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AQUATIC WEEDS AND THEIR ECOLOGICAL ROLE IN UPPER MORNA RESERVOIR, MEDSHI, DIST- WASHIM, MAHARASHSTRA

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ABSTRACT

Upper Morna Reservoir is Medshi located in malegaonTalukaDist- Washim in Maharashstra state during study, the aquatic weeds like , Heterantheradubia plant, Sterile grass or sedge plant, Eichornia (Water hycianth) submerged Aquatic Weed, Juncus plant, Butomus, Pistia (floating weeds) were observed in the coastal sides of the reservoir during the period of June 2020 to January 2022 . Aquatic weeds play important role in protecting and restoring the aquatic ecosystem i.e. the aquatic weeds play major role in ecosystem.

Keywords: *Aquatic weeds, Ecosystem, Medshi, Upper Morna Reservoir, Washim.*

Introduction

Ecosystem is the functional unit of ecology and represent highest level of ecological interaction which is energy based.The "Biotic community" and non-living environment function together called as an ecosystem.Ecology is the basic division of biology and also an integral part of any and all taxonomic division. It is consider in terms of the concept of several biotic level of organization as Community, population organism, organ, cell and gene. The major ecosystem of the world deals with easily recognized types, with emphasis on geographical and biological differences that underlie the remarkable diversity of life on earth. Fresh water eco-system is characterized as having running water (lotic) and still water (lentic). The fresh water stream (springs creeks, rivulets, brooks etc.) and rivers are lotic zone but pools, ponds, some swamps bogs, lakes, etc are lentic ecosystem. Different zonation and stratification are characteristics of lakes and large ponds. It may differentiate as littoral, limnetic and profoundal zone. Littoral zone containing rooted vegetation, which is a shallow water region. It is extends from shoreline to innermost rooted plants and passes from rooted species with floating leaves for example water lilies. This zone is populated by frogs, snakes, snails, clams and a variety of adults and larval insects. So from above ecosystem the aquatic biodiversity of weeds we need to study with its ecological importance.

Review of Literature

Anderson (2003) was carried out on diversity of aquatic weeds andgave a review of aquatic weed biology and management research conducted by the United States, Department of Agriculture Agricultural Research Service. Bhupendra and Mani (2008) studied floral diversity of Baanganga Wetland, Uttarakhand, India reporting a total of 178 plant species. Kolet*et.al.*(2013)Studies on the Biodiversity of Weeds from V.P.M.'s College Campus and Adjoining Areas in Thane, India The aquatic weed varieties are broadly classified as free floating, submerged, rooted floating, emergent and bank weeds. During the study Idholet*et.al.* (2016)from August 2015 to January 2016 found 8 species of fresh water aquatic weeds viz. Hydrilla, Eicchornia, Duckweed, Vallisneria, Pistia, M.algae, Typha, Nymphaea have been reported from various wetlands such as Ekburji dam ,Devtalav, Padmtirtha and Narayan baba talav in Washim region. S. D. Rathod (2022) studied the eight species from Upper Pus Reservoir at four sampling stations during July. 2020 To Jan. 2022 aquatic weed in Vasantsagarreservoir ,pusad, dist-yavatmal.

Materials and Method

Site description: The Upper Morna reservoir is located ($18^0$36"44'N and $76^0$56"33.61'E) at Medshi, Malegaon Taluka in Washim district of Maharashtra. It is constructed on the Upper stretch of the Morna River, one of the minor river of Vidarbha region of Maharashtra and one of the tributary of the Purna River.The

sample using selected plants was collected from water bodies. The aquatic weeds were collected by hand picking and also with the help of local fishermen. The collected weeds were then brought to laboratory and identified using standard literature on weeds. Visual observations about topographic changes in the water level of pond and its surface were also recorded to assess the extent of changes in the pond basis. Also photographic pictures also taken on spot of the reservoir.

