Vacuolaria virescens Cienkowski 1870

Most likely ID: n.a.

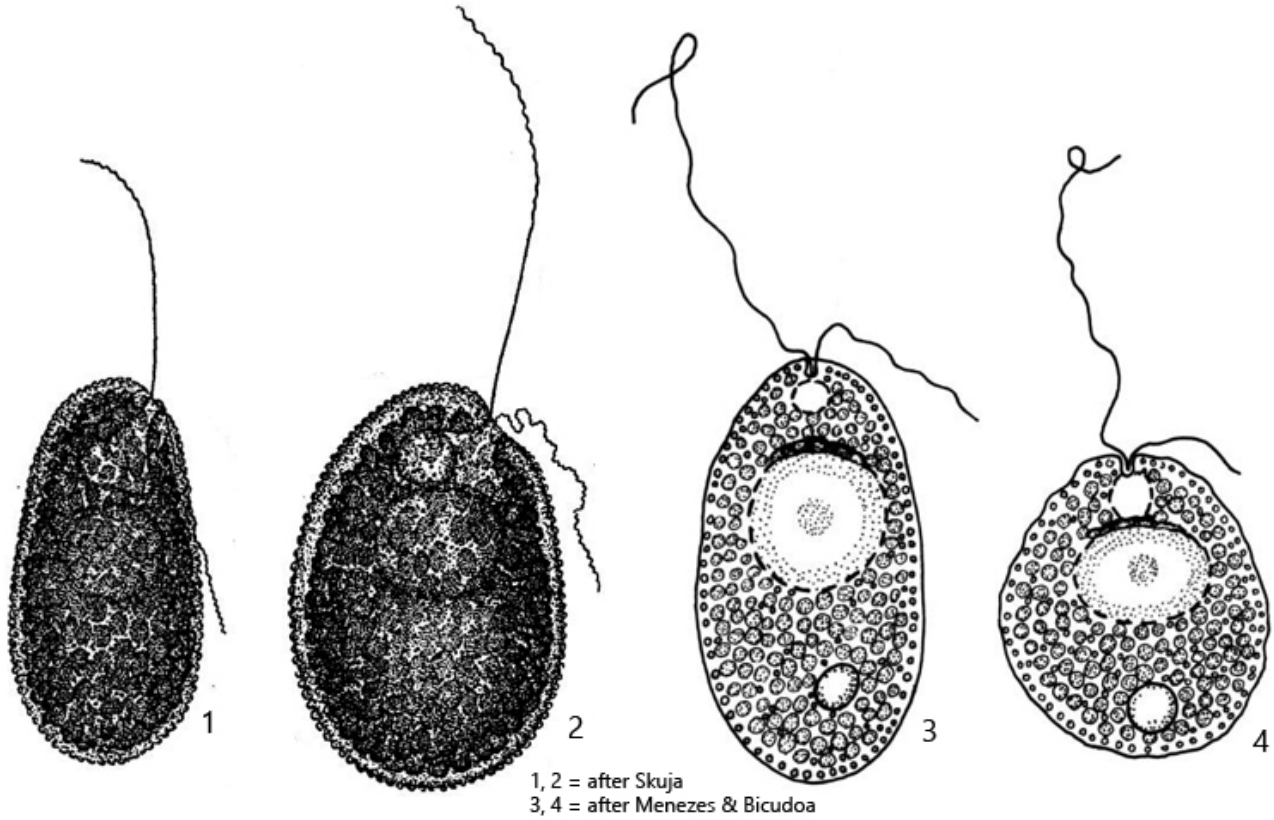
Synonym: n.a.

Sampling location: Ulmisried, Simmelried

Phylogenetic tree: *Vacuolaria viresens*

Diagnosis:

- body ovoid to elliptical, dorso-ventrally flattened, deformable
- length 37–138 µm
- numerous, disc-shaped chloroplasts, yellowish gree to bright green
- sometimes a lipid droplet in posterior part
- contractile vacuole apically
- layer of spherical mucocysts below pellicle
- elliptical nucleus below contractile vacuoles
- one leading flagellum and one trailing flagellum of body length
- eyespot absent
- extrusomes absent



Vacuolaria virescens

I find *Vacuolaria virescens* very common, especially in spring. Then it can also sometimes come to mass developments.

