Int.J.Curr.Microbiol.App.Sci (2016) *5*(3): 82-92

International Journal of Current Microbiology and Applied Sciences
ISSN: 2319-7706 **Volume 5 Number 3(2016) pp. 82-92**
Journal homepage: http://www.ijcmas.com

Original Research Article http://dx.doi.org/10.20546/ijcmas.2016.503.012

Aquatic and Semi Aquatic Ornamental Flora of Karimnagar District, Telangana, India

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Keywords

Endangered, Floristic survey, IUCN, Ornamental plants, Pollution.

Article Info

Accepted:
08 February 2016
Available Online:
10, March 2016

A B S T R A C T

Commercial crops are very well-known verities coming from result of cross breeding with wild species. A variety of wild survival of many is endangered by over exploitation by plants are highly useful to the local people, while the human beings. Ornamental plants improperly placed in relation to the pollution, social and rural forestry, and wasteland conformation of the land, roads and buildings. The total enumerated plants are 80 species, 65 genera belonging to 38families. In this 80 species 55 from dicots, 23 from monocotyledons and 2 pteridophytes.Monospecious families are 20. Highest number of species from Asteraceae(10),followed by Cyperaceae (08), Fabaceae(04). Categories they are free floating(FF), submerged with anchoring(SA), rooted anchoring(RA), emergent and anchoring (EA)and floating submerged with anchoring(FSA).

Introduction

Wild plants are genetic resources for new verities, cultivars in all aspects of human being. Based on human population needs for food i.e. Rice, wheat, maize, jowar etc (1). Commercial crops are very well-known verities coming from result of cross breeding with wild species. Even resistant crop verities and qualitative characters coming from wild species.(2,3) Including that plants which are known as ornamental plants also produced basically from wild species, unfortunately many of them have been destroyed, they show great variation in composition and density in marked to such an extent that several have become extinct and contrast with domesticated plants. A variety of wild survival of many is endangered by over exploitation by plants are highly useful to the local people, while the human beings. Even forest area s also focused only which are commercial important. Wild flora Ornamental plants which have special are very important in view of aesthetic and recreational structures on a value for man. Present scenario of these plants is day by days critical to survive as natural habitats. (4)

Due to the anthropogenic activities caused to rapidly undergo to urbanisation, industrialisation and elevates levels of pollution everywhere.(4) There is no place for people to spend some time in natural aesthetic and swallow of beauty of nature. So some of the cities town's even big villages also planned for to make gardens, public gardens, in conservation manner government and N.G.O. Organisations supported to this programme. Flowers have the calibre to produce fragrance. Some of them plants support, they are annual or perennials.(5) These are produced from wild progenitor, few of which still exist in natural add beauty to the garden due to attractive flowers of habitat. A large number naturally in the field and have highly ornamental features of ornamental plants are available which can be used to such as ornamental flowers, foliage and fruits. the ornamental plants improperly placed in relation to the pollution, social and rural forestry, wasteland conformation of the land, roads and buildings. They using mainly in landscaping of outdoor, some special type of plants are in indoor spaces.(6,7) Water is the main source of to carry the lives of every organism. Some of the attractive flower bearing plants is adapted to aquatic habitat and some are semi aquatic.(8) Present research work also deals with the ornaments which are grow in aquatic, semi aquatic, and wet places. Earlier workers also give the importance of this topic. This floristic survey undertaken in this area is first time, earlier A. M. Naqui work on mainly on native flora of Karimnagar district entitled with ''Flora of Karimnagar".(9).

Study Area

Study area belonging to Telangana state, which is newly formed 29th state in our India. Study area bordered with west side Nizamabad, North Adilabad, East with Warangal, south bordered with Medak district of Telangana. Karimnagar atmospherically inland climatic conditions, gets most of its rainfall from the Southwest monsoon, during this period temperatures range from a minimum of 27 °C to a maximum of 39 °C. The highest recorded is around 44 °C. Humidity is around 50%. October and November experiences increased rainfall from the Northeast monsoon. During this time, daytime temperatures average around 30 °C. The winter season starts in December and lasts through February. During this time, temperatures range from a minimum of 20 °C to a maximum of 35 °C.

