

Exploration of Wild Ornamental Flowering Plants in Palakonda Hills of Eastern Ghats, India

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(Accepted: July 01, 2017)

ABSTRACT

The present study highlights the exploration of wild ornamental flowering plants, which are documented from Palakonda hills of Eastern Ghats in Andhra Pradesh, India. We have identified 153 species belonging to 112 genera and 48 families is used as ornamental potentialities of these plants are high lightened due to its attractive habit and good looking flowers. The present study suggested that this work will help the researchers and people who are interested in wild ornamental plants and there is thus considerable scope for looking at the meaning of indoor as well as outdoor gardening and landscape practices. The safe conservation and sustainable uses of these wild resources is essential for future generations.

Keywords: Wild ornamental plants, Palakonda hills, Eastern Ghats, Andhra Pradesh.

INTRODUCTION

Wild ornamental plants to be those which occur naturally in the field and have highly ornamental features such as ornamental flowers, foliage and fruits (Li and Zhou, 2005, Rajagopal Reddy, et. al., 2012). They are plays an important role in environmental planning of urban and rural areas for abatement of pollution, social and rural forestry, wasteland development, afforestation and landscaping of outdoor and indoor spaces (Kapoor and Sharga, 1993). Ornamental plants are grown usually for the purpose of beauty for their fascinating foliage, flowers and their pleasant smell (Swarup, 1998).

Wild plants are a striking feature of the land surface. They vary greatly in composition and density in marked contrast with domesticated plants (Raju, 1998). A variety of wild plants are highly useful to the local people, while the others are of significant commercial importance. Wild flora is very important in view of aesthetic and recreational value for man. Most of the present day flowers have come from the wild progenitor a few of which still exist in natural habitat (Thomas et. al., 2011). The more attractive wild flowers have long been prized for the beauty and planted in the garden around man kinds dwelling places.

Ornamental climbing plants which have special structures (Tendrils, Thorns, flowers etc.) to climb, on a support and they may be annual or perennial type. These add beauty to the garden due to attractive flowers of foliage, which can create an atmosphere of elegant old world class in any landscape. A good healthy climber is a joy in the landscape but one poorly adopted, sick or seared, should by all means be avoided. These wild ornamental climbers are versatile group of plants and are used to cover fences, walls, trellis, buildings and arches

(Gentry and Dodson, 1987). Among these, many of these are used as both indoor as well as outdoor plants (Wright et. al., 2004) Climbers are typical constituents of rain forest. The distribution and abundance of climbing plants in forest varies greatly with the geographic locality of forest (Grubb, 1987).

Most of the present day flowers have come from the wild progenitors, a few of which still exist in natural habitat. Ornamental plants used in horticulture should be understood as an expression of the human desire. These ornamental plants exercise a strong, positive influence on human behavior (Thomas et. al., 2011). The various wild ornamentals are raises their aesthetic values in indoors and outdoors (Kaplan and Kaplan, 1989). There are several ornamental plants which grow in nature in shade or partial shade and these may be gainfully employed as house plants in suitable climatic conditions. The domesticated wild plants are propagated in various horticultural methods such as cuttings, grafting, budding and seeds also. The ornamental horticulture is to be the main pathway for the introduction of native plants in to the country (Harris, 1992). In view of the above facts, the present study has aimed to document the wild ornamental flowering plants of Palakonda hills in Eastern Ghats of Andhra Pradesh, India.

MATERIALS AND METHODS

STUDY AREA

The Eastern Ghats are an assemblage of discontinuous ranges, hill plateaus narrow basins and gorges, run in fragmentary spurs down the east side of Peninsular India. The Eastern Ghats mostly pass through the states of

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Figure 1. Map showing the Study area.

Orissa, Telangana, Andhra Pradesh and Tamil Nadu, and to some extent in the states of Chattisgarh, Karnataka. In Palakonda hill ranges are situated between $14^{\circ} 12' - 14^{\circ} 25' N$ and $78^{\circ} 45' - 79^{\circ} 0' E$, with an altitude ranging from 150 to 900m, which pass through Kadapa district of Andhra Pradesh (**Fig.1**). The wide range of topography and other physical features of the Palakonda hills provided by the hills rising to about 900m the land to harbour rich and varied flora.

