

***Hyalogonium elongatum* Matvienko, 1938**

Most likely ID: n.a.

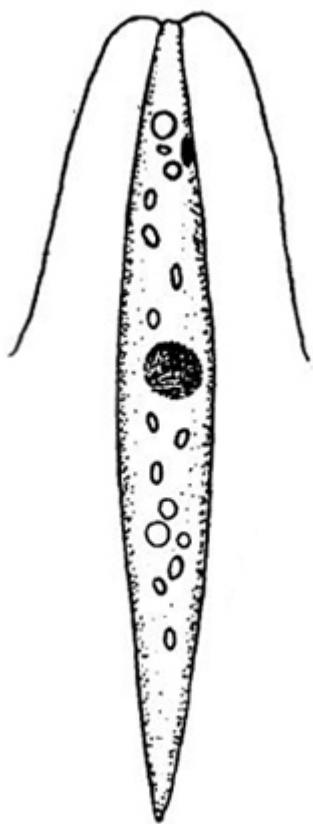
Synonym: n.a.

Sampling location: [Simmelried](#)

Phylogenetic tree: [*Hyalogonium elongatum*](#)

Diagnosis:

- body spindle shaped, colorless
- length 40–65 µm, width 3.5–6 µm
- 2 flagella of equal length
- eyespot present
- 6 contractile vacuoles (3 anterior, 3 posterior)
- nucleus central
- chloroplasts absent
- starch grains mainly located posterior half



after Matvienko

Hyalogonium elongatum

In December 2023 I found *Hyalogonium elongatum* in a ditch overgrown with grass that was under water. The ditch was located north of the [Simmelried](#).

The genus *Hyalogonium* belongs to the volvococcal algae and is a colorless variant of the genus *Chlorogonium*, to which e.g. [*Chlorogonium elegans*](#) belongs. Within the genus *Hyalogonium*, 4 species have been described. The main characteristics for distinguishing these species are the presence of an eyespot, the body shape and the number and position of contractile vacuoles.

The specimens of my population are clearly slender spindle-shaped, about 50–60 µm long and have an eyespot. In addition, there are contractile vacuoles both in front of and behind the nucleus. These characteristics apply to *Hyalogonium elongatum* and *Hyalogonium klebsii*. I was able to observe at least 5 contractile vacuoles (s. figs 3 a-b and 4). Therefore, it must be *Hyalogonium elongatum*, as *Hyalogonium klebsii* has only 2 contractile vacuoles.

Reproduction takes place within the mother cell. After dividing three times, 8

daughter cells are formed through oblique division. As they grow, the cell wall of the mother cell finally ruptures and the daughter cells are released. I was able to observe various stages of this reproduction process (s. fig. 5 a-b).



Fig. 1 a-c: *Hyalomonium elongatum*. L = 49 μm . A freely swimming specimen. CV = contractile vacuole, ES = eyespot, F = flagella, SG = starch grains. Obj. 100 X.

