Indian Journal of Plant Sciences ISSN: 2319–3824
Online, International Journal, Available at http://www.cibtech.org/jps.htm
2025 Vol.14, pp.69-80/Satish and Shivaji
Research Article (Open Access)

DIVERSITY OF CHLOROPHYCEAN MEMBERS AROUND FAIZPUR REGION DISTRICT JALGAON, MAHARASHTRA

Satish A. Patil[1] and *Shivaji P Magar[2]
[1]*Sardar Vallabhbhai Patel Arts and Science College, Ainpur, District Jalgaon, (M.S.) – 425507*
[2]*Dhanaji Nana Mahavidyalaya, Faizpur, District Jalgaon, (M.S.) - 425507*
**Author for Correspondence: magar.shivaji@rediffmail.com*

ABSTRACT
The present paper deals with the taxonomic enumeration of members of Chlorophycean collected from different polluted and unpolluted habitats around Faizpur region of Jalgaon district, Maharashtra. A total of 35 algal taxa belonging to 17 genera *viz Ankistrodesmus* (1), *Cheatophora* (1), *Chlorella* (1), *Closterium* (1), *Coelastrum* (2), *Cosmarium* (9), *Crucigenia* (1), *Euastrum* (1), *Oedogonium* (1), *Oocystis* (1), *Pandorina* (1), *Pediastrum* (4), *Scenedesmus* (5), *Spirogyra* (1), *Ulothrix* (1), *Uronema* (2) and *Xanthidium* (1) were identified. All the taxa have been described with respective habitat and systematic accounts.

***Keywords**: Chlorophyceae, taxa, Oocystis, Cosmarium, Faizpur, Maharashtra*

INTRODUCTION
During the present study authors described 35 taxa of Chlorophyceae. The exploration of chlorophycean members of Maharashtra were known through the work of Dixit (1937), Gonzalves and Gangla (1949), Marathe (1969), Kamat (1968, 1975), Balakrishnan and Bondre (1975), Tarar and Kolhe (1978), Gunale and Chaugule (1980) Tarar and Muzumdar (1981), Nandkar, Marathe and Motikhaye (1983), Barhate and Tarar (1985), Pingle (1988), Bodas (1991), Kumawat and Jawale (2004), Jaiswal (2005), Kumawat *et. al.* (2007, 2010), Jawale *et. al*. (2009), Jadhavar and Papdiwal (2011, 2012, 2018), Mahajan (2011), Patil (2019), Patil and Jawale (2014), Patil and Kumawat (2014, 2015), Valvi and Gautam (2020), Todawat *et. al.* (2022), Patil et. al. (2023) Patil and Patil (2024). The aim of the present study is to explore and documentation of diversity of members of Chlorophyceae around Faizpur region.

MATERIALS AND METHODS
2.1 Study area: Faizpur and surrounding area.
Lattitude: 21.1644.N
Longitude: 75.8621.E

Satellite view of present study area

2.2 Study period: Present work was carried out from June, 2024 to November, 2024.
2.3 Collection time: Collections were made in the morning during 8:00 am to 9:30 am.
2.4 Collection: Samples were collected from temporary rain water bodies in clean algal specimen bottles.
2.5 Preservation: Algal sample were examined fresh as far as possible in the laboratory and noted their important morphological characters. The remaining material is preserved in 4% formalin for further taxonomical investigations.
2.6 Preparation and observation of slide: Take a drop of algal sample on a slide, add drop of glycerine and then covered with rectangular cover slip. The observation of algal taxa were made with help of Olympus Microscope (Model no. Cx-41 RF). Microphotography of algal taxa were taken with the help of attached Radicon USB Digital Camera 5.0M with Digicam Software under appropriate magnification of microscope.
2.7 Identification: The identification of algal taxa was done by referring the standard taxonomic monographs of Philipose (1967), Prescott (1970), Hortobagyi (1973), Iyengar and Desikachary (1981), Prasad and Misra (1992) and other relevant literature such as Kumawat and Jawale (2004), Kumawat *et. al*. (2007), Jawale *et. al.* (2009), Jadhavar and Papdiwal (2011, 2012, 2018), Patil (2014, 2019), Patil and Kumawat (2014, 2015), Valvi and Gautam (2020), Patil and Patil (2024).

RESULTS AND DISCUSSION (SYSTEMATIC ACCOUNT)

Class Chlorophyceae
Family – Volvocaceae
Genus ***Pandorina*** Bory, 1824
1. *Pandorina morum* *(*Muell.*)* Bory **(Pl.1, Fig.1)**
Iyengar M. O. P. and T. V. Desikachary, 1981, PP. 417-418, Fig. 243.
Colonies ellipsoid or nearly spherical, both ends broadly rounded, 8-16 celled embedded in a common matrix,18-37µm in diameter, 29.2-48µm long; cells obviate or wedge shaped, broad side directed outwards, narrower and rounded posteriorly 10-13.5 µm broad, 8-16 µm long; chloroplast massive cup shaped covering the cell, pyrenoid single, basal.
Habitat: Fresh water near highway bridge, Fekari (05/10/2024)

