid-globose, as long as or slightly longer than persistent calyx.
- Seeds:** Oblong; seed coat reticulate.

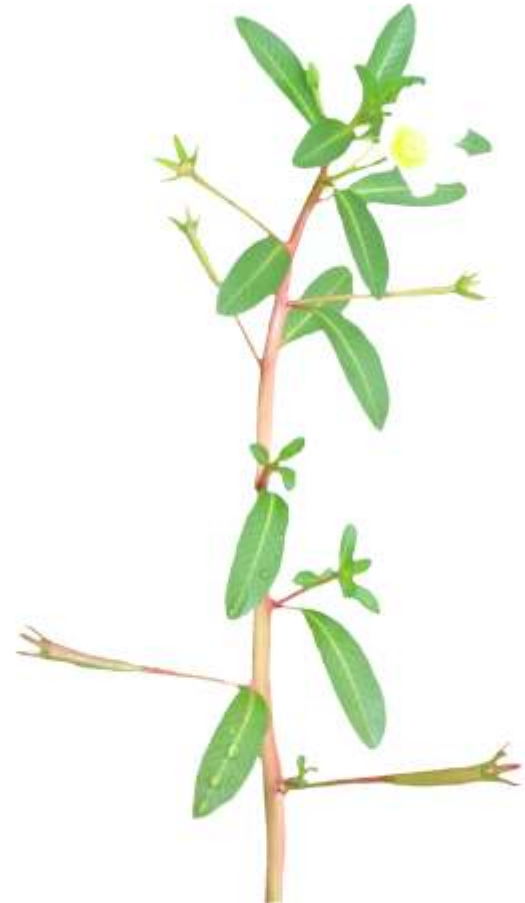




## *Ludwigia adscendens* (L.) H. Hara.

Common Name : Creeping water primrose  
Family : Onagraceae

- Habit:** An aquatic or sub-aquatic perennial herb that may be emergent, may be anchored, with horizontal extensions over the water surface, or may be free floating.
- Stem:** Stems up to 1 m; horizontal stems up to 4 m, normally glabrous, with long, fibrous roots, as well as adventitious, modified, spindle-shaped, nodal aerophores or air roots, that grow erect and may extend above the water surface. Stems are yellow-green or reddish in some areas.
- Leaves:** Alternate, broadly oblong-elliptic, rounded or obtuse at apex, up to 10 cm long, 4 cm wide, narrowed at the base to a distinct petiole which may be red.
- Flowers:** Borne singly at upper leaf axils; bright yellow to very pale yellow or white, up to 2 cm long.
- Fruits:** A capsule thick-walled, woody, 2 to 3 cm long and 3 mm in diameter, more or less cylindrical, often somewhat curved, surmounted at apex by calyx, glabrous or with soft long hairs, 5-locular, light brown with 10 conspicuous darker brown ribs, seeds evident as bumps between the ribs, irregularly dehiscent, base narrowed.
- Seeds:** Pale brown, many in orderly rows, some 4-angled and some prismoid, 1 to 2 mm in size, firmly imbedded in coherent cubes of woody endocarp which are fused to capsule wall.



## *Ludwigia octovalvis* (Jacq.) Raven.

Common Name : Primrose willow

Family : Onagraceae

**Habit:** A semi-shrubby, erect, annual or perennial herb; 0.3-1.2 m tall.

**Stem:** Woody below, much branched.

**Leaves:** Alternate, nearly sessile, pubescent to glabrescent, variable in size and shape, 0.7-14 cm long and 0.1-4 cm wide, linear to broadly elliptic, apex acute to attenuate; base narrowly to broadly cuneate.

**Flowers:** Yellow, pubescent, solitary, borne in axils of upper leaves.

**Fruits:** Capsule membranous, subquadrangular, cylindrical, 8-ribbed, 2.5-5 cm long.

**Seeds:** Minute, ovoid, shiny, brown.



## *Ludwigia parviflora* Roxb.

Common Name : Water primerose  
Family : Onagraceae

- Habit:** Stout succulent herb, up to 3 m tall.
- Stem:** Well branched, sometimes woody at the base, usually somewhat reddish, glabrous.
- Leaves:** 2–13 × 0.5–3.5 cm, lanceolate or broadly elliptical, narrowly cuneate at the base, the apex subacute.
- Flowers:** Clustered on short axillary shoots, also bearing reduced leaves; yellow.
- Fruits:** Capsule 10–20 × 1.2 mm, relatively thin-walled, glabrous, terete, light brown, at first thin-walled and torulose, but as the endocarp swells and hardens, becoming smooth; pedicels 0.5–3 mm long.
- Seeds:** 0.6–0.75 × 0.4–0.5 mm, uniseriate in each locule of the capsule, diagonal, brown, obovoid; each seed loosely but completely embedded in an easily detached piece of soft powdery endocarp.



# *Malachra capitata* (Linn.) Linn.

Common Name : Brazil Jute  
Family : Malvaceae

- Habit:** An annual or perennial herb, 1-2 m tall.
- Stem:** Mostly erect, coarse, throughout densely whitish or yellowish-tomentose with stellate hairs and usually also moderately to copiously hispid with simple or stellate hairs up to 2 mm long.
- Leaves:** Long-petioled; orbicular to ovate, 2-10 cm long, palmately sinuate to 3-7 lobed, lobes mostly obtuse, crenate to serrate, the base obtuse or truncate.
- Flowers:** Axillary, pedunculate, bracteate heads; yellow.
- Fruits:** Mericarps 3-3.5 mm long, muticous, reddish veined, puberulent.
- Seeds:** Obovoid-cuneate, about 2.5 mm long, black, whitish-pubescent about hilum.



## *Malva parviflora* Linn.

Common Name : Little mallow  
Family : Malvaceae

- Habit:** An erect, sprawling or decumbent herb growing up to 50 cm high.
- Stem:** Covered with stiff star-like (stellate) hairs and can be erect or ascending (at first spreading horizontally and then becoming erect) and rather fibrous.
- Leaves:** Circular and 8-10 cm in diameter. The base of the leaf is cordate, margins are crenate, sparsely pubescent. The leaves are palmately veined with 5-7 short triangular lobes. The petiole is mostly 1.5-12 cm long.
- Flowers:** White or pink in color, and twisted in the bud.
- Fruits:** Schizocarp, 7-8 mm in diameter and separates into 8-12, one seeded mericarps. The schizocarp is disc-shaped surrounded by the calyx and brown when ripe.
- Seeds:** Subcylindric, truncate at apex, reddish brown.



## *Malvastrum coromandelianum* (L.) Garcke.

Common Name : Spine seeded falsemallow  
Family : Malvaceae

**Habit:** A decumbent-ascending or erect perennial herb or undershrub 0.6-0.9 m high.

**Stem:** With a woody base; branches covered with longitudinally arranged, appressed, 4-branched white hairs.

**Leaves:** 2-6.5 cm long and 0.8-4 cm wide, ovate to lanceolate, apex acute to obtuse, base acute or obtuse to rounded or truncate, margins irregularly toothed, 5-nerved at the base, hirsute above, stellately hairy on major veins below.

**Flowers:** Solitary or 2-3 together in leaf-axils; peduncles 0-12 mm long; flowers pale yellow to orange-yellow.

**Fruits:** Carpels 8-14, curved, 2-2.5 mm long with sharp dorsal edges, bearing 2 outwardly directed awns and another at apex, 0.5-1 mm long.

**Seeds:** 1.5 mm long, reniform.



## *Marsilea quadrifolia* L.

Common Name : European waterclover  
Family : Marsileaceae

- Habit:** A small aquatic fern.
- Stem:** Slender, creeping rhizome.
- Leaves:** Quadrifoliate with long slender petioles; leaflets obovate-retuse, glabrous, arranged in a whorl.
- Flowers:** Absent.
- Fruits:** Fructifications (Sporocarps) are dark brown, hard, bean shaped, with two unequal horns.



## *Martynia annua* L.

Common Name : Devil's claw  
Family : Pedaliaceae

- Habit:** A herbaceous, annual, 0.3-2 m high.
- Stem:** Erect, branched, glandular-hairy.
- Leaves:** Opposite, broadly ovate to deltoid, 7-23 cm long and 7-20 cm wide; base cordate, apex acute, margins repand-dentate; petioles 7-18 cm long.
- Flowers:** Large, foxglove-shaped, pink and dark purple botched with yellow inside, borne in 10-20 flowered racemes, 4-10 cm long.
- Fruits:** Hard, woody, with 2 sharp recurved hooks.
- Seeds:** Oblong, black, hairy and shining.





## *Mecardonia procumbens* (Mill.) Small.

Common Name : Baby jump-up  
Family : Scrophulariaceae

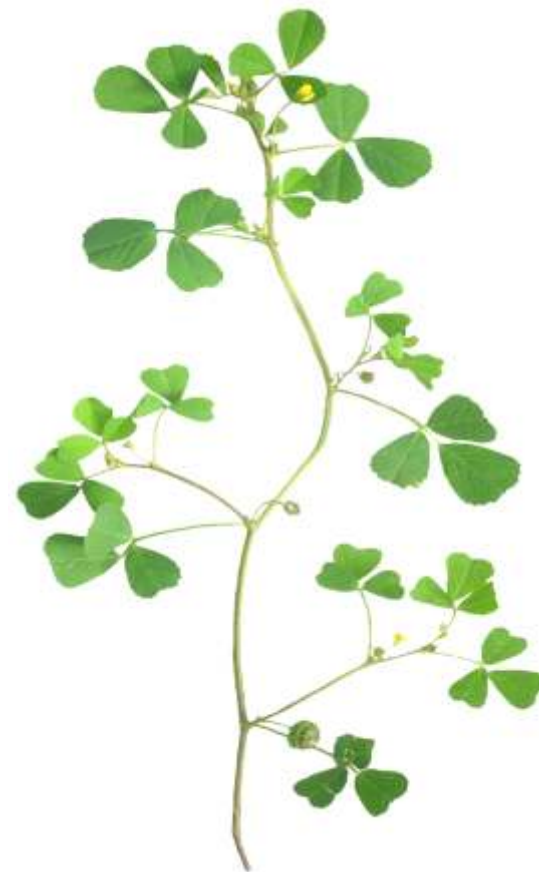
- Habit:** Annual herb.
- Stem:** 4-angled, simple or branching from the base, decumbent to ascending to prostrate and creeping, glabrous.
- Leaves:** Sessile to somewhat amplexicaul, ovate, 5-20 mm long, 3-10 mm wide, base tapering, obtuse to rounded at the apex, margins crenate, glabrous.
- Flowers:** Solitary; yellow.
- Fruits:** Capsule ovoid, 4-6 mm long, brown, glabrous, included in the calyx.
- Seeds:** Ellipsoid, 0.3 mm long, reticulate.



## *Medicago denticulata* Willd.

Common Name : Rough medik  
Family : Fabaceae

- Habit:** An annual decumbent herb, 20-60 cm tall.
- Stem:** Glabrous or pubescent; branches up to 40 cm long.
- Leaves:** Leaves 3-foliolate; leaflets obovate to obcordate; terminal leaflets 8–27 mm long, 7–20 mm wide, entire or toothed towards apex, sometimes with darker flecks or a basal darker patch; stipules deeply incised, glabrous or hairy on lower surface.
- Flowers:** Inflorescences 1–3-flowered; peduncle shorter than to twice as long as subtending petiole. Flowers yellow.
- Fruits:** A pod; spirally coiled two to three turns with two rows of curved prickles along its sharp edges. The pod is about 8 mm in diameter, brown or slight straw colored.
- Seeds:** 1.5 mm long, 3.0 mm wide, kidney shaped, yellowish or tan, smooth.



## *Melilotus alba* Medikus.

Common Name : White sweet clover  
Family : Fabaceae

- Habit:** An annual or biennial legume.
- Stem:** Erect, branching, typically single from base, glabrous or with a few sparse hairs.
- Leaves:** Alternate, trifoliolate, stipulate. Stipules linear-attenuate, 4-5 mm long. Leaflets subequal (the terminal slightly larger), oblong to oblong-ob lanceolate, serrate-dentate, glabrous, up to 3 cm long, 1 cm broad.
- Flowers:** Small, white, arranged in many-flowered terminal and axillary racemes.
- Fruits:** Pod, dark brown to black at maturity, ovoid, 2.5-4 mm long, without hairs, and cross-ribbed.
- Seeds:** 2-2.5 mm long; 1.5 mm wide; oval, one side plane, the other side rounded; yellowish or greenish yellow; smooth.