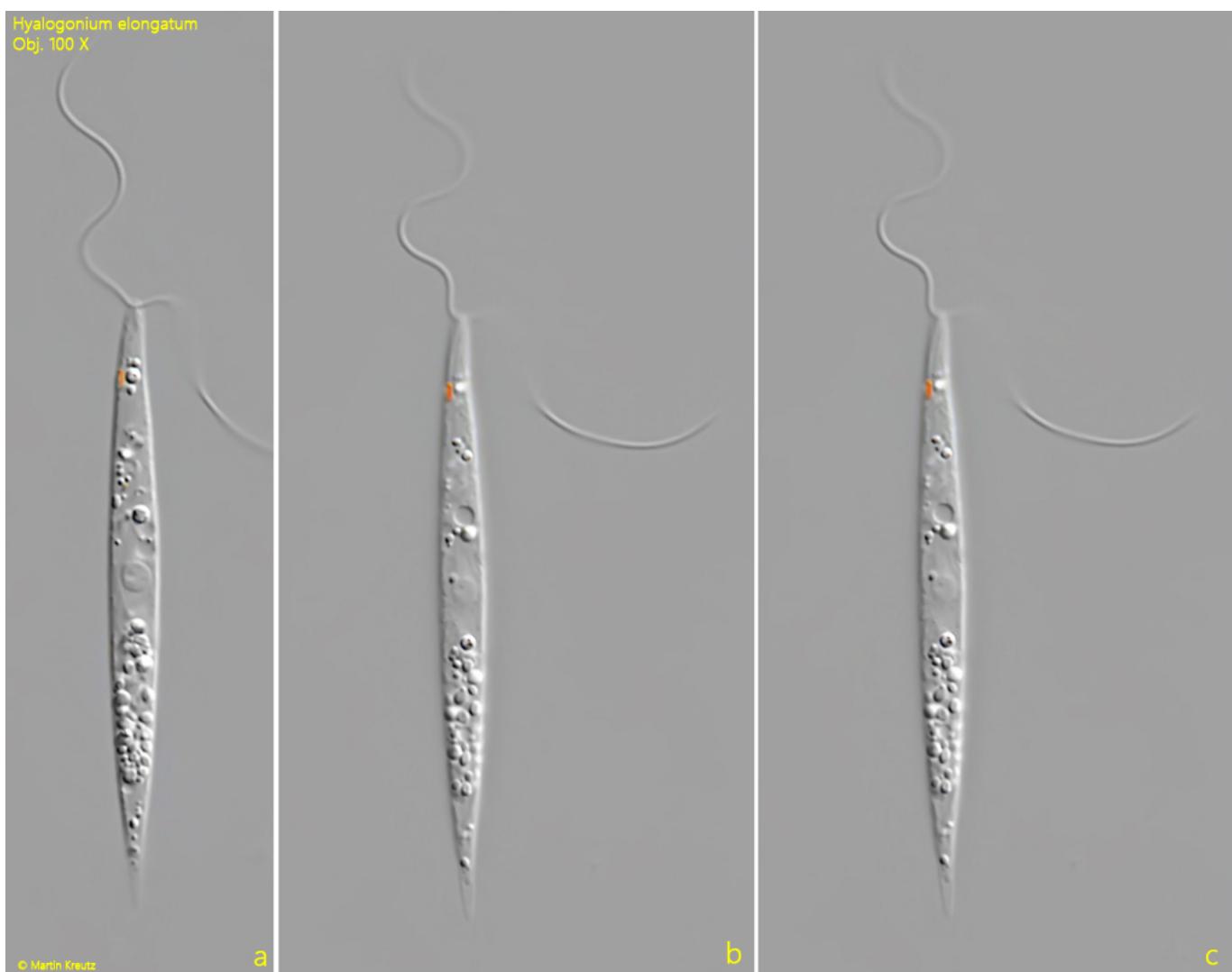


Fig. 2 a-c: *Hyalogonium elongatum*. L = 53 μ m. A second freely swimming specimen. Obj. 100 X.

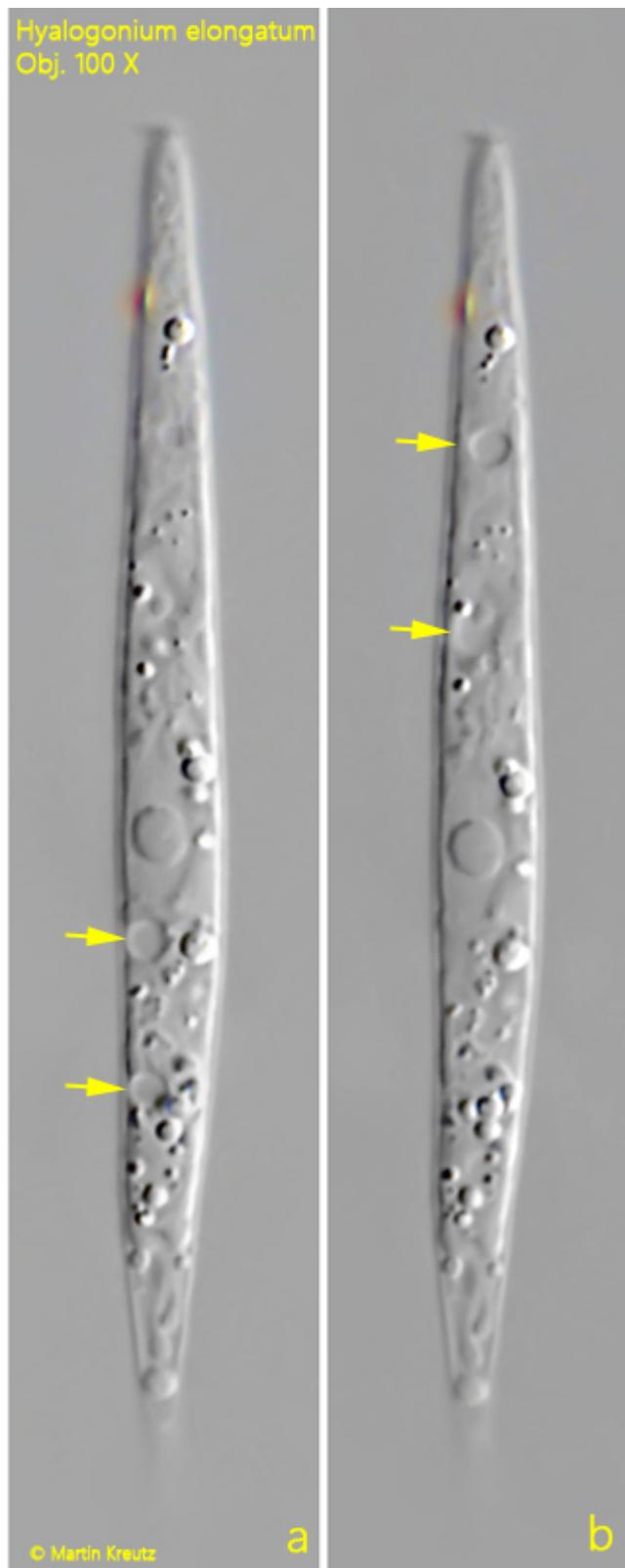


Fig. 3 a-b: *Hyalogonium elongatum*. L = 58 μ m. The distribution of the contractile vacuoles (arrows) anteriorly to the nucleus and posteriorly. In this specimen 4 contractile vacuoles were visible. Obj. 100 X.

