

## PHYCODIVERSITY OF RAJASTHAN. IV. SUBAERIAL ALGAL FLORA-A COMPILATION

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Algal forms on exposed moist surface of various habitats constituted subaerial algal flora. Around 63 species belonging to 39 genera have been on record. These fall into four classes i.e. Cyanophyceae, Chlorophyceae, Xanthophyceae and Bacillariophyceae. The blue green flora harboured soils of Udaipur with excellent most holding capacity. These out numbered the other forms. The remaining classes have mainly been reported from grey brown alkaline soils of Jodhpur, which is richest in soil flora.

**Keywords :** Algal flora; Bacillariophyceae; Chlorophyceae; Cyanophyceae; Subaerial; Xanthophyceae.

This group of algae includes mainly algal flora of the moist exposed soils. The other habitates are shaded terrestrial surfaces and exposed surfaces of submerged plants. Such epiphytic forms have been described<sup>1</sup> which are mostly the species of Coleochaete, Stigeoclonium, Bulbochaete, Aphanochaete, Oedogonium and Diatoms. Species of Bulbochaete and seven that of Oedogonium growing as epiphytes on aquatic plants have been described. Significant contribution of algal flora from moist soils (Cylindrospermum), drying margins of the water reservoirs (Botrydium, Protosiphon, Vaucheria, Rhizoclonium and Fritschiella), wet gardens, fields and damp pastures (Diatoms, Oscillatoria, Phormidium, Lyngbya) damp rocks and moist gravels (Scytonema and Tolypothrix) are reported<sup>1,2</sup>. These reports are exclusively from the soils of Jodhpur, which is commonly referred as Grey-brown soil. It is saline to alkaline and has a pH ranging from

7.2 to 9.2 with high phosphorous and nitrate contents<sup>4</sup>.

This is followed by yet another report from the soils of Udaipur which included only blue green algal flora<sup>3</sup>. This district of Rajasthan, unlike Jodhpur is far from the dusty wind blown heat. It is surrounded by soft green hills, where the temperature ranges between 11.6-33.3°C with a rainfall of 61 cms. The red and yellow soil of west of Udaipur is silty loam to silty clay loam to silty clay loam which is poor in carbonates and humus contents with excellent moisture holding capacity. Nitrogen and organic contents vary from 0.006 to 0.016% and 0.057 to 0.126% respectively.

The soils of central and southern part of this state are referred as "Ferruginous red soil" which is quite poor in nitrogen, phosphorus and humus contents. Following Cyanophyceae come from these soils :

Name of Algae Cyanophyta	Habitat	Reference
<i>Chroococcus turgidus</i> (Kuetz) Naeg	Moist ground	3
<i>Chroococcus montanus</i>	Canal	3
<i>Chroococcus minor</i> (Kuetz) Naeg.	Moist bank of Pond	3
<i>Chroococcus pallidus</i>	Moist ground	3
<i>Aphanocapsa roseana</i> De Bary	Moist bank of Tank	3
<i>Aphanothece Pallide</i>	Rice Field	3
<i>Oscillatoria sancta</i>	Moist soil	3
<i>Oscillatoria okeni</i> Ag. Ex Gomont	Deokund & Sewage farm	3
<i>Oscillatoria</i> , sps	Moist soil	1
<i>Lyngbya</i> sp.	Moist soil	1