Result and Discussion

In the Upper Morna Reservoir in Medshi, Dist-Washim, during study, the aquatic weeds like , *Heterantheradubia plant*, Sterile grass or sedge plant, Eichornia (Water hycianth) submerged Aquatic Weed, Juncus plant, Butomus, Pistia (floating weeds) were observed in the coastal sides of the reservoir during the period of June 2020 to January 2022 .the aquatic weeds are important for the aquatic environment . Aquatic weeds also keep the water temperature, humidity in the ecosystem. When aquatic plants grow it produce oxygen, which is impoertant for healthy life of eosystem and aquatic vegetation influences the oxygen levels within a water body and absorbs pollutants from contaminated water. They play important role in protecting and restoring the aquatic ecosystem Ie. the aquatic weeds play major role in ecosystem. Their role is important for fishes. The microscopic aquatics weeds biodiversity is of considerable interest to society because these are so important in the diet of different types of fish species that are commonly consume by humans for food ie. All plants whether in or around water play the important role in photosynthesize. They use sunlight, carbon dioxide, and water to grow and produce new plant tissue. They also produce oxygen through this process. It has been assured that aquatic weed have assumed greater awareness of the pollution in Aquatic ecosystem. The study of aquatic weeds is important in environmental monitoring as possible indicator of physiological and chemical changes in environmental ecosystem. Aquatic weed also useful for fishing purpose.In conclusion, biodiversity of aquatic weeds is useful biomarker for environment ecosystem.

Summery and Conclusion

In the Upper Morna reservoir have lost some of the aquatic weeds due to pollution other external factors so it necessary to protect it. There is a need for increased legal protection, well designed management practices to conserve the aquatic biodiversity. The measure for conservation of aquatic resources should be taken up on priority by different government and non-government organizations for benefit of humanity.

Aknowlegment

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PHOTOPLATE – (AQUATIC WEEDS)

	
*Eichornia (*Water hycianth) submerged Aquatic Weed	*Juncus plant*
	
Heterantheradubia plant	Sterile grass or sedge plant.
	
Butomus	*Pistia*(floating weeds)

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Diversity of Bird in Upper Morna Reservoir, Medshi, Dist-Washim (M.S.) India

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ABSTRACT

Upper Morna Reservoir is Medshi located in Malegaon Taluka Dist- Washim in Maharashtra state (India). Diversity of bird in specific area is depend on food requirement, breeding season, water body and many more factors. Some birds live territorially and some make huge flocks or groups. The avian fauna are also attractive features of water body of Upper Morna Reservoir along with the local resident's terrestrial fauna of birds locally available water fowls are accompanied by certain migratory avian fauna. The occasionally observed avian fauna incorporated were *Anas poicilorhyncha* (Spotbilled duck), (*Egretta intermedia*) Little Egret, *Ardeola grayii* (Pond heron), *Tadorna tadorna* (Ruddy Shelduck), *Ciconia episcopus* (Bishop Bird), *Phalacrocorx niger* (Little Cormorant), Cattle Egret, the Black-headed Ibis or Oriental White Ibis (*Threskiornis melanocephalus*). During study period total eight species of birds were found in Upper Morna Reservoir, Medshi.

Keyword: Diversity, Bird, Upper Morna Reservoir, Medshi, Aquatic fauna

INTRODUCTION

In the aquatic ecosystem along with zooplankton, phytoplankton and fishes number of aquatic fauna and flora are present. Aquatic fauna includes many micro invertebrates including insects; amphibians like frog, birds, reptiles and many more are present. Diversity of bird in specific area is depend on food requirement, breeding season and water body and many more factors. Some birds live territorially and some make huge flocks or groups. The avian fauna are also attractive features of water body of Upper Morna Reservoir along with the local resident's terrestrial fauna of birds locally available water fowls are accompanied by certain migratory avian fauna. The present investigation was conducted to study diversity of bird near the upper morna reservoir in village Medshi. In and around the reservoir most of the local and migratory species were found which attract the people. From the present study habit- habitat, their ecological status feeding habit, migration of bird was studied.