In this Palakonda hills diverse topography, deep inaccessible valleys, and vertical cliffs are among the fascinating landscapes and physical structures. Most of the Soils are formed of lateritic, gneissic and quartzite origin. Much of the hilly area is composed of slate formation. The palakonda hills possess a wide variety of soils, the predominating type being the red and black soils. Red soils are predominating throughout the palakonda hills. Black soils mostly in the plains with average elevation ranges from 50-150m. Usually the entire hill range has a dry climate. Hot season is during March and May. The monthly average minimum temperature is varied from $18^{\circ}C$ to $22.67^{\circ}C$, the lowest in January; maximum $33.36^{\circ}C$ to $36.21^{\circ}C$, the highest in May. With the onset of south-west monsoon, the temperature declines. In the post-monsoon period there will be a rapid fall in both day and night temperature. The Palakonda hills was experiences both the Southwest monsoon (June-September) and North-East monsoon (October-December). The annual rainfall varies between 569.43

and 1230.81mm. The forests of the Palakonda hills can be broadly categorized into three types: dry deciduous mixed type with patches of moist deciduous forests and scrub type (Champion and Seth, 1968). Dry deciduous forests dominate in the study area. The study area encompasses Seshachallam biosphere reserve and large number of sacred groves.

Methodology

The present study was based on an extensive survey and field observations during the year 2014– 2015. In this study an attempts were made to find out the diversity of wild ornamental flowering plants, which are distributed in the Eastern Ghats of Andhra Pradesh. During the field visits, the plant specimens were collected at different reproductive stages to prepare herbarium specimens. The collected specimens were identified taxonomically with the help of available floras and literature (Gamble & Fischer 1935, Pullaiah et. al., 1997, Sudhakar Reddy, et. al., 2008). The specimens were processed for the preparation of Herbarium by standard methods (Santapau, 1973). The voucher specimens were deposited in various herbaria for future reference.

RESULTS AND DISCUSSION

The field expeditions of Palakonda hills in Eastern Ghats, wild vegetations gave interesting results concerning floristic diversity and its contribution to the ornamental

Table 1: List of Wild ornamental plants of Palakonda hills in Eastern Ghats of Andhra Pradesh.