Hyalogonium elongatum
Obj. 100 X



© Martin Kreutz

Fig. 4: *Hyalogonium elongatum*. L = 72 μ m. In this specimen 5 contractile vacuoles (arrows) are visible. Obj. 100 X.

Hyalogonium elongatum
Obj. 100 X

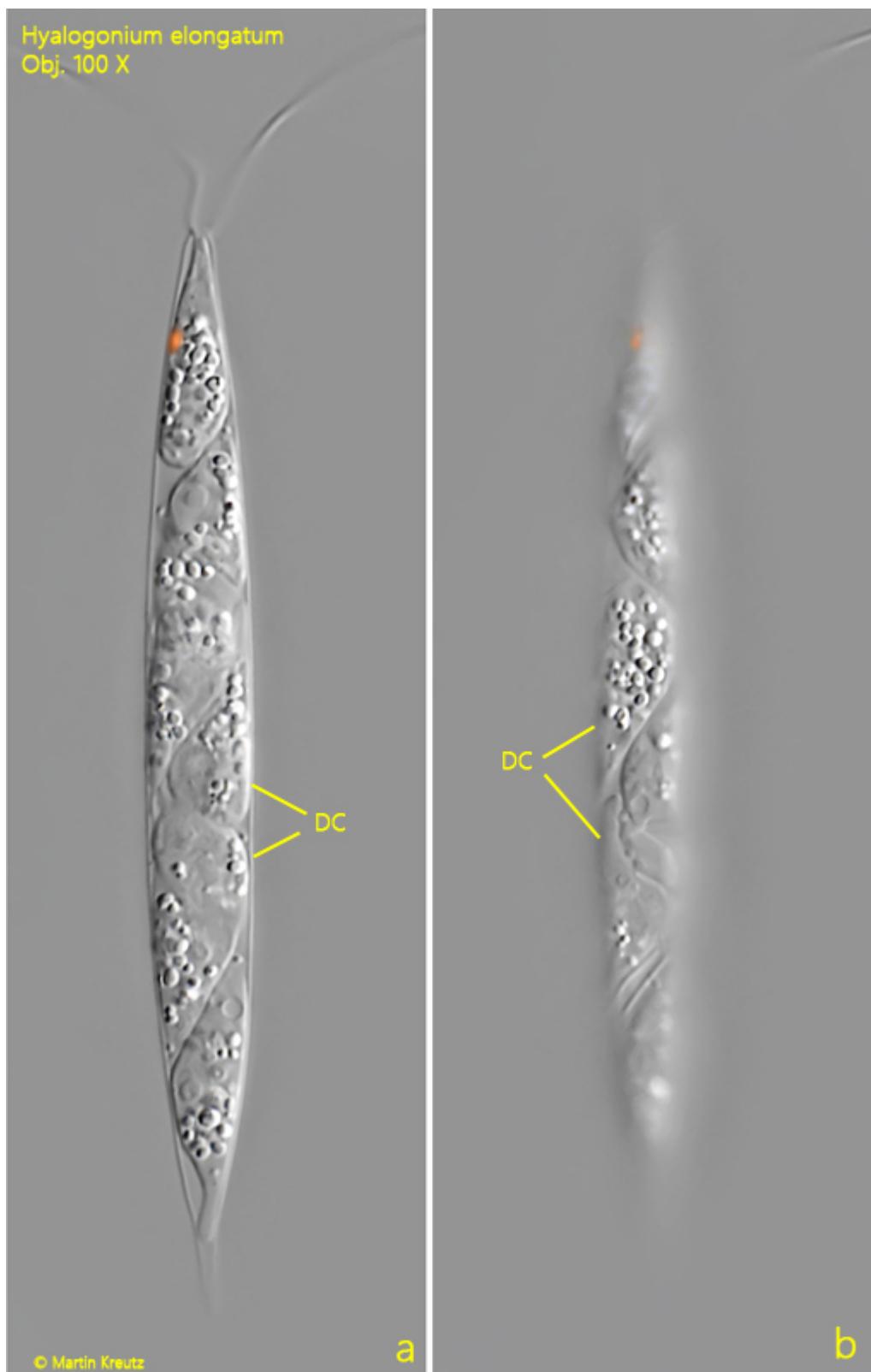


Fig. 5 a-b: *Hyalogonium elongatum*. L = 77 μ m. Two focal planes of a specimen during the formation of daughter cells (DC). The daughter cells are released after the cell wall of the mother cell is ruptured. Obj. 100 X.