MATERIAL & METHODS

Site description:

The Upper Morna reservoir is located (18^{0}36”44’N and 76^{0}56”33.61’E) at Medshi, Malegaon Taluka in Washim district of Maharashtra. It is constructed on the Upper stretch of the Morna River, one of the minor rivers of Vidarbha region of Maharashtra and one of the tributaries of the Purna River. The Morna River originates from the village Nagzari located in Washim district & meet the river Purna in Akola district at Andura. The main aim of construction of this reservoir was to save Akola city from the flood conditions, which was generally being occurring in the rainy seasons. Beside this the reservoir is used for irrigations, fishing activities & drinking purposes by the people residing around reservoir.

The diversity of birds was carried out during study period October 2014- October2015. The observation of bird carried out during morning from 6-10 am and in the evening from 5-7pm by using binoculars. The photographs of bird were carried out by using cannon **HS 60 camera.** The identification of bird was carried out by using, literature of Grimmet *et al*. (2004) the book of Indian bird by Salim Ali (1996). Observation of bird carried out by their ecological status, migration, abundance and habit habitat and then it identified and recorded.

RESULTS

The avian fauna are also attractive features of water body of Upper Morna Reservoir along with the local resident’s terrestrial fauna of birds locally available water fowls are accompanied by certain migratory avian fauna. The occasionally observed avian fauna incorporated were *Anas poicilorhyncha* (Spotbilled duck), (*Egretta intermedia*) Little Egret, *Ardeola grayii* (Pond heron), *Tadorna tadorna* (Ruddy Shelduck), *Ciconia episcopus* (Bishop Bird), *Phalacrocorx niger* (Little Cormorant), Cattle Egret, the Black-headed Ibis or Oriental White Ibis (*Threskiornis melanocephalus*) in given Photo plate.

De Zoysa and Sundarabarathy (2007) were recorded some similar avnian flora like Indian Cormorant (*Phalacrocorx niger)*, little Egret, Pond-heron (*Ardeola grayii)*, The Black-headed Ibis (*Threskiornis melanocephalus*) and many others 15 species were found by them. Pawar *et al.*, (2005) reported 74 species of birds in and around Yedshi lake, Mangrulpir, Washim District (M.S.) Kulkarni *et al.*, (2006) reported 93 species of birds from Shikhachwadi reservoir of Nanded district(M.S.). Narwade and Fartade (2011) recorded 165 species of birds of Osmanabad district(M.S.), Patil et al. (2018) reported 134 species of birds belonging to 16 ordersfrom Ajanti Dam area of Hinganghat (Wardha), Central India.

Photoplate 1

***Anas poicilorhyncha* (Spotbilled duck)**

***Egretta intermedia* (Little Egret)**

Ardeola grayii (Pond heron)

Tadorna tadorna (Ruddy Shelduck)

Ciconia episcopus (Bishop Bird)

Phalacrocorx niger (Little Cormorant)

*Bubulcusibis (*Cattle egret)

Threskiornis melanocephalus
(The Black-headed Ibis or Oriental White Ibis)

Harpreet Singh *et al*. (2018) total of 61 aquatic species were identified during the whole studied period. A total of 61 aquatic species of 16 families were observed during study. The maximum number of bird species 57 were recorded at Menar Lake followed by Bhatewar Lake with 48 Species then FatehSagar with 32 different species and least species 28 recorded at Vallabhnagar dam. Shelke in 2020 reported total 75 species, including water and land bird species, belonging to 11 orders and 31 families were recorded during November 2018 to February 2019 in Varthan Dam and its adjacent areas showed good avian diversity. Parwale in 2020 gave diversity of birds in local ecosystem Lakhani in Bhandara district Maharashtra he reported 51 species of birds, and his topic also included the birds are sensitive indicators of biological richness and environmental trends and play key role in ecological functions. Rathod in 2021 was recorded of migratory birds was prepared from June 2020 to Dec. 2020. More than 34 species of migratory birds were observed, out of which 14 species were found to be migratory birds in true sense and remaining 20 species were also from the category of migratory birds but they were found to have become residential.

Conflicts of interest: The authors stated that no conflicts of interest.

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