S No.	Name of the Taxon	Family	Habit	Flower colour	Flowering season
1	<i>Abrus precatorius</i> L.	Leguminosae - Fabaceae	Climber	Pink	Throughout year
2	<i>Andrographis serpyllifolia</i> (Vahl) Wight	Acanthaceae	Herb	Pink or white	Sep.-Mar.
3	<i>Anisochilus carnosus</i> (L.f.) Wall.	Lamiaceae	Herb	Purple	Oct.-Mar.
4	<i>Argyreia hirsuta</i> Arn.	Convolvulaceae	Climber	Purple	Aug.-Jan.
5	<i>Argyreia kleiniana</i> Raizada	Convolvulaceae	Climber	Red with purple	Sep-Jan
6	<i>Argyreia kondaparthiensis</i> P.Daniel & Vajr.	Convolvulaceae	Climber	Purple	Jul.-Dec.
7	<i>Aristolochia bracteolata</i> Lam.	Aristolochiaceae	Herb	Purple	Jul.-Sep.
8	<i>Aristolochia indica</i> L.	Aristolochiaceae	Climber	Purple	Dec.-Feb.
9	<i>Asclepias curassavica</i> L.	Apocynaceae	Shrub	Red	Throughout year
10	<i>Asparagus racemosus</i> Willd.	Asparagaceae	Climber	White	Oct.-Nov.
11	<i>Barleria buxifolia</i> L.	Acanthaceae	Shrub	Pink to violet	Nov.-Apr.
12	<i>Barleria longiflora</i> L.f.	Acanthaceae	Shrub	White	Oct-Feb
13	<i>Barleria prionitis</i> L.	Acanthaceae	Shrub	Yellow orange	to Throughout year
14	<i>Bauhinia racemosa</i> Lam.	Leguminosae - Caesalpiniaceae	Tree	White	Mar.-Feb
15	<i>Butea monosperma</i> (Lam.) Taub.	Leguminosae - Fabaceae	Tree	Salmon flame	or Apr.-May
16	<i>Byttneria herbacea</i> Roxb.	Malvaceae	Herb	Purple	Jun.-Feb
17	<i>Canavalia cathartica</i> Thouars (= <i>Canavalia virosa</i> (Roxb.) Wight & Arn.	Leguminosae - Fabaceae	Climber	Pink	July.-Jan.
18	<i>Canavalia mollis</i> Wight & Arn.	Leguminosae - Fabaceae	Climber	Lilac	Oct.-Jan.
19	<i>Capparis sepiaria</i> L.	Capparaceae	Climber	White	Apr.-Sep.
20	<i>Capparis zeylanica</i> L.	Capparaceae	Climber	Red	Jan.-Sep.
21	<i>Caralluma adscendens</i> (Roxb.) R.Br.	Apocynaceae	Herb	Purple	Mar.-Aug.
22	<i>Caralluma umbellata</i> Haw.	Apocynaceae	Herb	Purplish - Brown	Mar.-Aug.
23	<i>Cardiospermum corindum</i> L. (= <i>Cardiospermum canescens</i> Wallich.	Sapindaceae	Climber	White	Nov.-Mar.
24	<i>Carissa carandas</i> L.	Apocynaceae	Shrub	White or Purple -rose	Mar.-Jun.
25	<i>Cassia fistula</i> L.	Leguminosae - Caesalpiniaceae	Tree	Yellow	Mar.-Aug.
26	<i>Cassytha filiformis</i> L.	Lauraceae	Vine	White or light yellow	Throughout year
27	<i>Celosia argentea</i> L.	Amaranthaceae	Herb	White to light blue	Jul.-Dec.
28	<i>Centella asiatica</i> (L.) Urb.	Apiaceae	Herb	Purplish	Sep.-Feb.
29	<i>Cereus pterogonus</i> Lem.	Cactaceae	Herb	White	Mar.-July.
30	<i>Ceropegia juncea</i> Roxb.	Apocynaceae	Climber	Yellow purple	with Jul.-Mar.

