

Comparative Study of Algal diversity in Shakambari - A Conservation Reserves of Sikar and Jhunjhunu District of Rajasthan

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ABSTRACT

Algae are the very diverse group of plant kingdom that is very widely present in size, shape, colour and habitat. Present study deals with diversity of Algal-diversity in Shakambari Region, Sikar and Jhunjhunu district of Rajasthan. The algal diversity survey revealed the presence of 13 species of algae. Among them Chlorophyceae and Cyanophyceae are dominant. The investigation shows that these classes of Algae show all the characters with water parameters. Pond water refers to a standing body of water. this is usually smaller than a lake and may either be man-made or natural. The climate change and human impact will put increasing pressure upon existing protected areas and that much biodiversity conservation will need to take place beyond these reserves. Conservation of biodiversity is necessary for maintaining ecosystem functioning.

Keywords: Algal-diversity, Conservation, Biodiversity, Pond water, Ecosystem.

INTRODUCTION

The present Research deals with a view to study algal biodiversity of Shakambari conservation Reserves sikar and Jhunjhunu District of Rajasthan, India. The research Work from different two sites of Shakambari Region in the period of January 2022 to March 2022.

During this period of investigation there are 07 species belonged to Chlorophyceae, 06 species belonged to Cyanophyceae, 03 species belonged to

Bacillariophyceae, and 01 species belonged to Euglenophyceae. The members of Chlorophyceae were dominant followed by Bacillariophyceae and Euglenophyceae. Diversity of algae in terms quantity and quality were observed at all selected sites of Shakambari Region. Unicellular, colonial and filamentous algal forms were reported throughout the period of investigation. The algal genera whose species recorded at all sites of study area.

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Figure 1- Site – A - KOAT DAM



Figure 2- Site B - NAAG – KUND



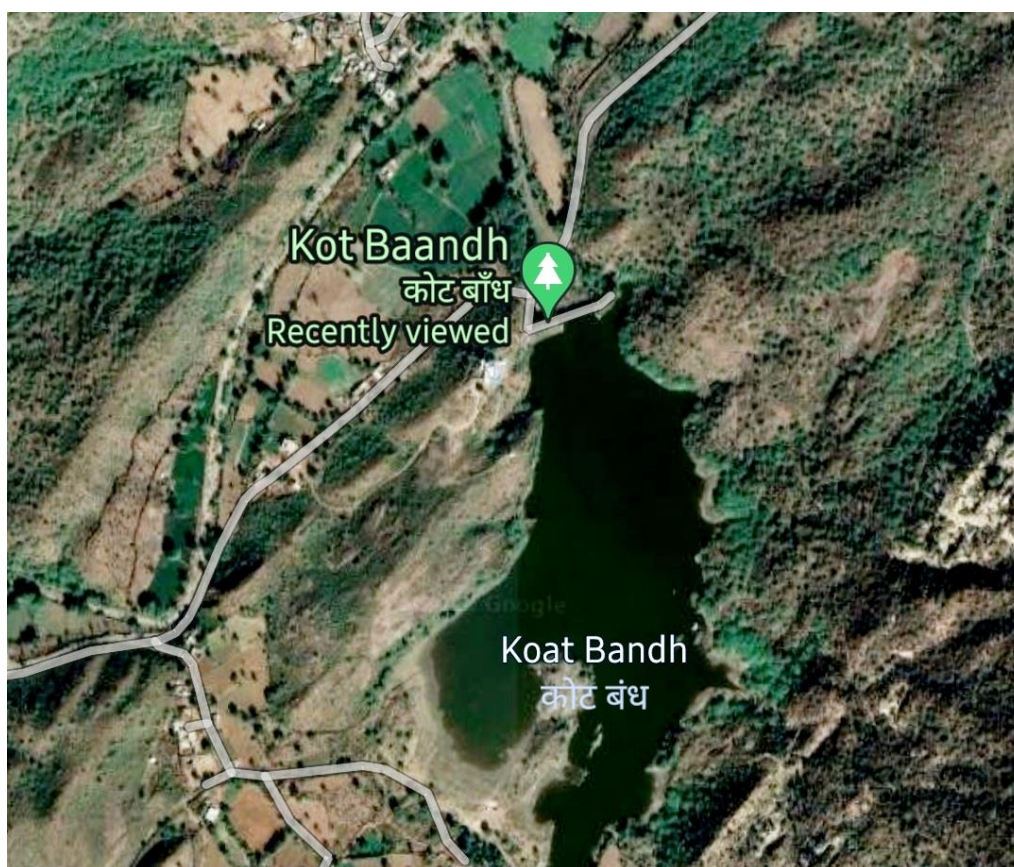
SIKAR AND JHUNJHUNU DISTRICT OF RAJASTHAN STATE