## *Melilotus indica* (L.) All.

Common Name : Yellow sweet clover  
Family : Fabaceae

- Habit:** Sweet-smelling, erect herb, up to 10-60 cm high.
- Stem:** Hairless, spreading or erect.
- Leaves:** Odd-1-pinnate; leaflets 1-2.5 cm, inverted lance-shaped to wedge-shaped-obovate, generally sharply toothed on the broader part.
- Flowers:** Yellow; appear in slender, compact racemes that are 1-2 inches in length.
- Fruits:** Pods papery, small, round, 2-3 mm long, yellow or grey, reticulately wrinkled and slightly hairy.
- Seeds:** 2 mm long; 1.5 mm wide; broadly oval, one side plane, the other side rounded; yellowish-green; roughened by minute tubercles



## *Melochia corchorifolia* L.

Common Name : Chocolate weed  
Family : Sterculiaceae

- Habit:** Undershrub, 60 cm tall.
- Stem:** Slender, branched, tough-barked, more or less hairy.
- Leaves:** Variable in shape, ovate-lanceolate, broadest near the base or narrow and parallel-sided, tip pointed or blunt, margins toothed, more or less hairy on both surfaces, up to 6 cm long, leaf stalks up to 2.5 cm long.
- Flowers:** In close clusters at the branch ends, mixed with many hairy bristle-like bracts, petals pink, yellow at the base.
- Fruits:** Capsule hairy, longer than the sepals, splitting into 5 parts.
- Seeds:** Ovoid, angular.



# *Merremia aegyptia* (Linn.) Urban

Common Name : Hairy woodrose.  
Family : Convolvulaceae

- Habit:** Perennial vine.
- Stem:** Twining, herbaceous, up to 4 m or more long, usually reddish hirsute with long, erect to suberect hairs.
- Leaves:** Palmately compound with 5 leaflets, which are elliptic, both surfaces sparsely pubescent to glabrate, margins entire to dentate, apex and base acuminate to acute.
- Flowers:** Flowers in cymes, usually on long peduncles, pedicels 1-2 cm long; campanulate, 2-3 cm long.
- Fruits:** Capsules tan to pale brown, subglobose, 1-2 cm in diameter, subtended and partially surrounded by the somewhat enlarged calyx.
- Seeds:** Tan, glabrous.



## *Merremia dissecta* (Jacq.) Hallier f.

Common Name : White convolvulus creeper  
Family : Convolvulaceae

- Habit: Perennia vine.
- Stem: Hirsute with yellow-brown hairs.
- Leaves: Suborbicular in outline, 5-20 cm in diameter, palmately divided nearly to base, the lobes 5-9, sinuate to sinuate-dentate.
- Flowers: White with a purple center.
- Fruits: Depressed-globose, 1-2 cm in diameter, partially surrounded by the accrescent calyx.
- Seeds: Black, subrounded, glabrous.



## *Merremia emarginata* (Burm. f.) Hall. f.

Common Name : Kidney leaf morning glory  
Family : Convolvulaceae

- Habit:** Prostrate, perennial vine.
- Stem:** Much-branched, glabrous or sparsely pubescent, often rooting at the nodes.
- Leaves:** Reniform to broadly ovate, 0.5-3 cm long, base cordate with a broadly rounded sinus and rounded basal lobes, obtuse to broadly rounded or emarginated at apex, margins coarsely crenate or entire, glabrous or sparsely appressed pillose.
- Flowers:** Inflorescences axillary, solitary or in 2-3 flowered cymose groups. Flowers yellow (or pinkish) with a paler tube, campanulate, 5-9 mm long.
- Fruits:** Capsular, subglobose, 5-6 mm long, longitudinally sulcate, glabrous, brownish-black or black.
- Seeds:** Grayish-brown, glabrous, dotted 2.5 mm long.





## *Merremia tuberosa* (L.) Rendle

Common Name : Wood rose

Family : Convolvulaceae

**Habit:** Long, climbing vine.

**Stem:** Basally woody, perennial, twining, and glabrous.

**Leaves:** Simple and the blades are circular in outline, 6-16 cm long and wide, the base is cordate, and margins are palmately 5-7 lobed almost to the base. The lobes are 8-20 cm long, 9-20 cm wide, ovate, 3-9 cm long, 1-5 cm wide, and leaf margins are entire.

**Flowers:** Flowers usually occur in clusters and fully bloom in sunlight and close under cloudy conditions and in the dark. The corolla is yellow, glabrous, funnelform, contortiplicate, enclosed by the sepals in bud.

**Fruits:** Globose to depressed globose and 3-3.5 cm in diameter.

**Seeds:** Black to dark-brown, ovoid, 1.5-2 cm long, smooth surfaced, and covered with short, erect, puberulent indumentum.



## *Mikania micrantha* H.B.K.

Common Name : Mile a minute  
Family : Asteraceae

- Habit:** A creeping perennial.
- Stem:** Much-branched, scrambling, twining, slender-vine; herbaceous to semi-woody, branched, ribbed, sparsely pubescent or glabrous.
- Leaves:** Simple, opposite, glabrous, thin, broadly ovate, shallowly or coarsely toothed, triangular or ovate, tip acuminate, blade 4-13 cm long, 2-9 cm wide, 3-7 nerved; petioles tendriform, 2-9 cm long.
- Flowers:** Inflorescence a corymbose panicle with subcymose branches, 3-6 cm long by 3-10 cm wide; flowers small, white or cream-colored, actinomorphic, 4.5-6 mm long, in leaf axils or on terminal shoots.
- Fruits:** Achene; somewhat flattened, elliptic, 4-ribbed with short, white hairs along the ribs, with a tuft of white pappus at the summit, glandular, 1.2-1.8 mm long, dark grey to black.



## *Mimosa invisa* C. Mart.

Common Name : Giant sensitive plant  
Family : Fabaceae

- Habit:** A fast growing, abundantly thorny, biennial or perennial shrub.
- Stem:** Bunching, often scrambling over other plants, four-angled, the angles usually with a line of sharp, hooked prickles. .
- Leaves:** Alternate, bright green, feathery and fern-like, each leaf divided into five to seven pairs of segments. Each segment carries about twenty pairs of very small leaflets which close up when disturbed, injured, or at nightfall.
- Flowers:** Very small pale pink flowers occur as round, fluffy balls, about 12 mm across, on short stalks in the leaf joints.
- Fruits:** Pods are clustered, each about 25 mm long and 6 mm broad when ripe. Clothed with small prickles, these later break into four or five one-seeded pieces.
- Seeds:** 2-3.5 mm long; flattened ovate; yellow-brown; glossy; there is horseshoe shaped ring on each face.



## *Mimosa pudica* L.

Common Name : Sensitive plant  
Family : Fabaceae

**Habit:** A low-growing, much-branched, prickly, sprawling shrub. It grows 15-100 cm tall and is erect or more generally has a trailing growth habit.

**Stem:** Woody at the base, stiff, cylindrical, reddish-brown or purple, pubescent and bear scattered prickles along the internodes. The prickles are 3-4 mm long, compressed, slightly curved, hard and very sharp.

**Leaves:** Dark green, bipinnate and hairy. Leaflets 12-50, each 6-12 mm long, 1.5 mm wide, oblong-linear and pointed, glabrous above but with a hairy margin and lower surface. Leaflets and leaves fold up rapidly when touched and also close at night.

**Flowers:** Flowers bright purplish-pink; occur in globular or ovoid heads about 9 mm in diameter.

**Fruits:** Fruits are borne in clusters in the leaf axils. Each fruit is an oblong, flattened, recurved pod about 8-20 mm long and 2-6 mm wide containing 1-5 seeds. The pod is pointed at the apex, glabrous, edged with bristles and breaks into one-seeded segments which fall away from unbroken marginal sutures when mature.

**Seeds:** Light-brown, flattened, 2.5-3 mm in diameter and with a finely granular surface.



## *Mitracarpus Villosus* (Sw.) DC.

Common Name : Tropical girdlepod  
Family : Rubiaceae

- Habit:** An erect or spreading annual herb.
- Stem:** 20-40 cm long, branched or unbranched, pubescent with sort, curly hairs and appressed hairs, also usually villous on the angles.
- Leaves:** Elliptic to elliptic-lanceolate, 2-6 cm long, 0.5-1.5 cm wide, upper surface scabrid to glabrate, lower surface glabrous except puberulent along veins and usually scabrid near margins, apex acute, base cuneate, subsessile.
- Flowers:** Sessile or nearly so, in dense axillary clusters, white, 2-3 mm long.
- Fruits:** Capsules subglobose, 1 mm long.
- Seeds:** Pale yellowish brown, ellipsoid-rectangular, compressed, 0.8-0.9 mm long, the dorsal face resembling a rectangle with a square portion removed from each corner, ventrally separated into 4 discrete areas by 4 impressed lines arising at the hilum.



# *Mollugo nudicaulis* Lam.

Common Name : Nakedstem carpetweed  
Family : Molluginaceae

- Habit:** Annual herb, up to 30 cm tall.
- Stem:** Weak ascending culms.
- Leaves:** Basal, 1.5-6.0 cm long, 6-16 mm broad, spatulate to oblanceolate, glabrous, attenuate.
- Flowers:** Inflorescence a dichasium arising from a rosette of basal leaves, spreading; peduncle and pedicel wiry, stiff. Flowers yellowish white.
- Fruits:** Capsule subovoid or ellipsoid, as long as persistent tepals.
- Seeds:** Less than 1 mm, muricate, minutely strophiolate, black and shiny.



## *Mollugo pentaphylla* L.

Common Name : Five leaved carpetweed  
Family : Molluginaceae

**Habit:** A slender, decumbent to erect, usually annual herb, up to 30 cm tall.

**Stem:** Much branched, angular.

**Leaves:** 1.3-3.7 cm long and 0.3-1.8 cm wide, in whorls of 2-9, linear lanceolate to obovate, apex obtuse, acute or apiculate, narrowed at the base; petioles obscure.

**Flowers:** White, greenish, orange or pink in lax, corymbose, terminal cymes; peduncles and pedicels filiform.

**Fruits:** Capsule subglobose, about as long as sepals, with thin walls.

**Seeds:** Dark reddish-brown, covered with raised points.



## *Monochoria vaginalis* (Burm f.) Kunth.

Common Name : Heart shape false pickerel weed  
Family : Pontederiaceae

- Habit:** A fleshy, tufted, annual or perennial aquatic herb with a glabrous, shiny appearance; 10-50 cm tall.
- Stem:** A short rhizome.
- Leaves:** Size and shape is highly variable. In young plants without lamina, the leaves are 2-12.5 cm long and 0.5-10 cm wide. In somewhat older plants, the leaves are floating, linear or lanceolate and in still older plants, are ovate-oblong to broadly ovate, sharply acuminate with a heart-shaped or rounded base, shiny, deep-green, and with longitudinal veins. The petioles are soft and hollow.
- Flowers:** Inflorescence is spicate, 3-6 cm long, basally opposite the sheath of the floral leaf with a large bract arising from a thickened bundle on the leaf stalk, about two-thirds of the way up the stalk from the base. The flowers are pedicelled, bisexual, lilac or violet colored.
- Fruits:** Capsule, 1 cm in size, splits between the partitions into three valves.
- Seeds:** Longitudinally ribbed.





## *Mukia maderaspatana* (L.) Roem.

Common Name : Madras pea pumpkin  
Family : Cucurbitaceae

- Habit:** A prostrate or climbing, much-branched, annual herb.
- Stem:** Strongly hispid-scabrid with spreading bristly hairs and simple tendrils.
- Leaves:** Alternate, broadly triangular in outline, 5-angled or 3-5 lobed, 3-11 cm long and wide, apex acute, base deeply cordate, margins shortly, irregularly dentate, dark green and scabrid above, paler green and hispid beneath.
- Flowers:** Small, pale yellow; male flowers fascicled on very short peduncles, female flowers usually solitary, sessile.
- Fruits:** Berry globose-ellipsoid, up to 1.5 cm in diameter, pale green with longitudinal cream stripes, ripening scarlet.
- Seeds:** Up to 4 mm long and 2 mm broad, closely arranged, compressed, ellipsoid, grey.



## *Murdannia nudiflora* (L.) Brenam.

Common Name : Naked stem dewflower  
Family : Commelinaceae

- Habit:** An annual herb, 8-30 cm high.
- Stem:** Unbranched to many branched, creeping, ultimate branches ascending.
- Leaves:** Spirally arranged; leaf sheaths with long shaggy hairs. Leaves oblong-lanceolate, acute.
- Flowers:** Inflorescence terminal or terminal and axillary; cyme few-flowered, solitary or fascicled, long-pedunculate; flowers pinkish purple or violet, 3-6 mm.
- Fruits:** Capsules globose, 2.5--5 mm.
- Seeds:** Deeply pitted, 1.3--1.8 mm.



