

EUGLENOPHYCEAE OF SUKI DAM, JALGAON DISTRICT, MAHARASHTRA (I)

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Present paper deals with the description of fourteen taxa of euglenoids reported from Suki dam, Jalgaon district of Maharashtra state, situated on Suki river at 21°18'45" N latitude & 75°54'30" E longitude. The water samples were collected monthly for a period of two years. Total 72 taxa are reported from these samples. The present paper deals with the taxonomic enumeration of 14 taxa with 1 genus, 13 species & 2 varieties. All these 14 taxa are reported first time from Suki dam & 9 taxa namely *Euglena granulata* (Klebs) Schmitz, *Euglena agilis* Carter, *Euglena fundoversota* John, *Euglena granulata* (Klebs) Schmitz Var. polymorpha (Dang.) popova, *Euglena mutablis* Schmitz, *Euglena variabilis* Klebs, *Euglena rustica* Schiller, *Euglena vagans* Defl. *Euglena mucifera* Mainx are reported first time from North Maharashtra.

Keywords : Euglenoids; Maharashtra; Suki dam.

In Jalgaon district of Maharashtra the work on Euglenophyceae are known through Barhate and Tarar¹, Bhoge and Raghohaman² and Jawale and Kumawat³. The hydrobiology of Suki dam was studied first time. The present communication deals with 14 taxa, 1 genus, and 2 varieties reported first time from Suki dam.

The water samples were collected fortnightly in the morning 8.00 to 10.00 a.m. through out two years since June 2001 to May 2003. Algal samples were examined fresh as far as possible and preserved in 4 % formalin for further study. The sketching was effected by Camera Lucida. Identification is based on the monographs of Gojdic⁴, Huber - Pestalozzi⁵, Kamat^{6,7}, Asaul⁸, Bold & Wynne⁹, Patel & Waghodekar¹⁰, Patel¹¹, and research papers of Pochmann¹².

Systematic enumeration - (Fig. 1)

Euglena granulata (Klebs) Schmitz.

Bold & Wynne, 1978, 260, f. 5 - 4; Waghodekar, 1980, P. 95, Pl. 2, Fig. 18.

Cells spindle shaped with blunt anterior end; pellicle spirally striate, 12-15 chromatophores, flat, elliptical - elongated, sheathed pyrenoid. central nucleus, stigma small yellow-red, granular, cells 45.5 - 84.9 μ long, 11.3 - 29 μ broad.

Observed length 63.60 μ ; breadth 22.44 μ , f. 1 (Colle. No. 27)

Euglena acus Ehr. (Fig. 2).

Hajdu, 1976, 11, 20; Slodecek and Perman, 1978, 57(1): Waghodekar, 1980, P.57, Pl.3, Fig. 2,4,6.

Cells cylindrical; anterior end narrowed and truncated; posterior end with a long sharp tail, pellicel striated, parallel to the body, numerous chromatophores, discoidal, pyrenoids absents, nucleus oval, central. Cells 10.6-163 (-202) μ long; 9-14 (-19) μ broad.

Observed length 116.91 μ ; breadth 12.86 μ , f. 2 (Colle No. 33)

Euglena acus Ehr. var. *hyalina* Klebs. (Fig. 3).

Kamat, 1962 b,30 (3,5):15: Asaul, 1975, 184, Pl. 99, f.8-10. Waghodekar, 1980, P. 60, Pl. 3, Fig. 8.

Differs from the *E. acus* in being more weaker or slacker; full of paramylum rods and granules; posterior end with longer pointed tail; chromatophore slightly larger, discoid; nucleus larger, central, cells 126.1 - 163.6 μ long; 9.1-14.7 μ broad.

Observed length 121.55 μ ; breadth 9.35 μ , f. 3. (Colle.No. 43)

Euglena agilis Carter (Fig. 4).

Desmet and Evens, 39(1) : 111, 1972; Ratnasabapathy, 1975b, 3(A) : 79; Waghodekar, 1980, P. 91, Pl. 4, Fig. 15, 17.

Cells nearly cylindrical, fusiform with bluntly rounded anterior end; short blue point at posterior end, pellicle indistinctly, spirally striated, cytoplasm granular, chromatophores two, elongated, band-shaped, sheathed pyrenoids, paramylum small, avoid granules, nucleus in posterior part of cell, cells 14.9 - 36.4 μ long; 8-17 μ broad. Observed length 22.44 μ ; breadth 11.22 μ , f.4 (Colle. No. 57)

Euglena texta (Duj) Hubn. (Fig. 5).