The cells are usually ovoid in shape, as shown in fig. 1 a-c. However, an elongated swim shape can also be adopted (s. fig. 2 a-c and fig. 3 a-d). The highly refractile, spherical mucocysts (s. fig. 2 b) react very sensitively to the coverslip and burst quickly.

Vacuolaria virescens can be confused with *Vacuolaria viridis* and *Goniostomum semen*. However, *Vacuolaria viridis* is smaller (usually less than 40 µm) with a heart-shaped cell form while *Goniostomum semen* has clearly visible extrusomes.

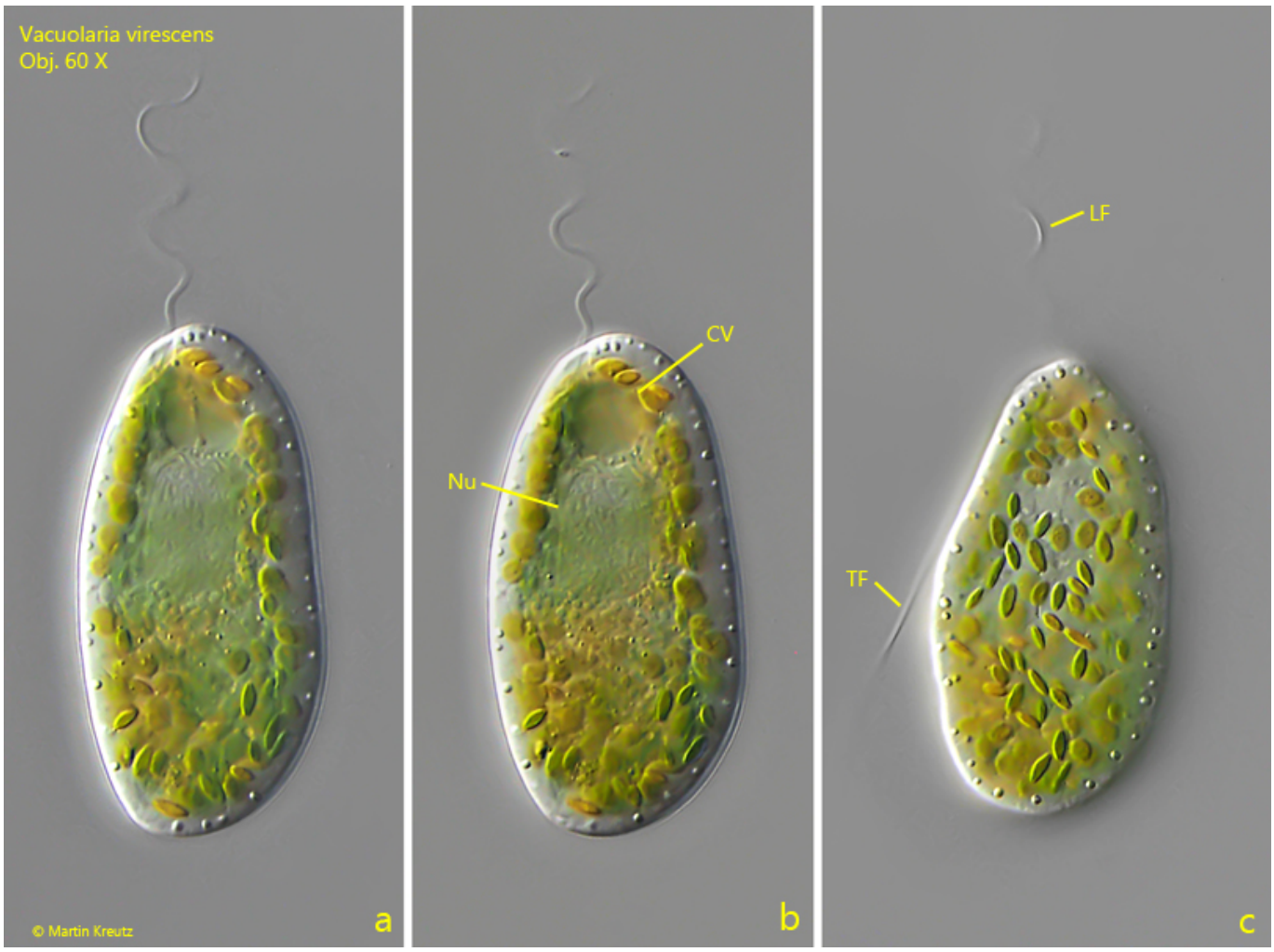


Fig. 1 a-c: *Vacuolaria virescens*. L = 61 µm. A freely swimming specimen. Note the leading flagellum (LF) and the trailing flagellum (TF). CV = contractile vacuole, Nu = nucleus. Obj. 60 X.

