Closterium ehrenbergii

Meneghini ex Ralfs 1848

Most likely ID: n.a.

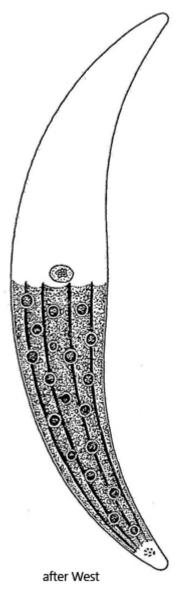
Synonym: n.a.

Sampling location: <u>Ulmisried</u>, <u>Paradieswiesen</u>, <u>Simmelried</u>

Phylogenetic tree: Closterium ehrenbergii

Diagnosis:

- cell crescent-shape tapering to rounded apices
- middle of ventral side slightly convex
- length 230-900 μm, width 60-100 μm
- two chloroplasts, each with 3-10 longitudinal ridges
- numerous pyrenoids scattered in the chloroplasts
- girdle bands absent
- apices with each one vacuole filled with numerous gipsum crystals
- cell wall with fine striation (12-20 striae/10 μm)
- nucleus central



Closterium ehrenbergii

Closterium ehrenbergii is a very common representative of the genus Closterium. In addition to the impressive size of usually over $400~\mu m$, the pyrenoids scattered in the chloroplasts are the main identifying feature (s. figs. 2 and 3). In all other species of Closterium, except Closterium lunula, the pyrenoids are arranged more or less along the longitudinal cell axis. The cell shape of Closterium lunula, however, is almost straight and less curved.

The cell wall of *Closterium ehrenbergii* has a very fine striation (s. fig. 4). This can be more or less pronounced. In the older literature, the subspecies *Closterium ehrenbergii* var. *malinvernianum* is defined as having a more pronounced striation. However, Lenzenweger (1996) considers this to be an uncertain characteristic, which is why the delimitation of a subspecies does not appear to be justified. Although the specimens of my population showed a fine but clearly visible striation, I stick to the identification *Closterium ehrenbergii*.



Fig. 1 a-b: Closterium ehrenbergii. L = 425 μm . Two focal planes of a specimen in brightfield illumination. Obj. 40 X.



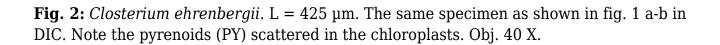




Fig. 3: Closterium ehrenbergii. The pyrenoids (PY) scatteres in the chloroplasts in detail. Beside the pyrenoids some crystals (CR) are visible. Obj. 100 X.

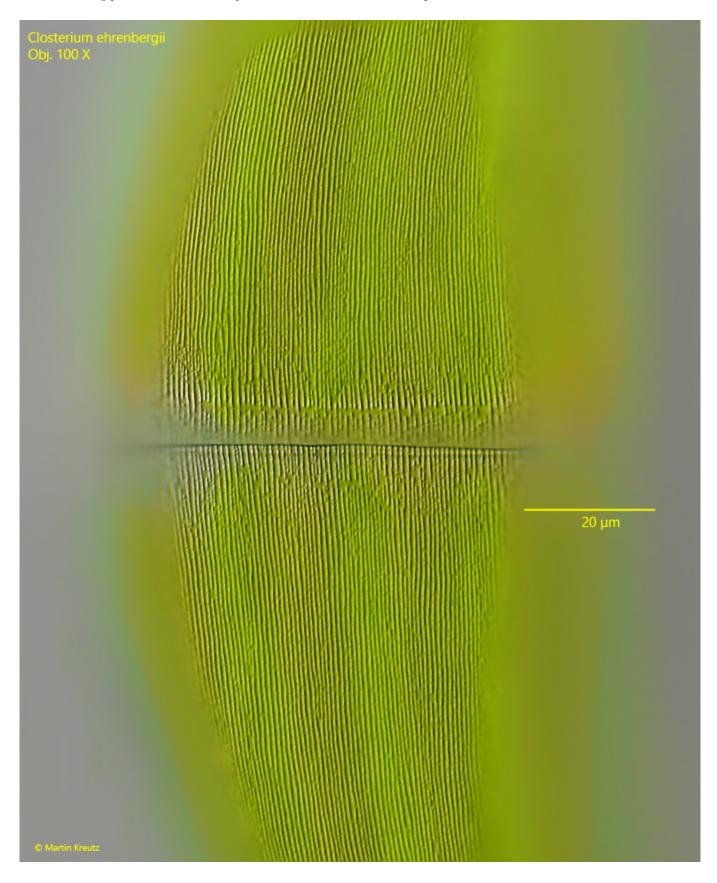


Fig. 4: Closterium ehrenbergii. Focal plane on the fine striattion of the cell wall. In this specimen 17 striae/10 µm are present. Obj. 100 X.



 $\textbf{Fig. 5:} \ Closterium \ ehrenbergii. \ The \ rounded \ apex \ with \ numerous \ crystales \ in \ the \ terminal$ vacuole. Obj. 100 X.