

***Closterium ehrenbergii***

**Meneghini ex Ralfs 1848**

**Most likely ID:** n.a.

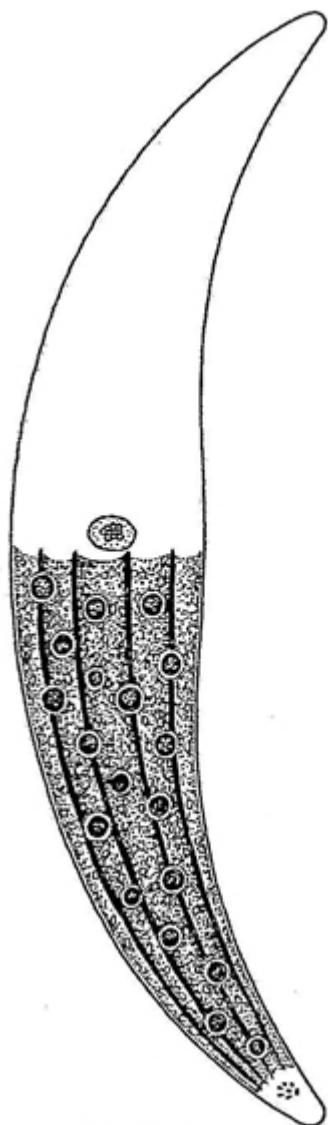
**Synonym:** n.a.

**Sampling location:** [Ulmisried](#), [Paradieswiesen](#), [Simmelried](#)

**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 gypsum crystals
- cell wall with fine striation (12-20 striae/10 µm)
- nucleus central



after West

### *Closterium ehrenbergii*

*Closterium ehrenbergii* is a very common representative of the genus *Closterium*. In addition to the impressive size of usually over 400 µm, 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*.

*Closterium ehrenbergii*  
Obj. 40 X



a

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b

**Fig. 1 a-b:** *Closterium ehrenbergii*. L = 425  $\mu$ m. Two focal planes of a specimen in brightfield illumination. Obj. 40 X.

*Closterium ehrenbergii*  
Obj. 100 X



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**Fig. 2:** *Closterium ehrenbergii*. L = 425  $\mu\text{m}$ . The same specimen as shown in fig. 1 a-b in DIC. Note the pyrenoids (PY) scattered in the chloroplasts. Obj. 40 X.

*Closterium ehrenbergii*  
Obj. 100 X

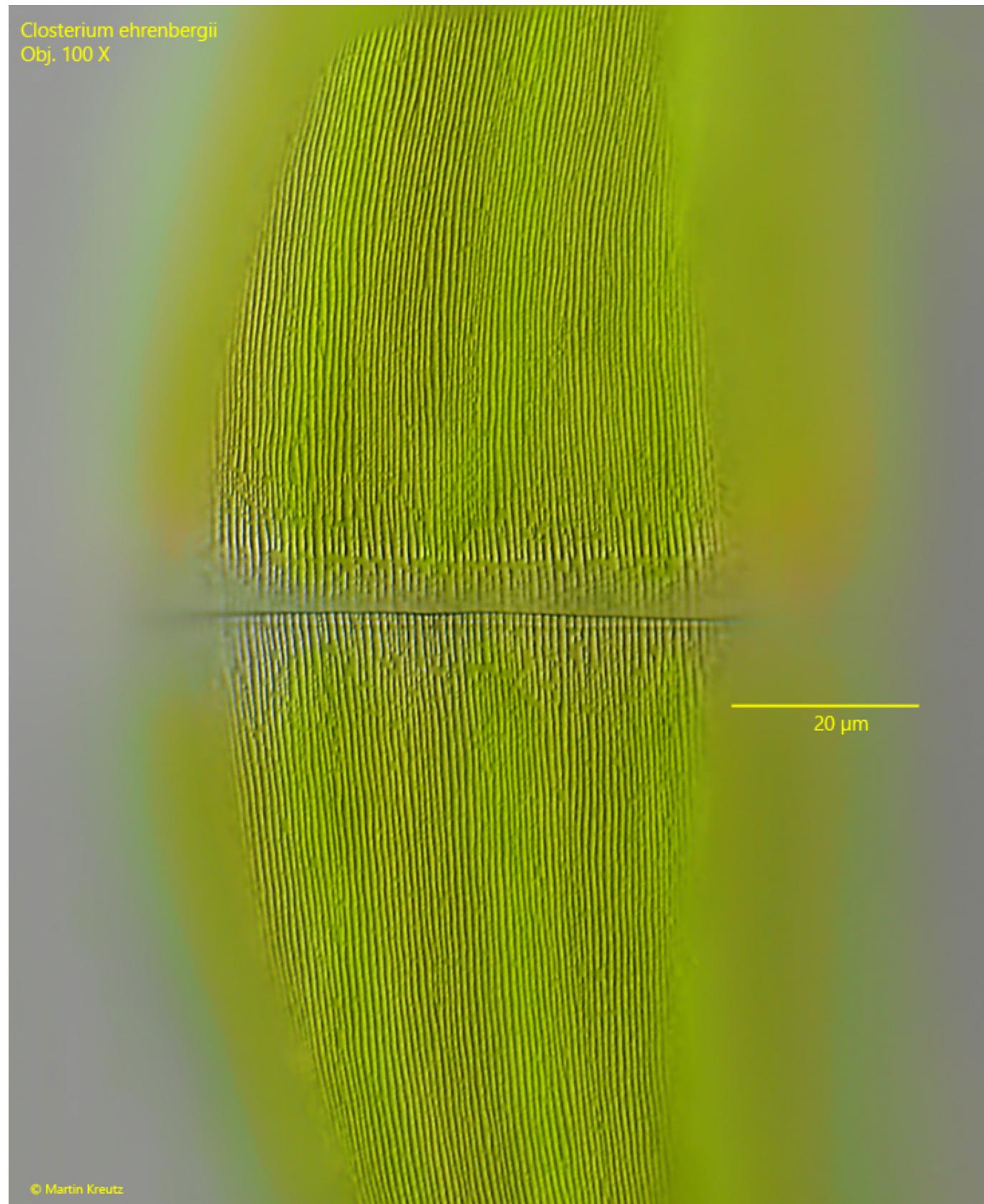
PY

CR

PY

CR

**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 striation of the cell wall. In this specimen 17 striae/10 μm are present. Obj. 100 X.

*Closterium ehrenbergii*  
Obj. 100 X



**Fig. 5:** *Closterium ehrenbergii*. The rounded apex with numerous crystales in the terminal vacuole. Obj. 100 X.