Lepochromulina bursa Scherffel, 1911

Most likely ID: n.a.

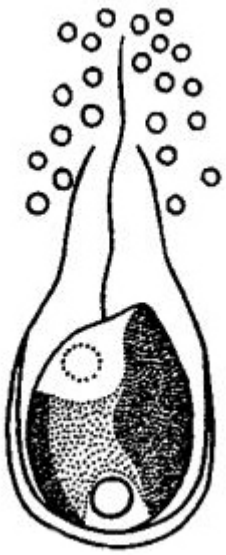
Synonym: n.a.

Sampling location: Simmelried

Phylogenetic tree: *Lepochromulina bursa*

Diagnosis:

- lorica flask-shaped, with broadly rounded base, stalk absent
- base of lorica often thickened and irregular
- length of lorica about 10 µm
- cell spherical, diameter about 5 µm, attached to bottom of lorica
- one chloroplast
- one flagellum of body length
- one contractile vacuole located apically
- spherical nucleus near posterior end
- aperture of lorica with a distinct cloud of spherical granules



after Fott

Lepochromulina bursa

Lepochromulina bursa is a very small Chrysophyceae, which I rarely find in the Simmelried. I usually find the specimens growing on detritus flakes. So far I have not been able to find any specimens on algal filaments.

The cells are at most 5 µm in size, spherical and with one chloroplast. They build an approximately 10 µm long, flask-shaped case, which always has a cloud of spherical granules around its opening. If these granules are absent, then it is the similar species *Lepochromulina calyx*, which also has a stalk.

It was assumed by Fott (1963) that the grains around the aperture of the lorica were possibly symbiotic bacteria, as they are always present in *Lepochromulina bursa*. However, it was later shown by Hibbert (1983) that these granules are formed intracellularly and then excreted. Similar bodies are also found in *Spongomonas spec.* or *Rhipidodendron huxleyi*. At high magnification I could see that these approximately 1 µm large granules are obviously hollow (s. fig. 2 b). Why they are deposited around the aperture of the lorica opening is not known. Since they are all held in position, there is probably also a gelatinous sheath, but this cannot be seen in the DIC.

