Synura petersenii Korshikov, 1929

Most likely ID: n.a.

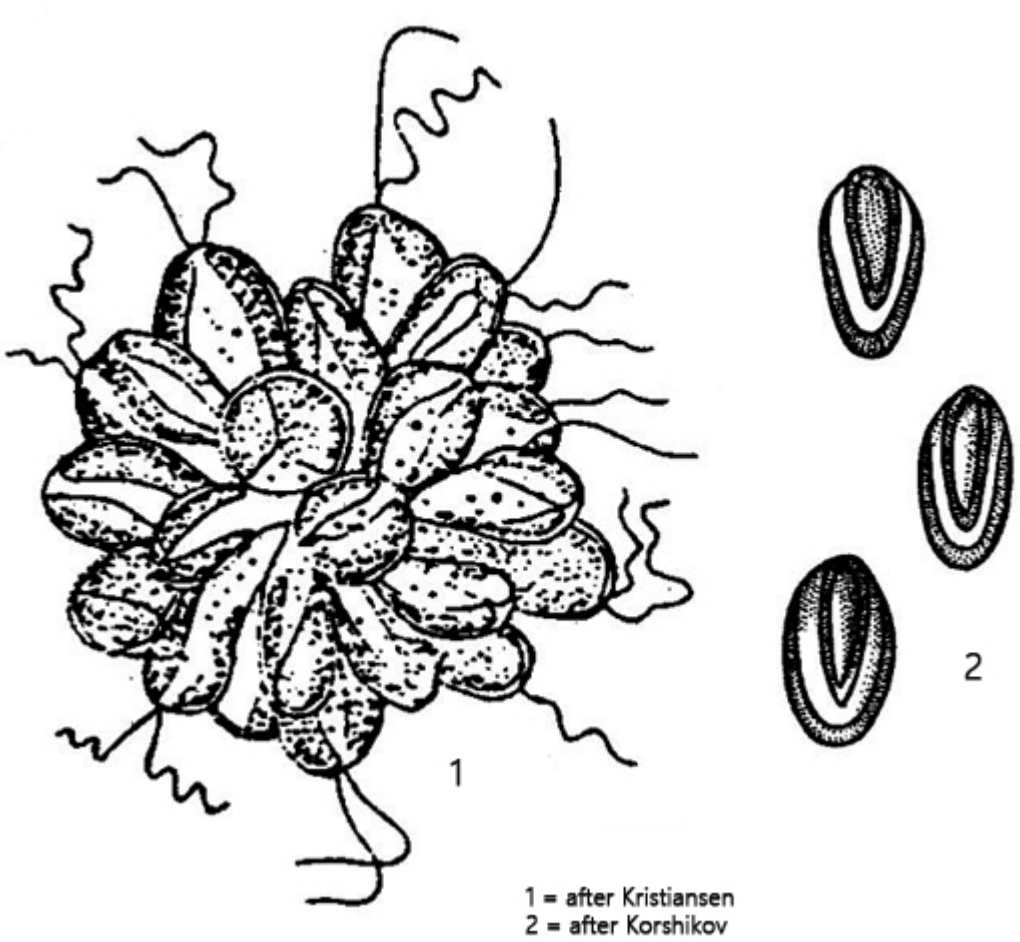
Synonym: n.a.

Sampling location: Ulmisried, Purren pond, Pond of the convent Hegne, Bussenried, Bündtlisried, Mainau pond, Simmelried

Phylogenetic tree: *Synura petersenii*

Diagnosis:

- colonies spherical or oblong
- diameter of colonies 45–57 µm
- cells obovid
- cells covered with a layer of silica scales
- scales elliptical, with median ridge, 3–4 µm long
- 2 flagella of equal length
- 2 brownish-yellow chloroplasts
- eyespot absent
- contractile vacuole posterior



Synura petersenii

*Synura petersen*ii is the most common species of the genus and I find it in almost all my samling sites. Especially in spring this chrysophyte alga sometimes occurs in masses.

A reliable identification of the species within the genus *Synura* is only possible by the shape of the silica scales covering the cells. Not all species can be distinguished with the light microscope, but the resolution at the highest magnification is sufficient to recognize the shape of the scales of *Synura petersenii*. They are 3–4 µm long, elliptical scales with a median ridge in the middle (s. figs. 3 and 4). In contrast, the scales of the similar species *Synura uvella* have the shape of a frying pan or tennis racket with a distinct stalk.