## *Oldenlandia corymbosa* L.

Common Name : Diamond flower  
Family : Rubiaceae

- Habit:** An annual herb.
- Stem:** Ascending or erect ; 4-angled.
- Leaves:** Linear-oblong or narrowly elliptic, almost stalkless; 1-3.5 cm long and 1.5-7 mm wide. Midrib of the leaf is prominently visible.
- Flowers:** White or faintly pinkish-purple, on slender stalks 4-8 mm long.
- Fruits:** Capsule is about 2 x 2 mm, flattened at apex, slightly laterally compressed.



## *Oldenlandia diffusa* (Willd.) Roxb.

Common Name : Snake needle grass  
Family : Rubiaceae

- Habit:** An annual herb, up to 0.3 m high.
- Stem:** Slender, low lying.
- Leaves:** 1-3.5cm long, 1.5-3mm wide.
- Flowers:** White, 2mm across.
- Fruits:** Capsule globose, 1-1.5 mm across, slightly laterally compressed.



## *Oldenlandia herbacea* (L.) Roxb.

Common Name : Slender oldenlandia  
Family : Rubiaceae

- Habit:** Annual or perennial herb.
- Stem:** Much-branched wiry stems, often intertwined.
- Leaves:** Small, linear-lanceolate.
- Flowers:** Solitary or in pairs on long stalks, axillary at the nodes, up to 5 mm in diameter, white or mauve.
- Fruits:** Small, round capsules.



# *Operculina turpethum* (L.) Silva Manso.

Common Name : Indian jalap  
Family : Convolvulaceae

- Habit:** An extensive perennial vine.
- Stem:** Usually angled or narrowly 3-5-winged; fleshy with milky juice.
- Leaves:** Variable in shape, orbicular, broadly ovate, ovate-lanceolate or lanceolate, 5-15 cm long, base cordate to hastate, apex acuminate, acute or more commonly coarsely dentate to shallowly lobed, upper surfaces glabrous or appressed-pilose, lower surfaces pubescent.
- Flowers:** Inflorescence axillary, cymosely one or few flowered. Flowers with peduncles, 0.2-1.8 cm long, glabrous or pubescent; white or white with a yellowish base, campanulate to broadly funnel-shaped.
- Fruits:** Capsular, depressed-globose, 1.5 cm long, enclosed in the enlarged, papery sepals.
- Seeds:** Dull black, glabrous, 6 mm long.



## *Oplismenus burmannii* (Retz.) P.Beauv

Common Name : Wavy leaf basketgrass  
Family : Poaceae

- Habit:** An annual grass; 10-60 cm tall.
- Stem:** Culms prostrate; mid-culm nodes glabrous.
- Leaves:** Leaf-blades lanceolate or ovate, 1-10 cm long, 5-20 mm wide. Leaf-blade venation with obscure cross nerves; surface smooth.
- Flowers:** Inflorescence compound, a panicle of racemes.
- Fruits:** The shortly pedicellate spikelets consist of two awned glumes, a lower floret that is sterile or staminate and usually has an awned lemma but no palea, and an upper floret that is enclosed by the upper lemma and palea.



## *Oxalis corniculata* L.

Common Name : Creeping wood sorrel  
Family : Oxalidaceae

**Habit:** A small annual or perennial, procumbent or more or less erect herb, 6-25 cm high.

**Stem:** Pubescent with appressed hairs.

**Leaves:** Palmately trifoliate; leaflets 1.2-2.5 cm long, obcordate, base cuneate, margins entire; petioles 3.5-9 cm long, very slender, pubescent.

**Flowers:** Yellow, axillary in umbellate clusters on slender axillary peduncles.

**Fruits:** Capsules 2 cm long, linear-oblong, 5-angles, tomentose.

**Seeds:** Dark brown, broadly ovoid, transversely striate.





## *Oxalis martiana* Zucc.

Common Name : Lilac oxalis  
Family : Oxalidaceae

- Habit:** A small, delicate, stemless perennial herb, 5-15 cm high.
- Stem:** Bulbs or bulbous underground stems covered with brown, 3-ribbed scales.
- Leaves:** Leaflets 3, slightly hairy, broadly ovate, each about 1 inch across, with a notch at the tip of the midrib, on long leafstalks.
- Flowers:** Red or purplish, in one or several umbels on branches of different lengths which rise above the leaves.
- Fruits:** Capsule, usually falls without maturing seeds.



# *Parthenium hysterophorus* L.

Common Name : Congress grass  
Family : Asteraceae

**Habit:** A short-lived annual herb with an extensive root system and an erect shoot; up to 2 m high.

**Stem:** Erect main stem, upper half of the main stem becomes highly-branched at flowering; stems appear to be striped due to longitudinal grooves or ribs and they become woody with age.

**Leaves:** Pale green, deeply lobed and covered with fine soft hairs.

**Flowers:** Creamy-white flowers occur at the tips of the stems. Clusters of male and female florets are grouped as five-lobed flowers on the terminal branches of the flower stem and measure 4–6 mm in diameter.

**Fruits:** Achene small (1–2 mm across), flattened, triangular and dark brown–black with two thin, white, spoon-shaped appendages.



## *Paspalidium flavidum* (Retz.) A. Camus.

Common Name : Yellow Watercrown Grass  
Family : Poaceae

- Habit:** A perennial grass, characterized by spikes separated by 2-4 times their length, and spikelets (especially in fruit) spherical.
- Stem:** Culms are tufted, slightly compressed, 1-3 ft tall from a prostrate base.
- Leaves:** Leaf sheaths are strongly keeled, smooth. Leaves are linear-lanceshaped, flat or folded, 5-30 cm long, 0.5-1 cm broad. Ligule is about 0.5 mm.
- Flowers:** Inflorescence axis is 5-20 cm. Flower racemes are 6-9, 1.5-2.5 cm long, widely spaced. Rachis is about 0.5 mm wide, slightly winged, prolonged into a point.
- Fruits:** Spikelets are ovate, gibbous, 1.5-2.5 mm, milk-white or purplish.



# *Paspalum dilatatum* Poir.

Common Name : Dallis grass  
Family : Poaceae

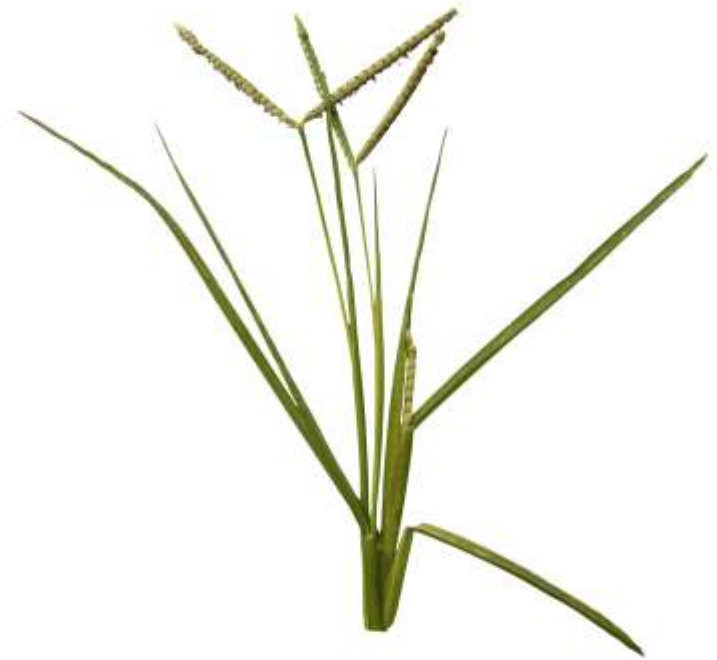
- Habit:** A tufted perennial (living for longer than 1 growing season) up to about 2 m high.
- Stem:** Tall, erect, growing from a solid, hairy base or crown.
- Leaves:** Lower sheaths of leaves are hairy. The leaf blade is angled along the midrib, and is long and narrow, bright green, sparsely long-hairy around where it meets the stem.
- Flowers:** Inflorescence usually has 3 to 7 spike-like racemes but could be up to 11. Each raceme is usually less than 5 cm long (but can be up to 12 cm long) and usually at almost right-angles from the stem.
- Seeds:** Seed heads have paired seeds lined up in 4 rows. Seeds are brown when mature and fringed with fine hairs and may feel sticky.



## *Paspalum distichum* L.

Common Name : Knot grass  
Family : Poaceae

- Habit:** An perennial grass, grows up to 60 cm long.
- Stem:** Round in cross-section and stems range from erect to prostrate with erect tips.
- Leaves:** Flat, often keeled at the base, and hairless except for a few long hairs at the base. Sheaths are open and usually are covered with long hairs. Leaves are rolled in the bud.
- Flowers:** The flower head is "V"-shaped, formed by two (sometimes three) branches. The main flowering stem can be up to 15 cm long. The branches grow from about 1–6 cm long.
- Fruits:** Spikelets usually solitary on the pedicels, occasionally binate near the middle of the raceme, imbricate, 2.5–3.5 mm long, widely elliptic, abruptly acute, pale greenish.



## *Passiflora foetida* L.

Common Name : Wild water lemon  
Family : Passifloraceae

- Habit:** A perennial vine that climbs with tendrils.
- Stem:** Thin and wiry, covered with minute sticky yellow hairs. Older stems become woody.
- Leaves:** Three- to five-lobed and viscid-hairy. When crushed, these leaves give off a pungent odor that some people consider unpleasant.
- Flowers:** White to pale cream coloured, about 5–6 cm diameter.
- Fruits:** Globose, 2–3 cm diameter, yellowish-orange to red when ripe.
- Seeds:** Black seeds embedded in the pulp.



## *Pedaliium murex* Linn.

Common Name : Large caltrops  
Family : Pedaliaceae

- Habit:** A shrubby, stiff-stemmed, succulent herb grows up to 40 cm in height.
- Stem:** Much branched, spreading, succulent, glandular.
- Leaves:** Simple, opposite, ovate or oblong-obovate, 1-4.5 cm long, irregularly and coarsely crenate-serrate.
- Flowers:** Bright yellow, solitary and axillary.
- Fruits:** 4 angled with horizontal spines from the angles.



## *Pergularia daemia* (Forssk.) Choiv.

Common Name : Pergularia  
Family : Asclepiadaceae

- Habit:** A perennial twining herb.
- Stem:** Up to 4 m or more, covered in soft hairs.
- Leaves:** Thin, broadly ovate, heart-shaped or nearly circular, hairless above, velvety beneath.
- Flowers:** Greenish yellow or dull white, and sweet-scented, borne in lateral cymes which are at first corymb-like, afterwards raceme-like.
- Fruits:** A follicle, with soft spines all over and a long beak.
- Seeds:** Densely velvety on both sides.





## *Peristrophe paniculata* (Forssk.) Brummit.

Common Name : Paniced peristrophe  
Family : Acanthaceae

- Habit:** An erect to spreading, annual or perennial herb, up to 1 m tall.
- Stem:** Sharply 4-6-angled, hairy.
- Leaves:** Ovate-elliptic to lanceolate, 4-6 x 1.5-4 cm, densely lineolate, more or less pubescent especially on nerves beneath, basally rounded to acute, acute to acuminate at the apex.
- Flowers:** Pedicellate, pink or purple, in a terminal or axillary lax panicle of cymes.
- Fruits:** Capsule ellipsoid, 1-1.2 cm long, basally solid and hairy, acuminate.
- Seeds:** Orbicular, 2.5 mm across, minutely papillate.



## *Phalaris minor* Retz.

Common Name : Little seed canary grass  
Family : Poaceae

- Habit:** A tufted annual bunchgrass, up to 1.8 metres in height.
- Stem:** Erect or decumbent, caespitose.
- Leaves:** Leaves long, linear, acuminate. Ligule is an oblong hyaline membrane, about 2-5 mm long, often truncate and/or fringed; auricles absent, sheath smooth.
- Flowers:** Panicle more or less protruding or entirely protruding from the uppermost swollen leaf sheath, ovate to oblong, 5-8 cm long, green. Sikelets green, broadly lanceolate on short pedicels, shining, 4 -6 mm long, strongly laterally compressed.



