Trachelomonas hystrix Teiling, 1916

Most likely ID: n.a.

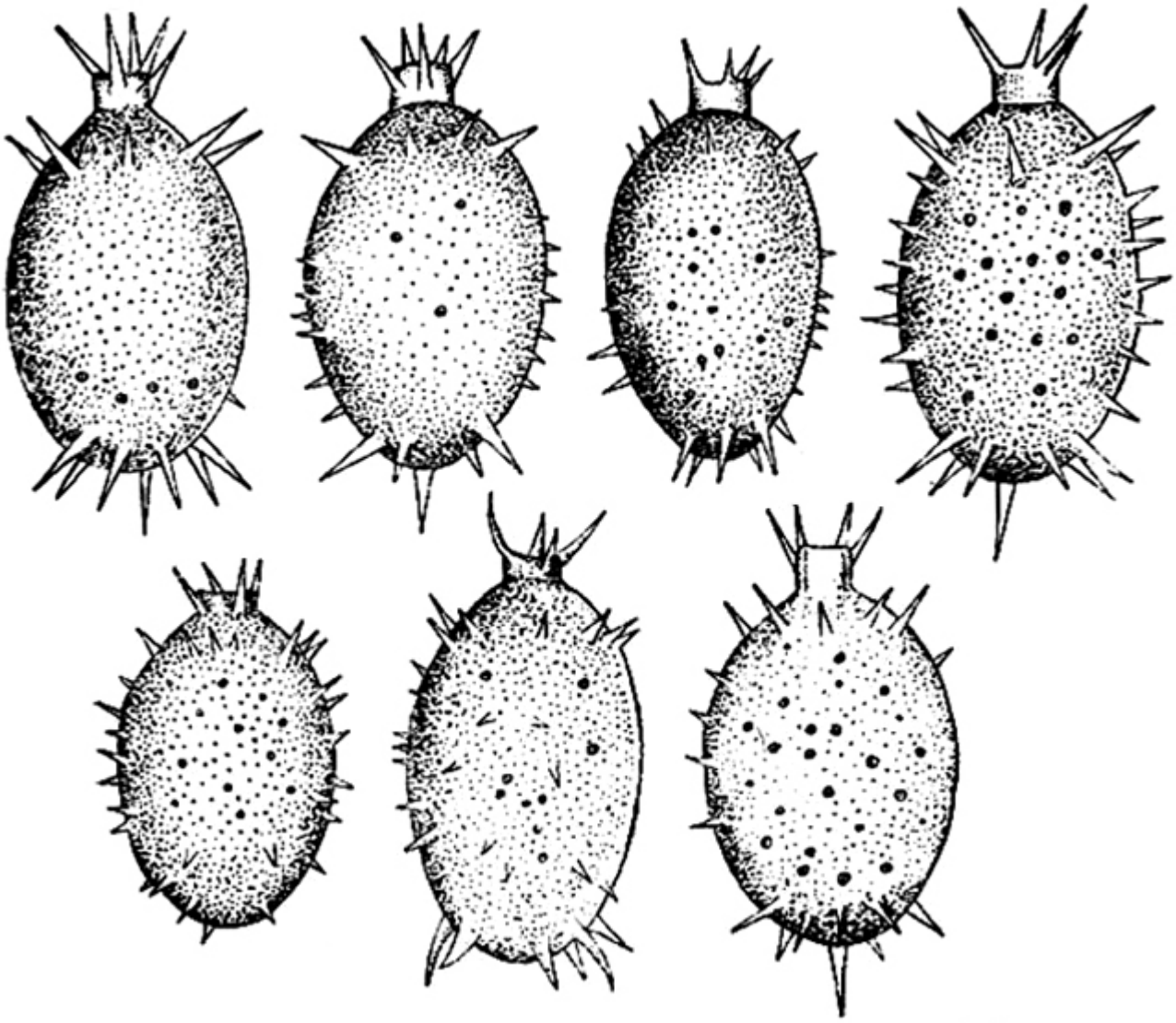
Synonym: n.a.

Sampling location: Simmelried

Phylogenetic tree: *Trachelomonas hystrix*

Diagnosis:

- lorica regularly ovoid, posteriorly rounded
- length 35–43 µm, width 20–24 µm
- with cylindrical collar with 3–4 long spines
- lorica brownish or orange, colorless in young specimens
- lorica with long spine at posterior end and towards the collar
- equatorial zone with short spines
- cell with 8–10 disc-shaped chloroplasts without pyrenoid
- one eyespot
- flagellum 1–2 times of body length
- pellicle with striation running in counterclockwise direction



Trachelomonas hystrix

Trachelomonas hystrix is a very constant species in the Simmelried. I have not yet been able to find *Trachelomonas hystrix* in my other sampling sites.

Trachelomonas hystrix is very conspicuous due to its spiny lorica. These can be divided into four groups:

– the spines on the margin of the collar
– the elongated spines in the shoulder area below the collar
– the short spines in the equatorial zone
– the long spines at the posterior end

The lorica itself is mostly brownish or orange in color due to the inclusion of iron or manganese salts. Only young specimens are initially almost colorless. Only in such specimens can the protoplast with the disc-shaped chloroplasts and the striation of the pellicle be examined (s. fig. 4 a-b and 6 a-c). In my population the specimens had 20–30 chloroplasts and not only 8–10 as described by earlier authors. I could not observe any pyrenoids. The flagellum of my specimens was also always shorter, at most as long as the body.