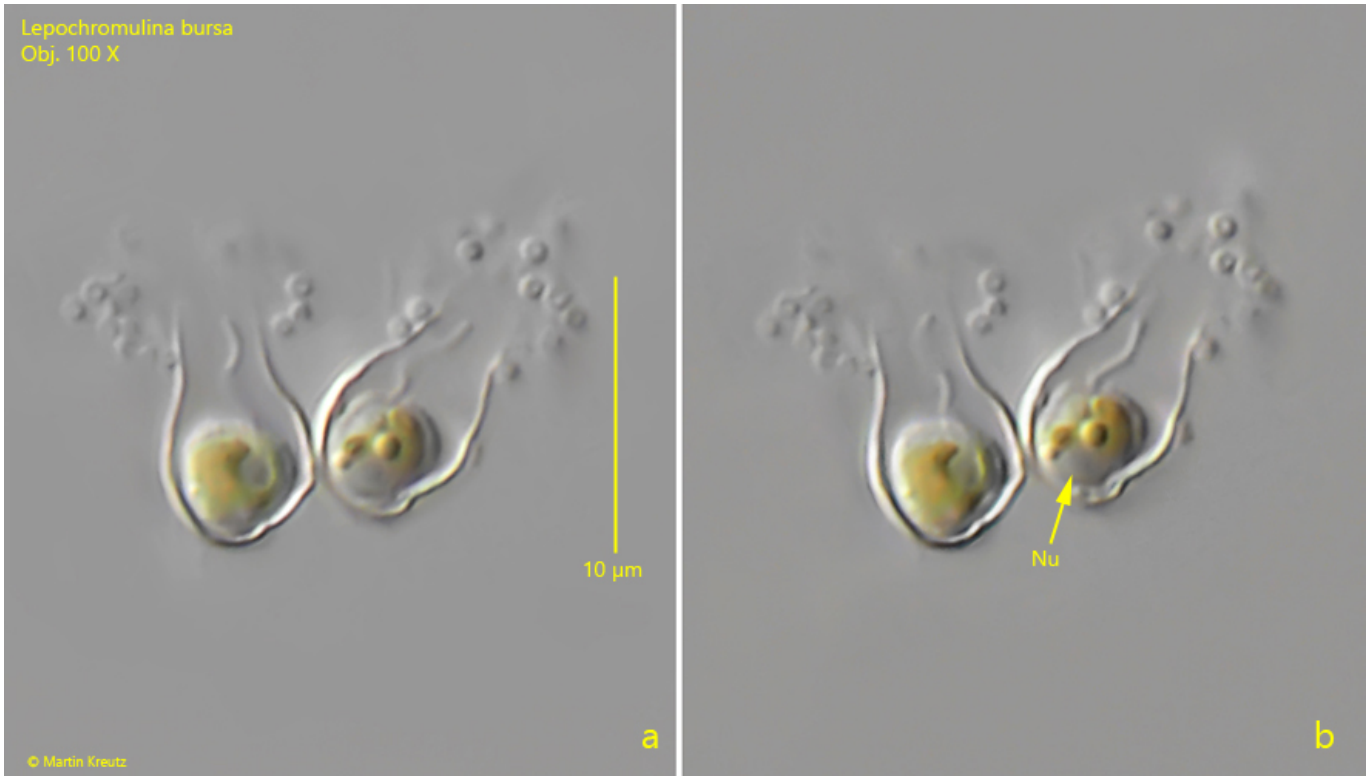


Fig. 1 a-b: *Lepochromulina bursa*. L = 8.6–9.1 µm (of lorica). Slightly different focal planes of two specimens. Note the cloud of spherical granules around the apertures

of the loricae. Nu = nucleus. Obj. 100 X.

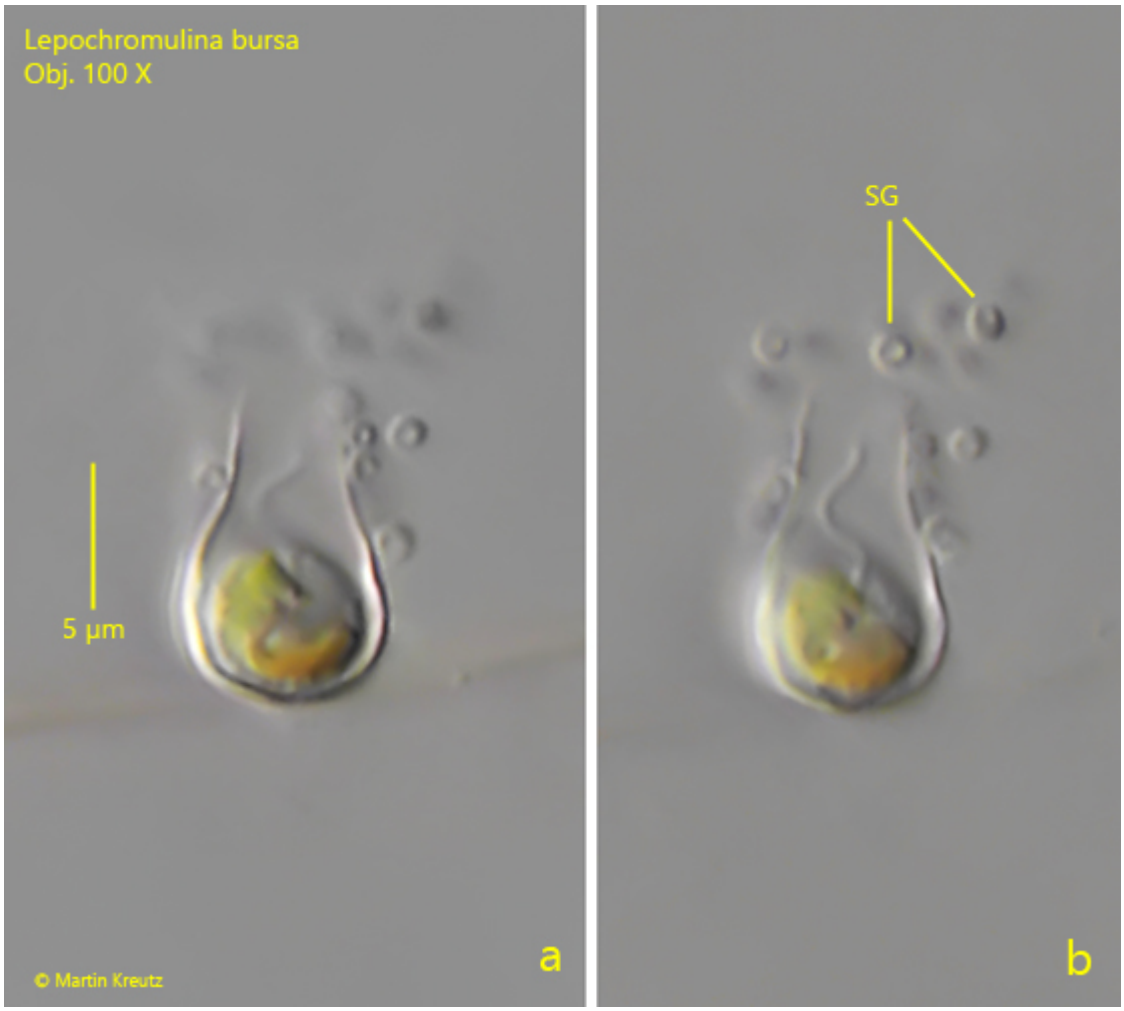


Fig. 2 a-b: *Lepochromulina bursa*. L = 9.5 µm (of lorica). Two focal planes of a specimen. The spherical granules (SG) seems to be hollow globules with a diamter of about 1 µm. Nu = nucleus. Obj. 100 X.