## *Phaseolus trilobus* auct.

Common Name : Jungle mat bean  
Family : Fabaceae

- Habit:** An annual or perennial legume.
- Stem:** Branches prostrate, diffuse, trailing, glabrous or pubescent. Stipules peltate, sometimes spurred, ovate, 4 to 15 mm long.
- Leaves:** Trifoliate. Petiole 3.7 to 7.5 cm long. Leaflets 1.2 to 2.5 cm long, usually as wide, generally three lobed, lobes simple, various, oblong obtuse or subacute, glabrous to subglabrous.
- Flowers:** Inflorescence a few-flowered raceme; flowers yellow.
- Fruits:** Pods cylindrical, 2.5 to 5.0 x 3 mm, glabrous to sparingly pubescent, 6- to 12-seeded.
- Seeds:** Dark reddish brown, often greenish brown, with black patches.



## *Phyla nodiflora* (L.) Greene.

Common Name : Texas frogfruit  
Family : Verbenaceae

- Habit:** A creeping annual herb.
- Stem:** Often rooting at the nodes, with numerous sub-quadrangular branches.
- Leaves:** Opposite, subsessile, 2-3.2 cm long and 1-2 cm wide, spatulate or obovate, base cuneate, apex rounded, margins sharply serrate near the apex, appressedly hairy on both sides with white hairs.
- Flowers:** Sessile, densely packed in long pedunculate axillary heads that are at first globose, becoming elongate and spicate in fruits; white or pale pink..
- Fruits:** Globose-oblong, 1.5-2 mm in diameter, dry, splitting into two 1-seeded glabrous convex pyrenes.



## *Phyllanthus madraspatensis* L.

Common Name : Madras leaf-flower  
Family : Euphorbiaceae

**Habit:** An erect or spreading subshrub, growing to only 50 cm tall.

**Stem:** Well-branched and hairless.

**Leaves:** Inverted lance-shaped or obovate, 1–4 cm long, up to 5 mm wide. Underside is glaucous, tip is blunt or rounded with a sharp point. Stipules have white margins.

**Flowers:** Male flowers arise 2 or 3 together with 1 female. Female flower petals are obovate with white margins, 2 mm long and 1.5 mm wide, twice the size of the male petals.

**Fruits:** Capsule is about 3 mm in diameter, globose, dry.

**Seeds:** 1.3 x 1 x 1 mm, brown with 14 rows of shiny black tubercles on the back, and 11-12 concentric rings of tubercles on the sides.



# *Phyllanthus multiflorus* Willd.

Common Name : Phyllanthus  
Family : Euphorbiaceae

- Habit:** A small spreading shrub, up to 5 m tall.
- Stem:** Up to 15 cm in diameter, bark rough, brown to grey, branchlets slender.
- Leaves:** Differently shaped; spirally arrange, 1.5 mm long on the orthotropic shoots; plagiotropic shoots with normally developed, distichous, elliptic to obovate leaves, 1-5 cm x 0.5-2.5 cm, entire, cuneate to rounded at base, obtuse to emarginate at apex, glabrous and shortly petiolate.
- Flowers:** In few-flowered fascicles or solitary in leaf axils, unisexual, often a single female flower and some male flowers together, sometimes arranged on leafless shoots and those then seemingly long racemes.
- Fruits:** A depressed-globose berry, up to 7 mm in diameter, usually blueish-black when ripe with dark purplish pulp.
- Seeds:** Trigonous, up to 2 mm long, blackish.



## *Phyllanthus niruri* L.

Common Name : Stonebreaker  
Family : Euphorbiaceae

- Habit:** A small, erect, annual herb that grows up to 30–40 cm in height.
- Stem:** Quite glabrous, stem often branched at the base, leaf bearing branchlets slender, spreading. The bark is smooth and light green.
- Leaves:** Numerous, subsessile, distichous leaves.
- Flowers:** Small, white to light yellowish. Male flowers in axillary, females in solitary.
- Fruits:** Capsules depressed-globose, smooth scarcely lobed.
- Seeds:** Seeds trigonous, rounded.



## *Phyllanthus urinaria* L.

Common Name : Chamber bitter  
Family : Euphorbiaceae

- Habit:** An erect or subscandent annual herb, up to 1m high.
- Stem:** Erect and red.
- Leaves:** Small, green, oblong, feathered, large at the tip and smaller towards the petiole. When the plant is picked the feathery leaves fold in, completely closing themselves.
- Flowers:** Greenish white, minute and appear at axils of the leaves.
- Fruits:** Small green-red fruits, round and smooth, are born along the underside of the stems.
- Seeds:** Yellowish brown to dark brown, wedge shaped, transversely ribbed on the back.

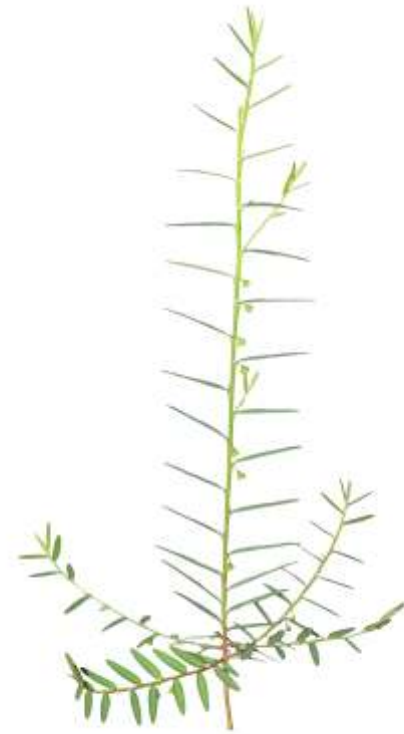




# *Phyllanthus virgatus* Forst.

Common Name : Narrow piss weed  
Family : Euphorbiaceae

- Habit:** Prostrate to erect herb or subshrub up to 50 cm high.
- Stem:** Many stems from the base; glabrous or scabrous.
- Leaves:** Oblong or narrow-elliptic to ovate, 5–20 mm long, 2–7 mm wide, lower surface paler.
- Flowers:** Solitary, or males few together; peduncle variable, extending up to 8 mm long under fruit.
- Fruits:** Capsule 1.5–3 mm diameter, glabrous.
- Seeds:** 0.5 mm long, more or less tuberculate.



## *Physalis minima* L.

Common Name : Sunberry  
Family : Solanaceae

- Habit:** A fairly low-growing annual, usually up to 1-3ft.
- Stem:** Erect, delicate and pubescent.
- Leaves:** Petiolate (4.1 cm long), ovate to cordate, pubescent, delicate, exstipulate, acuminate, having reticulate-palmate venation and undulate margins; dorsal surface of the leaves, dark green and the ventral surface, light green; 9.7 cm long and 8.1 cm broad.
- Flowers:** Pedicellate having 1.2 cm long pedicel, hermaphrodite, complete, solitary, small companulate, 1.2 to 1.4 cm in diameter; yellow, having five black spots on yellow ground in the middle of the corolla cup.
- Fruits:** A berry, enclosed within the enlarged, 10-ribbed, reticulately veined calyx, which is 4.1 cm long and 2.5 cm broad; berries, stalked (stalk, 2.2 cm long), almost round having a pinhead-sized depression at the end; fully mature fruits primrose yellow.
- Seeds:** Globose, flat, yellow.



## *Physalis peruviana* L.

Common Name : Cape goose berry  
Family : Solanaceae

- Habit:** Herbaceous or soft-wooded, perennial plant, usually reaches 1.6-0.9 m in height but occasionally may attain 1.8 m.
- Stem:** Angular, ribbed, thickened above the node, more or less densely hairy.
- Leaves:** Nearly opposite, velvety, heart-shaped, pointed, randomly-toothed leaves 6-15 cm long and 4-10 cm wide.
- Flowers:** Bell-shaped, nodding flowers, 2 cm wide, yellow with 5 dark purple-brown spots in the throat, and cupped by a purplish-green, hairy, 5-pointed calyx.
- Fruits:** Berry is globose, 1.25-2 cm wide, with smooth, glossy, orange-yellow skin with in the calyx cup.
- Seeds:** Pale brown, discoid, 1.75 to 2 mm long, minutely shallowly reticulate.



## *Pluchea lanceolata* (DC.) Oliv. & Hiern.

Common Name : Indian camphorweed  
Family : Asteraceae

- Habit:** A stout herb growing 0.33-2 m in height.
- Stem:** Grooved, rough and very hairy.
- Leaves:** Elliptical, large, 3-6 cm long and 2-3 cm broad, and have long petioles.
- Flowers:** Yellow or light pinkish, many in heads, 0.5-1 cm in diameter.
- Fruits:** Slender achene, 0.4 cm long, bearded with 0.75 cm long pappus hairs.



# *Plumbago zeylanica* L.

Common Name : Ceylon leadwort  
Family : Plumbaginaceae

- Habit:** A herbaceous perennial.
- Stem:** Climbing, prostrate, or erect, glabrous.
- Leaves:** Petiolate or sessile and have ovate, lance-elliptic, or spatulate to oblanceolate blades that measure 5-9 × 2.5-4 cm in length.
- Flowers:** White in showy dense racemes.
- Fruits:** Capsules are 7.5-8 mm long, like a small cocklebur with glue on the soft spines and they will stick to anything.
- Seeds:** Reddish brown to dark brown.



# *Polygonum plebeium* R. Br.

Common Name : Small knotweed  
Family : Polygonaceae

- Habit:** A prostrate, densely branched, annual herb.
- Stem:** Branched from base, branches numerous.
- Leaves:** Lance-like, elliptic, stalkless, 1.0-3.0 x 0.1-0.4 cm, entire. Ochrea are 1-2 mm long, membranous, ovate, tube-shaped.
- Flowers:** Inflorescence axillary, 3-4 flowered. Flowers sunken between ochrea or hardly coming out, 1-2 mm across, nearly stalkless; pinkish red.
- Fruits:** Nuts 1.0-1.75 mm long, circular to ovate, shining, black, glabrous.



## *Polypogon monspeliensis* (L.) Desf.

Common Name : Annual rabbitsfoot grass  
Family : Poaceae

- Habit:** An annual grass.
- Culm:** 15-100 cm long, weak, erect to geniculate, decumbent at base. Herbage glabrous to scabrous; culms branched to unbranched.
- Leaves:** Leaf blades flat, linear, 1.5-22 cm or more long, 1.1-10 mm or more wide, scabrous, margins scabrous, apices acute. Basal leaf sheaths terete, minutely scabrous to glabrous; sheaths open, loosely enclosing culm. Ligule membranous to chartaceous, 1.7-6 mm or more long, smooth, acute to truncate, irregularly dentate, minutely hairy. No auricles present.
- Flowers:** Inflorescence a terminal panicle, very dense and spike-like, occasionally with short, dense branches below, bristly with tawny, yellowish awns; ovoid-cylindric to cylindric, symmetrical.
- Fruits:** Caryopsis free from lemma and palea, elliptical, terete, 0.9-1.2 mm long, 0.5-0.6 mm wide, glabrous, amber colored.



## *Portulaca oleracea* L.

Common Name : Common purslane  
Family : Portulacaceae

- Habit:** An annual glabrous herb.
- Stem:** Prostrate, succulent; trichomes at nodes.
- Leaves:** Obovate or spatulate, flattened, 4-28 × 2-13 mm, apex round to retuse or nearly truncate; involucrelike leaves 1-4.
- Flowers:** 3-10 mm diameter; yellow.
- Fruits:** Capsules ovoid, 4-9 mm diameter.
- Seeds:** Black or dark brown, orbiculate or elongate, flattened, 0.6-1.1 mm; surface cells smooth, granular, or stellate, with rounded tubercles.





## *Portulaca quadrifida* L.

Common Name : Chickenweed  
Family : Portulacaceae

- Habit:** An annual herb.
- Stem:** Articulated, prostrate, somewhat fleshy, rooting at nodes; branches filiform.
- Leaves:** Opposite; petiole absent; leaf blade flat, ovate, obovate, or ovate-elliptic, 4-8 × 2-5 mm, slightly narrowed toward base, apex obtuse or acute.
- Flowers:** Flowers solitary, surrounded by involucre of 4 or 5 bracts, white pilose; yellow.
- Fruits:** Capsule 3.5- 4.5 mm long, 2.5-3 mm in diameter, oblong-conical.
- Seeds:** Black, 1 mm across, reniform, somewhat papillose.



## *Pouzolzia zeylanica* (L.) Bennett & R. Br.

Common Name : Graceful pouzolzs bush  
Family : Urticaceae

- Habit:** Perennial, erect or ascending, rarely prostrate.
- Stem:** 12-40 cm tall; rootstock often tuberous; branches sometimes with short branchlets, strigillose.
- Leaves:** Often opposite, sometimes alternate on lower or upper stems; leaf blade ovate or broadly ovate, lanceolate or narrowly lanceolate; base cuneate to rounded, rarely subcordate, margin entire, apex subobtuse, acuminate.
- Flowers:** Flowers minute, in small axillary androgynous clusters.
- Fruits:** Achenes white, light to dark yellow or light brown, ovoid, 1-1.2 mm.
- Seeds:** Subcylindric, truncate at apex, reddish brown.