31	<i>Ceropegia spiralis</i> Wight	Apocynaceae	Herb	Greenish yellow with purple stripes	May.-Oct.
32	<i>Chamaecrista pumila</i> (Lam.) K.Larsen (= <i>Cassia pumila</i> Lam.)	Leguminosae - Caesalpiniaceae	Herb	Yellow	
33	<i>Chrysopogon zizanioides</i> (L.) Roberty (= <i>Vetiveria zizanioides</i> (L.) Nash)	Poaceae	Herb	Pink	
34	<i>Cissus quadrangularis</i> L.	Vitaceae	Climber	Greenish yellow or red	Throughout year
35	<i>Clitoria ternatea</i> L.	Leguminosae - Fabaceae	Climber	Blue	May.-Oct.
36	<i>Coccinia grandis</i> (L.) Voigt	Cucurbitaceae	Climber	White	Apr.-Dec.
37	<i>Commelina attenuata</i> K.D.Koenig ex Vahl	Commelinaceae	Herb	Blue	Aug.-Jan.
38	<i>Commelina benghalensis</i> L.	Commelinaceae	Herb	upper blue basal white	Throughout year
39	<i>Convolvulus arvensis</i> L.	Convolvulaceae	Climber	Rose Purple	Jul.-Feb.
40	<i>Corallocarpus epigaeus</i> (Rottler) Hook.f.	Cucurbitaceae	Climber	Yellow	Dec.-Mar.
41	<i>Crinum asiaticum</i> L.	Amaryllidaceae	Herb	White	May-Oct.
42	<i>Crotalaria hebecarpa</i> (DC.) Rudd (= <i>Goniogyna hirta</i> (Willd.) Ali)	Leguminosae - Fabaceae	Herb	Yellow	Oct.-Jan.
43	<i>Crotalaria pulchra</i> Andrews	Leguminosae - Fabaceae	Shrub	Yellow	Dec.-Mar.
44	<i>Cryptostegia grandiflora</i> Roxb. ex R.Br.	Apocynaceae	Climber	Purple	Throughout year
45	<i>Curculigo orchioides</i> Gaertn.	Hypoxidaceae	Herb	Yellow	Jun. -Dec.
46	<i>Cyanthillium albicans</i> (DC.) H.Rob. (= <i>Vernonia albicans</i> DC.)	Asteraceae	Herb	Pinkish white	Jul.-Feb.
47	<i>Decalepis hamiltonii</i> Wight & Arn.	Apocynaceae	Climber	Yellow	Jun.-Jan.
48	<i>Decaschistia crotonifolia</i> Wight & Arn.	Malvaceae	Shrub	Yellow	Jun.-Feb.
49	<i>Decaschistia cuddapahensis</i> T.K.Paul & M.P.Nayar	Malvaceae	Shrub	Yellow	Jun.-Feb.
50	<i>Decaschistia rufa</i> Craib	Malvaceae	Shrub	Reddish	Jun.-Feb.
51	<i>Desmodium gangeticum</i> (L.) DC.	Leguminosae - Fabaceae	Herb	Violet-white	Oct.-Mar.
52	<i>Dioscorea oppositifolia</i> L.	Dioscoreaceae	Climber	Yellow- green	Oct.-Mar.
53	<i>Dioscorea pentaphylla</i> L.	Dioscoreaceae	Climber	Pale green	Oct.-Jan.
54	<i>Dolichos trilobus</i> L.	Leguminosae - Fabaceae	Climber	Pink	Sep.-Jan.
55	<i>Drimia indica</i> (Roxb.) Jessop	Asparagaceae	Herb	Brownish - white	Feb.-Apr.
56	<i>Eriocaulon quinquangulare</i> L.	Eriocaulaceae	Herb	White	Dec.-Mar.
57	<i>Erythroxylum monogynum</i> Roxb.	Erythroxylaceae	Tree	Pale green with white	Throughout year
58	<i>Eulophia graminea</i> Lindl.	Orchidaceae	Herb	Pale green	
59	<i>Euphorbia antiquorum</i> L.	Euphorbiaceae	Tree	Yellowish Green	Jan.-Jul.
60	<i>Euphorbia rosea</i> Retz.	Euphorbiaceae	Herb	Rose with crem colour	Throughout year
61	<i>Euphorbia thymifolia</i> L.	Euphorbiaceae	Herb	Red	Oct-Mar
62	<i>Euphorbia tirucalli</i> L.	Euphorbiaceae	Tree	Green	Apr.- Aug.
63	<i>Evolvulus alsinoides</i> (L.) L.	Convolvulaceae	Herb	Blue	Throughout year
64	<i>Gloriosa superba</i> L.	Liliaceae	Climber	Red with yellow	Oct.-Mar.
65	<i>Goodyera procera</i> (Ker Gawl.) Hook.	Orchidaceae	Herb	White	Oct-Feb
66	<i>Grewia hirsuta</i> Vahl	Malvaceae	Shrub	White	Jun.-Sep
67	<i>Gymnema sylvestre</i> (Retz.) R.Br. ex Sm.	Apocynaceae	Climber	Yellow	Aug.-Dec.
68	<i>Gymnosporia emarginata</i> (Willd.) Thwaites (= <i>Maytenus emarginata</i> (Willd.) Ding Hou)	Celastraceae	Shrub	Greenish white	Feb-May
69	<i>Habenaria roxburghii</i> Nicolson	Orchidaceae	Herb	White	Oct-Feb
70	<i>Helicteres isora</i> L.	Malvaceae	Tree	Orange red-crimpsion	Apr.-Jan.