Latitude 1705'0" N, Longitude 78029'0" E, Altitude 1600 M forest area is 2, 50,400 ha. Districts forest divided to two divisions they are Karimnagar West with 9 Beats, Karimnagar East with 27 Beats.

Materials and Methods

The main objective of research collection to study the whole aquatic and semi aquatic plants. Research part divided into two parts one is observation, collection of plans and identification from various urban and rural ornamental plants, secondly go to forest area collection of which species and compare them. Through field work from selected sites of public gardens, water bodies which are located in parks.

This work carry from 2012 June-2015 April. The collected taxa used for preparation of Herbaria, preserved in department of Botany, GDC with voucher numbers. We can identify with the help of taxonomy literature, The Flora of Madras Presidency by Gamble,(10,11) Flora of Andhra Pradesh by Prof. T. Pullaiah,(12,13) experts and internet facility. Preparation of samples by according to Jain and Rao 1977 (14).

Results and Discussion

Present study indicates that the wild flora can be exploited to urban areas. Present scenario of some reserve forest is in critical conditions due the policies of the government. The total enumerated plants are 80 species, 65 genera belonging to 38families. In this 80 species, 55 from Dicots, 23 from Monocotyledons and 2 Pteridophytes. Monospecious families are 20. Genera are from dicots 46, Monocots 17, Pteridophytes are 02. Families from dicots are 25, monocots 11, 2families from pteridophytes. Highest number of species from Asteraceae (10), followed by Cyperaceae (08), Fabaceae (04).

Concern with their habitat several researchers divided the aquatic to mainly four types they are Free Floating, Submerged with Anchoring, Rooted Anchoring, Emergent and Anchoring (15). But there are several confusing classifications also there by their flexibility of the aquatic habitats and morphological forms of plants. Present study classified them under five categories they are free floating (FF), submerged with anchoring (SA), rooted anchoring (RA), emergent and anchoring (EA) and floating submerged with anchoring(FSA). They are given in Fig. No 1.

Table.1 Documented Ornamental Flora

S.No	Scientific name of the plant	Family	Habitat	IUCN 2015 Ver.3.1
1	*Aeschynomene aspera L*	Fabaceae	EA	LC
2	*Ageratum conyzoides*	Asteraceae	EA	NE
3	*Alisma plantago-aquatica*	Alismataceae	FSA	LC
4	*Alternanthera philoxeroides (Mart.) Griseb.*	Amaranthaceae	EA	LC
5	*Aponogeton natans*	Aponogetonaceae	FSA	LC
6	*Argyreia pilosa Arn.*	Convolvulaceae	EA	LC
7	*Azollaflucoidis cristata*	Salviniaceae	FF	NE
8	*Bacopa monnieri*	Scrophulariaceae	SA	LC
9	*Blumea mollis*	Asteraceae	EA	NE
10	*Boerhavia chinensis (L.)*	Nyctaginaceae	EA	DD
11	*Canna indica*	Cannaceae	SA	LC
12	*Celosia argentea L.*	Amaranthaceae	EA	NE
13	*Chamaecrista pumila*	Caesalpinaceae	EA	NE
14	*Chromolaena odorata*	Asteraceae	EA	NE
15	*Chrysopogon aciculatus*	Poaceae	EA	NE
16	*Colocasia esculentus*	Ararceae	SA	DD
17	*Crotalaria pallida*	Fabaceae	EA	NE
18	*Cyanotis axillaris*	Commelinaceae	SA	LC
19	*Cyanotis cristata*	Commelinaceae	SA	LC
20	*Cynodon dactylon*	Poaceae	EA	NE
21	*Cyperus acuminatus*	Cyperaceae	EA	LC
22	*C.alterni Folious*	Cyperaceae	EA	DD
23	*C.erythrorhizos*	Cyperaceae	EA	LC
24	*C. esculentus*	Cyperaceae	EA	LC
25	*C. rotundus*	Cyperaceae	EA	LC