Family- Hydrodictyaceae
Genus ***Pediastrum*** Meyen,1829
2. *Pediastrum duplex* Meyen var. ***asperum*** (A. Braun) Hans. **(Pl.1, Fig.2)**
Philipose, M. T. 1967, P.123 Fig. 43
Colony 32 celled, 136.4 µm in diameter with inter- cellular spaces. Marginal cells with thick lobes which end in stout, toothed processes. Cell membrane ornamented with small denticulations. Cells 18-22.7 µm in diameter.
Habitat: MIDC, Faizpur Savda road (15/07/2024)

3. *Pediastrum duplex* Meyen var. ***reticulatum*** Lagerh**. (Pl.1, Fig.3)**
Philipose, M.T.1967, P.124, Fig.43 g
Colony 16 celled circular, Cell more or less H-shaped, sides of the processes of marginal cells nearly parallel; Inter cellular spaces large and oval; Diameter of 16 celled colony is 54.2µm; Cells 10.3-11.5 µm diameter and 14.2 µm long.
Habitat: MIDC Faizpur Savda road (15/07/2024)

4. *Pediastrum tetras* (Ehr). Ralfs. var**. *excisum*** **(**Rabenh.) Hans. **(Pl.1, Fig.4)**
Philipose, M.T., 1967, P. 129-130, Fig.45 f

Colony rectangular, 4-celled with a very small space in the center. Cells divided into two lobes by a deep incision reaching slightly below the middle of the cell, lobes more or less deeply concave. 21.1µm in diameter of the cells is 10.5-11.2 µm.
Habitat: Shallow pools, D. N. College, Faizpur (12/11/ 2024)

5. Pediastrum tetras (Ehr). Ralfs**.** var. ***tetradon*** *(*Corda) Hansg **(Pl.1, Fig.5)**
Philipose M.T., 1967, P.129, Figs.45 d,e,g
Colonies 8-16 celled. Incision of the cells deep with the lobes adjacent to the incision of the marginal cells prominent 40.9µm diameter, Cells 13.2- 15.8µm in diameter.
Habitat: On Deeping rocks, Uchanda (10/08/2024).

Family-Oocystaceae
Genus ***Chlorella*** Beijerinck, 1890

6. *Chlorella vulgaris* Beijerinck **(Pl.1, Fig.6)**
Prescott, G.W.1982, P. 237, Pl.53, Fig.13
Cells solitary, spherical, free living rarely in small colonies; membrane thin, chloroplast parietal, cup shaped with a pyrenoid. Cells 8.8-10.8 µm in diameter.
Habitat**:** Road side pond, Savda (10/08/2024)

Family**-** Oocystaceae
Genus ***Oocystis*** Nageli in A Braun, 1855

7. *Oocystis borgei* Snow **(Pl.1, Fig.7)**
Philipose. M.T. 1967. P.183, Fig.93
Cells broadly ellipsoid with rounded ends, poles not thickened; chloroplast 1-4 parietal each with pyrenoid, cells 9-13 µm broad and 9-19µm long.
Habitat: Shallow pools, D. N. College, Faizpur (12/11/ 2024)

Family-Selenastraceae
Genus ***Ankistrodesmus*** Corda, 1838

8. *Ankistrodesmus convolutus* Corda var. ***minutum*** (Naeg.) Rabenh**. (Pl.1, Fig.8)**
Daniel, J.K.1981 P.143, Pl.12, Figs.8,9
Cells solitary, strongly curved with pointed ends. Cells 2.7 µm in diameter and 15.6 – 20.7 µm long.
Habitat: Road side ditches, Aasaram nagar, Faizpur (15/07/2024)

Family: Coelastraceae
Genus ***Coelastrum*** Naeg, 1849

9. *Coelastrum cambricum* Archer (**Pl.1, Fig.9)**
Philipose, M.T. 1967, P.230-231, Fig. 138 a.
Colonies 8-16 celled, up to 29 µm in diameter: cells spherical, connected to each other by 4-6 short gelatinous flat truncate projections. Inter spaces between cells circular to triangular; cells 10-10.9 µm in diameter.
Habitat: In a dirty water pool, Kalmoda (15/07/2024)

10. *Coelastrum microporum* Naegeli **(Pl.1, Fig.10)**
Philipose, M.T. 1967, P.228, Fig. 135.

Colonies 16 celled spherical 14.2-35.3 µm in diameter, inter cellular spaces small; cells spherical, covered by gelatinous sheath, chloroplast parietal with a pyrenoid; cells 5.7- 11.9 µm in diameter.
Habitat: Hatnur dam wall (15/07/2024)

Family- Scenedesmaceae
Genus ***Crucigenia*** Morren, 1830

11. *Crucigenia rectangularis* (A. Braun) Gay**. (Pl.1, Fig.11)**
Philipose, M. T. 1967, P. 238-239, Fig. 148.
Colonies 4-celled; 8.4-11.1 µm broad and 12.7-15.4 µm long; cells ovoid, very regularly arranged with a small rectangular space at the center, cells 3.8- 4.2 µm broad and 6.1-5 µm long.
Habitat: Road side ditches near Bharat Petroleum, Faizpur. (09/09/2024)

Genus ***Scenedesmus*** Meyen, 1829

12. *Scenedesmus armatus* (Chodat) G. M. Smith var. ***bogleriensis*** Hortob. **(Pl.1, Fig12)**
Hortobagyi, T. 1973, P.86, Fig.391
Four celled coenobia, cells with a longitudinal rib running along their entire length. Outermost cells bear pointed spines; cell wall smooth, cells 11.5-13 µm long. 2.4-4 µm broad.
Habitat: Road side ditches near Bharat Petroleum, Faizpur. (10/08/2024)

