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PHYCODIVERSITY OF RAJASTHAN
I. ALGAL COMPOSITION OF MOUNT ABU - A COMPILATION

PUSHPA SRIVASTAVA
Department of Botany, University of Rajasthan, Jaipur - 302 004, India.

Mount Abu, the only hill station of the semi-arid zone of Rajasthan, offered algae belonging to four divisions. A total of 48 genera with 95 species have been accounted so far including rare cyanobacterium *Johannesbaptistia* and *Ophiocytium* a Xanthophyta. Green algae dominated over the rest of the recorded algae.

Keywords : Algal composition; Semi-arid zone.

Introduction

Algae-the most beautiful microflora have suffered an obscurity in the State of Rajasthan. The scanty literature reflects on the meagre attention drawn by this group of plants[1-9]. The various algae reported so far, may be categorised as aquatic, subaerial, soil (arid and semi arid), salt lake (Sambhar) and mountain (Mt. Abu) Phycoflora.

Present communication summarises the algal taxon reported from Mount Abu. This mountain, other than its natural beauty, is well known for the richness of its flora ranging from algae to angiosperms. As a matter of fact, very first report of algal occurrence in state came from Mt. Abu[1]. It is located at 24°36'N and 72°43'E with the total area of 22 x 1.8 Km and is a part of ancient chain of Aravalli mountains. The plateau is 1149 mts above MSL with its highest peak Gurushikhar being 1967.59 mts. The average annual rainfall is 1691.3 mm and temperature is 4-35°C. The mount is mainly composed of greyish large grained granite containing quartz, trap, green stone greiss and schist.

Discussion

High altitude algal flora of the country is very scanty[12]. The only report is of Saxena and Venkateshwarulu[13] from Kashmir pertaining to desmids and Saxena and Rao[14] on Cho-oyu during East Himalayan Expedition II where maximum number of diatoms have been reported. But Mt. Abu has been significant in its contribution of algal flora. Around 48 genera spread over 95 species, fall into four divisions of algae, 46 species of Chlorophyta, 4 of Euglenophyta, 39 of Cyanophyta and 6 of Xanthophyta.

Chlorophyta had an edge over remaining algae specially cyanophyta. Vaidya and Patel[5] collected 17 taxa of cyanobacteria to which Gupta[11] added two more. Vaidya *et al.*[3] further added a rare alga *Johannesbaptistia* to this group. Patel and Rao[8] reported 41 taxa belonging to 18 genera of Chlorophyta with 7 varieties and 2 formae. Kamat[4]

surveyed widely and collected almost all the category of algal forms. He described 35 genera belonging to Chlorophyta, Euglenophyta, Xanthophyta and Cyanophyta. Recently, Shah *et al.*[9] have reported *Vaucheria*

Table 1. Algal flora of Mount Abu (Rajasthan).

ALGAL DIVISION	HABITAT	Reference Number
CHLOROPHYTA		
Tetraspora lubrica (Roth) Agardh	Walls of cement reservoirs	4
Tetradronminimum (A. Braun) Hansging)	Pond-sunset point.	8
Trochiscia obtusa (Reinsch) Hansging	Roadside ditches	8
Ankistrodesmus spiralis	Pond (Gaomukh)	4
Kirchneriella lunaris (Kircher) Moebius v. dianal Bohlin	Puddle (Gaomukh)	4
Hydrodictyon reticulatum (L) Lagerheim	Abu road ditches	4,8
Pediastrum tetras (Ehrenberg) Ralfs	Roadside ditches (Bus Stand) Abu Road	4,8
Pediastrum boryanum (Ehrenberg) Ralfs	Abu Road ditches	8
Pediastrum duplex Meyen	Abu Road ditches	8
Coelastrum microsporum Naegeli	Pond	4
Coelastrum cambricum Archer	Pond-sunset point	8
Scenedesmus bijuga (Turpin) Lagerheim.	Pond & Abu road ditches	4,8
Scenedesmus arcuatus (Lemm) var. capitatus	Road side ditches, Bus stand Abu Road	8
Scenedesmus denticulatus Lagerheim.	Pond	4
Scenedesmus armatus (Chodat)	Abu Road ditches	8
Scenedesmus quadricauda (Turpin). Debrebisson v. quadrispina (Chodat) smith.	Pond	4
Scenedesmus dimorphus (Turpin Kuetz).	Abu Road ditches	8
Ulothrix tenerrime Kuetzing	Puddle	4
Ulothrix tenuissima Kuetzing.	Stream (sunset Point)	8
Schizomeris leibleinii Kuetz.	Stream (sunset point)	8
Coleochaete nitellarum Jost.	Endophytic to *Chara*, Road side ditches.	8
Oedogonium faveolatum Wittrock ex Him.	Epiphytic on aquatic plant in a pond.	4
Oedogonium illinoisense Transeau	Pond Achalgadh	4
Oedogonium intermedium Wittrock ex Him.	Puddle (Gaomukh)	4
Oedogonium tapeinosporum Wittrock ex Him.	A puddle	4
Oedogonium urbicum Wittrock ex Him.	A pond	4
Spirogyra castanacea Couch.	Puddle Gaomukh	4