Name of Algae Cyanophyta	Habitat	Reference
<i>Lyngbya aerungineo-coerulea</i> (Kuetz) Gomont	Kaylana Pond (Submerged rocks)	2
<i>Lyngbya allorgei</i> fremy	Bottom of a Temporary pond	3
<i>Lyngbya Corticola</i> Bruhl et Biswas	Moist ground	3
<i>Lyngbya magnifica</i>	Soil of a temporary pond	3
<i>Phormidium</i> Sp.	City drains	1
<i>Phormidium sarcolarum</i> (Mont) Gamont	Wall of thermostat water bath (35°C)	3
<i>Phormidium molle</i> (Kuetz) Gomont	Moist ground	3
<i>Schizothrix vaginata</i> (Naeg.) Gomont	Moist ground	3
<i>Microcoleus palludosus</i> (Kuetz) Gomont	Rice fields	3
<i>Campatylonema lahorensis</i>	Soil	3
<i>Aulosira laxa</i>	Moist rock surface temporary pond	3
<i>Cylindrospermum</i> sp.	motikund	1
<i>Nostoc</i> 2 sp.	Terrestrial with <i>Riccia</i> & attached to submerged stones	1
<i>Nodularia</i> sp.	-do-	1
<i>Anabaena variabilis ellipsispora</i>	Moist margin of tank	3
<i>Rivularia</i> sp.	Takatsagar	1
<i>Calothrix</i> Sp.	Attached to Submerged stones	1
<i>Sytonema</i> Sp.	Felly masses	1
<i>Tolypothrix</i> Sp.	Damp soils	1
<i>Tolypothrix conglutorata</i> Borzie Borret Flah	Damp rocks	3
<i>Tolypothrix tenuis</i> (Kuetz) John schmidt	Moist ground	3
<i>Tolypothrix rechingeri</i>	Moist rocks	3
<i>Campyatylonema lahorensis</i>	soil	3
<b>CHLOROPHYTA</b>		
<i>Chlorococcum hemicolum</i> Rabh.	Damp soil & on Bricks	1
<i>Characium terrestris</i>	on sub merged stones	1
<i>Characium rivularis</i> (Iyengar)	Tank & slow moving water	1
<i>Microspora</i> Sp.	Soil particles	1
<i>Cladophora</i> Sp.	On damp stones	1
<i>Rhizoclonium</i> Sp.	On flowing water	1
<i>Fritschiella tuberosa</i> Iyeng	Drying margins of Lake	1
<i>Pleurococcus viridis</i> Ag.	Moist stone walls & flower pots	1
<i>Oedogonium</i> Sp.	Tank, moist rocks	1
<i>Oedogonium croasdaleae</i> Jao var	Kaylana Pond	2
<i>Kaylanaense</i> var Nov.	(Epiphyte)	2
<i>Oedogonium perfectum</i> (Hitr) Tiffany	Motikund Pond (Epiphyte)	2
<i>Oedogonium crassum</i> (Harsall) Wittrock fo indica	Kalyanapond (Epiphyte)	2
<i>Oedogonium exocostatum</i> var <i>Jodhpurenee</i>	Kalyans pond (Epiphyte)	2
<i>Oedogonium punctatum</i> Wittrock	Motikund pond (Epiphyte)	2
<i>Oedogonium autumnale</i> Wittrock Tiffany	Lalsagar Pond Balsamand Garden	2
<i>Oedogonium hirmi</i> Gutwinski Tiffany	Tank (epiphyte)	2
<i>Bulbocheate</i> Sp.	Takat Sagar Attached to <i>Nitella</i>	2
<i>Bulbocheate bharadwaja</i> Singh	Tank (Epiphyte)	2
<i>Bulbocheate reticulata</i> Nordstedt forma <i>tenuis</i>	Kaylana Pond (Epiphyte)	2
<i>Cylindrocystis</i> Sp.	Damp soils	1
<i>Spirogyra</i> Sp.	Drying margins of tank	1
<i>Protosiphon botryoides</i> Klebs	Drying margins of tank	1
<i>Chara</i> Sp.	Tank, and Slow moving waters shallow water etc.	1
<i>Vaucheria</i> Sp.	Damp grounds	1
<i>Botrydium tuberosum</i> Iyeng	Muddy bank of tank	1
<i>Botrydium granatum</i> Grer.	Muddy bank of tank	1
<i>Stephenodiscus</i> Sp.	Damp ground (Tank)	1
<i>Gomphonema</i> Sp.	Epiphyte on <i>Cladophora</i>	1
<i>Pinnularia</i> Sp.	Moist soil	1
<i>Nitzschia</i> Sp.	Mandore	1

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