## *Pseudognaphalium luteo-album* (L.) Hillard & Burt.

Common Name : Cottonweed  
Family : Asteraceae

- Habit:** An annual herb.
- Stem:** Loosely white-tomentose, not glandular.
- Leaves:** Narrowly obovate to subspatulate; margins weakly revolute, faces mostly concolor to weakly bicolor, abaxial gray-tomentose, adaxial usually gray-tomentose,
- Flowers:** Heads in terminal glomerules, 1-2 cm diameter; silvery gray to yellowish.
- Fruits:** Cypselae conspicuously dotted with whitish, papilliform hairs; pappus bristles loosely coherent basally.



## *Psoralea corylifolia* L.

Common Name : Babchi  
Family : Fabaceae

- Habit:** An annual herb.
- Stem:** 0.6-1.2 m. High; grooved.
- Leaves:** Simple, 3.8x2.5-5.0 cm, broadly elliptic, incised-dentate, rounded and mucronate at apex, white hairy, nigro-punctate, petioles hairy and gland dotted.
- Flowers:** In dense axillary, solitary, 10-30 flowered racemes; Corolla bluish purple, standard orbicular, clawed.
- Fruits:** Pod, ovoid-oblong, closely pitted, mucronate, black.
- Seeds:** The seeds are dark brown, elongated, glabrous, closely pitted.



## *Rhynchosia minima* (L.) DC.

Common Name : Least snout-Bean  
Family : Fabaceae

**Habit:** Prostrate or twining perennial, herb or climber.

**Stem:** 0.15-3 m high; smooth or velvety.

**Leaves:** Trifoliate, with 3 rhombic, ovate, or nearly circular leaflets. The lateral leaflets are oblique. Leaflets are 1-6 cm long, 0.8-5 cm wide.

**Flowers:** Flowers are borne in loose racemes, 2-15 cm long, in leaf axils. Flowers are brownish outside, and yellow inside. The standard petal is often tinged reddish.

**Fruits:** Pods are oblong-curved, flattened, shortly beaked and slightly constricted between the widely spaced seeds, 0.6-3.5 cm long, 0.3-0.5 cm wide, black when ripe.

**Seeds:** Monocoloured, black or brown, 3 mm long, with a short hilus.



# *Rottboellia cochinchinensis* (Lour.) W.D. Clayton

Common Name : Itchgrass  
Family : Poaceae

- Habit:** An erect annual grass.
- Stem:** Up to 4 metres tall, erect, profusely tillering, roots near the base of the plant. Stems and leaves are covered with stiff, irritating hairs.
- Leaves:** Leaf blades are 15-45 cm long, 5-20 mm wide and flat; characterized by pale, green-colour.
- Flowers:** Inflorescence is a cylindrical raceme that is 3-15 cm long. The floral units consist of a sessile spikelet, pedicellate spikelet and internode. The pedicel is fused to the swollen floral internode. The spikelets are awnless, 3.5 - 6 mm long, and 2.5 - 3 mm wide. The floral units separate and fall as soon as they mature, from the top of the raceme downwards.
- Fruits:** Caryopsis oblong-ovate, gibbous, 3 - 4 mm long, 2 - 2.2 mm wide.



## *Ruellia prostrata* Poir.

Common Name : Prostrate wild petunia  
Family : Acanthaceae

- Habit:** A prostrate perennial herb.
- Stem:** Straggling, much branched; it is purple at the nodes; internodes are long and hairy.
- Leaves:** Ovate or elliptic, acute, hairy, entire, with narrow base.
- Flowers:** Nearly sessile, axillary, solitary or few together. Pale blue to light violet and occasionally white in color.
- Fruits:** Capsules club-shaped, 1.5-2 cm long, densely covered with fine hairs.



## *Ruellia tuberosa* L.

Common Name : Snapdragon root  
Family : Acanthaceae

- Habit:** An annual or biennial herb.
- Stem:** Erect, 50 cm tall, widely branched, with fusiform tuberous roots.
- Leaves:** Mostly basal, finely pubescent; blades ovate to oblong, 4-6 x 1.5-2.5 cm, base cuneate, apex obtuse, margin undulate.
- Flowers:** Cymes dichotomous, few-flowered; purple.
- Fruits:** Capsule subcylindrical, 1.5 cm long, puberulent.
- Seeds:** Orbicular; 2-2.5 mm in diameter.





## *Rumex dentatus* L.

Common Name : Toothed dock  
Family : Polygonaceae

- Habit:** An annual or biennial herb.
- Stem:** Erect, often flexuous in inflorescence, branched, distal to middle, occasionally almost from base, 20-80 cm tall.
- Leaves:** Ocrea deciduous or partially persistent at maturity; blade oblong, elliptic-lanceolate, or ovate-elliptic, 3-12 × 2-5 cm, base normally truncate or subcordate to weakly cordate, margins entire, flat to weakly undulate, occasionally slightly crisped, apex obtuse or subacute.
- Flowers:** Inflorescences terminal, occupying distal half of stem, usually lax and interrupted, broadly paniculate, branches usually ascending and straight. Flowers 10-20 in rather dense remote whorls.
- Fruits:** Achenes dark reddish brown, 2-2.8 × 1.4 -1.8 mm.



## *Rungia pectinata* (L.) Nees.

Common Name : Comb rungia  
Family : Acanthaceae

**Habit:** Decumbent or procumbent-ascending or prostrate herb.

**Stem:** 15-40 cm tall, much branched, often rooting from the lower nodes.

**Leaves:** Elliptic-oblong, lanceolate, sparsely hairy on both the surfaces; apex acute or subacute, base cuneate.

**Flowers:** Purple-blue in 1-1.5 cm long, terminal or axillary, on-sided spikes.

**Fruits:** Capsule, pubescent at the tip.

**Seeds:** 2-4 orbicular, minutely achinulate, yellow.



## *Rungia repens* Nees.

Common Name : Creeping rungia  
Family : Acanthaceae

- Habit:** An erect or sub-erect annual herb.
- Stem:** Slender, often rooting at the base, subterete, glabrous or puberulous.
- Leaves:** 2.5-5 cm long, elliptic-lanceolate, oblong, subsessile.
- Flowers:** In erect, terminal spikes; white, blue or pink with darker spots.
- Fruits:** Capsule acute with scarious faces and hard edges.
- Seeds:** Sub-orbicular, rugose with concentric furrows; pale brown.



# *Saccharum spontaneum* L.

Common Name : Wild sugarcane  
Family : Poaceae

- Habit:** Strong perennial.
- Culm:** 1-2 m tall, tufted; solid above, fistular below, polished, silky below panicles and minutely silky below upper leaf-insertions.
- Leaves:** Erect, glaucous, midrib white, margins scabrid, often villous above base, sheath longer than internode.
- Flowers:** Panicle conical-oblong, with 3-15 cm long fragile racemes, joints and pedicels; branches ascending, usually reddish or purplish, primary rachis silky with long, white hairs.
- Fruits:** Caryopsis 2 mm long, oblong.



## *Sacciolepis indica* (L.)

Common Name : Glenwood grass  
Family : Poaceae

- Habit:** Annual or perennial, more or less weakly rhizomatous.
- Stem:** Culms tufted, decumbent, branching from base, 15-50 cm long, slender, glabrous.
- Leaves:** Usually near base of culm; sheaths glabrous, shorter than internodes; ligule membranous, 0.1-0.3 mm long; blades 3-10 cm long, 2-4 mm wide, glabrous.
- Flowers:** Inflorescences 1.5-7 cm long, usually less than 5 mm in diameter, often tinged purple, peduncle slender, 10-23 cm long, often constituting more than; the height of the plant;
- Fruits:** Spikelets pedicellate, strongly imbricate and concealing the rachis; first glume ovate, boat-shaped, 1.1-1.5 mm long, 5-nerved, second glume boat-shaped, 2.5-2.8 mm long.
- Seeds:** Caryopsis brown, ovoid, slightly compressed, 1 mm long.



# *Sagittaria guyanensis* Kunth.

Common Name : Guyanese arrowhead  
Family : Alismataceae

- Habit:** It is a lactiferous herb without stolons.
- Stem:** 10-80 cm high.
- Leaves:** The leaves are floating and simple, the margin entire, broadly arrow-head shaped and oval in outline, and 3-12 x 2.5-11 cm. The leaf tip is obtuse-rounded, and the base is deeply cordate and sagittate with two broad diverging lobes; the petiole is usually about 15-30 cm long, septate, with air-ducts; the basal part has a broad, membranous sheath.
- Flowers:** The inflorescence is a raceme; the peduncle is flaccid, 10-30 cm long, with several whorls of flowers attached to the main axis. Flowers are mainly unisexual; bisexual flowers are usually in lower whorls.
- Fruits:** Fruit is a nodding aggregate on a strongly thickened pedicel. The fruit aggregate is about 10-15 mm in diameter.
- Seeds:** The seeds are brown, 1.5 mm long; the exocarp has a blunt, broad spiny crest.



# *Salvinia molesta* Mitchell.

Common Name : Water fern  
Family : Salviniaceae

**Habit:** A rootless, aquatic fern.

**Fronds:** Emergent groups of leaves (fronds) grow in pairs and are approximately 1/2 inches wide and 1 inch long. A brown, thread-like leaf hangs underwater; all join at a node along a horizontal, underwater stem. The upper surface of the green leaves is covered with rows of white, coarse hairs, acting as a water repellent.

**Propagation:** It grows from fragments that have broken off or dormant buds that have been detached from the main plant. Each node has five buds so potential for great & rapid spread. It also produces spores but they are genetically defective and do not produce viable offspring.



# *Scoparia dulcis* L.

Common Name : Licorice weed  
Family : Scrophulariaceae

- Habit:** An erect perennial herb.
- Stem :** Up to 90 cm tall; stem 5-6-angled, glabrous; divaricately branched, fetid smelling.
- Leaves:** Leaves opposite or in whorls of 3, oblong-ovate to oblanceolate, 0.5-3.8 cm long and 0.8-1.5 cm wide, tapering at base, subacute at apex, margins entire or coarsely crenate-serrate, glabrous on both surfaces.
- Flowers:** Flowers small, borne in small, 2-6-flowered axillary whorls in slender pedicels, 8-13 mm long; corolla white, 0.5 cm in diameter.
- Fruits:** Capsule subglobose, 3-4 mm in diameter.





## *Sebastiania chamaelea* (Linn.) Muell.

Common Name : Snake's tongue  
Family : Euphorbiaceae

**Habit:** A slightly woody herb, annual or perhaps lasting over one year.

**Stem:** About 60 cm high.

**Leaves:** Alternate, thick-papery, linear or linear-lance shaped, 2-5.5 cm long, 2 - 10 mm wide, tip blunt, margins densely toothed, usually with glands. Midrib is prominent on both surfaces.

**Flowers:** Flowers appear in 5-12 mm long spikes, laterally or at the end of branches. Male flowers are numerous, spirally arranged at upper part of inflorescence axis, female ones 1 or several inserted at lower part of inflorescence axis.

**Fruits:** Capsules are triangular-spherical, 3-4 mm in diameter.



# *Setaria glauca* (L.) P. Beauv.

Common Name : Yellow foxtail  
Family : Poaceae

- Habit:** An annual grass.
- Stem:** Stems are erect, often flattened, without hairs (glabrous), reaching 3 feet in height, and often with a reddish tint at the base.
- Leaves:** Leaf blades may reach 12 inches in length and 7 to 12 mm in width, and have long silky hairs at the leaf bases. Auricles are absent and the ligule is a fringe of hairs reaching 2 mm in length.
- Flowers:** The seed head is a cylindrical bristly panicle, reaching 6 inches in length and 1/3-2/3 inch in width. Spikelets are approximately 3 mm long, green, and each spikelet has 1-3 bristles that are 5-10 mm long. The bristles turn yellow at maturity, giving the plant its name.
- Seeds:** More prominently cross-ridged, and yellowish or straw-coloured.