Asaul, 1975, 157-176, Pl. 92, f.1-2, 4-5; Slodecek and

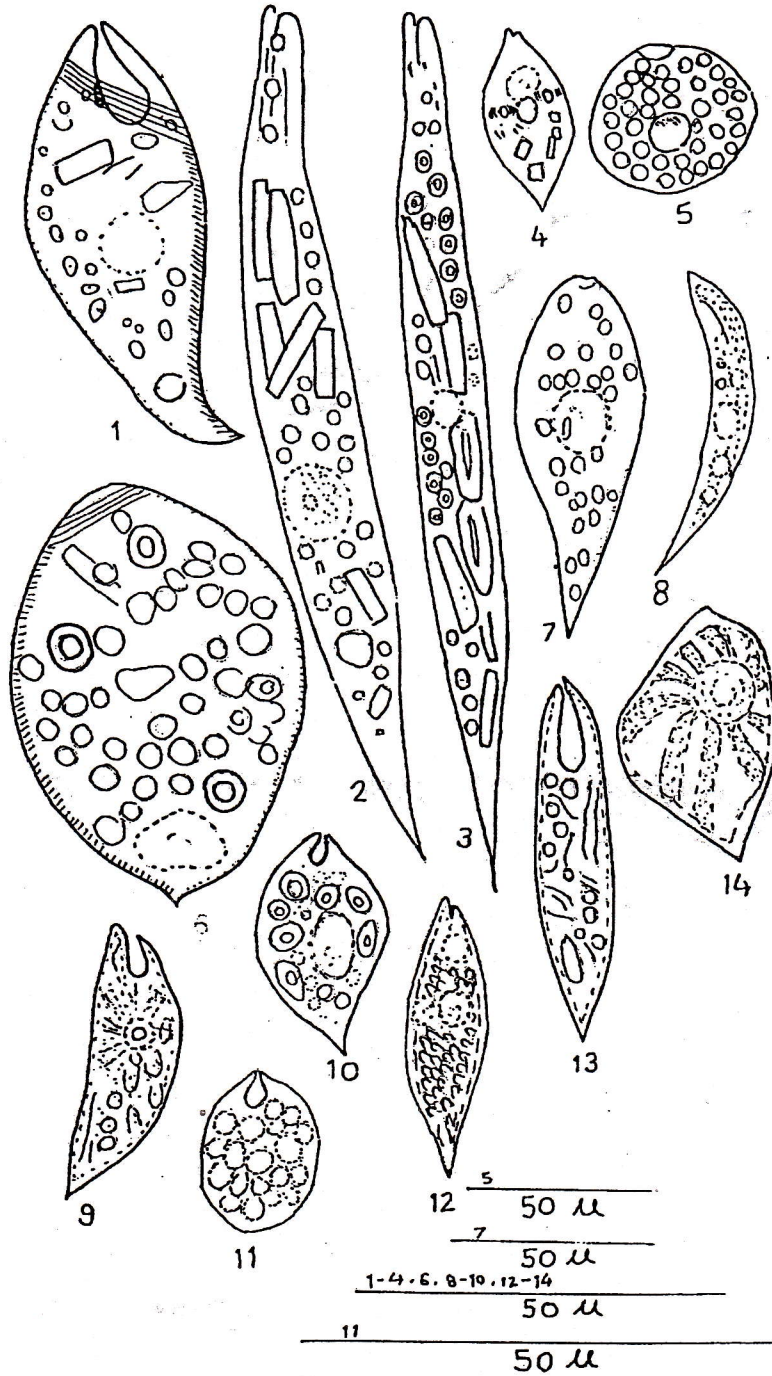


Fig. 1-14. 1. *Euglena granulata* (Klebs) Schmitz.; 2. *Euglena acus* Ehr.; 3. *Euglena acus* Ehr. var. *hyalina* Klebs.; 4. *Euglena agilis* Carter.; 5. *Euglena texta* (Duj) Hubn.; 6. *Euglena fundoversata* John.; 7. *Euglena granulata* (Klebs) Schmitz Var. *polymorpha* (Dang.) popova.; 8. *Euglena mutabilis* Schmitz.; 9. *Euglena hiemalis* Matv.; 10. *Euglena variabilis* Klebs.; 11. *Euglena rustica* Schiller.; 12. *Euglena gracilis* Klebs.; 13. *Euglena vagans* Defl.; 14. *Euglena mucifera* Mainx.

Perman, 1978, 57(1): 58; Waghodekar, 1980, P. 47, Pl. 2, Fig. 2.

Cells broadly roundish ovoid, rounded posteriorly pellicle rigid, coarsely striated, numerous chromatophores, small discs without pyrenoids, paramylum numerous, roundish, stigma large, oval, deep red, nucleus large, round, posterior to middle, cells 39.6 – 43.8 μ long, 31.6 – 36.2 μ broad.

Observed length 34.6 μ ; breadth 39.7 μ , f.5. (Colle No. 11)

Euglena fundoversata John. (Fig. 6).

Reinke, 1978, 6:93; Waghodekar, 1980, P. 32, Pl. 1, Fig. 13.

Cells broadly fusiform, conical anteriorly, posteriorly blunt narrow, pellicle spirally striated at minute ridges, chromatophores many, elongated, fusiform, pyrenoids absent, numerous paramylum rounded, rectangular, stigma cup-shaped, nucleus spherical, posterior to middle, cells 60.4 – 85 μ in length, 19.8–42.5 μ broad.

