

# STUDY OF VOLVOCALES OF GUJARAT - II. NEW RECORDS OF GENERA *POLYBLEPHARIDES* DANG., *FURCILLA* STOKES AND *GRANULOCHLORIS* PASCHER & JAHODA

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## Abstract

During the study of Volvocales of Gujarat, three species belonging to three genera have been collected from temporary rain-water pools. These are : *Polyblepharides singularis* Dang., *Furcilla stigmatophora* (Skueja) Kors. and *Granulochloris seriata* Pascher & Jahoda. All the genera are recorded for the first time from India.

## Introduction

In the efforts of elucidating the systematic study of Volvocales of Gujarat, the authors came across *Polyblepharides singularis* from a rain-water pool at Anand, *Furcilla stigmatophora* and *Granulochloris seriata* from rain-water pools at Bhalej. Available literature shows that there is no report of their occurrence from India (Philipose, 1958 ; Iyengar & Desikachary, 1981 ; Shyam & Sarma, 1976).

## Systematic Description

### 1. *Polyblepharides singularis* Dang.

G. Huber-Pestalozzi, *Die Binnengewässer*, **16**(5) : 9, f. 1, 1961.

Text-fig. 1

Cells naked, ellipsoidal, rounded at the posterior end, somewhat flattened at the anterior end, 6-8  $\mu\text{m}$  broad and 11.3-12.5  $\mu\text{m}$  long ; chloroplast cup-shaped with a basal pyrenoid, eye spot anterior ; flagella-6, equal or longer than cell, contractile vacuoles two; nucleus situated in the anterior half.

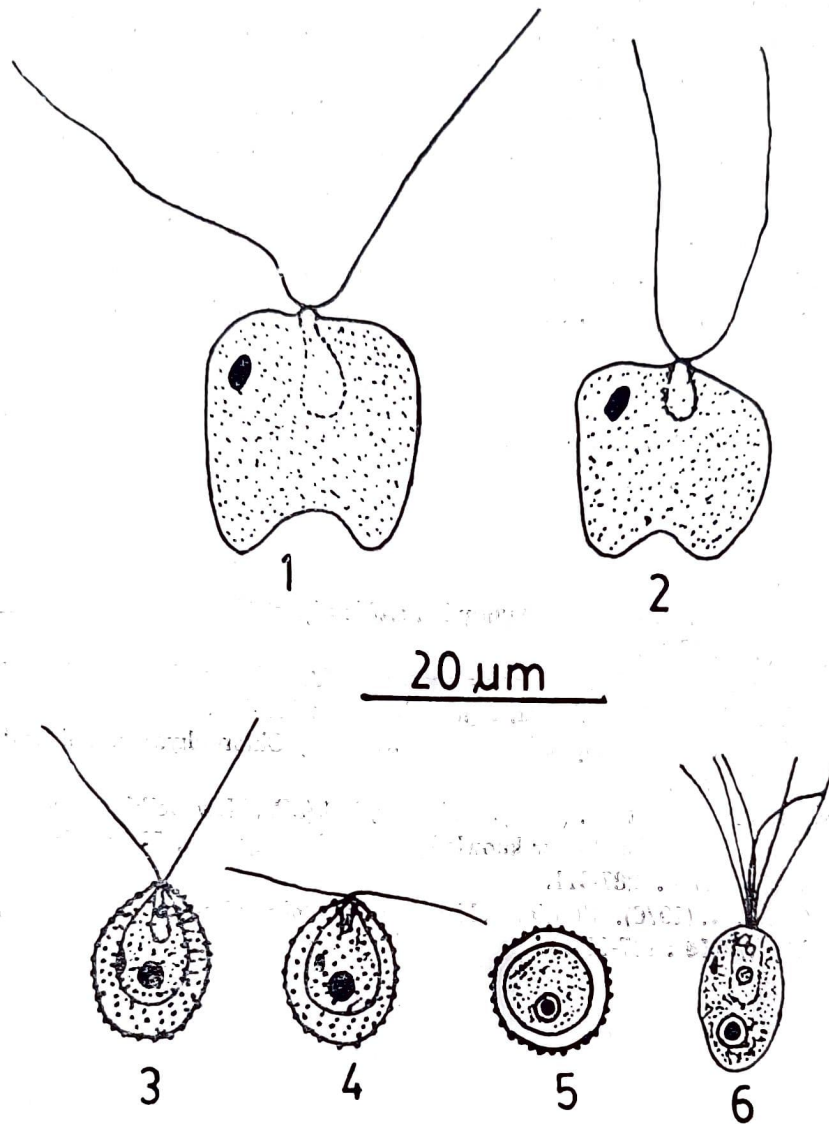
*Habitat*—Very rare, rain-water pools alongwith unicellular and colonial Volvocales, Anand, (C. No. V-55).

