



TAXONOMIC DIVERSITY OF BENTHIC ALGAE FROM JUNNAR TALUKA OF PUNE DISTRICT (INDIA)

Radhakishn Namdeo Tagad

Department of Botany, Hon. B. J. College, Ale, Tal. Junnar, Dist. Pune.
tagadrn@rediffmail.com

Abstract:

The Junnar tehsil in Pune District is situated between 19011'59" Northern 73052'47" Eastern latitude on the northern part of Deccan Plateau & composed of undulating hills. Junnar tehsil is famous for its wells and Dams. The famous and historical fort of Shivneri where Shivaji Maharaj was born is in this region. There is also a Satellite Center in Arvi. Survey was done of the following impoundments - Manikdoha Dam, Yedgaon Dam, Pimpalgaonjoge Dam, and Wadaj Dam. Sub-aerial algae growing attached to tree barks, on damp walls or other such substrata were collected by scraping with a scalpel and then picked up with the help of a forceps. All algal plants were identified up to genus, species, variety as well as form level. We visit all stations from Junnar Tehsil. All algal plants were identified up to genus, species, variety as well as form level. We visit all stations from Junnar Tehsil. The 78 species, 6 varieties consisted belonging to 12 families from 9 orders of 4 classes from 3 divisions. Family Zygnemataceae includes 1 genus, 16 species and 1 variety; while family Batrachospermaceae include only 2 genera and 2 species; Spirogyra is more densely occur in Junnar tehsil.

Keywords: Pune, Junnar, Benthic, Zygnemataceae, Batrachospermaceae, Spirogyra

Introduction

Filamentous algae were collected from mass growths by hand. Sub-aerial algae growing attached to tree barks, on damp walls or other such substrata were collected by scraping with a scalpel and then picked up with the help of a forceps. Hand collected samples were investigated from April 2014 to October 2015. The present investigation is undertaken with keep in mind that to study the algal population from selected stations of study area.

Materials and Methods

The samples were preserved in a mixture of 50 ml of 95% ethyl alcohol, 5 ml of glacial acetic acid, 10 ml of 40% commercial formalin and 35 ml of water. The specimens are observed under microscope for 10X, 40X, 100X and Photographs

were taken with the help digital camera under appropriate magnifications. Identification of specimens was mostly based on the keys given in standard monographs & literatures. The Vaucher specimens have been deposited at Dept. of Botany, Hon. Baladaheb Jadhav College, Ale, Tal. Junnar, Dist. Pune.

The samples were brought to laboratory for identification; Identification were done with the help of Indian monographs and other standard literature like Desikachari (1959), Randhawa (1959), Venkatraman (1961), Prescott (1951), Ramnathan (1964), Bourrily (1970), Philipose (1967), Gonzalves (1981), Iyengar and Desikachari (1981), Desikachari *et al* (1990), Anand (1998) and Sarode and Kamat (1984). The collected algal forms had been preserved in 4% formalin.

List of Benthic Algal specimens collected from Study Area:

Division: Chlorophyta

Class: Chlorophyceae

Order: Ulotricales

Suborder: Ulotrichineae

Family: Ulotrichaceae

1. *Ulothrix fimbriata* Bold
2. *Ulothrix limnetica* Lemm.
3. *Ulothrix tenerrima* (Kutz.)
4. *Ulothrix variabilis* Kuetzing
5. *Uronema africanum* Borge
6. *Uronema confervicolum* Lagerheim

Order: Chaetophorales

Family: Chaetophoraceae

1. *Stigeoclonium attenuatum* (Hazen) Collins
2. *Stigeoclonium nanum* Kuetzing
3. *Stigeoclonium polymorphum* (Franke) Heering
4. *Chaetophora elegans* (Roth) C. A. Agardh

Order: Oedogoniales**Family: Oedogoniaceae**

1. *Oedogonium epiphyticum* Trans. and Tiff
2. *Bulbochaete alabamensis* Trans and Brown. v. *belgaumense* Gonz. And Sonn.
3. *Bulbochaete kosmoceps* Skuja

Order: Cladophorales**Family: Cladophoraceae**

1. *Pithophora mooreana* Collins
2. *Pithophora oedogonia* (Mont.) Wittrock
3. *Rhizoclonium fontanum* Kuetzing

Order: Zygnematels**Family: Zygnemataceae**

1. *Spirogyra aplanospora* Randhawa
2. *Spirogyra articulate* Transeau
3. *Spirogyra borgeana* Transeau
4. *Spirogyra bullata* Jao
5. *Spirogyra exilis* W. and. G.S. west
6. *Spirogyra flavescens* (Hass) Kutz.
7. *Spirogyra irregularis* Nageli
8. *Spirogyra jogensis* Iyengar v. *minor* Iyengar
9. *Spirogyra karnalae* Randhawa
10. *Spirogyra maravillosa* Transeau
11. *Spirogyra notabilis* Taft.
12. *Spirogyra paradoxa* Rao
13. *Spirogyra porangabeae* Transeau
14. *Spirogyra puncticulata* Jao
15. *Spirogyra rhizoides* Randhawa
16. *Spirogyra submarina* (Collins) Transeau
17. *Spirogyra sulcata* Blum

Class: Charophyceae**Order: Charales****Family: Characeae**

1. *Chara canescens* Desvaux and Loiseleur Deslongchamps
2. *Chara corallina* Willdenow in Mem. AC. Roy.
3. *Nitella furcata* (Roxb. and Bruzelius) Agardh
4. *Nitella hyalina* (De Cond.) Agardh.