71	<i>Heliotropium strigosum</i> Willd.	Boraginaceae	Herb	White	Jan-Aug
72	<i>Hemidesmus indicus</i> (L.) R. Br. ex Schult.	Apocynaceae	Climber	Yellow	Nov.-Feb.
73	<i>Hewittia scandens</i> (J. König ex Milne) Mabb.	Convolvulaceae	Climber	Yellow	Dec-Mar
74	<i>Hibiscus micranthus</i> L.f.	Malvaceae	Herb	White	Mar.-Dec.
75	<i>Holostemma ada-kodien</i> Schult.	Apocynaceae	Climber	Purple or Pinkish Red	July-Jan
76	<i>Hugonia mystax</i> Cav.	Linaceae	Shrub	Golden yellow	Apr.-Dec.
77	<i>Hyptis suaveolens</i> (L.) Poit.	Lamiaceae	Herb	Violet or blue	Oct-Mar
78	<i>Indigofera trifoliata</i> L.(= <i>I.barberi</i> Gamble	Leguminosae - Fabaceae	Herb	Red	Sep-Dec
79	<i>Indigofera cordifolia</i> Roth	Leguminosae - Fabaceae	Herb	Pinkish	Jun.-Feb.
80	<i>Indigofera hirsuta</i> L.	Leguminosae - Fabaceae	Herb	Pink or Bricked Red	Sep-Jan
81	<i>Indigofera linnaei</i> Ali	Leguminosae - Fabaceae	Herb	Pink	July-Feb
82	<i>Indigofera wightii</i> Wight & Arn.	Leguminosae - Fabaceae	Herb	Pink	Sep-feb
83	<i>Ipomoea marginata</i> (Desr.) Verdc. (= <i>Ipomoea sepiaria</i> Koen.ex Roxb.	Convolvulaceae	Shrub	White or cremish yellow	Nov-Feb
84	<i>Ipomoea barlerioides</i> (Choisy) Benth. ex C.B. Clarke	Convolvulaceae	Herb	Purple	Sep.-Feb.
85	<i>Ipomoea cairica</i> (L.) Sweet	Convolvulaceae	Climber	Pink	Throughout year
86	<i>Ipomoea carnea</i> Jacq.	Convolvulaceae	Shrub	Rose	Throughout year
87	<i>Ipomoea coptica</i> (L.) Roth ex Roem. & Schult.	Convolvulaceae	Herb	Cream	Sep.-Apr.
88	<i>Ipomoea eriocarpa</i> R. Br.	Convolvulaceae	Climber	Pink	Oct.-Feb.
89	<i>Ipomoea indica</i> (Burm.) Merr.	Convolvulaceae	Vine	Blue	Throughout year
90	<i>Ipomoea nil</i> (L.) Roth	Convolvulaceae	Climber	Red or blue	Nov.-Feb.
91	<i>Ipomoea obscura</i> (L.) Ker Gawl.	Convolvulaceae	Herb	Pale yellow	Throughout year
92	<i>Ipomoea pes-caprae</i> (L.) R. Br.	Convolvulaceae	Herb	Pale yellow	Oct.-Mar.
93	<i>Ipomoea pes-tigridis</i> L.	Convolvulaceae	Herb	Pink	Sep.-Jan.
94	<i>Ipomoea staphylina</i> Roem. & Schult.	Convolvulaceae	Climber	Pnk	Dec.-Mar.
95	<i>Jacquenmontia paniculata</i> (Burm.f.) Hallier f.	Convolvulaceae	Climber	Pink	Oct.-Feb.
96	<i>Jasminum angustifolium</i> (L.) Willd.	Oleaceae	Climber	White	Mar.-Jul.
97	<i>Jasminum arborescens</i> Roxb.	Oleaceae	Shrub	White	Oct.-Mar.
98	<i>Jasminum auriculatum</i> Vahl	Oleaceae	Climber	White	Mar.-Aug.
99	<i>Jasminum cuspidatum</i> Rottl. & Willd.	Oleaceae	Shrub	White	Jan.-May.
100	<i>Jasminum grandiflorum</i> L.	Oleaceae	Climber	White	Throughout year
101	<i>Jasminum multiflorum</i> (Burm.f.) Andrews	Oleaceae	Climber	White	Dec.-Mar.
102	<i>Jatropha gossypifolia</i> L.	Euphorbiaceae	Shrub	Crimson Red	Throughout year
103	<i>Lantana camara</i> L.	Verbenaceae	Shrub	Orange scarlet yellow mixed	Throughout year
104	<i>Ledebouria revoluta</i> (L.f.) Jessop (= <i>Scilla hyacinthina</i>)	Asparagaceae	Herb	Greenish Purple	Mar.-Sep.
105	<i>Lepidagathis cristata</i> Willd.	Acanthaceae	Herb	White with brown or pink spots	Nov.-Mar.
106	<i>Macroptilium atropurpureum</i> (DC.) Urb.	Leguminosae - Fabaceae	Climber	Purple	Dec.-Mar.
107	<i>Martynia annua</i> L.	Martyniaceae	Shrub	Purple or white with yellow	Sep.-Feb.
108	<i>Merremia hederacea</i> (Burm. f.) Hallier f.	Convolvulaceae	Climber	Yellow	Sep.-Feb.
109	<i>Merremia tridentata</i> (L.) Hallier f.	Convolvulaceae	Herb	Yellow with a purple throat	Sep.-Feb.
110	<i>Mimosa hamata</i> Willd.	Mimosaceae	Shrub	Pink	