13. *Scenedesmus bijugatus* (Turp.) Kuetz **(Pl.1, Fig.13)**
Philipose, M.T.1967, P.252-253, Figs.164, c, e, f
Colonies 4-8, celled, cells arranged in a single linear series, Cells ovoid with broadly rounded ends, 2.7-5.5µm broad,10-13.4µm long.
Habitat: Road side ditches near Khandobawadi, Faizpur. (15/07/2024)

14. *Scenedesmus bijugatus* (Turp.) Kuetz var. ***alternans*** (Reinsch) Hansg. **(Pl.1, Fig.14)**
Patel, R. J. and George Isabella, 1989, P. 49, Figs. 3 b, r, s, t.
Cells ovate or elliptic, regularly arranged in 2 alternating series; Cells 4-8 µm in diameter,7-16µm long.
Habitat: Puddles near to Savda. (05/10/2024)

15. *Scenedesmus obliquus* (Turp.) Kuetz**. (Pl.1, Fig.15)**
Philipose, M.T. 1967, P.248, Fig.159
Colony 4- celled, cells are arranged in a linear series; Cells fusiform with slightly rounded ends, outer side of the terminal cell concave or slightly convex. Cell wall without spines. Cells 5.4- 8.6 µm broad and 18.8 -23.4 µm long.
Habitat: Scattered along with other algae, Savda Station (05/10/2024)

16. *Scenedesmus quadricauda* (Turp.) Breb. var. ***westii*** G. M. Smith. **(Pl.1, Fig.16)**
Philipose, M.T., 1967, PP. 286-287, Figs. 187 h, i
Colonies usually 4-8 celled. Cells 9.7 -19.5 µm long and 3.3-6.6 µm broad, ovoid with rounded apices, arranged in a single series. Spines somewhat long and curved, spines 8.2 µm to 23.2 µm long.
Habitat: Polluted water near police station, Faizpur 10/08/2024.

Family. Ulotrichaceae
Genus ***Ulothrix*** Kuetzing, 1833

17. *Ulothrix subconstricta* G. S. West **(Pl.1, Fig.17)**
Ramanathan, K. R.1964, P.39, Pl.10 figs. f, g
Filament free floating, cells slightly inflated at the poles and moderately constricted at cross walls, sometimes enclosed in a mucilaginous sheath, cells 10.9- 12.7 µm broad.17. 3 -26.4 µm long; Chloroplast parietal, plate extending 2/3 median region of the cell with a pyrenoid in each cell.
Habitat: Puddles near to Savda. (05/10/2024)
Genus ***Uronema*** Lagerheim, 1887

18. *Uronema africanum* Borge **(Pl.1, Fig.18)**
Ramanathan, K. R 1964, P.51, Pl.13, Fig.13 a
Unbranched filamentous alga mostly attached by narrow basal cell, Cells cylindrical4-7µm broad and15.6 µm long, constricted at the septum, terminal cell much curved and pointed like a sickle, basal cell elongates but shorter than intercalary cells, slightly tapering towards the base; chloroplast parietal plate like with one or two pyrenoids.
Habitat: Polluted water near police station, Faizpur (10/08/2024)

19. *Uronema terestre* Mitra **(Pl.1, Fig.19)**
Ramanathan, K.R, 1964, P.53, Pl.15, Figs. a-n.
Filament short but reaching 30 cm attached on flat circular lobed disc, 20 µm in diameter, cells cylindrical, 3-5 µm broad and 22-35 µm long, often swollen at the septa, chloroplast a hallow cylindrical, incomplete compose of two thickened bands pyrenoid.
Habitat: Submerged aquatic in shallow water, Faizpur. (12/11/ 2024)
Family: Chaetophoraceae
Genus ***Chaetophora*** Schrank, 1789

20. *Chetophora elegans* (Roth) Ag. **(Pl.1, Fig.20)**
Kargupta, A.N.1987, P.157, Fig.13
Thallus attached, globose or flattened green mass of soft mucilage, colonies often confluent with one another to form irregularly-shaped masses, filaments radiating from common center, dichotomously branched, rarely alternating at lower portion, branches loose, more numerous at the upper part, apical cell long and cylindrical, abruptly ending in to acuminating apices, cell 7-8.5 µm broad , 40-55 µm long in the main axis, 4.6-6.8 µm broad,17.7-27.5 µm long in the terminal branches.
Habitat: Village pond, Andharmadhi (12/11/ 2024)
Family-Oedogoniaceae
Genus ***Oedogonium*** Link, 1820

21. *Oedogonium argenteum* Hirn var. ***michiganense*** Tiff**. (Pl.2, Fig.1)**
Prescott G.W.1982 P.166, Pl.43, Fig.4,5
Macrandrous heterothallic, vegetative cells cylindric, those of female filaments 20-28 µm in diameter, 80-160 µm long, male filament 20-22 µm in diameter, 70-160 µm long; basal cell elongates, oogonium single. obovoid to globose, 44-52 µm in diameter.
Habitat: Forming extensive growth on moist rock near Bharat Petroleum, Faizpur (12/11/ 2024)
Family - Zygnemaceae
Genus ***Spirogyra*** Link,1820

22. *Spirogyra fluviatilis* Hilse **(Pl.2, Fig.2)**
Randhawa, M.S. 1959 P.332, Fig.322

Vegetative cells 25-31 µm broad, 81-139 µm long; end walls plane; chloroplast three making 2-3 turns. Conjugation scalariform, tubes formed by both gametangia, zygospores ellipsoid, 34-42 µm broad, 54-96 µm long, median spore wall smooth.
Habitat: Rain water pool, waghoda. (12/11/ 2024)

Family- Closteriaceae
Genus ***Closterium*** Nitzch, 1817.