METHODS AND MATERIALS

The research Work done from different two sites of Shakambari Region Sikar and Jhunjhunu district. Sikar district is located in the North Eastern part of state of Rajasthan between 27.21° to 28.12° north latitude and 74.4° to 75.25° is East longitude it is bounded on there north by Jhunjhunu district and south is covered by Jaipur and nagour district. Jhunjhunu district is located in $27^{\circ} 38$ and 28 degree 31 North latitude and 75 degree 02 and 76 degree 06 East longitude it is surrounded by Churu District on the North Western side and

Haryana in the North Eastern part and Sikar district in the West South Eastern part total geographical area of the district is 2928^2 kilometer.

Two sampling stations were established almost equidistantly on the site of shakambhari conservation reserve. Station A was established at – Koat Dam and Station-B was established at Naag Kund. The water samples were collected from all the Two sampling stations established in shakambhari conservation reserve.



GEO-LOCATION
(KOAT - DAM)

RESULTS AND DISCUSSION

The Physio-chemical characters provide a fair idea about water quality in any water body the results of the physio-chemical characteristics of koat dam and Naag Kund .The study will be conducted in different sites of shakambhari. The research Work from different two sites of Shakambari Region during this period of investigation. there are 07 order belonged to Chlorophyceae, 06 order belonged to

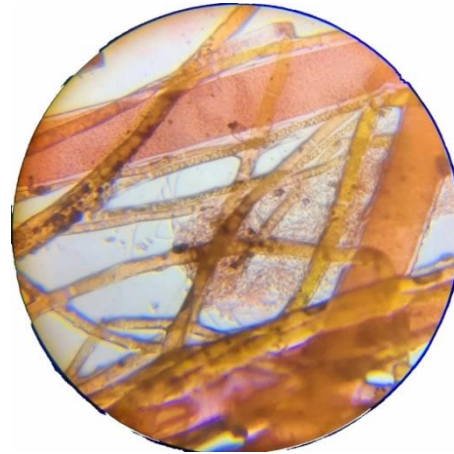
Cyanophyceae, 02 order belonged to Bacillariophyceae, and 01 order belonged to Euglenophyceae. The members of Chlorophyceae were dominant followed by Bacillariophyceae and Euglenophyceae. Diversity of algae in terms quantity and quality were observed at all selected sites of Shakambari Region. Unicellular, colonial and filamentous algal forms were reported throughout the period of investigaton. The algal

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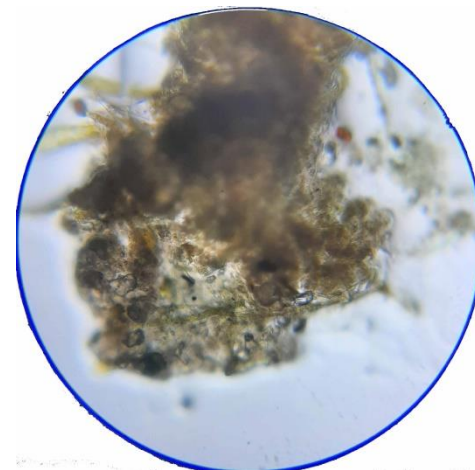
Pond water refers to a standing body of water. this is usually smaller than a lake and may either be man-made or natural.

pond water contains a variety of plant and animal life while some can be seen with the naked eye, others are too small and will require the use of a microscope to be able to properly observe them.

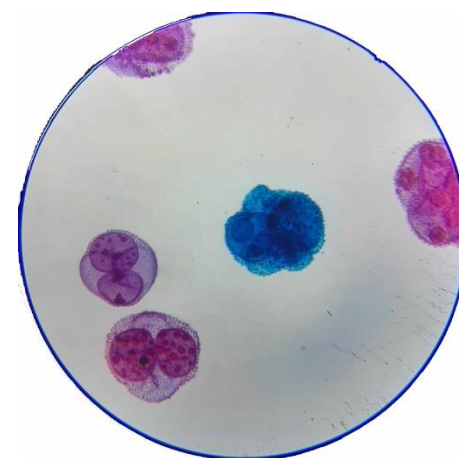
Some of the organisms that can be found in pond water include :-