More images and information on *Synura petersenii*: Michael Plewka-Freshwater life-*Synura petersenii*

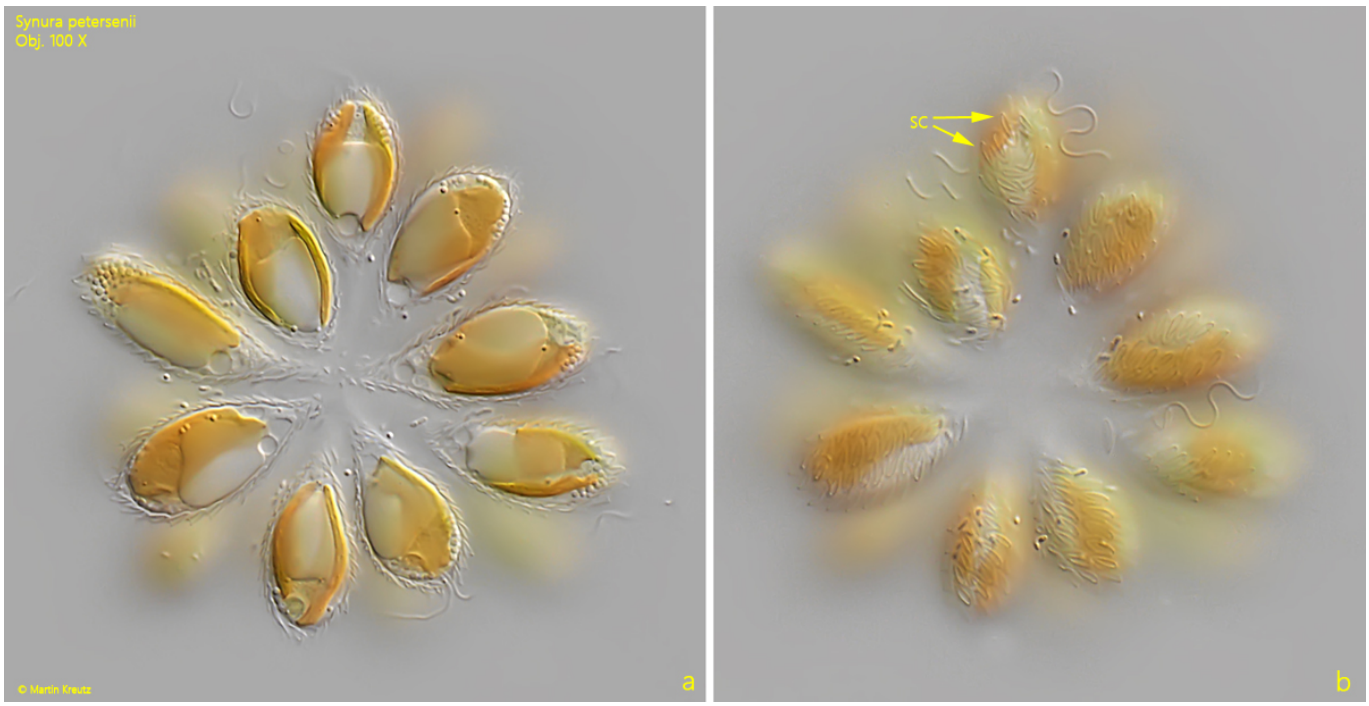


Fig. 1 a-b: *Synura petersenii*. D = 65 µm (of colony). Two focal planes of a slightly squashed colony of about 20 cells. Note the the silical scales (SC) covering the cells. Obj. 100 X.