111	<i>Mucuna monosperma</i> Wight	Leguminosae - Fabaceae	Climber	Purple	Nev.-Mar.
112	<i>Mucuna pruriens</i> (L.) DC.	Leguminosae - Fabaceae	Climber	Purple	Sep.-Jan.
113	<i>Mundulea sericea</i> (Willd.) A.Chev.	Leguminosae - Fabaceae	Shrub	Pinkish or violet	Throughout year
114	<i>Murraya paniculata</i> (L.) Jack	Rutaceae	Tree	White	Mar.-Sep.
115	<i>Nymphaea nouchali</i> Burm.f.	Nymphaeaceae	Herb	Blue or purple	Throughout year
116	<i>Ochna obtusata</i> DC.	Ochnaceae	Tree	Yellow	Mar.-Jul.
117	<i>Operculina turpethum</i> (L.) Silva Manso	Convolvulaceae	Climber	White	Feb.-Dec.
118	<i>Opuntia stricta</i> (Haw.) Haw.	Cactaceae	Herb	Yellow	
119	<i>Passiflora edulis</i> Sims	Passifloraceae	Climber	Red	May.-Dec.
120	<i>Passiflora foetida</i> L.	Passifloraceae	Climber	White	May.-Dec.
121	<i>Pavonia odorata</i> Willd.	Malvaceae	Herb	Pink or white	Throughout year
122	<i>Pergularia daemia</i> (Forssk.) Chiov.	Apocynaceae	Climber	Greenish	Aug.-Apr.
123	<i>Phoenix loureiroi</i> Kunth	Arecaceae	Shrub	Yellow	Jan.-Jun.
124	<i>Phyllanthus indofischeri</i> Bennet	Phyllanthaceae	Tree	Greenish	Nov-Jan
125	<i>Phyllodium pulchellum</i> (L.) Desv. (= <i>Desmodium pulchellum</i> (L.) Benth.	Leguminosae - Fabaceae	Shrub	White	Aug-Nov
126	<i>Premna tomentosa</i> Willd.	Lamiaceae	Tree	Greenish Yellow	Jan-May
127	<i>Pterolobium hexapetalum</i> (Roth) Santapau & Wagh	Leguminosae - Caesalpiniaceae	Shrub	White	Mar-May
128	<i>Pulicaria wightiana</i> (DC.) C.B.Clarke	Asteraceae	Herb	Yellow	Aug-Mar
129	<i>Rauvolfia tetraphylla</i> L.	Apocynaceae	Shrub	White	Throughout year
130	<i>Rhynchosia beddomei</i> Baker	Leguminosae - Fabaceae	Herb	Yellow	Nov-april
131	<i>Rivea hypocrateriformis</i> Choisy.	Convolvulaceae	Climber	White	July.-Sep.
132	<i>Rivea ornata</i> Choisy	Convolvulaceae	Climber	White or light yellow	Nov.-Jun.
133	<i>Rothea serrata</i> (L.) Steane & Mabb. (= <i>Clerodendrum serratum</i> ,	Lamiaceae	Shrub	Purple or violet	Jul.-Sep.
134	<i>Salvadora persica</i> L.	Salvadoraceae	Tree	Cremish Yellow	Jan.-Jun.
135	<i>Sansevieria roxburghiana</i> Schult. & Schult.f.	Asparagaceae	Herb	Green	Sep.-Apr.
136	<i>Santalum album</i> L.	Santalaceae	Tree	Brownish Purple	Nov.-Apr.
137	<i>Sarcostemma acidum</i> (Roxb.) Voigt	Apocynaceae	Climber	White	Jan.-Mar.
138	<i>Senna montana</i> (Roth) V.Singh	Leguminosae - Caesalpiniaceae	Tree	Yellow	Throughout year
139	<i>Solanum americanum</i> Mill. (= <i>Solanum nigrum</i> L.	Solanaceae	Herb	White	Oct.-Apr.
140	<i>Solanum pubescens</i> Willd.	Solanaceae	Shrub	Purplish	Nov.-Feb.
141	<i>Stachytarpheta jamaicensis</i> (L.) Vahl	Verbenaceae	Herb	Blue	Jul.-Jan.
142	<i>Stemona tuberosa</i> Lour.	Stemonaceae	Climber	Greenish with Purple	Mar.-Jul.
143	<i>Striga asiatica</i> (L.) Kuntze	Orobanchaceae	Herb	White or yellow	Throughout year
144	<i>Tephrosia tinctoria</i> Pers.	Leguminosae - Fabaceae	Herb	Orange red-crimson or brick red	Throughout year
145	<i>Thunbergia fragrans</i> Roxb.	Acanthaceae	Climber	White	Jan. - Dec.
146	<i>Tinospora sinensis</i> (Lour.) Merr.	Menispermaceae	Climber	Yellow	Throughout year
147	<i>Tridax procumbens</i> (L.) L.	Asteraceae	Herb	Yellow	Throughout year
148	<i>Tylophora indica</i> (Burm. f.) Merr.	Apocynaceae	Climber	Greenish Yellow	May-Sep.
149	<i>Utricularia polygaloides</i> Edgew.	Lentibulariaceae	Herb	Dark Blue	Aug.-Feb.
150	<i>Vanda tessellata</i> (Roxb.) Hook. ex G.Don	Orchidaceae	Epifitic Herb	Yellowish Brown	May-Sep.
151	<i>Vitex negundo</i> L.	Lamiaceae	Shrub	Bluish purple	Jan.-Apr.
152	<i>Volkameria inermis</i> L. (= <i>Clerodendrum inerme</i> (L.)	Lamiaceae	Shrub	White with pinklines	Jan.-Apr.
153	<i>Wrightia tinctoria</i> R.Br.	Apocynaceae	Tree	White	Oct.-Jun.

