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DIVERSITY OF ALGAL FLORA IN SALEKASA TEHSIL OF GONDIA DISTRICT, MAHARASHTRA

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Abstract:

Salekasa is a tribal Tehsil in the District of Gondia, Maharashtra, India. Situated at the Latitude is 21.30286 and Longitude are 80.56443*. Geographically it is in the east part of the Gondia District and it shared its border with Dongargarh Tahsil of Chhattisgarh State. More than 50 species were found in this study but only 50 species were studied and recorded in this article. It contains algae belonging to* ***Cyanophyceae, Chlorophyceae, Charophyceae, Euglenophyceae, and Bacillariophyceae.*** *All 50 species were found growing luxuriantly in different seasons. Out of these all 20 species of* ***Cyanophyceae,*** *19 species of* ***Chlorophyceae,*** *2 species of* ***Charophyceae****, 4 species of* ***Euglenophyceae****, and 5 species of* ***Bacillariophyceae.***

Key Notes: Freshwater lakes, Diversity of Algae, Salekasa Tehsil.

Introduction:

Water is most important for living organisms, purification of water today needs that and it makes use for the living organism. Many anthropogenic activities are responsible for the contamination of water and then it results in the degradation of aquatic ecosystems. The water bodies contain many biological components. Macrofloral diversity is protected from environmental degradation. Aquatic flora plays a key role to maintain the food chain and physico-chemical parameters of the water bodies. Hence throughout the world, many researchers have worked on aquatic flora. Algal community encountered in the water body reflects the average ecological condition and therefore they may be used as an indicator of water quality (Bhatt, et.al. 1999; Saha et.al. 2000). Seasonal phytoplanktonic diversity of Kitham Lake, Tiwari, A., and Chauhan, S.V. (2006). The Study on Phytoplankton in Kandhar, Nanded District by (S. K. Pawar, J.S. Pull, and K. M. Shendge,2006). Algal flora of Navegaon bandh, Gondia district, P.C. Shahare (2014). A qualitative

and quantitative study of phytoplankton of River Wainganga near Markandadeo, Dist. Gadchiroli (M.S.) by Tijare R. V. (2020). Assessment of aquatic macrophytes diversity from Karmaveer Kannamwar (Dina Project) reservoir Regadi of Chamorshi tehsil district Gadchiroli (MP Meshram, RV Tijare, Zode Ravindra, 2020). New records of freshwater algae for Maharashtra state: Investigation from the major rivers of Chandrapur district by (Malesh Reddy, 2021).

Materials and Methods:

Algal flora samples were collected at monthly intervals from June 2021 to October 2022. Various floating, submerged, and attached epiphytic algal samples were collected from the selected site namely Salekasa Lake, Pangaon Lake, Halbitola Lake, Rondha Nalha, Paol Dawana Lake, Kahali Lake, Sonpuri Lake, Tirkhedi Lake, etc. Google map photos are in Fig. 1. Collected samples were washed with an acid-washed bottle and preserved in 4% formalin. After investigation identification of algal flora with the help of Monographs and standard literature (Desikachary, 1959).

Result and Discussion:

The water quality of freshwater bodies mostly depends on the composition of flora and fauna and some abiotic factors. Eutrophication in freshwater bodies is an indicator of the presence of algal bloom of cyanobacteria. Also, the high-density population of Cyanobacteria in the lake is harmful to the other organism of that ecosystem because they produce certain hepatotoxic and neurotoxic substances. In the present study, 50 species were studied. It contains algae belonging to ***Cynophyceae (Blue-green Algae), Chlorophyceae (Green Algae), Charophyceae (Stoneworts), Euglenophyceae (Euglenoids), and Bacillariophyceae (Diatoms).*** All 50 species were found growing luxuriantly in different seasons. Out of these all 20 species of *Cyanophyceae,* 19 species of *Chlorophyceae*, 2 species of *Charophyceae, 4 species of Euglenophyceae, and 5 species of Bacillariophyceae*.

