Aphanocapsa parasitica

(Kützing) Komárek & Anagnostidis, 1995

Most likely ID: n.a.

Synonyms: *Microcystis parasitica*, *Microcystis pulverea* f. *parasitica*, *Microcystis parasitica* f. *dinobryonis*

Sampling location: Pond of the convent Hegne

Phylogenetic tree: *Aphanocapsa parasitica*

Diagnosis:

- colonies irregular, mucilage colorless
- spherical cells, diamater 1–2 µm
- no individual mucilaginous envelope of cells
- color pale blue-green
- cytoplasm homogenous
- gas vacuoles absent
- epiphytic or in loricae of *Dinobryon*



Aphanocapsa parasitica

So far I have only found *Aphanocapsa parasitica* in the plankton in the pond of the convent Hegene. Here I found this interesting cyanobacteria in the loricae of *Dinobryon stipitatum*. I have never been able to find this species in my other sampling sites.

Aphanocapsa parasitica occurs both epiphytically on algae and in the posterior part of the loricae of *Dinobryon*. It is difficult to identify the epiphytic form, as the species of *Aphanocapsa* are mainly defined by the size of the spherical cells. However, if *Aphanocapsa parasitica* is present in the loricae of *Dinobryon*, the identification is unambiguous. Whether it is really a parasitic relationship can be doubted, because “infested” colonies of *Dinobryon* do not seem to be affected in

any way. The loricae of *Dinobryon* are probably colonized in order to remain in the upper, light-flooded water layer with the mobile colonies of *Dinobryon*. Metabolic products of the flagellate may also be used.

In my population, the cells of Aphanocapsa parasitica had a diameter of 1.3–1.5 µm. The cytoplasm appeared homogeneous. The blue-greenish color was very pale. I could not detect any mucus formation. In all cases of *Dinobryon* that were colonized with *Aphanocapsa parasitica*, there was a kind of sediment in the pointed ends of the loricae. Sometimes this “sediment” was hyaline, sometimes structured. I could not observe how the cells of *Aphanocapsa parasitica* can pass the flagellate to get in the posterior part of the lorica. However, the process seems to be very effective because almost all *Dinobryon stipitatum* loricae were colonized with *Aphanocapsa parasitica*.