Observed length 56.1 μ ; breadth 37.4 μ , f. 6. (Colle No. 17)

Euglena granulata (Klebs) Schmitz Var. *Polymorpha* (Dang.) popova (Fig. 7).

Asual, 1975, P. 157, Pl. 78, f. 7-10; Waghodekar 1980, P. 96, Pl. 2. Figs. 7, 17.

Cells spindle shaped, rounded anteriorly, posteriorly tapers into short end point, pellicle ridge-like, striated spirally, chromatophores flat plates, irregularly-lobed margins, sheathed pyrenoid, central nucleus, cells 63 – 103.8 μ long, 16 – 28.5 μ broad.

Observed length 81.91 μ ; breadth 29.43 μ , f. 7. (Colle No. 77)

Euglena mutabilis Schmitz (Fig. 8) Sarma and Chapman 1975, 5(3): 304; Asaul, 1975, 173, Pl. 90, f. 4; Waghodekar, 1980, P. 44, Pl. 2, Fig. 8.

Cells slender, curved, cylindrical with narrow blunt end anteriorly & slightly pointed posteriorly, pellicle spiral striated, granular cytoplasm, chromatophore 4, paramylum short, stigma brilliant shallow cup, central nucleus, cells 41.5 – 59 μ long and 6.4 – 10 μ broad.

Observed length 42.64 μ ; breadth 6.64 μ , f. 8. (Colle No. 39)

Euglena hiemalis Matv. (Fig. 9).

Huber- Pestalozzi, 1955, P. 81-82, Pl. 13, f. 57 A; Waghodekar, 1980, P. 98, Pl. 5, Figs. 7, 9.

Cells cylindrical posteriorly with sharp spine, pellicle spirally striated, chromatophores 7 – 18, discoid each with sheathed pyrenoid, stigma oval, nucleus spherical, central, cells 36 – 53 μ long, 8 – 11.6 μ broad. Observed length 37.4 μ ; breadth 11.0 μ , f. 9. (Colle No. 5)

Euglena variabilis Klebs (Fig. 10)

Sladeck and Perman, 1978, 57(1): 58; Waghodekar, 1980, P. 54, Pl. 2, Fig. 10.

Cells short, cylindrical to ovoid, blunt posterior

end, anteriorly broad, pellicle spirally striated, disc shaped chromatophores, pyrenoids absent, paramylum small rods, stigma large, dark red, nucleus large, oval, posterior, cells 29.2 – 56.6 μ long, 20.4 – 30.6 μ broad.

Observed length 29.30 μ ; breadth 18.38 μ , f. 10. (Colle No. 81)

Euglena rustica Schiller (Fig. 11).

Kamat, 1963, 22(3-4): 264; Waghodekar, 1980, P. 70, Pl. 3, Fig. 12.

Cells broadly ovate, anteriorly narrow, broadly rounded posteriorly, pellicle striated, cytoplasm granular, chromatophore few, discoid, or oval without pyrenoids, paramylum absent, stigma small oval, central nucleus cells 19.8 μ long, 14.2 μ broad.

Observed length 22.5 μ ; breadth 14.37 μ , f. 11. (Colle No. 61)

Euglena gracilis Klebs (Fig. 12).

Bold & Wyne, 1978, 257, f. 5.2; Waghodekar, 1980, P. 99, Pl. 4, fig. 16, Pl. 27, Fig. 5.

Cells cylindrical, rounded anteriorly, bluntly pointed to rounded, pellicle faintly spirally striated, cytoplasm granular, chromatophores 7-14, yellow-green with sheathed pyrenoid, paramylum ovoid to cup shape, nucleus posterior to middle of cell, cells 36 – 70 μ long, 9.5 – 20.8 μ broad.

Observed length 37.4 μ ; breadth 13.9 μ , f. 12. (Colle No. 67)

Euglena vagans Defl. (Fig. 13).

Asaul, 1975, 181, Pl. 97, f. 1,2,5; Waghodekar, 1980, p. 56, Fig. 15.

Cells cylindrical with slight truncate anterior end, tapering posteriorly, pellicle spirally striated, chromatophore many, small discs without pyrenoids, paramylum mostly two, rod shaped, stigma large, irregular, nucleus ellipsoidal, cells 42.5 – 60 μ long, 7 – 10 μ broad.

Observed length 50.49 μ ; breadth 11 μ , f. 13, (Colle No. 9)

Euglena mucifera Mainx (Fig. 14).

Fritsch, 1961, Vol. I: 729, f. 240 I Waghodekar, 1980, P. 31, Pl. 1, Fig. 7,8.

Cells broad, elliptical, rounded bluntly anteriorly, posteriorly end into sharp end point, pellicle spirally arranged, chromatophore many, band-shaped with irregular margins pyrenoids sheathed with paramylum, nucleus large, cells 66.4 μ long, 35.5 μ broad..

Observed length 60.2 μ , breadth 38.46 μ , f. 14 (Coll.No.41)

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