Synura petersenii
Obj. 100 X
F1
CV
F2
Nu
© Martin Kreutz
a

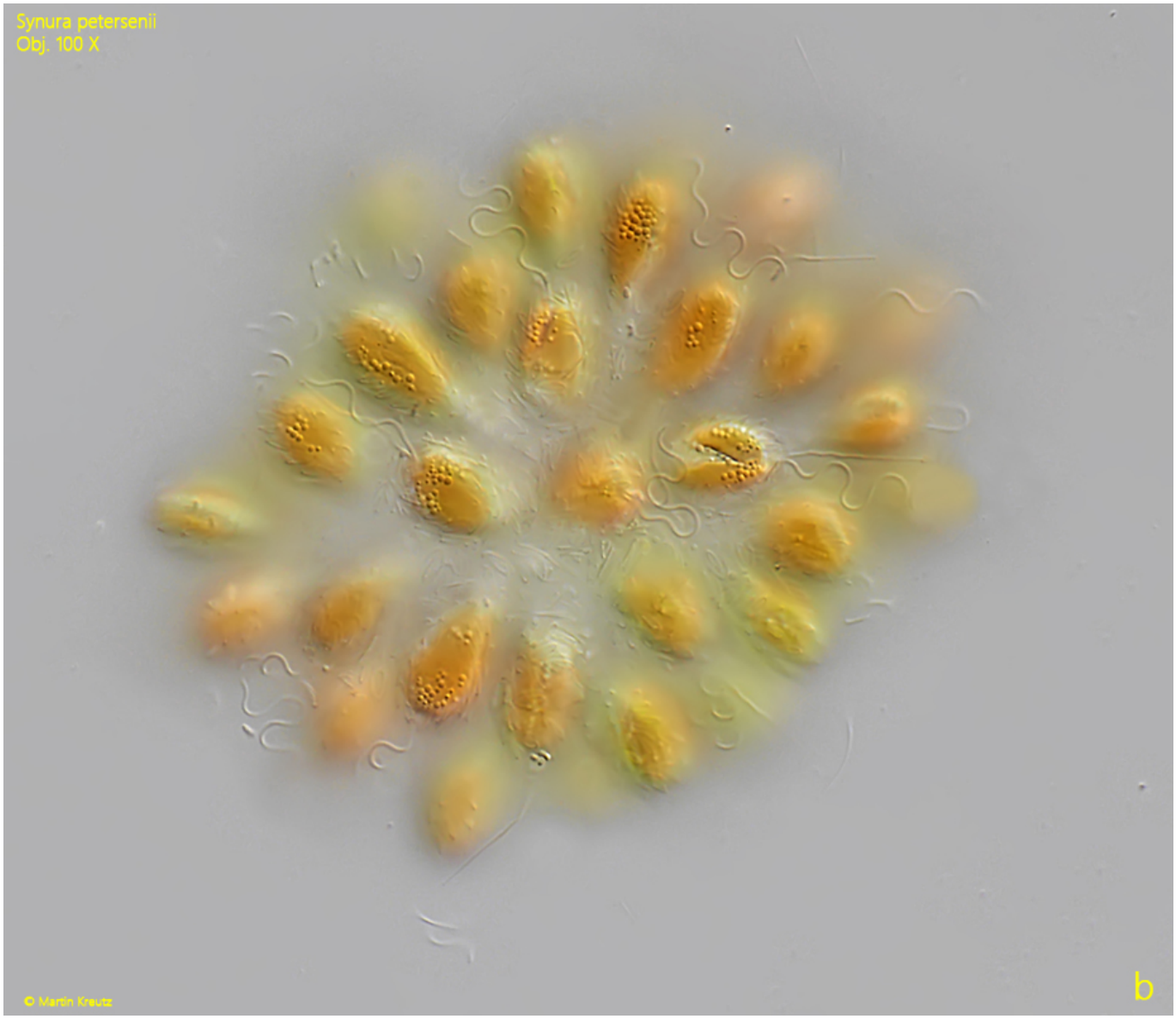


Fig. 2 a-b: *Synura petersenii*. D = 75 µm (of colony). A second, slightly squashed colony of about 30 cells. Note the two flagella (F1, F2) and the posterior contractile vacuole (CV). Nu = nucleus. Obj. 100 X.

Fig. 3: *Synura petersenii*. Focal plane of the silica scales (SC) of a squashed colony. The scales are elliptical with a median ridge. Obj. 100 X.