utility for implementing domestic landscapes. In the present study noticed that, there are about, 153 species belonging to 112 genera and 48 families, which are documented from Palakonda hills is used for the ornamental purposes. The ornamental potentiality is high lightened due to its attractive habit and good looking flowers. The ornamental plants there are alphabetically arranged with botanical names, flower colour and flower session (Table 1), (Fig. 3&4). There is a lot of significance in recent years for the ornamental species in the utilization of various kinds and in the income generation among poor also in the export market of India.

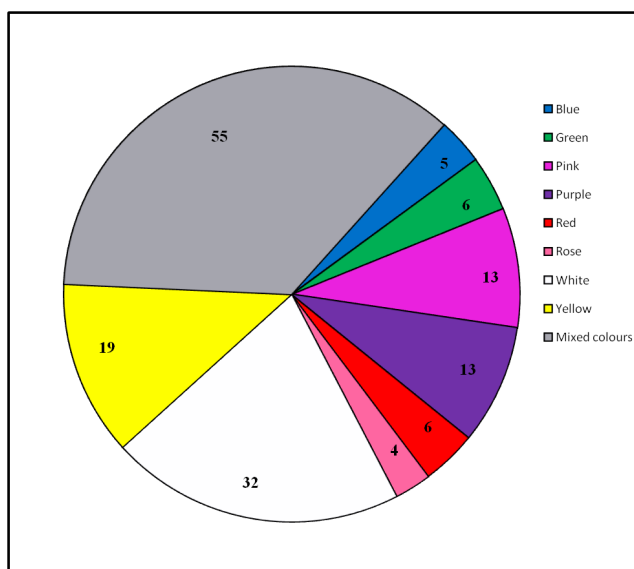


Figure 2. Flower colour analysis of wild ornamental plants in the study area.