26	*C. strigosus*	Cyperaceae	EA	LC
27	*Eclipta alba*	Asteraceae	EA	DD
28	*E. prostrata*	Asteraceae	EA	DD
29	*Eichhornia crassipes (Mart*	Pontederiaceae	FF	NE
30	*Emilia sonchifolia (L.)*	Asteraceae	EA	DD
31	*Glinus lotoidesL*	Molluginaceae	EA	DD
32	*Gloriosa superba L.*	Liliaceae	EA	VU
33	*Grangea maderaspatana*	Asteraceae	EA	LC
34	*Hedyotis auricularia*	Rubiaceae	EA	NE
35	*Hedyotis verticillata*	Rubiaceae	EA	NE
36	*Heliotropium curassavicum L*	Boraginaceae	EA	LC
37	*H.indicum*	Boraginaceae	EA	LC
38	*Hydrolea zeylanica*	Hydrophyllaceae	FSA	LC
39	*Hygrophila auriculata*	Acanthaceae	SA	LC
40	*IIlysanthes rotundifolia*	Linderniaceae	FSA	NE
41	*Ipomoea aquatica*	Convolvulaceae	FSA	LC
42	*I.carnea*	Convolvulaceae	FSA	LC
43	*I.hederifolia L*	Convolvulaceae	FSA	LC
44	*Justicia betonica*	Acanthaceae	EA	DD
45	*Lindenbergia indica*	Scrophulariaceae	FSA	LC
46	*Ludwigia octavalvis*	Onagraceae	SA	NE
47	*L. peruviana (L.)*	Onagraceae	EA	NE
48	*Marsilia quadrifolia*	Marsiliaceae	SA	LC
49	*Melochia corchorifolia L*	Sterculiaceae	EA	NE
50	*Merremia dissecta (Jacq.) Hall. F.*	Convolvulaceae	EA	NE
51	*M. Quinquefolia (L.) Hallier F.*	Convolvulaceae	EA	NE
52	*Mikania Micrantha*	Asteraceae	EA	LC
53	*Mollugo. nudicaulis*	Molluginaceae	EA	DD
54	*M.pentaphylla*	Molluginaceae	EA	DD
55	*Monochoria viginalis (Burm. F.) Presl, Reliq.*	Pontoridaceae	FF	NE
56	*Myriophyylum indicum*	Haloragaceae	FSA	LC
57	*Nelumbo nucifera Gaertner*	Nelumbonaceae	RA	NE
58	*Nymphaea alba*	Nymphaceae	RA	LC
59	*N. pubescens Willd*	Nymphaceae	RA	LC
60	*Nymphoidis cristata*	Nymphaceae	RA	LC
61	*Oldenlandia corymbosa*	Rubiaceae	EA	LC
62	*Ottelia alismoides (L.) Pers*	Hydrocharitaceae	RA	NE
63	*Oxalis aorniculata L.*	Oxallidaceae	EA	LC
64	*Oxystelma esculentum (L.*	Apocynaceae	EA	LC
65	*Pergularia daemia (Forsskal)*	Ascepiadaceae	EA	DD
66	*Persicaria glabra (Willd.) M. Gomez*	Polygoniaceae	SA	DD
67	*Pistia stratoites L.*	Ararceae	FF	LC
68	*Polygonum puberscens Blume*	Polygoniaceae	SA	DD
69	*Phyla nodiflora (L.) Greene*	Verbinaceae	EA	DD
70	*Physalis minima L.*	Solanaceae	EA	DD
71	*Sagittaria latifolia Willd*	Alismataceae	SA	DD
72	*Scirpus atrovirens*	Cyperaceae	EA	NE
73	*S.s cyperinus*	Cyperaceae	EA	NE
74	*Spaeraranthus indica*	Asteraceae	EA	NE

75	*Synedrella nodiflora*	Asteraceae	EA	DD
76	*Tephrosia pumila*	Fabaceae	EA	NE
77	*Thunbergia fragrans Roxb*	Acanthaceae	EA	DD
78	*Typha angustifolia*	Typhaceae	SA	LC
79	*Urena lobata L.*	Malvaceae	EA	LC
80	*Vigna trilobata*	Fabaceae	EA	NE