3. ***Closterium calasporum*** Wittr. var. ***maius*** West. and G. S. West. **(Pl.2, Fig.3)**
Prasad, B. N. and Misra, P. K. 1992, P.102, Pl.16, Fig.24
Cells large, curved, 20µm broad, 13.3µm long, about 10 times longer than broad, outer margin strongly curved with 120 degrees of arc, inner margin parallel to outer near apices, cells gradually attenuated to sub-acute apices, cell wall smooth. chloroplast with single series of 5-6 celled pyrenoids.
Habitat: Shivaji Nagar, Faizpur. (05/10/2024)

24. *Closterium Cynthia* De Not**. (Pl.2, Fig. 4)**
Prasad, B. N. and Misra, P. K. 1992, P.103-104, Pl.16, Fig.25
Cell lunate, tapering to sharp poles, strongly curved 13.5 µm broad, 101 µm long, wall brown with longitudinal striae, pyrenoids 5-6 in each semi cell.
Habitat: Rain water pool behind Namratnagar, Faizpur. (15/07/2024)

Genus ***Euastrum*** Ehr,1848

25 *Euastrum spinulosum* Delp. **(Pl.2, Fig.5)**
Prasad, B. N. and Misra, P. K. 1992, P.136, Pl.19, Fig.10
Cells 40.9-50 µm broad, 56.3 -63.6 µm long and isthmus 10.9-12.7 µm long, cells longer than broad deeply constricted, sinus narrow and linear, semi cells 6 lobed, lateral lobes rounded and furnished with 5-6 small acute spine, polar lobe small, broadly truncate with a shallow median notch, cell wall granulate within the polar and lateral lobes, each semi cell with a rounded central protuberance, consisting of two rows of relatively larger granules.
Habitat: Rain water puddles near swami Samarth Kendra Vidyanagar, Faizpur. (15/07/2024)

Genus ***Cosmarium*** Corda *ex.* Ralfs,1848

26. *Cosmarium bicardia* Reinsch **(Pl.2, Fig.6)**
Groenblad, R, Scott, A. M. and Croasdale, H. 1964, P.16, Fig.80-81
Cell 16.9 µm broad, 22.3 µm long and isthmus 3.84 µm long, cell slightly longer than broad, deeply constricted, sinus linear, semi cells semicircular, lateral margins rounded, cell wall smooth, chloroplast with a single pyrenoid in each semi cell.
Habitat: Water tank D. N. College, Faizpur. (05/10/2024)

27. *Cosmarium biretum* Breb**. (Pl.2, Fig.7)**
Prescott, B. N. and Misra, P.K. 1992, P.154, Pl.23, Fig.19
Cells rather small a little longer than broad, very deeply constricted, 54.4 µm broad, 61.8 µm long, isthmus 14.5 µm long, sinus narrowly linear with slightly dilated extremity, semi cells sub rectangular with somewhat convex sides and apex; cell wall with granules arranged in distinct curved vertical series, each semi cell with an axile chloroplast and two pyrenoids.
Habitat: Rain water pool behind Aasaramnagar, Faizpur. (10/08/2024)

28. *Cosmarium contractum* Kirch var. ***ellipsoideum*** (Elfv.) West *et* West **(Pl.2, Fig.8)**
Hegde, G.R. and Bharati, S. G. 1980, P.214, Pl.1, Fig.5
Cells 26.3-27.2 µm broad, 36.7 -37.3 µm long, isthmus 5.5-6.3µm long, deeply constricted in the middle sinus wide and open, semi cells transversely ellipsoid, chloroplast axile with a single pyrenoid in each semi cells, zygospore smooth walled, oval with thick wall 30-32 µm in diameter.
Habitat: Water tank D N College, Faizpur. (12/11/ 2024)

29. *Cosmarium conspersum* Nordst. var. ***latum*** (Breb.) West (**Pl.2, Fig.9)**
Prescott, G.W.1966, P.14, Pl. III, Fig.26
Cells smaller than the typical; 46.8 µm in diameter, 54.6 µm long, isthmus 15.6 µm.
Habitat: Road side ditches Khiroda, Faizpur. (12/11/ 2024)

30. Cosmarium cuneatum Josh **(Pl.2, Fig.10)**
Bharati, S.G. and Hegde, G.R. 1982, P.738, Pl.7, Fig.6
31-34.9µm broad, 35-38.5 µm long, isthmus.11.5-12.9µm long, cells hexagonal, deeply constricted at the middle sinus vary from narrow to slightly open, sometime slightly dilated at the apex, apical angle of semi cell with a prominent denticulation at each angle, cell wall furnished with a series of granules are disposed just below the apical series of granules.
Habitat: Puddles Industrial Estate Savda road, Faizpur (05/10/2024)