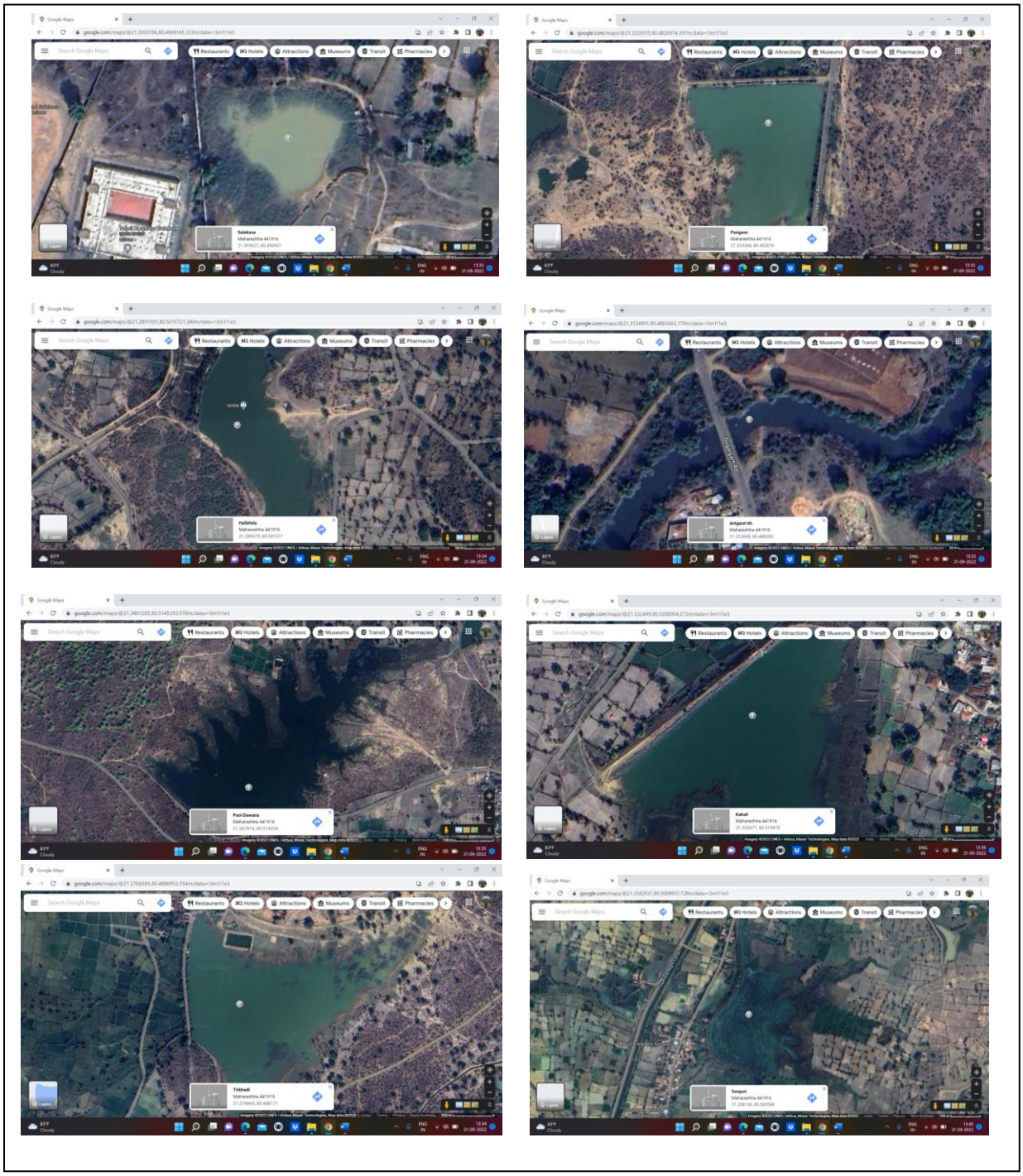

Fig. 1: 1. Salekasa lake, 2. Pangaon Lake, 3. Halbitola Lake, 4. Rondha Nalha, 5. Paul Dawana Lake, 6. Kahali Lake, 7. Tirkhedi lake, and 8. Sonpuri Lake (Courtesy-Google map photos).