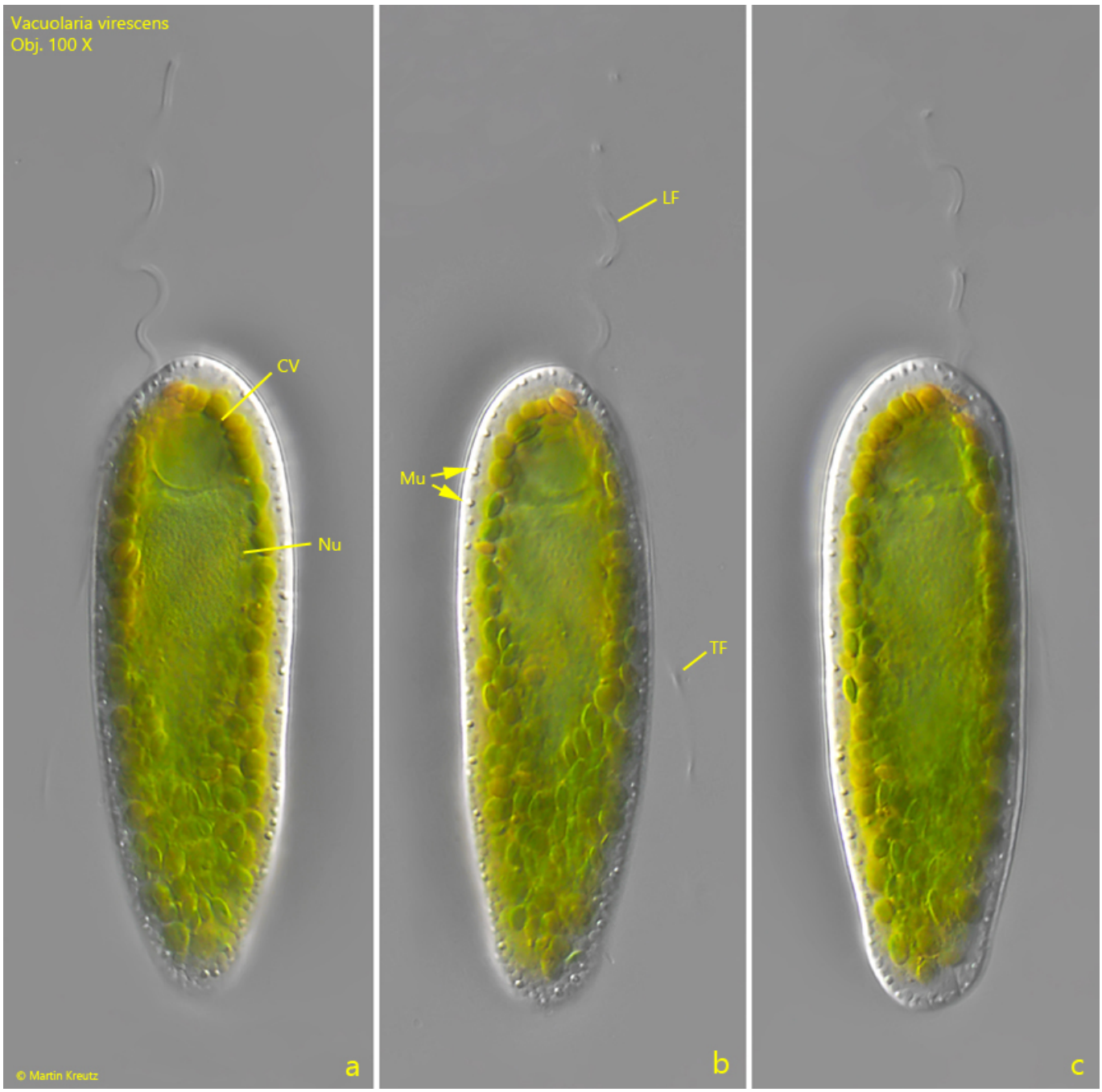


Fig. 2 a-c: *Vacuolaria virescens*. L = 80 µm. An elongated, freely swimming specimen. Note the layer of spherical mucocysts (Mu) beneaths the pellicle. CV = contractile vacuole, LF = leading flagellum, Nu = nucleus, TF = trailing flagellum. Obj. 100 X.