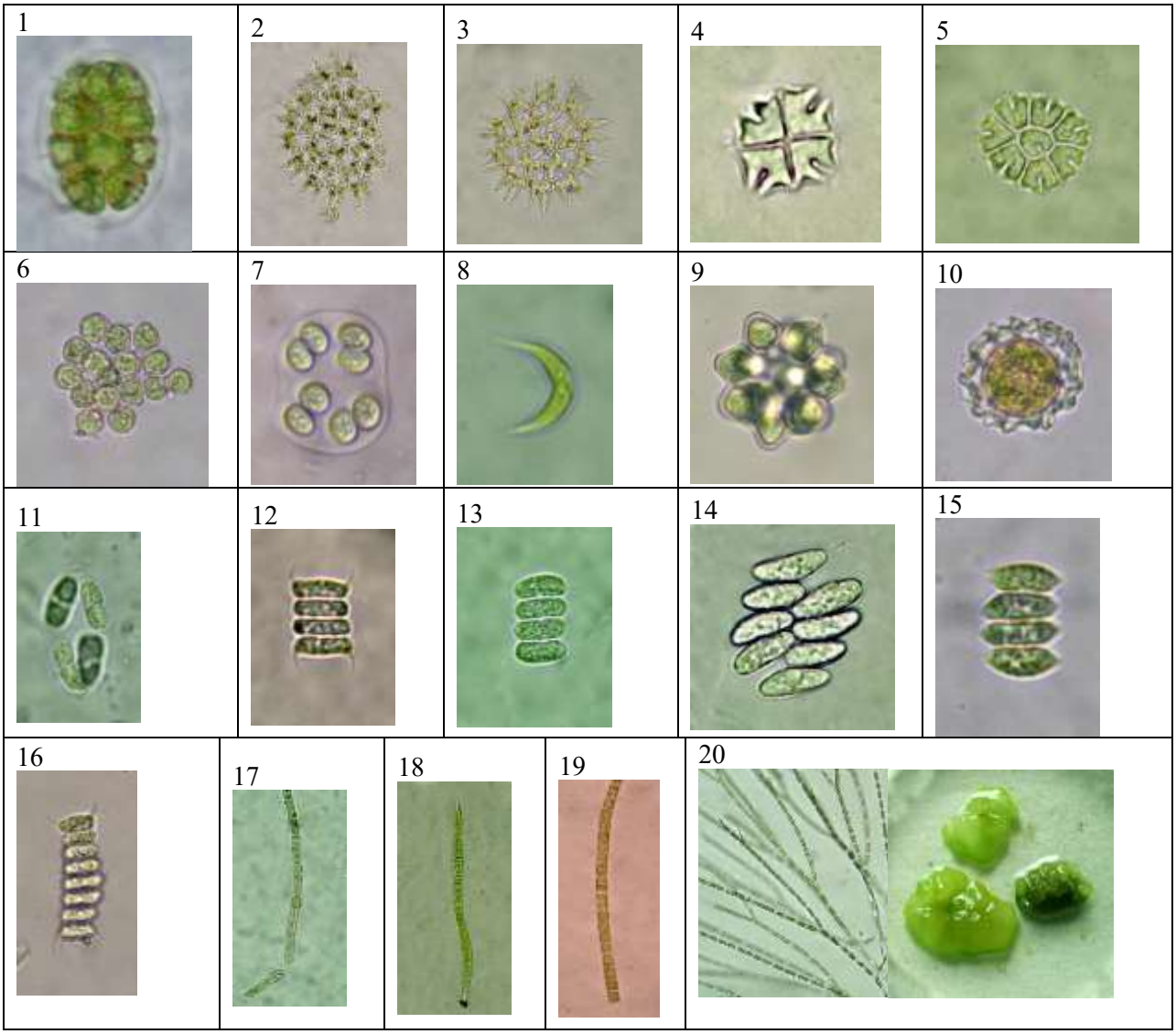
31. Cosmarium granatum Breb**. (Pl.2, Fig.11)**
Prasad, B. N and Misra, P.K.1992, P.160-161, Pl.21, Fig.20
Cells 18.4-23µm broad, 25.7-31µm long and isthmus 5.4-7.6 µm long; Cell medium sized elongate-rhomboid, semi cells sub pyramidate with rounded angles, side covering to a broadly rounded or subtruncate apex; sinus narrow and closed.
Habitat: Rain water pool behind Namrata nagar, Faizpur. (15/07/2024)

32. *Cosmarium polygonum* (Naeg.) Archer. **(Pl.2, Fig.12)**
Prescott, G. W. 1966, P.20, Pl.5, Figs.12-14
Cells 10 µm broad, 12 µm long and isthmus 4.6 µm, slightly longer than broad, deeply constricted, sinus narrow, semi cells broadly pentagonal, angles rounded, lateral angles slightly pronounced, sides and apex faintly retuse, cell wall smooth.
Habitat: Rain water pool behind Aasaramnagar Faizpur. (10/08/2024)

33. *Cosmarium ralfsii* Breb. var. ***Cyclicum*** P. Lund. **(Pl.2, Fig.13)**
Prescott, G. W. 1966, P. 29, Pl. IV, Figs. 29,39
Cell 28.5-29.5 µm long, 26.5-27.2 µm broad and isthmus 7.8-8 µm long. Cell smaller, angular circular, deeply constricted, semi cells sub circular, margin regularly crenate, 7-8 cremations, semi cells in vertical view narrowly ellipsoid. Sinus linear with the apex slightly dilated. Apical margin broadly rounded; chloroplast with two pyrenoids in each semi cell.
Habitat: Near Akash Laksh Hotel, Faizpur (10/08/2024)