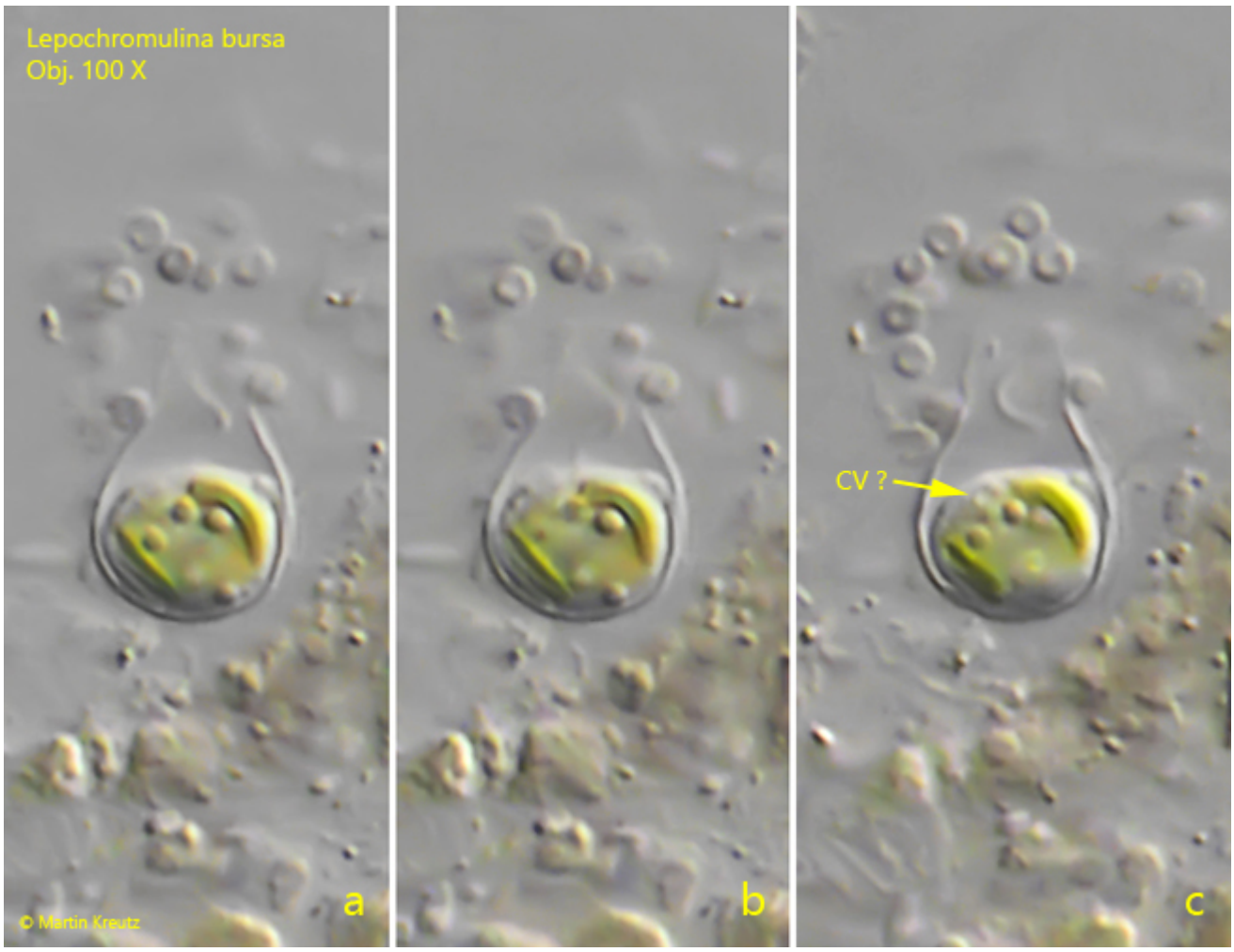


Fig. 3 a-c: *Lepochromulina bursa*. L = 9.2 µm (of lorica). A third specimen attached to a detritus flake. CV ?= probably the contractile vacuole. Obj. 100 X.