# *Setaria viridis* (L.) P. Beauv.

Common Name : Green foxtail  
Family : Poaceae

- Habit:** An annual grass.
- Stem:** Erect or spreading, 10 - 100 cm tall or occasionally taller, usually round in cross-section but occasionally much flattened.
- Leaves:** Leaves and leaf sheaths of very young plants often densely hairy but with upward-pointing hair; upper leaf blades and leaf sheaths mostly without hair; margins and both surfaces of leaf blades rough with very fine forward-pointing barbs; leaf sheath split with overlapping margins, both margins being fringed with a band of short hair.
- Flowers:** Very dense spike; 1 - 15 cm long and 0.6 - 2.0 cm wide, usually straight and erect or rarely somewhat curved, the larger ones sometimes with short branches up to 1 cm long, and covered with short green to slightly purplish bristles which give the inflorescence a bottle-brush appearance.
- Seeds:** Rounded on one surface but flattened on the other, finely cross-ridged, and dull yellowish-green with brownish spots.



## *Sida acuta* Burm. f.

Common Name : Common wireweed  
Family : Malvaceae

- Habit:** A shrubby annual or perennial herb.
- Stem:** Up to 1.5 m tall, with slender branches covered with minute, grey, stellate hairs.
- Leaves:** Simple, alternate, 1.5-7.5 cm long and 0.5-2.5 cm wide, lanceolate to linear, apex acute, margins serrate, base subcordate or rounded, minutely stellate-hairy on both surfaces, pinnately veined.
- Flowers:** Pale yellow or orange, axillary, solitary or in clusters of 2-3.
- Fruits:** 5-6 mm in diameter, mericarps 5-11, 2-2.5 mm long with 2 awns 1-2 mm long, glabrous, dark brown.
- Seeds:** Trigonus, smooth and black.



## *Sida cordata* (Burm.f.) Borssum.

Common Name : Heartleaf fanpetals

Family : Malvaceae

- Habit:** Prostrate or decumbent, ascending herb.
- Stem:** Upto 50 cm tall, slender, often with woody base, trailing, densely stellate-pubescent.
- Leaves:** Simple, alternate, 1.5 cm long and 1-5 cm wide, orbicular to ovate, base shallowly cordate, apex acute or acuminate, margins crenate-serrate with alternate, short teeth, glabrate or thinly stellate-hairy on both surfaces, palmately 5-7 veined.
- Flowers:** Axillary, 1.3-1.5 cm across, pale yellow, solitary on jointed pedicels 1.2-3.8 cm long in the axils of leaves or in pairs on short branchlets.
- Fruits:** Mericarps 5, 2-2.5 mm long, glabrous or shortly hairy at apex, usually awnless.
- Seeds:** 2 mm long, ovoid, brownish-black, glabrous.



## *Sida cordifolia* L.

Common Name : Heart-leaf sida  
Family : Malvaceae

- Habit:** Erect undershrub.
- Stem:** Clothed with stellate and spreading hairs.
- Leaves:** Cordate-ovate or oblong, crenate-serrate.
- Flowers:** Yellow, axillary, solitary and clustered at ends of branches.
- Fruits:** Schizocarp transversely rugulose, margins ciliate, mericarps awned.
- Seeds:** Ovoid or trigonous, brown or black.



# *Sida rhombifolia* L.

Common Name : Arrowleaf sida  
Family : Malvaceae

- Habit:** An erect, annual or perennial undershrub.
- Stem:** Up to 1.5 m tall with string, wiry, flexuose branches.
- Leaves:** Simple, alternate, 3.5-10 cm long and 1-5 cm wide, highly variable in size and shape, usually rhomboid-lanceolate, apex acute, acuminate or obtuse, base cuneate or rounded, margins serrate, glabrate or stellate-hairy above, grey-pubescent beneath.
- Flowers:** Yellow or rarely white, 1-2 cm across, solitary or in 2-5-flowered clusters in leaf axils or on short branchlets.
- Fruits:** Mericarps 9-12, 2.5-3.5 mm long, trigonous, sparsely pubescent, short or long, awns up to 1 mm long.
- Seeds:** 2 mm in diameter, subreniform, smooth, dark brown or black.



# *Sida spinosa* L.

Common Name : Prickly fanpetals  
Family : Malvaceae

- Habit:** An erect, annual or perennial undershrub.
- Stem:** 30 cm to 1 m tall, stellate pubescent .
- Leaves:** Leaves with filiform, 2-5 mm long stipules; blade 0.5-4 cm long, 0.3-2.5 cm broad, lanceolate to ovate, oblong or somewhat orbicular, rounded at base, acute or obtuse at apex, serrate, usually cinereous on both surfaces.
- Flowers:** Axillary, solitary or 2-5 in fascicles in terminal branches; white.
- Fruits:** Depressed, globose, pubescent above; mericarps 5, membranous, 2-3 mm long, trigonous, radially striately nerved, apically with 2, 0.5-0.8 mm long, divergent awns
- Seeds:** 1.5 mm long, glabrous, brown to black.





# *Sisymbrium irio* L.

Common Name : London rocket  
Family : Brassicaceae

- Habit:** An erect annual herb.
- Stem:** Sparsely branched, glabrous, softly pubescent.
- Leaves:** Stalked, basal leaves lyrate-pinnatifid.
- Flowers:** Minute, in lax racemes, pale yellow.
- Fruits:** Curved, valves 3 nerved.
- Seeds:** Light yellow-brown.



# *Solanum elaeagnifolium* Cav.

Common Name : Silverleaf nightshade  
Family : Solanaceae

- Habit:** An erect or subscandent annual herb, up to 1m high.
- Stem:** Cylindrical, sparingly branched, with a few scattered reddish prickles, herbaceous except at the base. Yellow to brown coloured prickles usually occur on the stem and also the main veins of the leaves.
- Leaves:** Dark green to pale greyish green, petiolate, lanceolate, obtuse or acute at the tip, rounded or truncate at the base, with entire or wavy margin.
- Flowers:** The inflorescence is a solitary cyme of 15 - 20 flowers, with long peduncules; flowers bright blue to purple but sometimes white with yellow anthers.
- Fruits:** Irregularly dehiscent berry, initially spherical, green (with white patches) and fleshy, drying and becoming yellow to orange (10-15 mm in diameter) at maturity.
- Seeds:** Smooth, flat, greenish-brown, 2-3 mm in diameter, closely resembling those of tomatoes.



# *Solanum nigrum* L.

Common Name : Black nightshade  
Family : Solanaceae

- Habit:** A variable annual herb.
- Stem:** Up to 1 m tall with an erect, glabrous or sparsely pubescent stem and divaricate branching pattern.
- Leaves:** 2.5-9 cm long and 2-5 cm wide, ovate or ovate-lanceolate, glabrous, thin, margins subentire to sinuately toothed, tapering into the petiole, apex subacute or acuminate.
- Flowers:** Small, white, borne in drooping, umbellate 3-8 flowered cymes.
- Fruits:** Berries globose, 5-8 mm in diameter, red, yellow or purplish-black when ripe.
- Seeds:** Numerous, disc-shaped, 1.5 mm in diameter, yellow, minutely pitted.



# *Solanum sisymbriifolium* Lam.

Common Name : Sticky nightshade

Family : Solanaceae

**Habit:** An annual or perennial, erect, rhizomatous herb, 1 m tall.

**Stem:** The stem and branches are viscid, hairy, and armed with flat, orange-yellow spines up to 15 mm in length.

**Leaves:** Ovate to lanceolate leaves are borne on petioles, 1-6 cm long and are pubescent both above and below with stellate and glandular hairs. The leaves are pinnately divided into 4-6 coarse lobes and may be up to 40 cm long and 25 cm wide.

**Flowers:** Inflorescence internodal, unbranched raceme composed of 1-10 perfect or staminate flowers. The 5-parted flowers are white, light blue, or mauve, about 3 cm in diameter, and are subtended by a hairy calyx.

**Fruits:** Red, succulent, globular berries are 12 - 20 mm in diameter.

**Seeds:** Pale yellow, 2.9 - 3.2 mm long.



## *Solanum torvum* Sw.

Common Name : Turkey berry  
Family : Solanaceae

- Habit:** Armed shrub.
- Stem:** Usually 2 or 3 m in height and 2 cm in basal diameter, but may reach 5 m in height and 8 cm in basal diameter. The spines are short and slightly curved and vary from thick throughout the plant including the leaf midrib to entirely absent.
- Leaves:** Opposite or one per node, broadly ovate with the border entire or deeply lobed.
- Flowers:** White, tubular with 5 pointed lobes, and grouped in corymbiform cymes.
- Fruits:** Berries that grow in clusters of tiny green spheres, 1 cm in diameter, that look like green peas, become yellow when fully ripe.
- Seeds:** Numerous, flat, round, brown.



# *Solanum viarum* Dunal.

Common Name : Tropical soda apple  
Family : Solanaceae

- Habit:** Bushy, prickly herbaceous perennial.
- Stem:** Up to 2 m tall, more commonly 1 m tall; stems armed with broad-based, straight or downward-pointing prickles and clothed in a mixture of stellate and simple glandular or non-glandular hairs.
- Leaves:** Alternate, simple, clearly petioled, prickly; blades oval-triangular, nearly as broad as long, to 20 cm long and 15 cm wide, angular-lobed; surfaces dense with fine soft hairs giving blades a velvety sheen; veins prickly.
- Flowers:** White, in small terminal clusters.
- Fruits:** A globose berry, 2- 3 cm wide, green with dark veining, like a tiny watermelon, when immature, dull medium yellow when ripe.
- Seeds:** Flattened, reddish brown.



# *Solanum xanthocarpum* Schrad. & Wendl

Common Name : Yellow berried nightshade  
Family : Solanaceae

- Habit:** Prostrate, diffuse prickly herb.
- Stem:** Woody at the base, much branched, armed with straight, compressed, yellow prickles, glabrous except stellate hairy young plants.
- Leaves:** 30-80 x 25-50 mm, elliptic-oblong, sinuate to deeply lobed, dark-green above; lobes unequal, obtuse or acute, often toothed or lobulate.
- Flowers:** Bluish purple.
- Fruits:** Globose, green with white stripes, turn yellow when ripe.
- Seeds:** Circular, smooth.



# *Sonchus asper* (L.) Hill.

Common Name : Spiny sowthistle  
Family : Asteraceae

- Habit:** An erect annual herb.
- Stem:** Slender, simple or sparingly branched, glabrous.
- Leaves:** Basal leaves in a rosette. Upper leaves sessile, slightly rugose, elliptic-oblong, half amplexicaul, with rounded. Appressed auricles; spinous or simple dentate.
- Flowers:** Head solitary, yellow, gland-hairy peduncle, sub-umbellate corymb.
- Fruits:** Achene compressed, the faces faintly rugose between the ribs. Pappus hairs white.





## *Sonchus oleraceus* L.

Common Name : Smooth sowthistle  
Family : Asteraceae

- Habit:** An erect annual herb.
- Stem:** Grooved, sub-umbellately branched, glabrous.
- Leaves:** Thin, sessile, obovate-lanceolate, base half amplexicaul, dentate.
- Flowers:** Heads yellow, in irregular umbellate cymes.
- Fruits:** Achene compressed, narrowly obovoid, ribbed, distinctly muriculate, light brown. Pappus copius, white, longer than the achene.



## *Sopubia delphinifolia* (L.) Don..

Common Name : Common sopubia  
Family : Scrophulariaceae

- Habit:** An erect annual herb.
- Stem:** 25-60 cm tall, much branched, branches 4-grooved, glabrous.
- Leaves:** Pinnatisect, 2-3 cm long, segments filiform or linear, passing into simple, floral bracts.
- Flowers:** Rose colored or purple, in solitary or axillary or few flowered terminal racemes.
- Fruits:** Capsule oblong, as long as the calyx.
- Seeds:** Numerous, truncate, longitudinally striate.



# *Sorghum halapense* (L.) Pers.

Common Name : Johnson grass  
Family : Poaceae

- Habit:** A perennial from rhizomes that may reach 6.5 feet in height.
- Stem:** Round to somewhat flattened, usually without hairs but sometimes hairs may be present along the margins. Sheaths may be green to maroon, especially near the base of the plant.
- Leaves:** Rolled in the shoot, without auricles, 6 to 20 inches long by 10 to 30 mm wide, with a prominent white midvein. Leaf blades are usually without hairs (glabrous) on both surfaces, however some hairs may be present at the base of the leaf blade. The ligules are 3 to 4 mm long, membranous, and often toothed at the top.
- Flowers:** Seed head a large, open panicle, often with a purplish tint.
- Fruits:** Spikelets 4.3-5.5 mm long, 1.5-2.0 mm wide. Elliptical in outline with sharply pointed apex; plano-convex. Mahogany coloured, shading to a reddish-brown or yellow. Smooth and glossy.
- Seeds:** Oval, 3 to 5 mm in length, and dark red to black at maturity.