Spirogyra chenii Rao	A small Pond	4
Spirogyra hyalina cleve	A small pond	4
Spirogyra Lagerheimii Wittrock.	Pond-Achalgadh	4
Spirogyra singularis Nordstedt.	A puddle	4
Zygnema spontanum Nordstedt.	Pond (Toadrock)	4
Penium libellula (fock) Nordstedt.	A pond	4
Closterium calosporum Wittrock.	A pond	4
Closterium dianae Eh r.v. arcuatus (Breb) Rabenhorst.,	A drying pond	4
Closterium lancealatum Kuetzing.	Small pond	4
Closterium Leibleinii Kuetzing.	Streamlet Polo ground.	4
Closterium paracerosum Gay	Streamlet	4
Cosmarium alatum Kirchner V. aeguatoriense Nordstedt.	Pool & Pond	4
Cosmarium dentiforam Corda viminus.	Small pond (Gaomukh)	4
Cosmarium nitidulam de. not.	Small Pond.	4
Cosmarium subrefusiforme West & West.	Pond	4
Cosmarium undulatium Cord.V. minitum wittrock	Pond (Gaomukh)	4
Plurotaenium trabeculae (Ehrenberg). Nageli V. rectum. (Delp) W.&.G.S. West	Pond	4
Spondylosium pygnaem Monile (Turner). (Cook) West V. West West & Carder.	Puddle (Gaomukh)	4
Straurastrum paradoxum Meyen.	Pond (Achalgadh)	4
EUGLENOPHYTA		
Euglena estonica Modder	Waste water pool (Achalgadh).	4
Phacus minutus (Playfair) Pochmann.	Puddle (Gaomukh)	4
Trachelomonas dybowskii Drez.	Puddle (Achalgadh)	4
Trachelomonas volvocina Ehenberg.	Puddle (Achalgadh)	4
CYANOPHYTHA		
Microcystis aeroginosa Kuetzi ng.	Perrenial Nakki lake (Mandakini Kund). Bloom in a pondlake (Abu).	4,10,11
Microcystis flos aquae (Wittr) Kirchner	Nakki lake surface	5
Aphanothece microscopica Naeg.	On rocks	5
Aphanocapsa bigformis A. Br.	Drainage stream	5
Aphanocapsa muscicola Meyen.	On dripping rock (Achalgadh).	4
Merismopedia punctata Meyen.	Puddle (Gaomukh)	4
Chroococcus minutus (Kuetzing) Naeg.	Rocks	5
Johannesbaptistia Pellucida (Dickie) Taylor et Drouet.	A Puddle	5
Johannesbaptistia J.de Toni	A puddle (Gaomukh)	3
Oscillatoria amphibia Agardh.	Moist soil (Streamlet).	4

Oscillatoria mougeolii Kuetzing.	Pond (Gaomukh)	4
Oscillatoria pseudogeminata G. Schmind.	A puddle	4
Oscillatoria reibescens D.C.	Waste water passages & Roofs.	4
Oscillatoria terebriformis Ag.ex.Gomont	Mt.Abu	11
Lyngbya aerugineo- Coerulea Kuetzing Gomont.	On moist soil (Gaomukh).	4
Lyngbya halophila Hansging	A pond (Achalgadh)	4
Lyngbya digweti Gomont	A pond (Gaomukh)	4
Lyngbya birgei smith	Attached to rock (running water).	5
Lyngbya hieronymusii Lemm	In a slow stream	5
Phormidium pachdermaticum fremy	On wet rocks	5
Porphyrosiphon notrarisii (Menegh Kutz. et.Gomont)	Moist sloping rock	11
Aulosira implexa Bornet et Flahault V. Crassa Dixit	Streamlet *Dilwara temples*	4
Cylindrospermum trichotospermum fremy	A puddle.	4
Anabeana torulosa (Carm) Legerhaeim Bornet et Flahault	Pond near Rajputana Club	4
Anabeana Laxa (Rabenh) A. Br.	Wet rocks	5
Nostoc muscorum Agardh ex Bornet et Flahault	On moist soil	4
Nostoc Paludosum Kutz.	On rock (Trickling water)	5
Anabaenopsis Sp.	Pool near a stream	5
Nodularia spunigene Mert.ex. Born et. Flahault	Drainage water	4
Calothrix fusca Born et Flahault	Drainage water	4
Gloeotrichia raciborskii Woloszynska	Common Pond	4
Dichothrix becariana	Puddles	5
Rivularia becariana (Det Bot) Born et Flash	Epiphyte on Submerged leaves of *Limnophila heterophilia* (Stagnant pool)	11
Rivularia globiceps var abuensis	Freefloating on stagnant pool	11
Scytonema myochrous (Dillw) Agardh	Moist rocks (Achalgarh)	4
Scytonema cincinnatum Thuret	Flowing water	5
Scytonema bohneri schmid	Flowing water	5
Tolypothrix distorta Kuetzing ex Born.	Submerged rocks in running water.	5
Tolypothrix tenius (Kuetz.) Johs.	On wet rocks	5
XANTHOPHYTA		
Tribonema bombycinum (Agardh)	A small tank (Gaomukh)	4
Vaucheria Sessilis (Vauch) De Condolle forma (Hassall) Hansging.	Stream (Achalgarh) Bus stand	9
Ophiocytium arbeiscula (A.Braun) Rabenhorst	Epiphyte on *Spirogyra* & decaying angiosperms (Achalgarh)	9
Ophiocytium capitatum Wolle Pascher	Achalgarh	9
Ophiocytium cochleare (Eicsw.) A. Braun. Pascher	Achalgarh	9
Ophiocytium parvulum (Perty) A. Braun. Pascher	Achalgarh	9

sessilis and four species of *Ophiocytium* new to the State of Rajasthan. The reason for meagre representation may be many, but an evident reason seemed to be lack of exploration.

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