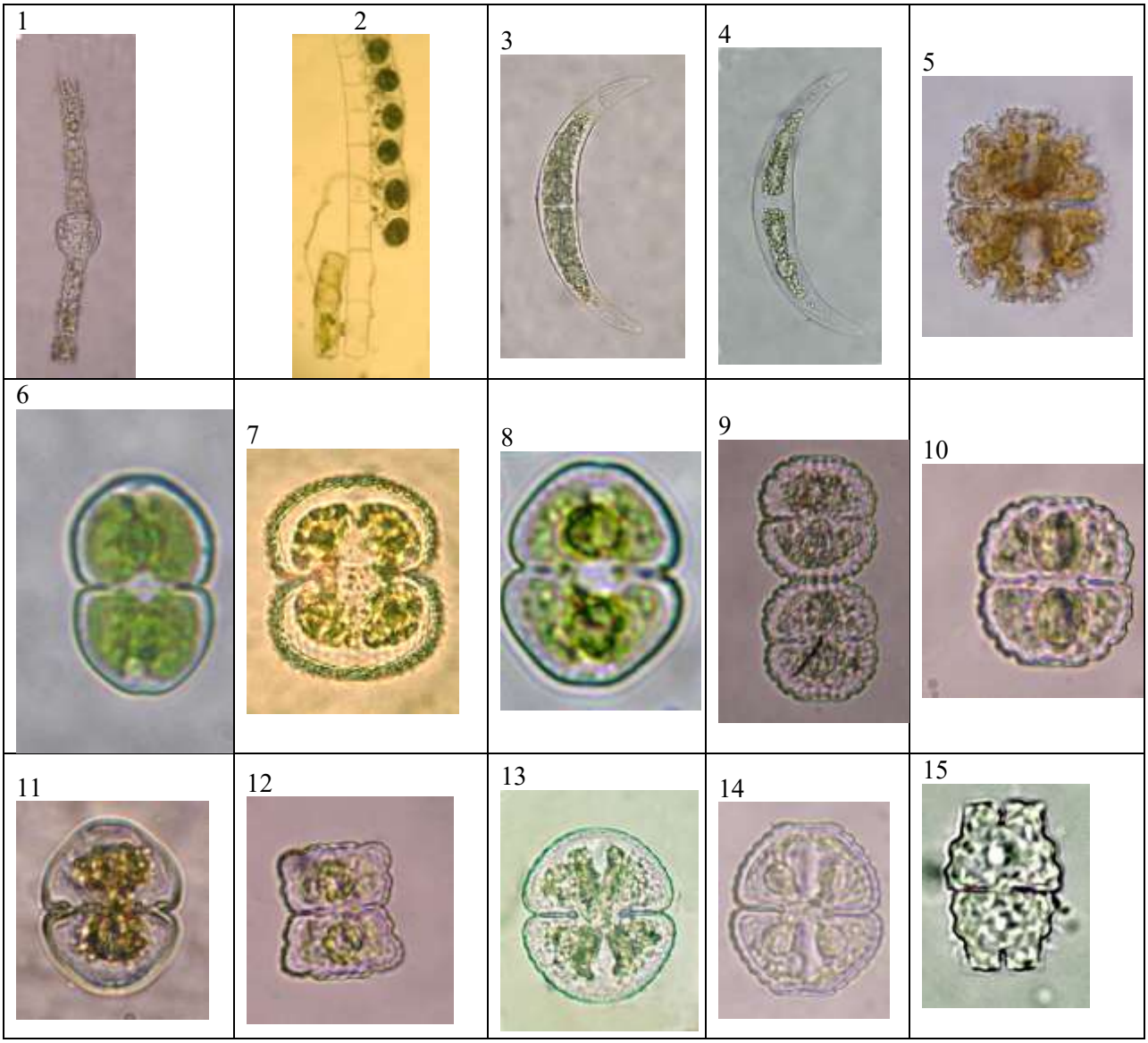
34. *Cosmarium. vexatum* West **(Pl.2, Fig.14)**
Prescott, G. W. 1966, P.23, Pl.4, Fig.6
Cell 30.7 µm broad, 34.6 µm long and isthmus 7.7 µm long, slightly longer than broad; sinus linear, dilated at the apex; semi cells elliptic, undulate; apex straight, chloroplast lamellate, 2 pyrenoids in each semi cells.
Habitat: Road side ditches, Shrikant colony Faizpur. (15/07/2024)

35. Xanthidium raniganjense, Turner **(Pl.2, Fig.15)**
Bruhl, P. and Biswas, K. 1926, P.302, Pl. XI, Fig.113
Cells 29.2-30µm broad, 42.9-44.2µm long and isthmus 18µm long. cells small and rectangular with shallow open sinus. margin bearing very small spines, largest in the upper lateral corners. Arrangement of spines not regular, semi cells in lateral view oval showing no central protuberance.
Habitat: Puddles Industrial Estate Savda road, Faizpur (05/10/2024)
Plate-1



