Desmodesmus serratus

(Corda) An, Friedl & Hegewald, 1999

Most likely ID: n.a.

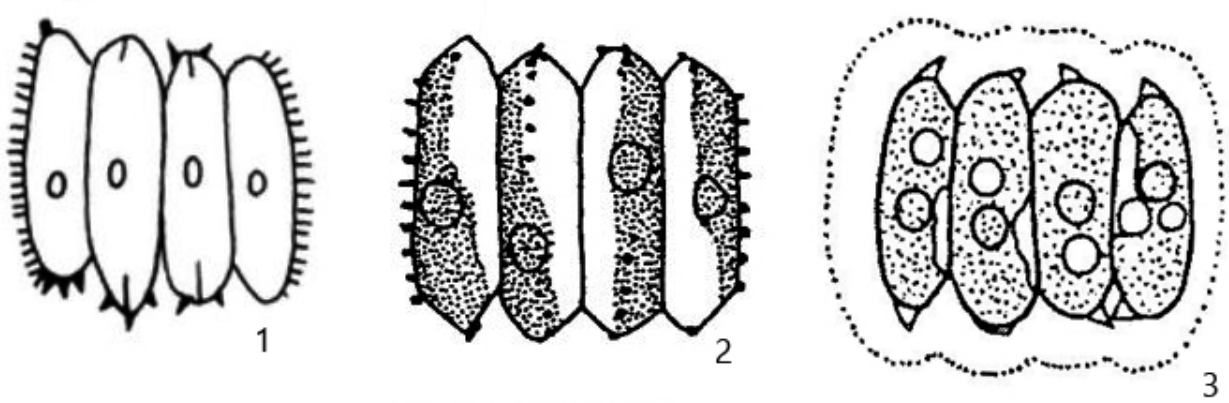
Synonym: *Scenedesmus serratus*, *Arthrodesmus serratus*

Sampling location: Pond of the waste disposal company Constance

Phylogenetic tree: *Desmodesmus serratus*

Diagnosis:

- coenobia of 2–4–(8) linearly arranged cells
- coenobia surrounded by mucilage sheath
- single cells oblong cylindical with rounded ends
- length of cells 7.8–20 µm, width 2.5–7 µm
- 1–4 short teeth at rounded apices of cells
- often a row of small teeth along the lateral wall of the outer cells
- cell wall smooth (apart from teeth)
- one pyrenoid per cell



1 = after Hentschle & Torgan
2 = after Rye
2 = after Philipose

Desmodesmus serratus

Desmodesmus serratus was originally described by Bohlin (1901) as *Scenedesmus*

serratus, but was transferred to the genus *Desmodesmus* by An, Friedl and Hegewald in 1999.

In August 2023 I found *Desmodesmus serratus* in large numbers in the plankton of the pond of the waste disposal company Constance. This species is very small and can easily be overlooked when sifting through a plankton sample. *Desmodesmus serratus* can be recognized by the very small teeth on the apices of the cells. In addition, a mucus sheath around the coenobium is characteristic, which only becomes visible in DIC by attached bacteria (s. fig. 2 a-b). A row of small teeth can often be found on the lateral outer sides of the coenobium (s. fig. 1 b). Otherwise the walls of the cells are naked (s. fig. 2 b). The similar species *Desmodesmus brasiliensis* has longitudinal ridges on the lateral sides of the cells in addition to the apical, small teeth. This allows to distinguish these two species.