### 2. *Furcilla stigmatophora* (Skueja) Kors. G. Huber-Pestalozzi, *Die Binnengewässer*, **16**(5) : 537, f. 763, 1961 ; M. E. Bicudo & B. V. Skvortzov, *Sellowia*, **20**(20) : 45-49, 1968.

Text-figs. 2, 3

Vegetative cells horse-shoe shaped, bilobed, lobing not deep, 12.5-17.7  $\mu\text{m}$  broad and 15-20  $\mu\text{m}$  long, with an apical papilla ; wall thin ; protoplast closely investing the cell; chloroplast pale-green, cup-shaped, pyrenoid not seen ; eye spot anterior ; flagella closely arising from the papilla.

*Habitat*—Rain-water pool, Bhalej (C. No. V-38).



Text-fig. 1—1,4,—*Polyblepharides singularis* Dang.; 2,3. *Furcilla stigmatophora* (Skueja) Kors.; 5,6. *Granulochloris seriata* Pascher & Jahoda.

3. *Granulochloris seriata* Pascher et Jahoda G. Huber-Pestalozzi, *Die Binnengewässer*, **16**(5) : 546, f. 775, 1961.

Text-figs. 4, 5, 6

Cells ellipsoidal or oval, loriculate, lorica yellowish-brown, ornamented with fine granules, 8.8-10  $\mu\text{m}$  broad and 11.5--13  $\mu\text{m}$  long; protoplast separated from lorica except at the anterior end, 5.2-2-6  $\mu\text{m}$  broad and 8.2-9.4  $\mu\text{m}$  long; chloroplast cup-shaped with a basal pyrenoid; eye-spot equatorial or posteriorly situated; flagella arising from a common point, equal or  $1\frac{1}{2}$  times the length of the cell.

*Habitat*—Rain-water pool, Bhalej (C. No. V-38).

### Discussion

*Polyblepharides singularis* Dang. agrees with the description given by Huber-Pestalozzi (1961). It differs from *P. fragarififormis* Hazen, the only other species, in having cells ellipsoidal, less dimensions, possessing only two contractile vacuoles and stigma not

necessarily situated at the same height of nucleus (Huber-Pestalozzi, 1961). *Furcilla stigmatophora* (Skueja) Kors. is agreeable with the plant described by Huber-Pestalozzi (1961). The dimensions are slightly larger in the species described from Brazil (Bicudo & Skuortzov, 1968) which measure 20-25  $\mu\text{m}$  long and 20-22  $\mu\text{m}$  broad. It is easily distinguishable from other species by the bilobed nature and cells being not deeply lobed at the posterior side (Huber-Pestalozzi, 1961). *Granulochloris seriata* differs from *G. agloe* Ettl. in having cup-shaped chloroplast (Ettl, 1965). It is distinguishable from *G. spinifera* Fott in not having spiny ornamentation on the lorica (Fott, 1963).

These three genera are new additions to the Indian algal flora.

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