# *Spergula arvensis* L.

Common Name : Corn spurry  
Family : Caryophyllaceae

- Habit:** A diffuse annual herb.
- Stem:** Branched from the root, grooved, semiterete.
- Leaves:** In pseudo whorls, fleshy, linear-subulate, spreading.
- Flowers:** Small, white.
- Fruits:** Capsule globose, five valved.
- Seeds:** Circular, thick lens shaped in cross section; margins winged with one small notch. Greyish black to black, margins usually light brown.



## *Sphaeranthus indicus* L.

Common Name : East Indian globe thistle  
Family : Asteraceae

- Habit:** Annual herb, 30 cm tall.
- Stem:** Much branched, strongly-scented with winged stem and the wings toothed. The stem and branches are spreading, glandular and hairy.
- Leaves:** Leaves alternate, obovate-oblong, narrowed at the base, dentate and serrate.
- Flowers:** Flowers occur in purple spherical heads, 8-15 mm, consisting of numerous purple or pink tiny flowers.
- Fruits:** Achene, glabrous, stalked.



# *Sphenoclea zeylanica* Gaertn.

Common Name : Chickenspike  
Family : Sphenocleaceae

- Habit:** An erect annual herb.
- Stem:** 7 - 150 cm tall, smooth and fleshy, hollow, much branched and with white, spongy (aerenchymatous) tissues at base.
- Leaves:** Simple and spirally arranged, light green; blades oblong to lance-shaped, narrowed at the tip, 10 cm long, borne on short stalks.
- Flowers:** Inflorescence green, cylindrical, 7.5 cm long dense terminal spike; flowers densely crowded, white to greenish, sessile.
- Fruits:** A flat, 4 - 5 mm diameter globular capsule.
- Seeds:** Yellowish brown, 0.5 mm long.



# *Spigelia anthelmia* L.

Common Name : West Indian pinkroot  
Family : Spigeliaceae

- Habit:** Annual herb.
- Stem:** 50-70 cm high, unbranched, or with few pairs of branches arising near the base. Stem erect, cylindrical, green, glabrous, with a few remote pairs of small leaves and an apical pseudowhorl of four larger leaves.
- Leaves:** Lamina ovate-oblong to ovate-lanceolate, 3-10 x 1-3 cm, herbaceous, scabrous above, glabrous beneath, cuneate and often decurrent at the base, attenuate at the apex. Leaves with interpetiolar, broadly triangular, blunt, glabrous stipules.
- Flowers:** Inflorescence terminal in the axils of the whorled upper leaves, upto 15 cm long. Flowers white to red or purplish.
- Fruits:** Capsule 4-5 x 5-6 mm, tuberculate.
- Seeds:** Obliquely ellipsoid or ovoid, 1.5-2 mm, dull brown, tuberculate.



# *Spilanthes acmella* (L.) L.

Common Name : Pellitory  
Family : Asteraceae

- Habit:** A perennial herb.
- Stem:** More robust, succulent.
- Leaves:** Triangular or triangular-ovate, obtuse, attenuate below.
- Flowers:** Reddish-brown.
- Fruits:** Achenes scabrid.





# *Spilanthes calva* DC.

Common Name : Para cress  
Family : Asteraceae

- Habit:** An annual herb.
- Stem:** Up to 60 cm tall; erect or decumbent at base, more or less hairy.
- Leaves:** Opposite, triangular ovate or lanceolate, margins dentate or almost entire, sparsely pubescent beneath.
- Flowers:** Flower heads ovoid, pale yellow or white, long-peduncled, solitary or in terminal panicles.
- Fruits:** Achenes obovate to trigonous with ciliate edges.



# *Sporobolus diander* (Retz.) P. Beauv.

Common Name : Indian dropseed  
Family : Poaceae

- Habit:** Perennial, tufted herb.
- Stem:** Nodes glabrous.
- Leaves:** Leaf blades linear, flat, convolute; sheaths glabrous.
- Flowers:** Spikelets racemosely arranged in terminal contracted panicles.
- Fruits:** Caryopsis obovoid.



# *Stachytarpetta indica* (L.) Vahl.

Common Name : Aaron's rod  
Family : Verbenaceae

- Habit:** An erect, glabrous, dichotomously branched annual or perennial herb.
- Stem:** Usually 30-90 cm high; young branches nearly quadrangular.
- Leaves:** Oblong-elliptic, 5-10 cm long and 2.5-3.8 cm wide, apex acute or obtuse, margins coarsely serrate, base tapering and decurrent into the obscure petioles.
- Flowers:** Sessile, borne in long, slender, nearly continuous glabrous spikes up to 30 cm long, the rachis hollowed out beneath each flower; deep blue or purple, rarely white, tube 1 cm long, slightly curved, hairy inside.
- Fruits:** Capsules pear shaped, ribbed, 3-4 mm long, enclosed in the calyx, breaking into 2 oblong pyrenes.
- Seeds:** Seeds black, flattened.



## *Stellaria media* (L.) Vill.

Common Name : Common chickweed  
Family : Caryophyllaceae

- Habit:** Diffuse to ascending, annual, decumbent, glabrous, branching herb.
- Stem:** Flaccid, rooting from the lower nodes, line of hairs on the branches.
- Leaves:** Ovate-elliptic to oblong, spathulate.
- Flowers:** White, numerous, axillary.
- Fruits:** Capsule ovoid, exceeding the calyx, 6 valved.
- Seeds:** Circular, flattened, surface covered with conspicuous curved rows of short irregular projections; Greyish brown to reddish brown.



## *Stemodia viscosa* Roxb.

Common Name : Sticky blue rod  
Family : Scrophulariaceae

- Habit:** Much branched, erect, viscidly pubescent, aromatic herb.
- Stem:** Stem and branches angular.
- Leaves:** Sessile, tapering to the base, upper serrate or serrulate.
- Flowers:** Violet.
- Fruits:** Capsule ovoid, oblong, glabrous, 4-valved, enclosed in the calyx.
- Seeds:** Ellipsoid, faintly reticulate.



# *Striga asiatica* (L.) Kuntze.

Common Name : Witch weed.  
Family : Orobanchaceae

- Habit:** An annual obligate hemiparasite, 15-20 cm tall.
- Stem:** Green, square in cross section, 1-2.5 mm in diameter. Under ground stems are round with scale like leaves and white, but turn blue when exposed to air. The roots are succulent, round, without root hairs, and found attached to the host root system.
- Leaves:** Opposite, narrow; each pair born at right angle to the preceding one.
- Flowers:** Variously colored, white, purple, pink or red; born in opposite pairs or alternately in terminal leafy inflorescence.
- Fruits:** Loculicidal capsule, black, ellipsoid, 0.4-2 mm, two valved.
- Seeds:** Elliptic, ovate, oblong, occasionally D-shaped, triangular, rhombic or irregular; dust like, 0.2 - 0.6 mm long, 0.1 - 0.3 mm wide and thick. Orange to golden brown or light to dark brown or gray to blackish.



# *Synedrella nodiflora* (L.) Gaertn.

Common Name : Cinderella weed  
Family : Asteraceae

- Habit:** A small, erect annual herb.
- Stem:** 25-50 cm tall with grooved stems.
- Leaves:** Opposite, broadly ovate-elliptic, hairy.
- Flowers:** Flower heads yellow, heterogamous, sessile, axillary and between forks of branches.
- Fruits:** Achenes black, ribbed; pappus of 2-3 bristly awns.



# *Tephrosia purpuria* (L.) Pers.

Common Name : Wild indigo  
Family : Fabaceae

- Habit:** A polymorphic, much-branched, suberect, perennial herb.
- Stem:** Usually 30-60 cm tall; branches spreading, glabrous or sparsely pilose.
- Leaves:** Leaves imparipinnate, 5-15 cm long; petiolets 6-12 mm long. leaflets 7-12, narrow, elliptic to oblanceolate, apex obtuse or retuse, mucronate, base acute or cuneate, 2-2.8 cm long and 0.8-1.3 cm wide, glabrous above, silky pubescent beneath, with numerous closely parallel veins.
- Flowers:** Pink, red or purple, 4-9 mm long, borne in many flowered, leaf-opposed racemes.
- Fruits:** Pods slightly curved, compressed, glabrescent, dehiscing by both sutures, 3-5 cm long and 4 mm wide, containing 4-10 seeds.
- Seeds:** 4 mm long, suborbicular, compressed, greenish-grey to dull brown, smooth.





## *Themeda triandra* Forssk.

Common Name : Red oat grass  
Family : Poaceae

- Habit:** Tufted perennial, 45-180 cm high.
- Stem:** Angular, ribbed, thickened above the node, more or less densely hairy.
- Leaves:** Extremely variable, from hairy to non-hairy and green to bluish-green in colour. The basal leaf sheaths are flattened and this tendency continues through the leaf blades which are often folded, especially when young. Older leaves have red or brown tinge.
- Flowers:** Inflorescence is an open panicle with groups of spikelets situated on long thin subsidiary branches. Each unit is normally supported by a leaf-like structure, the spathe, which is often tinged with mauve, purple, brown or reddish-brown. Each group of spikelets consists of 6 sterile and one fertile seed bearing unit. This fertile unit produces a long brown to black awn which is attached to the seed.
- Seeds:** Large (up to 10 mm) and shiny black.



# *Trianthema portulacastrum* L.

Common Name : Horse purslane  
Family : Aizoaceae

- Habit:** An annual herb.
- Stem:** A prostrate mat or clump with stems up to a meter long. It is green to red in color, hairless except for small lines of hairs near the leaves, and fleshy.
- Leaves:** Leaves have small round or oval blades up to 4 cm long borne on short petioles.
- Flowers:** Solitary flowers occur in leaf axils. The flower lacks petals but has purple, petal like sepals.
- Fruits:** Curved, cylindrical capsule emerging from the stem.
- Seeds:** Kidney-shaped, spiral, ended by a beak, 2 mm in diameter.



# *Tribulus terrestris* L.

Common Name : Puncture vine  
Family : Zygophyllaceae

- Habit:** A more or less pubescent annual herb.
- Stem:** Stem with prostrate or decumbent primary branches up to 1.5 m long radiating from the crown of the taproot.
- Leaves:** Opposite, paripinnate, up to 5.5 cm long, one of each pair usually smaller than the other; leaflets 3-6 pairs, 6-12 mm long, oblong to linear-oblong, with silky hairs on both surfaces, apex mucronate, base rounded oblique.
- Flowers:** Pale-yellow to yellow, 0.7-2 cm in diameter, leaf-opposed, solitary.
- Fruits:** A schizocarp, globose, 1-1.5 cm across, consisting of 5 woody cocci, each with 2 pairs of hard, sharp, divaricate spines, one pair longer than the other.
- Seeds:** Seeds several in each coccus with transverse partitions between them; minute, oblong.



# *Trichodesma indicum* (L.) R. Br.

Common Name : Indian borage  
Family : Boraginaceae

- Habit:** An erect, spreading, branched, annual herb.
- Stem:** About 50 centimeters in height, with hairs springing from tubercles.
- Leaves:** Stalkless, opposite, lanceolate, 2 to 8 centimeters long, pointed at the tip, and heart-shaped at the base.
- Flowers:** The flowers occur singly in the axils of the leaves. The flower tube is pale blue, with the limb about 1.5 centimeters in diameter, and the petals pointed.
- Fruits:** The fruit is ellipsoid, and is enclosed by the calyx.
- Seeds:** The nutlets 4, about 5 mm long, and rough on the inner surface, smooth and polished on the back; greyish white.



# *Trichodesma zeylanicum* (Burm f.) R. Br.

Common Name : Camel bush  
Family : Boraginaceae

**Habit:** Densely bristly-hairy annual or perennial herb or shrub.

**Stem:** 1m high, smooth to hispid; taproot well-developed. Stem and twigs clothed in white scabrous hairs.

**Leaves:** Basal leaves opposite, becoming alternate up stem; lamina linear-oblong to narrow-ovate, 3.5–10.5 cm long, 7–20 mm wide, apex acute, surfaces hispid.

**Flowers:** 15–20 mm diameter, blue, rarely white.

**Fruits:** The fruit is ellipsoid, and is enclosed by the calyx. Calyx lobes ovate or rounded at the base.

**Seeds:** Nutlets 4; 4-5 mm long, outer surface smooth and mottled, inner surface wrinkled, grey, dotted, brown on dorsal surface.



# *Tridax procumbens* L.

Common Name : Coatbuttons  
Family : Asteraceae

- Habit:** A hispid, procumbent herb.
- Stem:** Up to 60 cm tall; base woody, sometimes rooting at the nodes.
- Leaves:** Ovate, 2-7 cm long and 1-4 cm wide, apex acute or acuminate, base cuneate, margins serrate to coarsely dentate or trilobed.
- Flowers:** Flowers borne in small, solitary, terminal heads; peduncles 10-20 cm long; ray florets strap-shaped, white; disc florets yellow.
- Fruits:** Achenes black, turbinate, 2-2.5 mm long with feathery pappus.