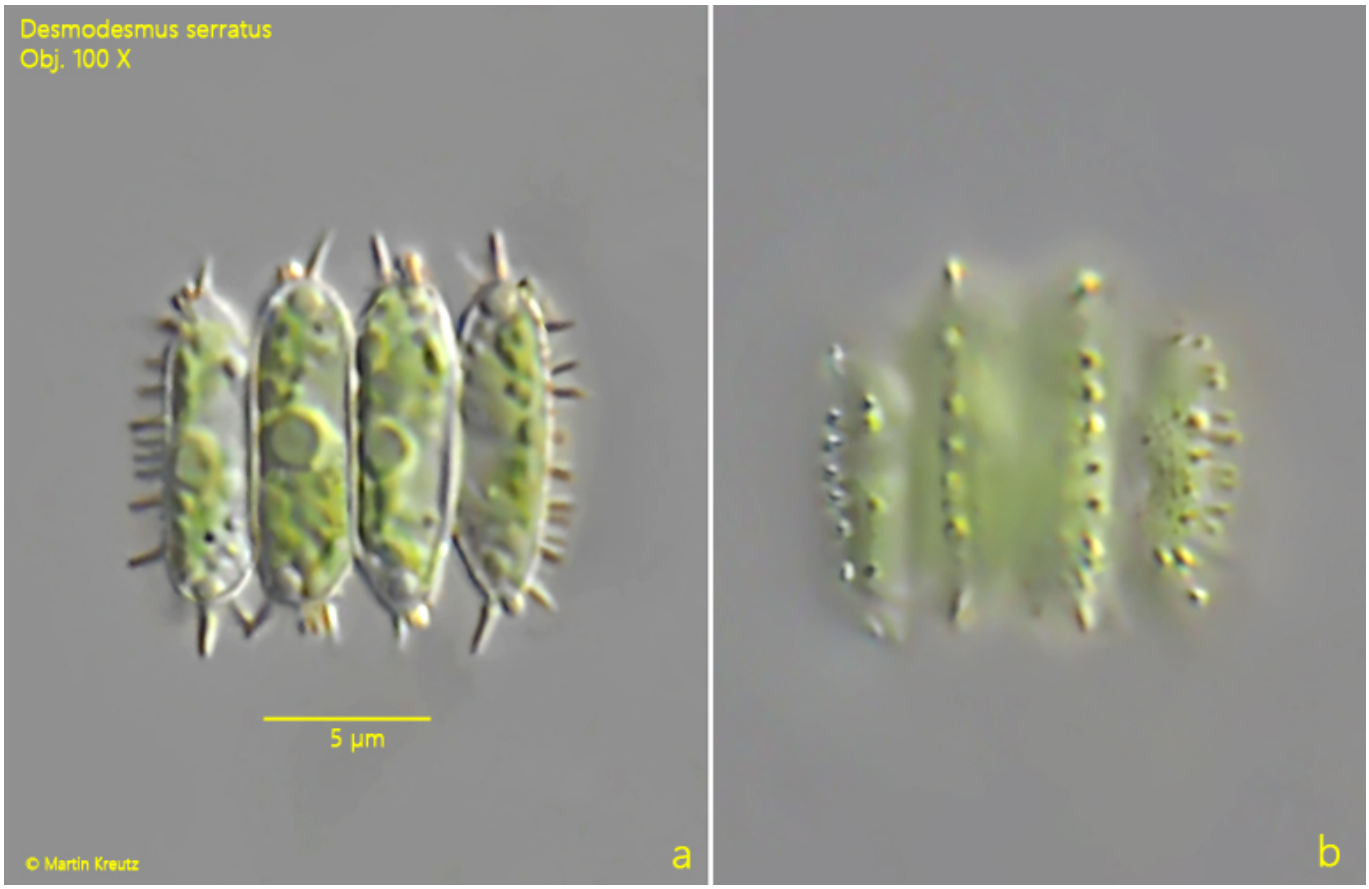


Fig. 1 a-b: *Desmodesmus serratus*. L = 11.6 µm (of coenobium). Two focal planes of a coenobium of 4 cells. Obj. 100 X.

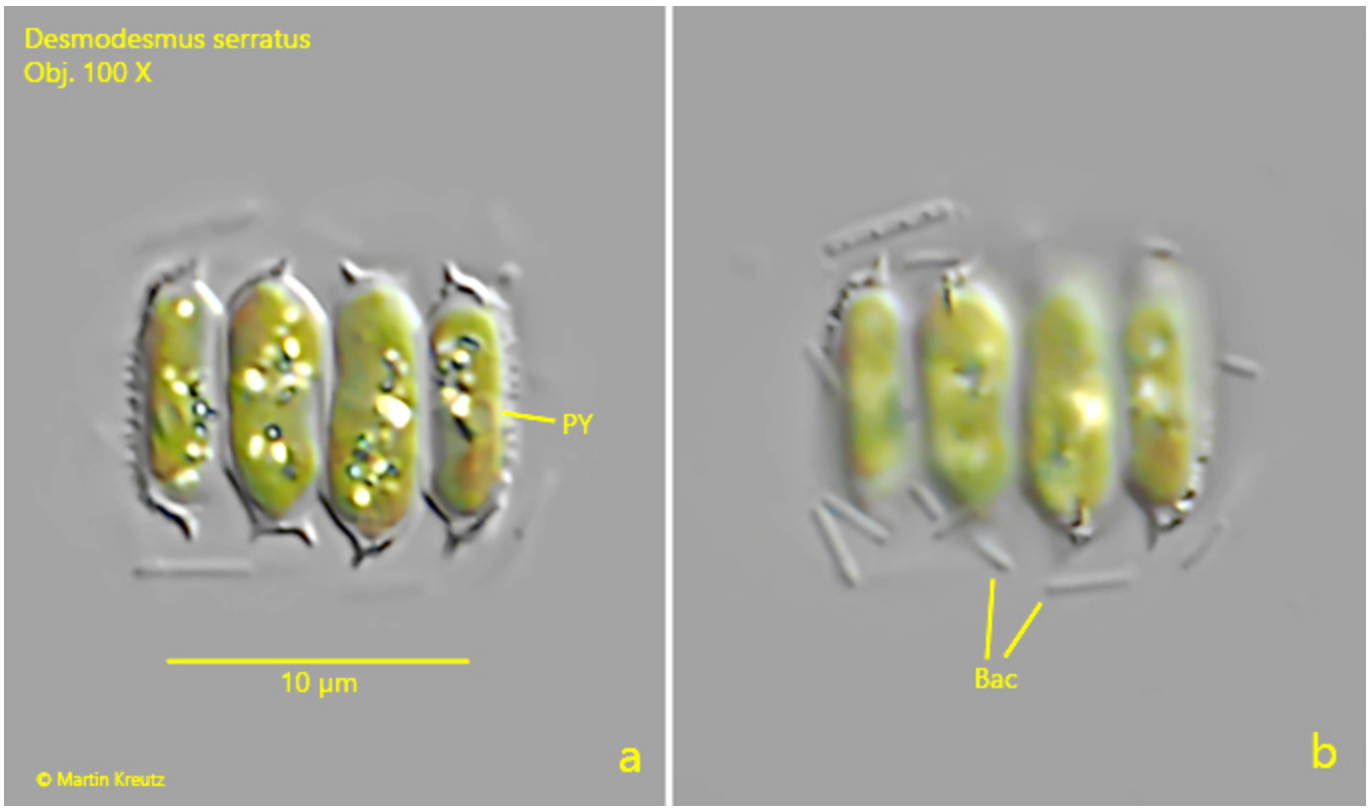


Fig. 2 a-b: *Desmodesmus serratus*. L = 12.6 µm (of coenobium). Two focal planes of a second coenobium of 4 cells. Note the bacteria (Bac) covering the mucilage sheath of the coenobium. PY = pyrenoid. Obj. 100 X.