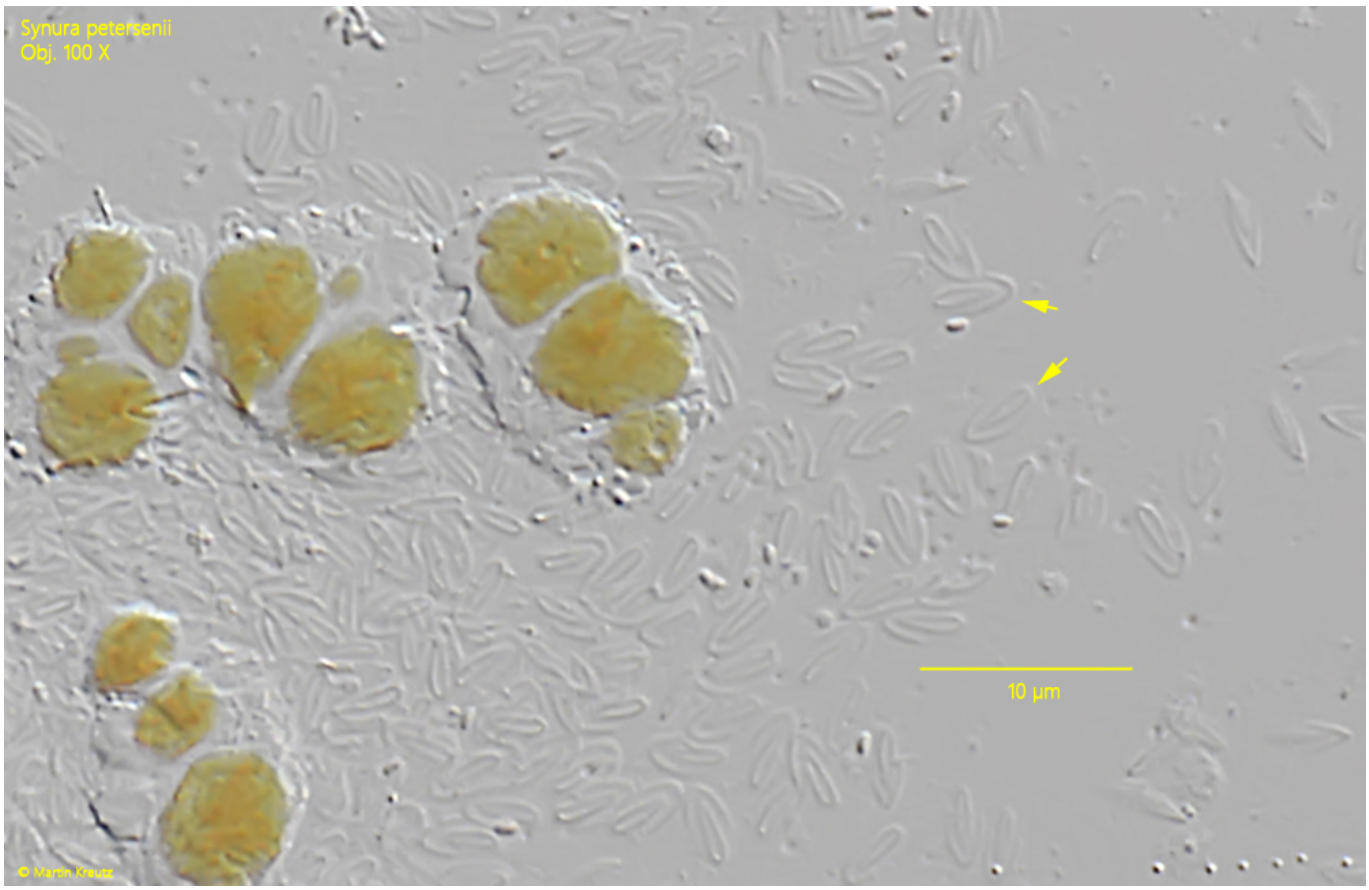


Fig. 4: *Synura petersenii*. The scales (arrows) in detail in a strongly squashed colony. Obj. 100 X.

In February 2022, I found a population of *Synura petersenii* in the Simmelried, which was partially infested by a parasitic fungus. In the algae cells of the colonies I could clearly recognize the high refractive fungus cells (s. figs. 5, 6 and 7). The parasitic cells had a length of 3–6 µm, depending on the stage of development, and a clear central nucleus. I could not follow the entire life cycle of the parasitic fungus.