Fig. 1: *Trachelomonas hystrix*. L = 39–41 µm (from margin of collar to rounded base of lorica). Some freely swimming specimen. Obj. 40 X.



Fig. 2 a-d: *Trachelomonas hystrix*. L = 42 µm (from margin of collar to rounded base of lorica). Different focal planes of a freely swimming specimen. Obj. 60 X.



Fig. 3: *Trachelomonas hystrix*. L = 41 µm (from margin of collar to rounded base of lorica). A freely swimming specimen in detail. Note the spiny collar and the elongated spines at the posterior end (PS) while the spine in the equatorial zone are shorter. F = flagellum. Obj. 100 X.

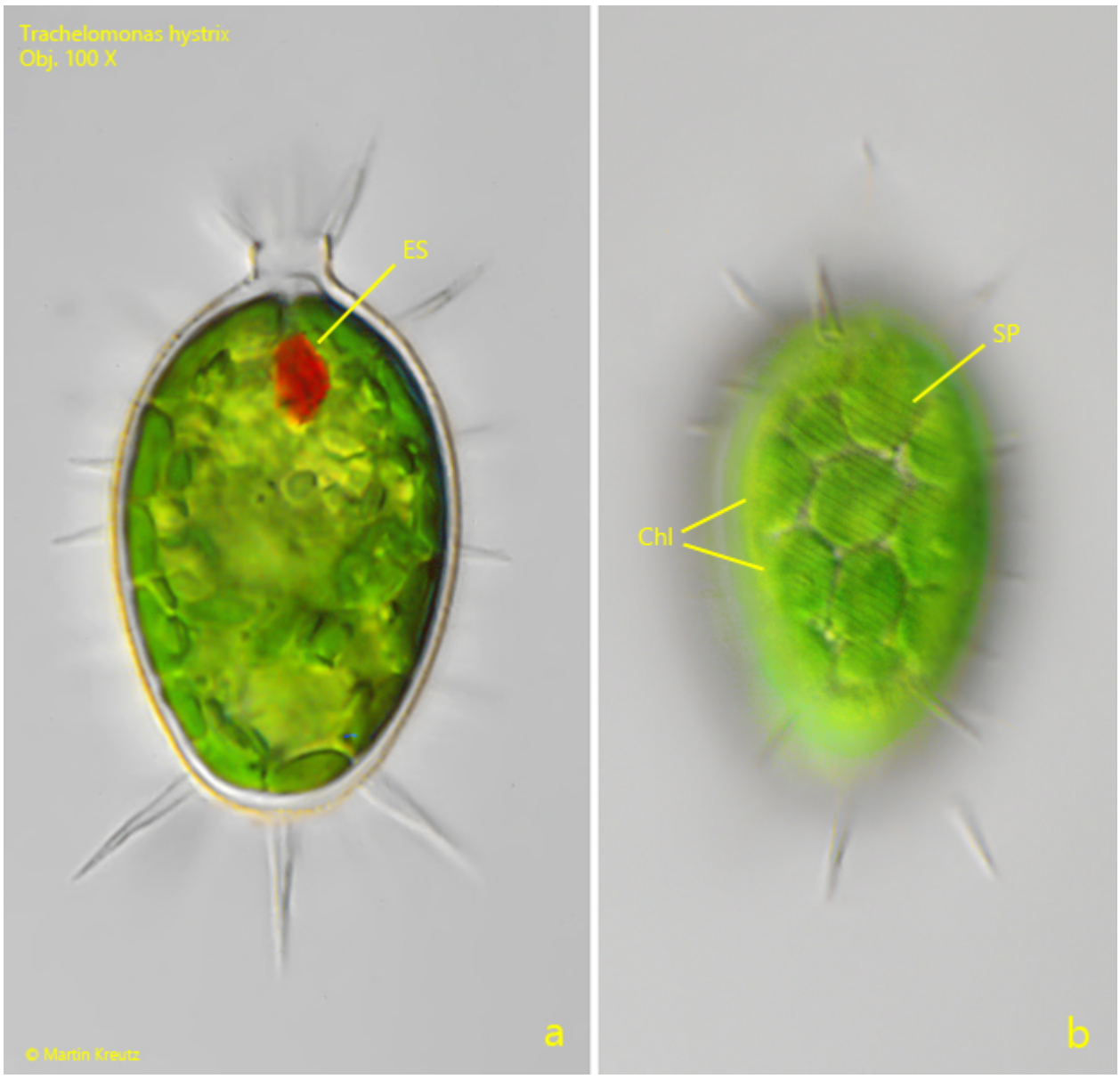


Fig. 4 a-b: *Trachelomonas hystrix*. L = 38 µm (from margin of collar to rounded base of lorica). Two focal planes of a young, transparent specimen. Note the disc-shaped chloroplasts (Chl) and the striation of the pellicle (SP) running in counterclockwise direction. ES = eyespot. Obj. 100 X.



Fig. 5 a-b: *Trachelomonas hystrix*. L = 47 µm (from margin of collar to rounded base of lorica). Two focal planes of a specimen in brightfield illumination. Obj. 100 X.



Fig. 6 a-c: *Trachelomonas hystrix*. L = 57 µm (from margin of collar to rounded base of lorica). A specimen with shorter spines and clearly visible chloroplasts (Chl). Obj. 100 X.