Figs 1-20: 1. *Pandorina morum* 2. *Pediastrum duplex var. asperum* 3. *Pediastrum duplex var. reticulatum 4. Pediastrum tetras* var. *excisum 5. Pediastrum tetras* var. *tetraodon* 6. *Chlorella vulgaris* 7. *Oocystis borgei* 8. *Ankistrodesmus convolutus* var. *minutum*
9. *Coelastrum cambricum* 10. *Coelastrum microporum 11. Crucigenia rectangularis 12. Scenedesmus armatus* var. *bogleriensis*
13. *Scenedesmus bijugatus* 14. *Scenedesmus bijugatus var. alternans* 15. *Scenedesmus obliquus* 16. *Scenedesmus quadricauda.* var. *westii*
17. Ulothrix subconstricta 18. *Uronema africanum* 19. *Uronema terestre* 20. *Chetophora elegans*

Plate-2



Figs. 1-15: 1. *Oedogonium argenteum* var. *michiganense* 2. *Spirogyra fluviatilis* 3. *Closterium calasporum* var. *maius*
4. *Closterium Cynthia* 5 *Euastrum spinulosum* 6. *Cosmarium bicardia* 7. *Cosmarium biretum 8. Cosmarium contractum var. ellipsoideum* 9. *Cosmarium conspersum* var. *latum* 10. *Cosmarium cuneatum* 11. *Cosmarium granatum*
12. *Cosmarium polygonum* 13. *Cosmarium ralfsii* var. *Cyclicum* 14. *Cosmarium. vexatum* 15. *Xanthidium raniganjense*

CONCLUSION

A total of 94 algal samples were collected from different polluted and unpolluted habitat around Faizpur region. Of these, a total of 35 algal taxa were identified, belonging to 17 genera. In the present study, *Cosmarium* (9), *Scenedesmus* (5) and *Pediastrum* (4) were found to be the dominant forms, whereas the remaining forms were found rare.

ACKNOWLEDGEMENTS

The authors are thankful to Principal and Head, Department of Botany, Dhanaji Nana Mahavidyalaya, Faizpur for providing laboratory facilities and Principal and Head, Department of Botany, Sardar Vallabhbhai Patel Arts and Science College, Ainpur, District Jalgaon for encouragement.

REFERENCES

Balakrishnan, M. S. & Bondre, M. (1975). Notes on Poona algae II. *Phykos*, **14(1–2) 121–124**.

Bharhate, V. P. & Tarar, J. L. (1985). Additions to algal flora of Maharashtra Chlorophyceae from Khandesh I. *Phykos*, **24(1–2) 180–183**.

Bharati, S. G. & Hegde, G. R. (1982). Desmids from Karnataka State and Goa. Part III Genus Cosmarium Corda. *Nova Hedwigia*, **36 733–756**.

Bodas, K. D. (1991). Hydrobiological and taxonomic studies of some lotic and lentic waters in and around Nashik. *Biological Indicator*, **2(1–2) 13–21**.

Bruhl, P. & Biswas, K. (1926). Algae of the Loktak Lake. *Memoirs of the Asiatic Society of Bengal*, **8(5) 257–316**.

Daniel, J. K. (1981). Algal flora of Gujarat State Chlorococcales. *Ph.D. Thesis, Sardar Patel University*, pp. 1–234.

Dixit, S. C. (1937). The Chlorophyceae of the Bombay Presidency, India I. *Proceedings of the Indian Academy of Sciences, Section B*, **5(1) 16–25**.

Gonzalves, E. A. & Gangla, K. S. (1949). Observations on the algae of paddy field soils. *Journal of the University of Bombay*, **18 51–59**.

Groenblad, R., Scott, A. M. & Croasdale, H. (1964). Desmids from Uganda and Lake Victoria. *Acta Botanica Fennica*, **66 1–57**.

Gunale, V. R. & Chaugule, B. B. (1980). Algae of sludge samples from Pavna, Mula and Mutha rivers. *M.V.M. Patrika*, **15(2) 75–78**.

Hegde, G. R. & Bharati, S. G. (1980). Zygospore formation in some species of desmids. *Phykos*, **19(2) 213–221**.

Hortobágyi, T. (1973). The microflora in the settling and subsoil water enriching basins of the Budapest Water Works. *Book*, pp. 1–341.

Iyengar, M. O. P. & Desikachary, T. V. (1981). Volvocales. *ICAR, New Delhi*, pp. 532.

Jadhavar, P. B. & Papdiwal, P. B. (2011). Diversity of desmids at Nathsagar Water Reservoir. *Bioinfolet*, **8(3) 280–284**.

Jadhavar, P. B. & Papdiwal, P. B. (2012). Some desmids from Nathsagar Water Reservoir, Paithan, Maharashtra. *Journal of the Indian Botanical Society*, **91(4) 317–332**.

Jadhavar, P. B. and Papdiwal P. B. (2018). Scenedesmaceae members at the Nathsagar, Paithan Maharashtra. *Indo Ame Jour. Pharma. Sci.* **5**(1) pp 106-108.

Todawat, N. J., Jadhavar, P. B., Rathod, V. N. (2022). Occurrence of Algal flora at waterbodies from Bhokardan region of Jalna (M.S) India. *Inter. Jour. Of Curr. Sci.,* **12**(1) pp 355-357.

Jaiswal, A. G. (2005). Biodiversity of Volvocales in Dhule and Nandurbar districts, Maharashtra. *Proc. Nat. Conf. Plant Diver and Biotech*, pp.30-41.