Based on life forms classification of the enumerated wild ornamental species, maximum numbers of species were 55 – belongs to herbs, followed by 53-Creeper and climbers, 29 shrubs, and 15 trees and single epiphyte. More over all of these species are possessing climbing habit. The contribution of 48 families towards wild ornamental species diversity and density varied across the Palakonda hills. Convolvulaceae represented by 24 species (15.68%) was considered the taxonomically diverse wild ornamental family followed by Fabaceae (21 species, 13.72%), Apocynaceae (16 species, 10.45%), Malvaceae (08 species, 5.22%), Acanthaceae, Lamiaceae and Oleaceae (06 species, 3.92% each), Euphorbiaceae and Caesalpiniaceae (05, 3.26% each), Asparagaceae & Orchidaceae (04, 2.61% each) and Asteraceae (3, 1.96%). Nine families have two species, while 27 families (17.64%) have single wild ornamental species. Dominant genera from the study of *Ipomoea* 12 species, followed by *Jasminum* is second large genera (06 species), *Indigofera* (5) and *Euphorbia* (4), *Argyrea* and *Barleria* each 3 species, *Aristolochia*, *Canavalia*, *Capparis*, *Caralluma*, *Cassia*, *Ceropegia*, *Clerodendrum*, *Commelina*, *Desmodium*, *Dioscorea*, *Merremia*, *Mucuna*, *Passiflora*, *Rivea* and *Solanum* each 2 species and fifty one genera represented by single species.

These ornamental plants also allow growing over walls, buildings as well as fences, this will bring more beauty and attractive look. The flowers of these members possessing various colours to attract people those who are interested in gardening. Such people also prefer these species for indoor as well as outdoor gardening. The present observation on ornamental potentiality of 153 wild plant species collected from various habitats of Palakonda hills. These wild ornamental plants were categorized based on their attractiveness of flower, habit with its various plant parts. Among the attractive flowers white colour is dominant with 32 species, followed by Yellow with 19 species, Pink and Purple each with 13 species, Green and Red each with 06 species, Blue 5 species and Rose 4 species. Fifty five species are mixed coloured flowers (Fig. 2). The dynamic floriculture industry is constantly looking for new products, technologies and market niches. The cost of domestication and maintenance of wild ornamental species is also very less in comparison (Rajagopal Reddy *et al.*, 2012).

The flowering session of wild ornamental plants during June-October, it was remarkably bright on the forest floor and all the herbs were still very small. Whole year - 25, autumn - 45, winter -30, summer - 27 and spring -26. Observations on the phenology of the plants revealed that maximum number of species complete their Wild ornamental species are also the sources for the medicinal significance. There is still scope for some special type of plants bearing attractive tiny flowers for gardening in urban areas, inside houses, offices, banks, hospitals, hotels and other buildings with ornamental plants have become very popular due to lack of open space. Cultivation of these species may be beneficial, both commercially and to help conserve rare, vulnerable, endangered endemic plant species. Ornamental plants play an important role in environmental planning of urban and rural areas for abatement of pollution, social and rural forestry, wasteland development, afforestation, and landscaping of outdoor and indoor spaces. Landscape gardening and bio-aesthetic planning is a recent trend to establish eco-friendly human habitats.

CONCLUSION

Through the present study we hope to convey that, the various Convolvulacean members, which are documented from the study area, are possessing ornamental potentialities in their attractive habit and flowers. This work will help the researchers and people who are interested in wild ornamental plants and there is thus considerable scope for looking at the meaning of domestic gardens and landscape practices in both urban and local people. The present survey also noticed that, some of the threatened factors like fast rate of biotic interference, destruction of natural habitat by human interference, invasion of some exotic weeds and unsustainable utilization of natural resources may adversely affect the existing diversity of plants specially the members of Convolvulaceae in the study area. The safe conservation and sustainable uses of wild resources is essential for future generations. In addition to this there is a wealth of

research and practices into the use of horticultural therapy, which is now a well established form of intervention based on the therapeutic effects of gardening and of plant both in health and occupational settings.

ACKNOWLEDGEMENTS

We are thankful to the University Grand commission (F.No.MRP-4850/14 (UGC-SERO) for financial support and also thanks to Forest officials of Kadapa district for helping in collection of wild ornamental species.

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Hemidesmus indicus



Hyptis suaveolens



Ipomoea cairica



Ipomoea carnea



Ipomoea indica



Ipomoea obscura



Clitoria ternatea



Jatropa gossypifolia



Lepidagathis cristata



Macroptilium atropurpureum



Martynia annua



Stemona tuberosa



Striga asiatica



Thunbergia fragrans



Tylophora indica

Figure 3. Wild ornamental plants of Palakonda hills



Figure 4. Wild ornamental plants of Palakonda hills.