# *Trifolium fragiferum* L.

Common Name : Strawberry clover  
Family : Fabaceae

- Habit:** An annual herb.
- Stem:** Creeping stem that roots at stem joints (nodes), forming large clumps.
- Leaves:** The leaves are borne on long petioles. Each blade is made up of usually three serrated oval leaflets up to 2 to 2.5 cm long.
- Flowers:** Inflorescence globular and compact, 10-12 mm in diameter, with pink or purplish red florets, and when ripe, become reddish and resemble strawberry fruits.
- Fruits:** Fruiting heads are round, sparsely hairy, tan to reddish brown and look similar to hairy, unripe raspberries because of the clustered individual tiny fruits that form the head.
- Seeds:** Heart-shaped and coloured light brown with dark brown flecks.



# *Trigonella polycerata* auct. non Linn.

Common Name : Wild fenugreek  
Family : Fabaceae

- Habit:** Annual or perennial herb.
- Stem:** Reddish and sparsely puberulous.
- Leaves:** Pinnately trifoliolate, leaflets toothed.
- Flowers:** Inflorescence a pedunculate axillary raceme .  
Flowers pedicellate, mostly yellow, or less often purplish.
- Fruits:** Pod spirally coiled or rarely falcate , sometimes provided with tubercles or spines at the margin, mostly indehiscent, 1 to many seeded.
- Seeds:** Oblong-cylindrical or oblong-rhomboid, 2 mm long, brownish, finely tuberculate.





# *Triumfetta rhomboidea* Jacq.

Common Name : Burbush  
Family : Tiliaceae

- Habit:** A herbaceous perennial.
- Stem:** Up to 1.5 m tall, often woody at the base; branches slender, pubescent with simple hairs when young, becoming glabrous.
- Leaves:** Variable, simple, alternate; blade ovate to rhomboid in shape with 3-5 lobes, sometimes nearly as wide as broad, and 2-10 cm long. Leaf margins irregularly serrate, leaf surfaces softly-pubescent with stellate hairs, blade palmately veined.
- Flowers:** Yellow, 5-6 mm across, in dense terminal and leaf opposed cymes.
- Fruits:** Small, globose or ovoid 4-6 mm in diameter, with small, smooth, hooked, spines.



# *Typha angustata* Bory & Chaubard.

Common Name : Southern cattail  
Family : Typhaceae

- Habit:** A tall, robust perennial marsh plant.
- Stem:** Usually 1.5-3 m high with a creeping, branched rhizome.
- Leaves:** Distichous, semicylindrical above the leaf sheath, spongy up to 3 m long and 2-3.5 cm wide, often longer than the flowering stalk, narrower above the sheath.
- Flowers:** Minute, borne on cylindrical spikes, 0.8-2.2 cm in diameter, the male and female spikes often widely separated on the stalk, sometimes on different plant; male spikes 25-50 cm long, consisting of deep-yellow anthers; female spikes 22-38 cm long, pale brown.
- Fruits:** Fusiform, dehiscent by an apical lid.



## *Urena lobata* L.

Common Name : Caesarweed  
Family : Malvaceae

- Habit:** An erect, variable, stellate-pubescent to stellate-tomentose herb or undershrub up to 2.4 m tall.
- Stem:** Single stem emerging from the ground, but produces several stems or major branches low in the stem. Nearly smooth bark is tough and fibrous, brown on the outside and green within.
- Leaves:** Variable in size and shape, roundish or ovate, angled or shallowly lobed, 1-10 cm long and wide, base cordate, palmately 3-9-veined from base with linear, extra-floral nectarines (glands) at base of midrib beneath, margins serrate to crenate, lobes generally acute or acuminate .
- Flowers:** Bright pink, borne in axillary clusters, sometimes forming leafless, terminal racemes.
- Fruits:** Capsule, 1 cm long, depressed-globose, indehiscent, densely pubescent, covered with blunt spines, each spine having 2 straight bristles pointing downwards.
- Seeds:** Rounded on the back, wedge-shaped on the inner side, smooth, grey to dull black.



# *Urena sinuata* L.

Common Name : Bur mallow  
Family : Malvaceae

- Habit:** An erect annual undershrub.
- Stem:** Almost similar to that of *Urena lobata*.
- Leaves:** 2.5-8 cm long, orbicular in outline, 3-5 veined from base, more or less stellate-hairy on both surfaces, base cordate or truncate, irregularly lobed below the middle; lobes 3-5 or more, dilated upwards, with rounded sinuses, margins serrate, pale beneath.
- Flowers:** Rose-colored, 2-2.5 cm in diameter.
- Fruits:** Capsule, 1 cm long, depressed-globose, indehiscent, densely pubescent, covered with blunt spines, each spine having 2 straight bristles pointing downwards.
- Seeds:** Rounded on the back, wedge-shaped on the inner side smooth, black.



# *Verbascum chinense* (L.) Santapau Fl.

Common Name : Chinese mullein  
Family : Scrophulariaceae

- Habit:** An annual erect herb.
- Stem:** Upto 75 cm tall.
- Leaves:** 6-14 X 2-5 cm, lyrate-pinnatifid, with oblong, obtuse, crenate-dentate lobes, pubescent.
- Flowers:** Yellow in lax glandular hairy racemes.
- Fruits:** 5-7 mm across, sub-globose, apiculate, glandular.
- Seeds:** 0.4 mm long, oblong, truncate, grooved, black.



## *Verbesina encelioides* (Cav.) Benth.

Common Name : Golden crownbeard  
Family : Asteraceae

- Habit:** An erect annual herb.
- Stem:** 0.3-1.6 m tall, covered with fine white hairs.
- Leaves:** Toothed or lobed; lower leaves are opposite and triangular, while the upper leaves are alternate and lance shaped. Both upper and lower leaves feature fine white hairs on the underside.
- Flowers:** Flower heads are found on elongated stalks and resemble small sunflowers, 2.5 - 5.1 cm in length, either solitary, or in clusters of up to 3 heads; yellow to bright yellow in color.
- Fruits:** Achenes are grayish-brown, flat, and winged along the margins. Seed size ranges between 5.4 - 6.7mm X 3.1- 3.66 mm, covered with fine hairs.



## *Vernonia cinerea* (L.) Less.

Common Name : Little ironweed  
Family : Asteraceae

- Habit:** An erect or rarely decumbent annual herb.
- Stem:** 15 - 75 cm tall, slender, grooved and ribbed.
- Leaves:** 2.5 - 5 cm long and 2 - 3.8 cm wide, variable in shape, broadly elliptic or lanceolate, apex obtuse or acute, base cuneate, margins irregularly toothed or shallowly crenate-serrate, membranous to coriaceous, sparsely hairy on both surfaces.
- Flowers:** Florets pinkish-purple, heads about 20-flowered, 6 mm in diameter, forming rounded or flat-topped, paniculate, terminal or axillary, corymbs.
- Fruits:** Achenes 1.3 mm long, 3-4 angled, densely silky pubescent, slightly narrowed at base.



## *Vicia hirsuta* (L.) S.F. Gray.

Common Name : Tiny vetch  
Family : Fabaceae

- Habit:** An annual herb.
- Stem:** Decumbent-ascending, 4-angled, winged, up to 60 cm tall.
- Leaves:** Leaflets 4-10 pairs, 4-13 X 1.5-3.0 mm, linear oblong, apex emarginate, truncate and mucronate, base obtuse.
- Flowers:** Racemes 2-6 flowered, axillary; flowers pale blue.
- Fruits:** Pods 8-10 X 3.5-4 mm, elliptic-oblong, flat, pubescent.
- Seeds:** 2-3 mm across, compressed.





# *Vicia sativa* L.

Common Name : Common vetch  
Family : Fabaceae

- Habit:** An annual herb.
- Stem:** Decumbent-ascending, up to 60 cm tall.
- Leaves:** Leaflets 3-8 pairs, 1.5 - 2.5 x 0.2 - 0.4 cm, linear-lanceolate or oblong, mucronate, base obtuse.
- Flowers:** Solitary or paired, axillary, purplish.
- Fruits:** Pods 3 - 4.2 x 0.4 - 0.6 cm, narrowly oblong, beaked, pubescent.
- Seeds:** 3-4 mm across, blackish.



## *Vicoa auriculata* Cass.

Common Name : Ladies' false fleabane  
Family : Asteraceae

- Habit:** An erect annual herb.
- Stem:** Reddish and sparsely puberulous.
- Leaves:** Ovate-lanceolate, cordate, auriculate, sessile.
- Flowers:** Heads yellow, solitary, terminal or leaf-opposed.
- Fruits:** Achenes angled.



# *Volutarella divaricata* Benth & Hook.

Common Name : Oligochaeta  
Family : Asteraceae

- Habit:** A procumbent or spreading herb.
- Stem:** Angular, ribbed, thickened above the node, more or less densely hairy.
- Leaves:** Sub-sessile, 2-4 cm long; lower leaves oblong-ovovate or lyrate, upper ones sinuately pinnatifid, entire or toothed with mucronate lobes, sparsely pubescent.
- Flowers:** Heads 1.2-2.2 cm long, ovoid, axillary and terminal, purplish.
- Fruits:** Achenes 4-5 cm long, acutely angled, pitted in the grooves; dull brown. Pappus hairs many, 5-16 mm long, unequal, shining brown.



## *Waltheria indica* L.

Common Name : Sleepy morning.

Family : Malvaceae

**Habit:** A short-lived shrub or subshrub sometimes reaching 2 m in height.

**Stem:** A single, strong stem emerging from the ground, but frequently branches near the ground. The young stems and leaves are covered with a grey, velvety hairs.

**Leaves:** Alternate, narrowly ovate or oblong with a rounded to heart-shaped base, irregularly serrate edges, and a rounded to acute tip.

**Flowers:** Inflorescences usually are dense clusters in leaf axils, that contain fragrant, yellow to orange flowers.

**Fruits:** Capsule small, round, 2 mm diameter.

**Seeds:** Obovoid, tiny, black.



# *Wedelia chinensis* (Osbeck) Merr.

Common Name : Chinese wedelia  
Family : Asteraceae

- Habit:** A hairy annual herb.
- Stem:** Spreading with branches usually less than 50 cm long.
- Leaves:** Oblong to oblong-lanceolate, 2-4.5 cm in length, and narrowed at both ends. The margins are entire or obscurely toothed; both surfaces are covered with sharp-pointed, appressed, straight, and stiff hairs.
- Flowers:** The heads are stalked, about 1 cm in diameter, and yellow.
- Fruits:** The achenes are nearly cylindrical, hairy.



# *Xanthium strumarium* L.

Common Name : Common cocklebur  
Family : Asteraceae

- Habit:** Annual herb.
- Stem:** Stout and hairy, much branched, up to 1.5 m tall.
- Leaves:** Leaves broadly triangular ovate or suborbicular, scarbid or hispid on both surfaces, apex acute, often 3-5 lobed, irregularly serrate, base some what cordate or shortly cuneate; petioles 2.5-7.5 cm long.
- Flowers:** Flower heads monoecious, numerous, white or green, in terminal and axillary racemes; male heads in upper axils, globose; female heads in the lower axils, ovoid, covered with hooked bristles, ending in 2 strong hooked beaks.
- Fruits:** Achenes 1.3 cm long, obovoid, compressed, enclosed in a hardened, spinescent involucre.



# *Zornia gibbosa* Spanoghe.

Common Name : Grasslike zornia  
Family : Fabaceae

- Habit:** Annual herb.
- Stem:** Prostrate to suberect, up to 50 cm tall, branches prostrate or ascending, glabrous or pubescent.
- Leaves:** Leaf bifoliolate, petiole 6.0-20 mm long; leaflets sessile, 0.7-3.0 cm long, 3.5-10 mm broad, lanceolate, linear-lanceolate or linear, glandular punctate below, glabrous.
- Flowers:** Small in 3-12 flowered spicate racemes, 2.5 cm long. Peduncles slender. Bracts foliaceous, up to 1.3 cm long, black dotted, completely enclosing the flower and often the entire pod.
- Fruits:** Pod 1-6 jointed, enclosed by the bracts or exerted, joints 2.5 mm long and wide, indehiscent, covered with short, straight, fulvous spines.
- Seeds:** Ovoid to rounded in outline, seed surface smooth, olive, brown, or black.



338 Page Blank