Division: Cyanophyta**Class: Cyanophyceae****Order: Chroococcales****Family: Chroococcaceae**

1. *Chroococcus turgidus* (Kutz) Naeg.
2. *Chroococcus turgidus* (Kuetz.) Naeg. v. *maximus* Nygaard
3. *Gloeocapsa calcarea* Tilden
4. *Gloeocapsa montana* Kuetz.

5. *Gloeocapsa polydermatica* Kuetz
6. *Gloeocapsa quaternata* (Breb). Kuetz
7. *Gloeocapsa stegophila* (Itzigs.) Rabenh. v. *crassa* Rao, C. B.
8. *Aphanothece conferta* Richter
9. *Synechococcus cendrorum* Sauvagean
10. *Gomphosphaeria aponina* Kuetz.

Order: Nostocales**Family: Oscillatoriaceae**

1. *Oscillatoria simplicissima* Gomont
2. *Oscillatoria subbrevis* Schmidle
3. *Oscillatoria terebriformis* Ag. Ex Gomont
4. *Phormidium corium* (Ag.) Gomont
5. *Phormidium increstatum* (Nageli) Gomont
6. *Phormidium laminosum* Gomont
7. *Phormidium rubroterricola* Gardner
8. *Phormidium usterii* Schmidle
9. *Lyngbya baculum* Gomont
10. *Lyngbya connectens* Bruhlet et Biswas
11. *Lyngbya digueti* Gomont
12. *Lyngbya lachneri* (Zimmermann) Geitler
13. *Schizothrix arenaaria* (Berk) Gomont v. *non-constricta* Gose
14. *Schizothrix ericetorum* Lemmermann
15. *Microcoleus acutissimus* Gerdener
16. *Microcoleus chthonoplastes* Thuret ex Gomont

Family: Nostocaceae

1. *Anabaena iyengarii* Bharadwaja v. *tenuis* Rao, C. B.
2. *Nostoc calcicola* Brebisson ex Born. et Flah.
3. *Nostoc entophytum* Born. et Flah.
4. *Nostoc chumifusum* Carmichael ex Born. et Flah.
5. *Nostoc paludosum* Kuetzing ex Born. Et Flah.
6. *Nostoc punctiforme* (Kuetz.) Hariot
7. *Nostoc spongiaeformi* Agardh ex. Born. et Flah.
8. *Aulosira bombayensis* Gozalves

Family: Scytonemataceae

1. *Scytonema chiasmum* Geitler
2. *Scytonema pseudohofmanni* Bharadwaja
3. *Scytonema schmidlei* J. De Toni
4. *Tolypothrix byssoidea* (Berk.) Kirchner
5. *Tolypothrix distorta* Kuetzing ex Born. et Flah.

Family: Rivulariaceae

1. *Calothrix atricha* Fremy
2. *Calothrix clavata* West, G. S.
3. *Calothrix elenkinii* Kossinskaja
4. *Calothrix thermalis* (Schwabe) Hansg
5. *Rivularia beccariana* (De Not.) Born. et Flah.
6. *Rivularia manginii* Frem

Division: Rhodophyta**Class: Florideophyceae****Order: Batrachospermales****Family: Batrachospermaceae**

1. *Batrachospermum mahabaleshwarensis* Balk. et Chaug.
2. *Sirodotia huiellense* (Welw.) Skuja

References

1. Anand, N.; Handbook of Blue-Green Algae (of Rice Fields of South India); Publ. Bishen Singh Mahendra Pal Singh, Dehradun:1989
2. Anand, N.; 'Indian Fresh Water Microalgae'; Published by Bishen Singh Mahendra.
3. Anand, N. and G. Revathi; 'Blue-Green Algae from Rice Fields of Tamil Nadu'; Phykos 26:17–21:1987
4. Bhoge, O. N. and G. Ragothaman; 'Studies on the Cyanophyceae from Jalgaon Region, Maharashtra'; Phykos 25:129–131:1986
5. Bhoge, O. N. and G. Ragothaman; 'Studies on the Euglenophyceae from Jalgaon Region, Maharashtra'; Phykos 25:132–135:1986
6. Desikachary, T. V.; 'Cyanophyta'; Indian Council of Agricultural Research, New Delhi: 1-686:1959
7. Iyengar, M. O. P. and T. V. Desikachary; 'Volvocales'; Indian Council of Agricultural Research, New Delhi:1-532:1981
8. Lackey, J. B.; 'The manipulation and counting of river plankton and changes in some organisms due to formalin preservation'; U. S. Public Health Reports:53:2080-2093:1938
9. Nandan, S. N. and N. H. Aher; 'Species diversity in algal flora of Haranbaree dam and Mosam river of Baglan (Maharashtra). J. Ecol. Envi. and Cons., 81(3-4): 551-553:2005
10. Pingle, S. D.; 'Studies on the algae of impoundments and streams in Maharashtra'; Ph. D. thesis, Poon University:1981
11. Prescott, G. W.; 'How To Know the Fresh-Water Algae'; W. M. C Brown Company Publishers, Dubuque, IOWA:1954