Figure.1

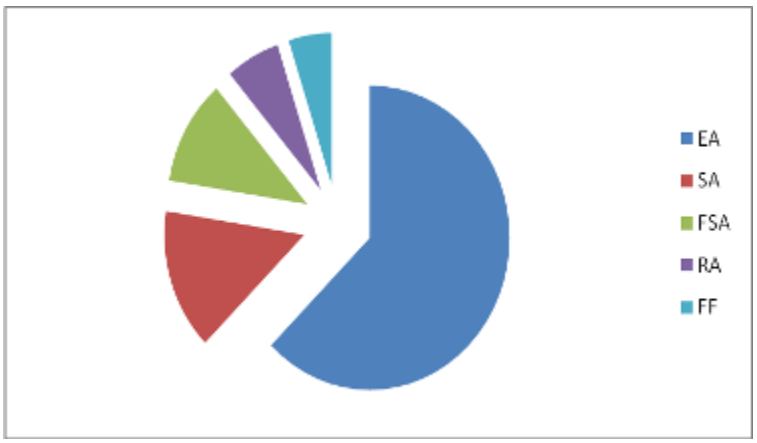

Figure.2

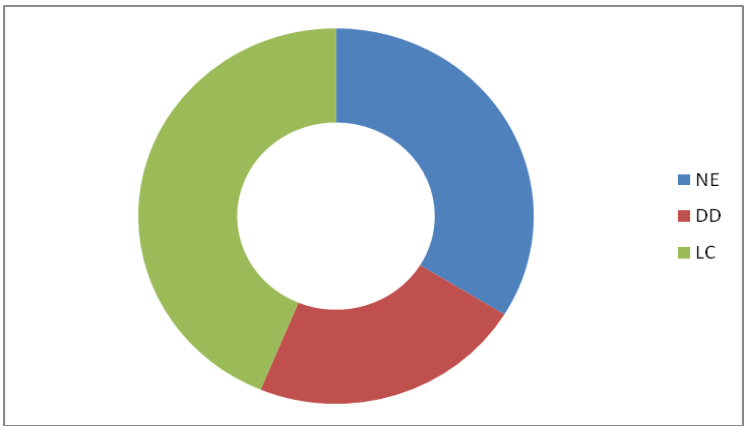

Plate.1

1) ***Cyperus strigosus***

2) ***M. nudicaulis***

3) ***Hydrolea zeylanica***

4) ***Hygrophila auriculata***

5) ***Cyperus erythrorhizos***

6) ***Chrysopogon aciculatus***

7) ***Alisma plantago-aquatica***

8) ***Nymphoidis cristata***

Plate.2

9) ***Ottelia alismoides*** (L.) Pers

10) ***Ludwigia peruviana*** **(L.)**

11) ***Vigna trilobata***

12) ***Cyanotis axillaris***

13) ***Physalis minima*** *L.*

14) ***Aeschynomene aspera*** *L*

15) ***Cyanotis cristata***

16) Melochia ***corchorifolia*** *L*

Plate.3

17) ***Eclipta alba***

18) ***Merremia dissecta*** *(Jacq.) Hall. F.*

19) ***Nymphaea alba***

20) N. pubescens *Willd*

21) ***Ipomoea aquatica***

22) ***I.carnea***

23) ***I.hederifolia*** *L*

24) ***Spaeranthus indica***

Plate.4

25) ***Pistia stratoites*** *L.*

26) ***Alternanthera philoxeroides (Mart.) Griseb.***

27) ***Azollaflucoidis cristata***

28) ***Aponogeton natans***

29)***Heliotropium curassavicum*** *L*

30) ***H.indicum***

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

32) ***Mollugo pentaphylla***

After the struggle of intellectuals, scientists and others to form to survey and status of all the living organisms, by the assessment of IUCN. (16, 17, 18, 19) They gave some categories to plants. As per that IUCN status present enumerated plants given in Fig.No.2

In conclusion, if growing of ornamental plants as economic basis it is also useful, in the form of self employment schemes of various government or NGO organizations. To improve socio-economic status of who are living near to fort areas. But the anthropogenic activities on nature, when they minimize at narrow levels, then the biodiversity can be rooted to its ancient days.

Acknowledgement

The author grateful thank to Prof. S. Seeta Ram Rao, Professor, Department of Botany, Plant Physiology And Molecular Biology Lab.UCS, Osmania University, Hyderabad, Telangana.

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How to cite this article:

Odelu, G. 2016. Aquatic and Semi Aquatic Ornamental Flora of Karimnagar District, Telangana, India. *Int.J.Curr.Microbiol.App.Sci.* 5(3): 82-92.
doi: http://dx.doi.org/10.20546/ijcmas.2016.503.012