Jawale, A. K., Kumawat, D. A. And Chaudhari, N. A., (2009). Freshwater Chlorophyceae from Jalgaon District, North Maharashtra I–Unicellular Volvocales. *Indian Hydro*., **12** (1) 1-9.

Kamat, N.D. (1968). Algae of Alibag, Maharashtra. *J. Bom. Nat. Hist. Soc*., **65** (1) 88-104.

Kamat, N. D. (1975). Algae of Vidarbh, Maharashtra. *J. Bombay Nat. Hist. Soc*., **72** (2) 450-476.

Kamat, N. D. and Patel, M. Z. (1973). Soil algae of a rice field at different depths. *Botanique*, **4**(2) 101-106.

Kargupta, A. N. (1987). New reports of some members of Chaetophorales from Bihar, India. *Adv. Bios.*, **6**(2) 155 –173.

Kumawat, D. A. and Jawale, A. K. (2004). Genus *Crucigenia* Morren (Chlorococcales) from fish ponds, Maharashtra. *J. Aqua. Biol*., **19**(1) 5-6.

Kumawat, D. A. and Jawale, A. K. (2004). Genus *Scenedesmus* Meyen from Maharashtra. *J. Phytol. Res.,* **17**(1) 117-118.

Kumawat, D. A. and Patil Jayashri and Rane, H. E. (2010). The algal Genus *Pediastrum* Meyen from North Maharashtra. *Jou. phytol. Res.* **23** (1) 109 -112.

Kumawat, D. A.; Jawale, A. K.; Bhoge, O. N.; Narkhede, P. N. and Patil, S. A. (2007). Algae from Household waste of Faizpur, Dist. Jalgaon Maharashtra. *Proc. Nat. Symp. "Recent Trends in Algal Biotechnology, and Biodiversity"* pp 86-90.

Mahajan, S.R. (2011). Diversity of desmids at Jalgaon, North Maharashtra. *Bioinfolet*, **8**(1) 37.

Marathe, K. V. (1969). Studies on soil algae India-I soil algae from the cultivated fields of Jalgaon. *J. Univ. Bombay*., **38** 69-72.

Nandkar, P. B., Marathe, K.V. and Motikhaye, B.G. (1983). Algae in sewage containing pools and oxidation ponds. *Phykos,* **22** (1&2) 37-45.

Patel R. J. and Isabella George (1989). Genus *Scenedesmus* Meyen in Gujarat. *IBC*, **6** 43-59.

Patil, S. A. (2019). Diversity of genus *Cosmarium* corda from Mangrul dam of Jalgaon district, Maharashtra, Research journey Special issue 134 168-173.

Patil, S. A. and Jawale A. K., (2014). Desmids from Mangrul dam district Jalgaon, Maharashtra. Inter. Jour. of Geology, Earth and Environmental Sciences, **4** (1) 137-146.

Patil, S.B. and Kumawat D.A., (2014). Diversity of Genus *Cosmarium* corda from Abhora dam of district Jalgaon, Maharashtra *Inter. Jour. of Geology*, *Earth and Environmental Sci.*, **4** (1) 109-114.

Patil, S. A., Patil, S. B. Dhande, J. S. and Magar, S. P. (2023). Some member of chlorococcales from Jalgaon district, Maharashtra. *Int. Jour. Bot Stud.,* **8**, (6) 16-21.

Patil, S.B. and Kumawat D.A. (2015). Desmids from Abhora dam of Raver Tahsil of Jalgaon district of Maharashtra. *Jour. of Microbiology*. **4** (1) 28-37.

Patil S. B. and Patil S. A. (2024). The algal Genus *Cosmarium* Corda from Anjani Dam of Jalgaon District (Part-II), Maharashtra, *Indian Hydrob.*, **23**(2) 309–324.

Philipose, M. T. (1967). Chlorococcales. *ICAR,* New Delhi, PP 365.

Pingle, S. D. (1988). Algae of Khadakwasla Lake. *Indian bot. Reptr*., **7**(1&2) 91-92.

Prasad, B. N. and Mehrotra, R. K. (1977). Desmids of North Indian paddy fields. *New Botanist,* **4**, pp 49-74.

Prasad, B. N. and Misra, P. K. (1992). Fresh water algal flora of Andaman and Nicobar Islands vol. II. *Bishen Singh Mahendra Pal Singh, Dehradun*, pp284.

Prescott, G. W. (1966). Algae of the Panama Canal and its Tributaries-II Conjugales. P*hykos*, **5**(1&2) 1-49.

Prescott G.W. (1982). Algae of the Western Great Lakes Area, pp.1-977.

Randhawa, M. S. (1959). Zygnemataceae. Publ. by *Indian Council of Agricultural Research, New Delhi* (ICAR) pp 487.

Ramanathan, K. R. (1964). Ulotrichales, ICAR New Delhi, pp188.
Tarar, J. L. and Kolhe, R. L. (1978). Studies on the algae in water supplies. *Jour. I.W.W.A.,* **10**(3) 301-306.
Tarar, J. L. and Muzumdar, G. (1981). Studies on the algae of Ambazari water treatment plant. *Proc. Indian Acad. Sci. (Plant Sci.),* **90** (4) 299-304.
Valvi A.B. and Gautam, P. K. (2020). Studies on Some Desmids of Toranmal Reserve Forest of Satpura Ranges, Nandurbar District, Maharashtra, India. *Journal of Aegaeum* **8** (4) 355-361.