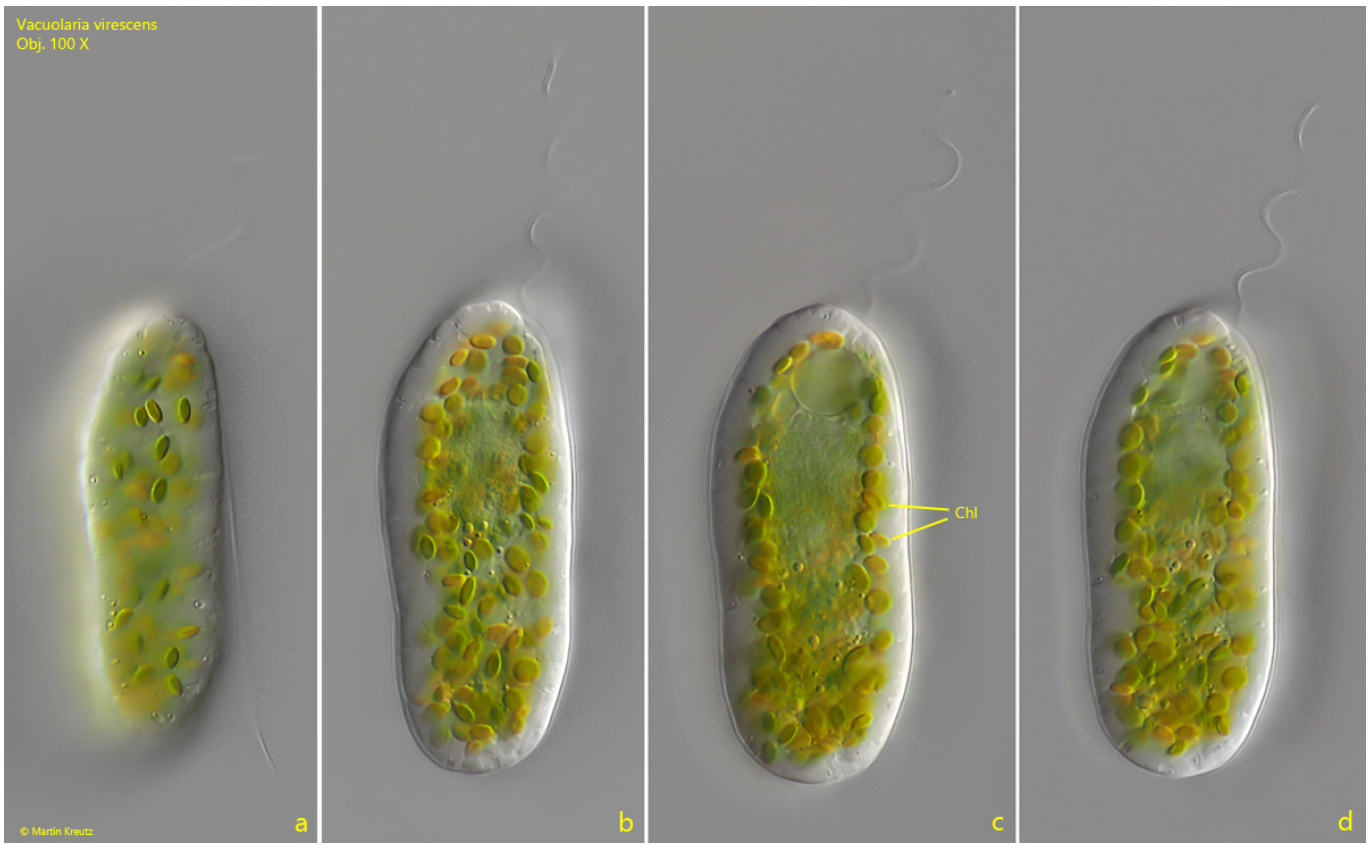


Fig. 3 a-d: *Vacuolaria virescens*. L = 63 µm. A third, freely swimming specimen. Note the numerous, disc-shaped chloroplasts (Chl). Obj. 100 X.