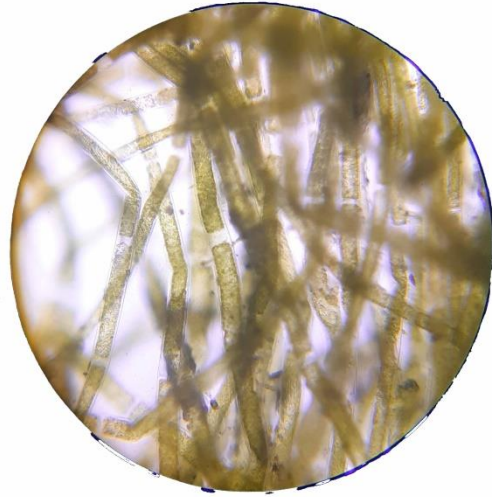
(01). Chlorophyceae:- Hydrodictyon reticulatum



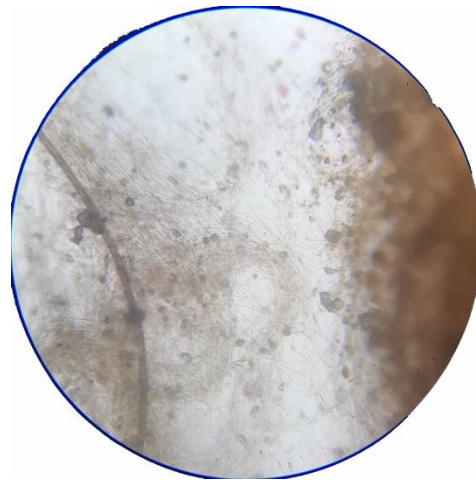
(2). Chloeoiphyceae:- chlorella vulgaris algae



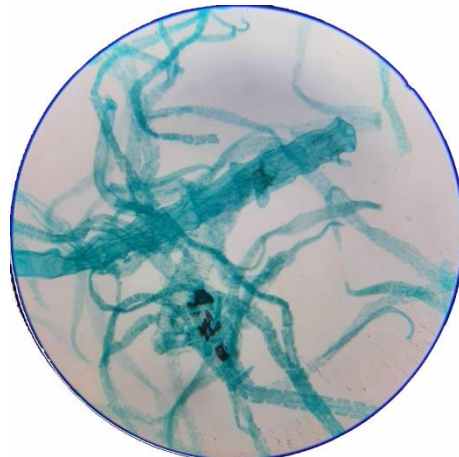
(03). Chlorophyceae:- Volvox globulator



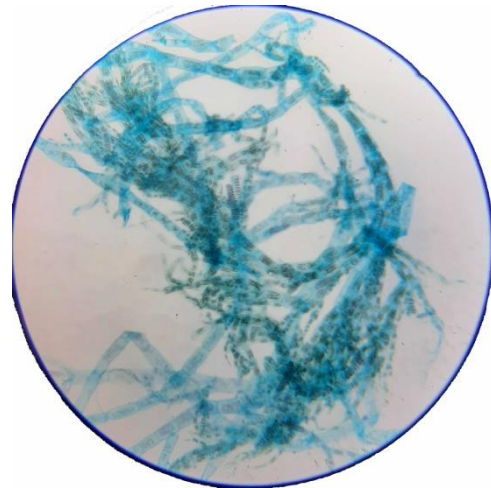
(04). Cyanophyceae:- *Oscillatoria amphibia*



(05). Cyanophyceae:- *Nostoc rivulare*



(06). Phaeophyceae:- *Ectocarpus filifer*



(07). Xanthophyceae:- Vaucheria sessilis

CONCLUSION

At present there are 07 order belonged to Chlorophyceae, 06 order belonged to Cyanophyceae, 02 order belonged to Bacillariophyceae, and 01 order belonged to Euglenophyceae. The members of Chlorophyceae were dominant followed by Bacillariophyceae and Euglenophyceae.

In comparative study algal diversity in koat dam (Station A):-

1. 04 order belonged to Chlorophyceae
2. 04 order belonged to Cyanophyceae
3. 01 order belonged to Bacillariophyceae
4. 01 order belonged to Euglenophyceae.

Chlorophyceae and cyanophyceae both algae are dominant in koat dam.

Algal diversity in Naag kund (Station B):-

1. 03 order belonged to Chlorophyceae
2. 02 order belonged to Cyanophyceae
3. 01 order belonged to Bacillariophyceae
4. 01 order belonged to Euglenophyceae.

Chlorophyceae algae are dominant in Naag kund followed by Cyanophyceae to Bacillariophyceae.

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the most appropriate one. He divided algae into 11 classes. Then in 1955 Smith classified algae into seven divisions with 14 classes.

Chapman and Chapman (1962). had classified algae into 11 phyla. After the invention of electron microscopy and other aids that help in viewing fine and detail structures of microbes, some other advanced schemes of algal classification came into focus. The most rewarded one of them was put forwarded by Round in 1973. He divided algae into 2 divisions and 12 classes.

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