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RESEARCH ARTICLE

A PRELIMINARY SURVEY OF NAGARAM LAKE OF WARANGAL DISTRICT IN TELANGANA STATE,INDIA TO ENLIST THE AQUATIC MACROPHYTES

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ABSTRACT

In the present study it was aimed to identify the aquatic macrophytes growing abundantly in Nagaram lake of Warangal district in Telangana State, for which a survey was carried out for a period of one year during 2014-2015.A total of 30 species belonging to 11 families and 24 genera under 4 classes were identified, 12 species of 10 genera and 6 families under the class monocotyledons, 2 species of 2 genera and 2 families under the class algae were recorded. The aquatic macrophytes were morphologically categorized as groups viz., classified under floating, submerged, submerged anchored, floating leaved anchored and emergent.

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INTRODUCTION

Macrophytes play an important role in the structure and function of aquatic ecosystem. Studies related to aquatic and wetland flora were Globally carried earlier by Mirashi, 1954; Sen and Chaterjee, 1959; Subramanyan, 1962; Vyas, 1964; Singh and Tomar, 1982; Srivastava *et al*., 1987; Baruah and Barauh, 2000; Dhote and Dikshit, 2007; Deshkar, 2008; Chandra *et al*., 2008; Srinivas and Aruna, 2013, Aquatic macrophytes are an important component of lake because they provide food and habitat for all invertebrates, fish and wild life. The aquatic macrophytes comprise a diverse group of macrophytic organisms which include angiosperms, pteridophytes, bryophytes, and some other fresh macro-algae that occur seasonally or permanently in the wet environment. (Lacoul and Freedman, 2006; Chambers *et al*., 2008) In the present work an attempt was made to encounter the macrophytes of Nagaram lake in Warangal district of Telangana State.

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MATERIALS AND METHODS

STUDY SITE

Warangal district is a part of the northern Telangana of Newly formed Telangana State It lies approximately between the latitude of 17 19' and 18^0 13' North latitude and 78 degrees 49' and 80 ^{0} 43' East latitudes. The district is rich source of rivers, lakes, streams and pond. Nagaram lake selected for experimental study is located at a latitude of 790-34'-00 West 790-36'-00 East and longitude 180-4'-15'' South and 180-5'-45'' North.

METHODOLOGY

A survey of the lake was carried out for a period of one year, during 2014-2015.The aquatic macrophytes were hand pulled, collected into large polythene covers and were brought to the laboratory. These specimens were washed, dipped in 2% mercuric chloride, dried and were pressed on herbarium sheets, following standard herbarium techniques. The aquatic macrophytes were further identified with the help of available literature of Subramanyam, 1962; Jain and Rao, 1976; Varma, 1981; Cook, 1996; Majid, 2000 and Choudary, 2002.

Table 1. Aquatic macrophytes recorded in Nagaram lake of Warangal district

Name of the species	Family	Morpho-ecological group
Salvinia natans	Salviniaceae	Floating
Eicchornia crasipes (mart) Solms	Pontederiaceae	Floating
Lemna gibba (L)	Lemnaceae	Floating
Lemna minor (L)	Lemnaceae	Floating
Pistia stratiotes (L)	Araceae	Floating
Hydrilla verticillata (L.F) Royle	Hydrocharitaceae	Submerged anchored
Vallisnaria spiralis (L)	Hydrocharitaceae	Submerged anchored
Ipomea aquatic (L)	Convolvulaceae	Floating leaved anchored
Ipomea carnea (jacq)	Convolvulaceae	Emergent anchored
Polygonum barbatum(L)	Polygonaceae	Emergent anchored
Polygonum glabrum (Willd)	Polygonaceae	Emergent anchored
Typha lotifolia	Typhaceae	Emergent anchored
Cynodon dactylon (L) Pers.	Poaceae	Emergent anchored
Echinocola colona (L.) Link	Poaceae	Emergent anchored
Scirpus articulatus (L.)	Cyperaceae	Emergent anchored
Scirpus subterminalis	Cyperaceae	Emergent anchored
Scirpus validus	Cyperaceae	Emergent anchored
*Cyperus rotundus (*L.)	Cyperaceae	Emergent anchored
Marselia quadrifolia (L.)	Marseliaceae	Emergent anchored
Chara vulgaris (L.)	Characeae	Submerged
Lyngbya spp.	Cyanophyceae	Floating
Ceratophyllum desmersum (L.)	Ceratophyllaceae	Submerged
Nelumbo nucifera (Garrtn. Fruct)	Nymphaceae	Floating leaved anchored
Nymphaea pubescens	Nymphaceae	Floating leaved anchored
Commelina bengalensis(Lnn)	Commelinaceae	Emergent anchored
Panicum miliaceum (Linn))	Poaceae	Emergent anchored
Eclipta alba hassk	Asteraceae	Submerged
Hygrophilla schulli(schumach)	Acanthaceae	Emergent
Chara nitzii Willd	Charophyceae	Submerged
Nitella hyaline Agardh	Charophyceae	Submerged

RESULTS AND DISCUSSION

In the present investigation a total of 30 species belonging to 19 families and 24 genera under 4 classes were identified. The aquatic macrophytes were morphologically classified as groups viz., classified under floating, submerged, submerged anchored, floating leaved anchored and emergent. The results are presented in Table 1. Thus aquatic macrophytes act as indicators of water quality, reduce pollution by acting as nutrient pumps and provide suitable breeding and shelter for varied aquatic fauna. It is presumed that macrophytes are the most productive means of aquatic ecosystem since they utilize the roots in sediments beneath water and their photosynthetic parts in air, Westlake; 1963

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