Fig. 5: *Synura petersenii*. A squashed colony with some cells infested by a parasitic cell (PC). The parasite is probably a fungus cell. Obj. 100 X.

Fig. 6: *Synura petersenii*. A second infested colony with different develoment stages of the parasitic cells (PC). Obj. 100 X.

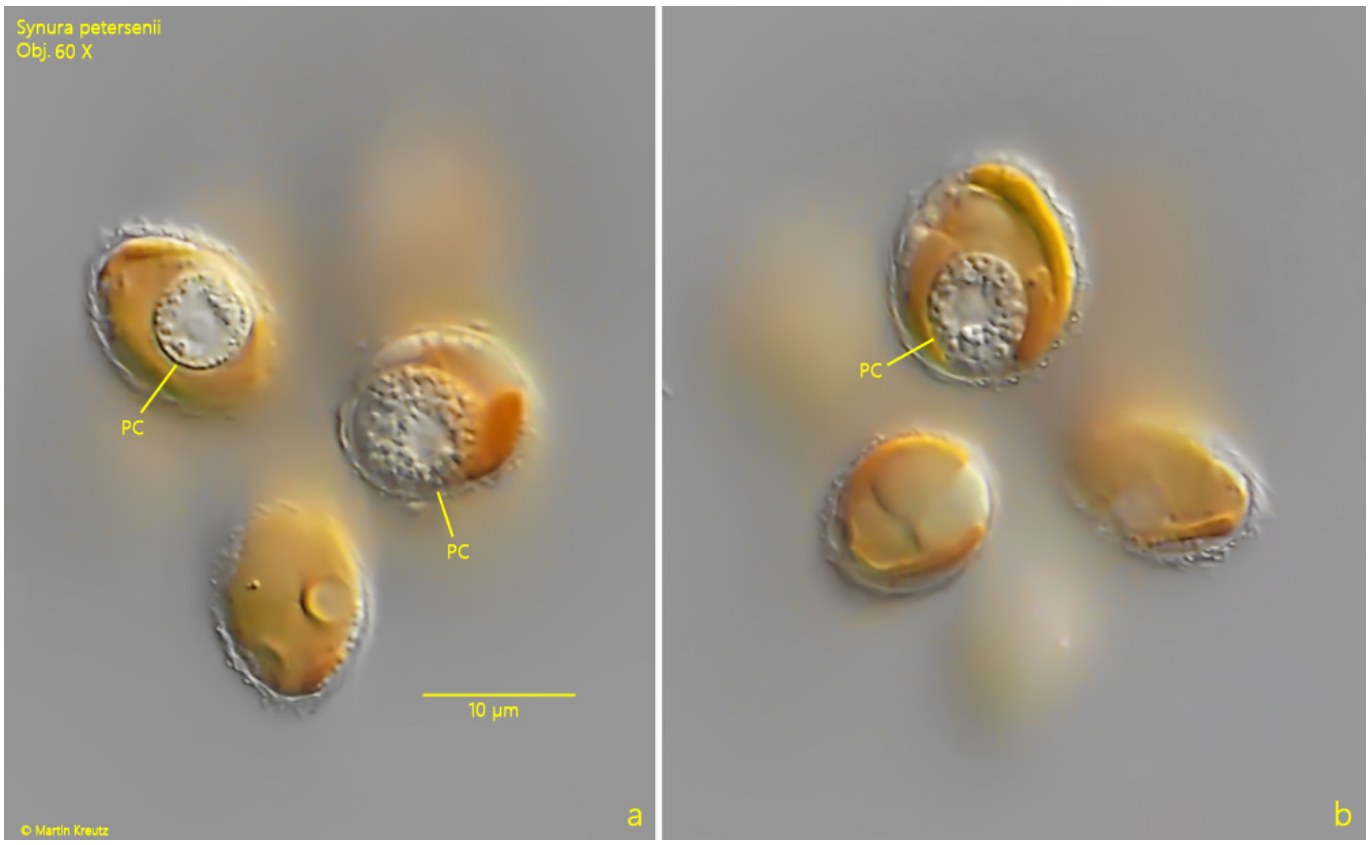


Fig. 7: *Synura petersenii*. Two focal planes of a third infested colony. PC = parasitic cell. Obj. 100 X.