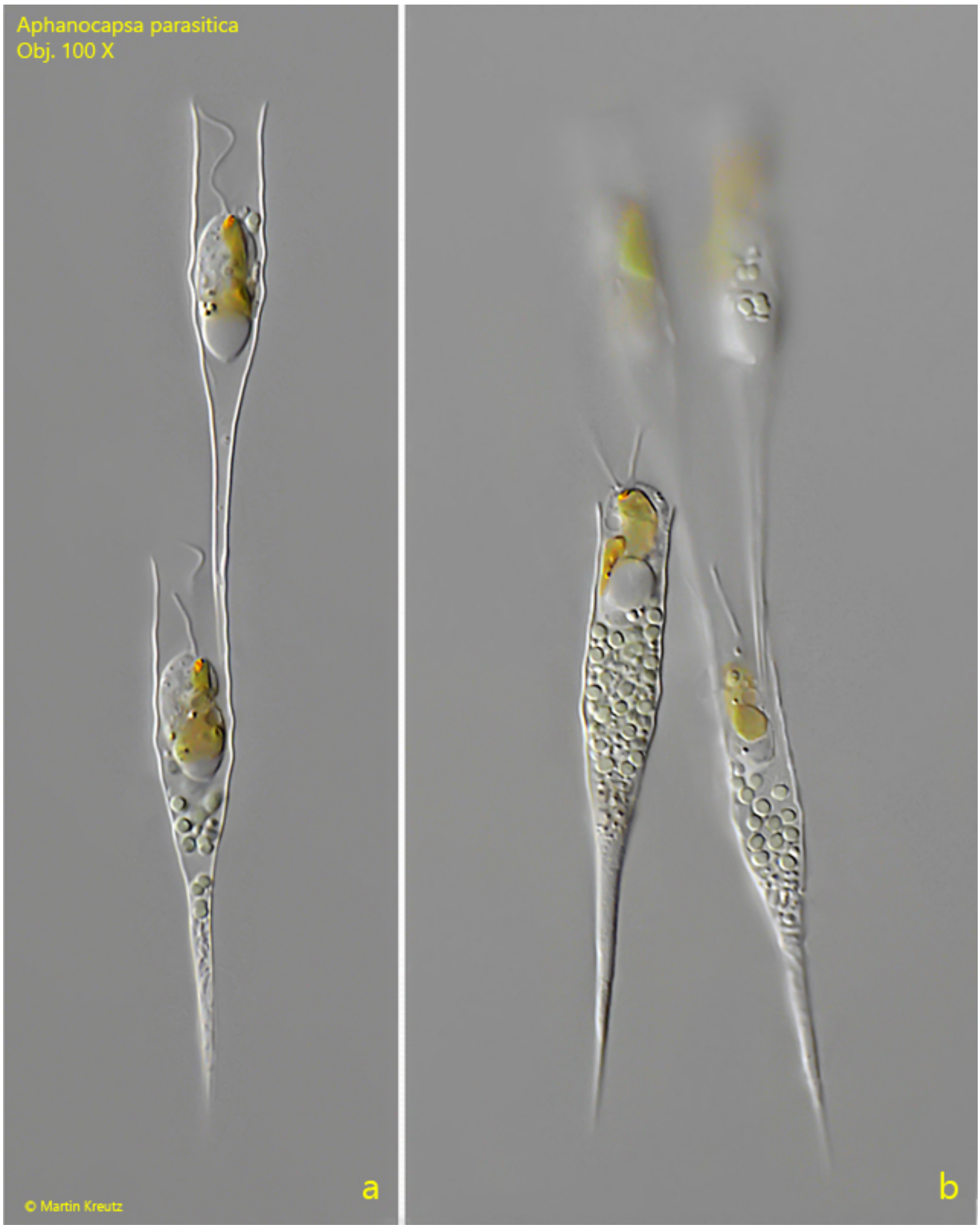


Fig. 1 a-b: *Aphanocapsa parasitica*. D = 1.3–1.5 µm. Some colonies of the spherical cells in the posterior parts of the loricae of *Dinobryon stipitatum*. Obj. 100 X.



Fig. 2 a-b: *Aphanocapsa parasitica*. D = 1.3–1.5 µm. A colony of only few cells in the posterior part of the lorica of *Dinobryon stipitatum* in brightfield illumination (a) and DIC (b). Note the pale blue-green color of the cells. Obj. 100 X.

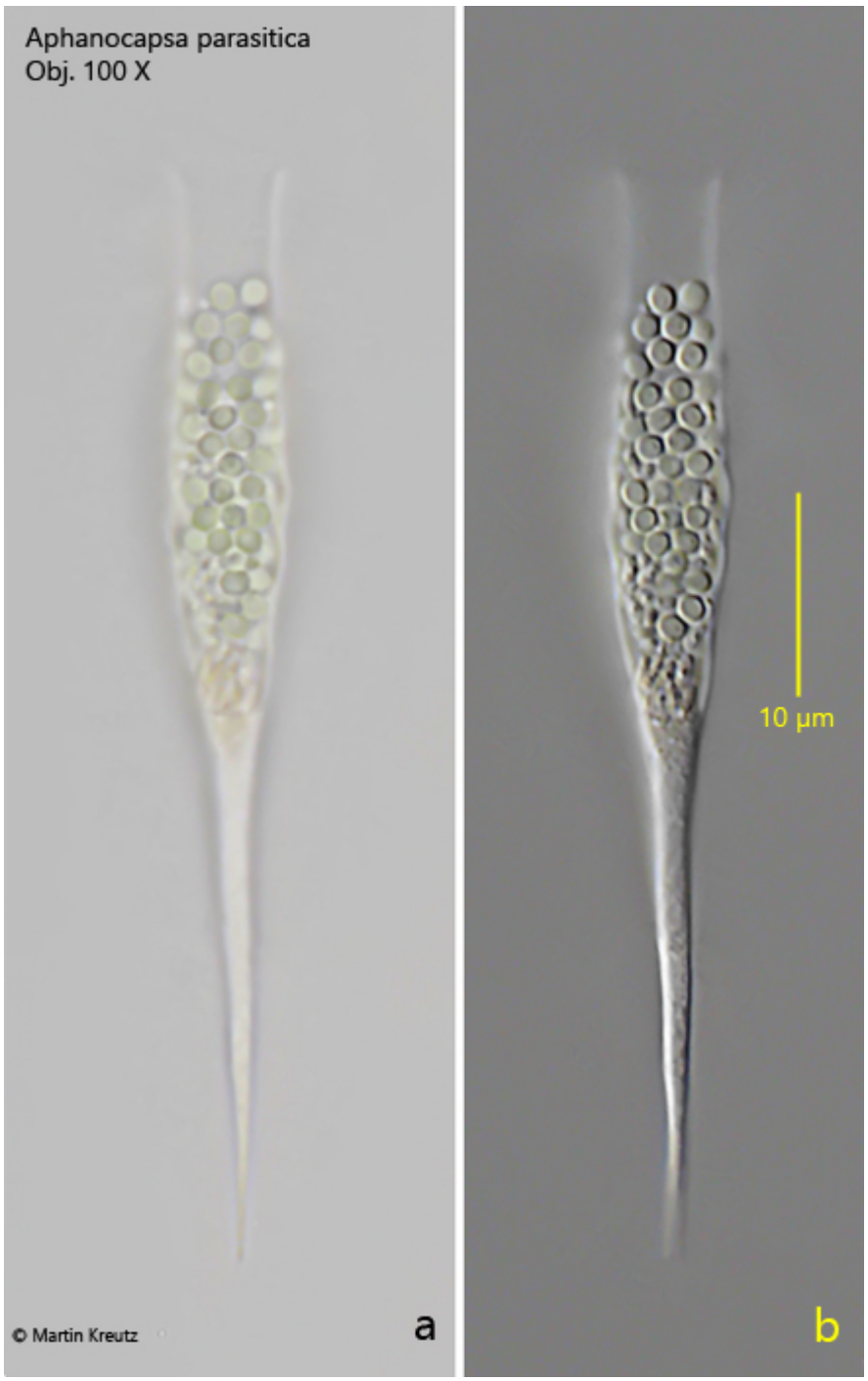


Fig. 3: *Aphanocapsa parasitica*. D = 1.3–1.5 µm. An empty lorica of *Dinopryon stipitatum* in brightfield illumination (a) and DIC (b) with a colony of about 50 cells. Obj. 100 X.