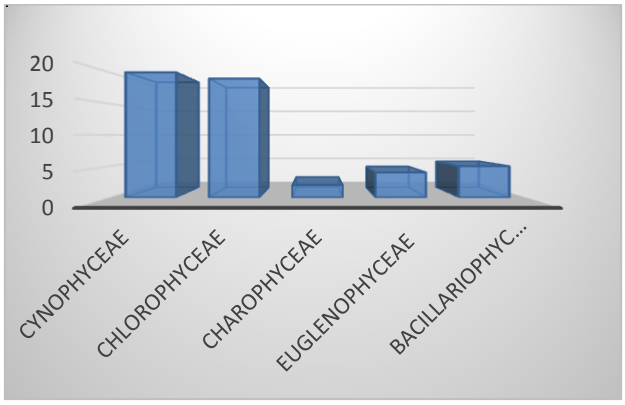

Fig. 2: Distribution of Recorded Species in the Families

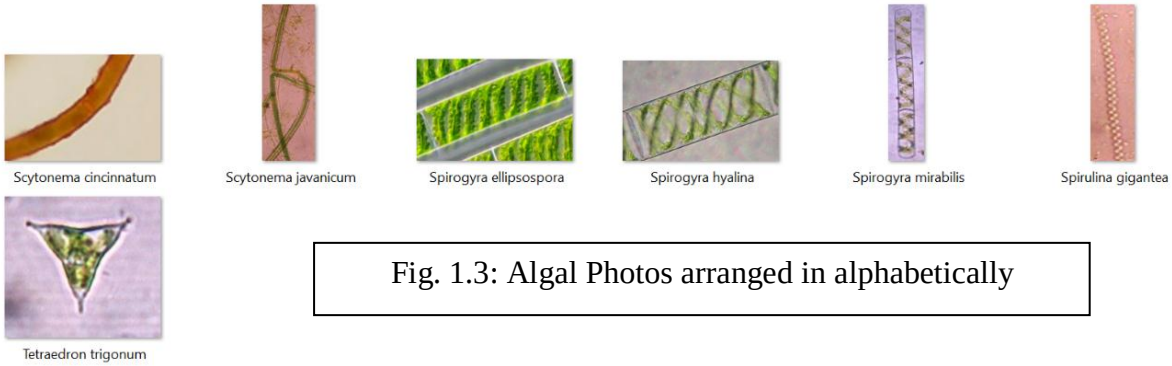

Fig. 1.3: Algal Photos arranged in alphabetically

Sr. No.	Name of Algae	Rainy Session	Winter Session	Summer Session
	Family:- *Cynophyceae* (Blue-Green Algae) – 20 Species			
1	*Aphanocapsa grevillei* (Hass.) Rabenh.	-	-	+
2	*Aulosira fertilissima (*Rio De Janeiro*)*	-	+	-
3	*Gloeocapsa nigrescens* Nag.	-	+	-
4	*Microcystis flos-aquae* (Wittrok Kirchner 1898)	-	-	+
5	*Microcystis marginata* (Meneghini, Kuetzing, 1846)	-	+	-
6	*Merismopedia glauca* forma (Rao, C. S.)	-	-	+
7	*Merismopedia punctata* Meyen.	+	+	+
8	*Spirulina gigantea* Schmidle	-	+	-
9	*Oscillatoria chalybea v. insularis* Gardner	-	+	+
10	*Oscillatoria proboscidea G*om. (after Gomont)	-	+	+
11	*Oscillatoria subbrevis* Schmidle	+	+	-
12	*Phormidium tenue* (Menegh.) Gom. (after Fremy).	-	+	+
13	*Lyngbya digueti* Gomont.	+	+	+
14	*Lyngbya hieronmusii Lemm.*	-	+	-
15	*Lyngbya majuscula* Havery ex. Gomont.	-	-	+
16	*Nostoc calcicola* Breb. (after Fremy)	+	+	+
17	*Nostoc piscinale* Kutz. (after Fremy)	-	+	+
18	*Anabaena circunalis* Rabenhorst ex Born. et. Flah.	-	+	+
19	*Scytonema cincinnatum* Thuret (after Fremy)	-	+	+
20	*Scytonema javanicum* (Kutz.) Bornet	+	+	+
	Family:- *Chlorophyceae* (Green Algae) - 19 Species			
21	*Chlorococcum humicola* (Naegeli) Rabenhorst	+	+	+
22	*Chroococcus minutus* (Kutz. Nageli 1849)	+	+	+
23	*Chroococcus tenax* (Kirchn.) Hieron	+	+	+

24	*Pediastrum duplex* Meyen var. asperum	+	+	+
25	*Pediastrum simplex* v. duodenarium (Bail.)	-	+	-
26	*Pediastrum tetras* (Ehr.) Ralfs.	+	+	+
27	*Tetraedron trigonum* (Naeg.)	-	+	-
28	*Scenedesmus dimorphus Lemm*	+	-	-
29	*Scenedesmus arcuatus Lemm*	+	-	-
30	*Scenedesmus quadricauda v. longispina*	-	+	-
31	*Oedogonium globosum* Nordstedt ex Hirn.	-	+	-
32	*Spirogyra ellipsospora* Transeau 1914.	+	+	+
33	*Spirogyra hyalina* Cleve (Transeau f)	+	-	+
34	*Spirogyra mirabilis* (Hassall) Kuetzing	+	-	+
35	*Closterium cyanthia* DeNot	+	+	-
36	*Closterium didymotocum* Corda.	+	+	-
37	*Closterium ehrenbergii* Menegh.	-	+	+
38	*Closterium moniliferum* (Bory) Ehr.	+	-	+
39	*Cosmarium contractum* Kirchner.	+	+	+
Family:- *Charophyceae* (Stoneworts) – 02 Species				
40	*Chara Sp.*	+	+	+
41	*Nitella Sp.*	+	+	+
Family:- *Euglenophyceae* (Euglenoids) – 04 Species				
42	*Euglena acus* Ehrenberg (Gojdics f)	-	+	+
43	*Euglena m*utabilis Schmitz. (Gojdics)	-	+	+
44	*Phacus acuminatus* Stokes. Hueb.	-	+	+
45	*Phacus longicaudus* (Her.) Duj.	+	+	+
Family:- *Bacillariophyceae* (Diatoms) – 05 Species				
46	*Gyrosigma baikalensis* Skv.	+	-	-
47	*Gyrosigma maharashtrensis* sp. Nov.	+	+	-
48	*Navicula halophila* (Grun.) Cleve f. robusta	-	+	+
49	*Navicula microcephala* Grun	-	+	+
50	*Nitzschia irremissa* Cholnoky	+	+	+

Chart for. all 50 species were found growing luxuriantly in different seasons. Out of these all 20 species of *Cyanophyceae*, 19 species of *Chlorophyceae*, 2 species of *Charophyceae, 4 species of Euglenophyceae, and 5 species of Bacillariophyceae*.

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