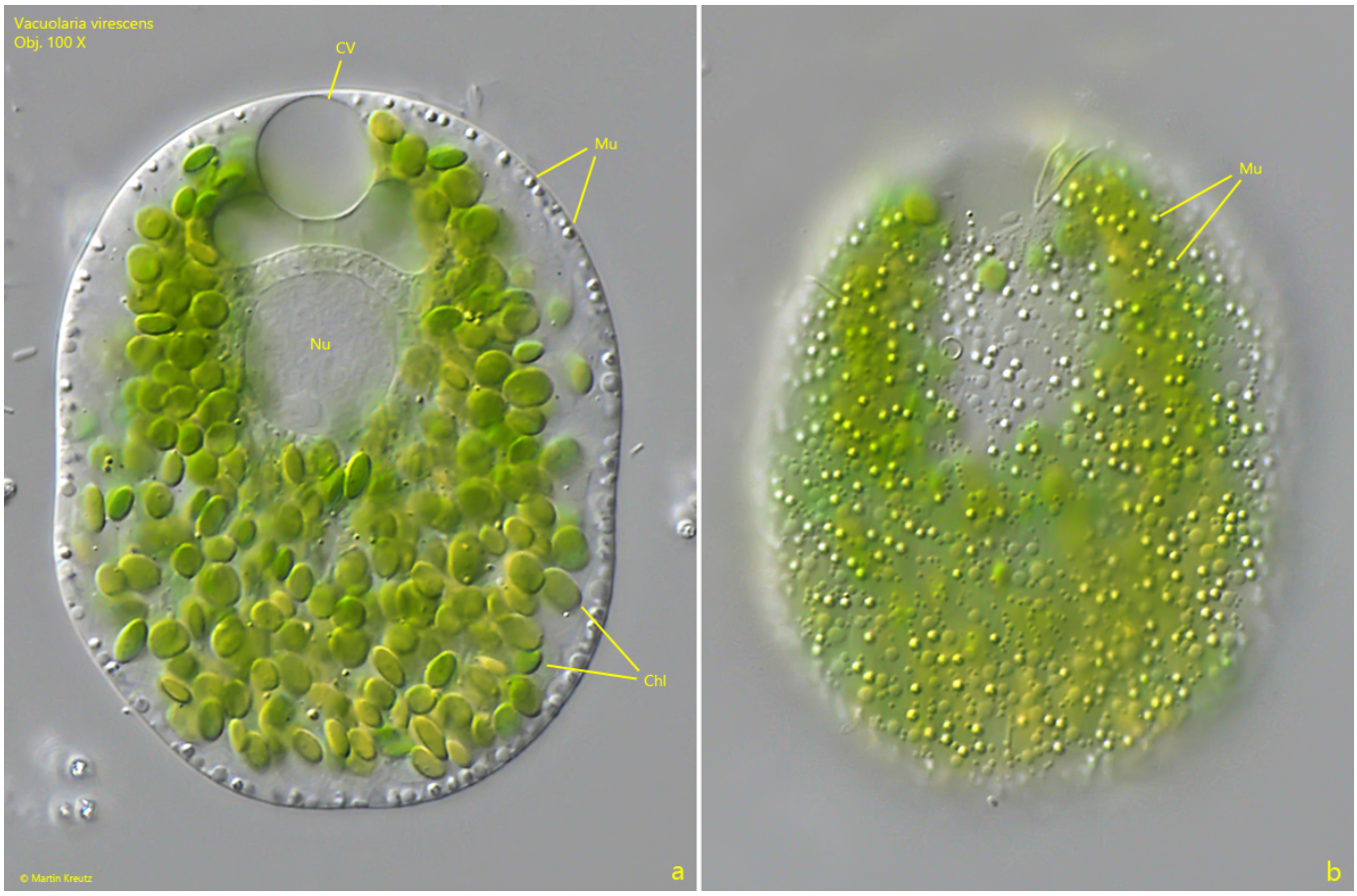


Fig. 4 a-b: *Vacuolaria virescens*. Two focal planes of a squashed specimen. Note the highly refractive mucocysts (Mu) beneath the pellicle. The disc-shaped (Chl) have a diameter of 3.5–4.0 µm. CV = contractile vacuole, Nu = nucleus. Obj. 100 X.