Lepocinclis fusca

(Klebs) Kosmala & Zakryś, 2005

Most likely ID: n.a.

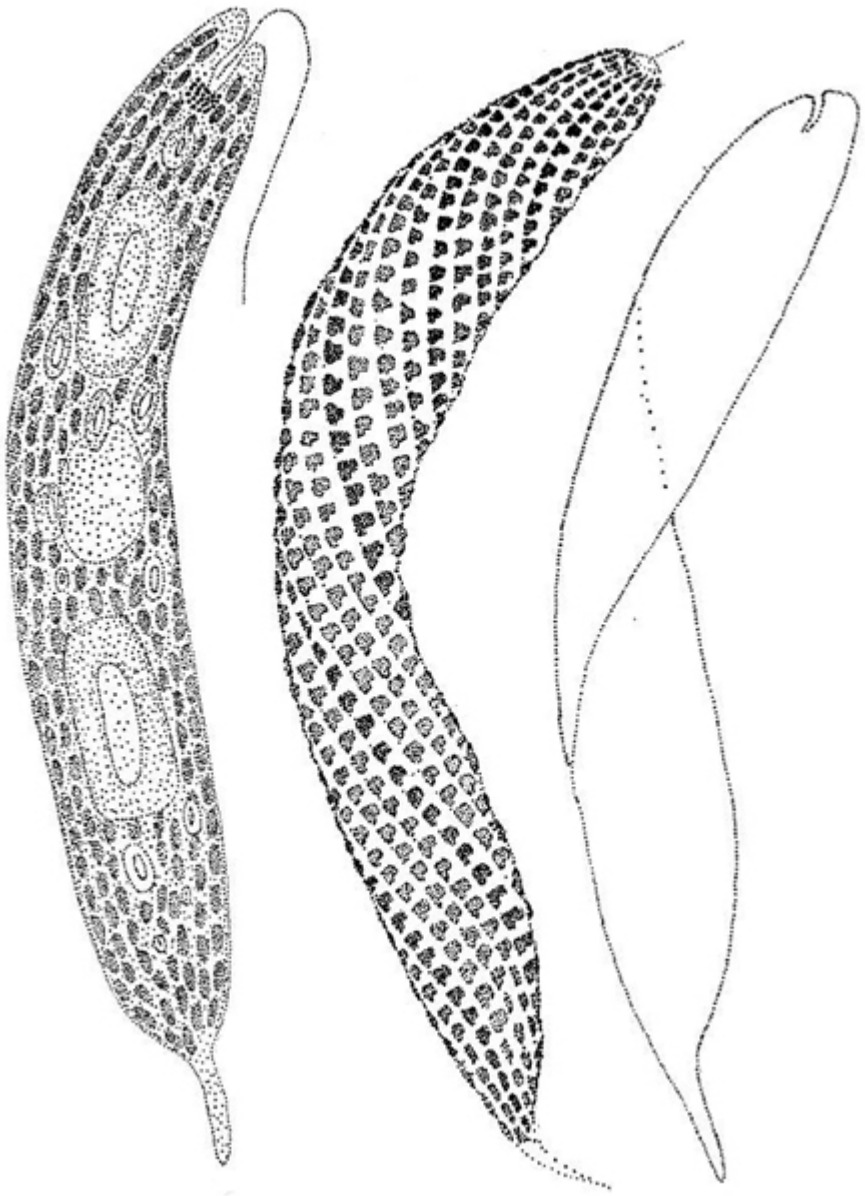
Synonym: *Euglena fusca*

Sampling location: Simmelried

Phylogenetic tree: *Lepocinclis fusca*

Diagnosis:

- body long with parallel sides, sharp tailpiece, anterior end rounded
- length 153–198 µm, width 17–25 µm
- pellicle brownish with about 22 rows of tubercles
- size of tubercles can vary between the rows
- tubercles have trapezoid or triangular shape
- chloroplasts disc-shaped without pyrenoid
- eyespot dark red, of very fine granules
- flagellum short, up to one-half of body length
- nucleus central
- each on large paramylon grain placed anterior and posterior to nuc1eus
- very weak metabolie, body often curved



Lepocinclis fusca

So far I have only found *Lepocinclis fusca* in the Simmelried, where the species occurs frequently and regularly. As the specimens practically never or only very slowly swim, they quickly collect on the bottom of the vessels.

Lepocinclis fusca can be recognized even at low magnification by its mostly curved shape and brownish colouration. The specimens move very slowly. Usually there is only a movement from a curved to an elongated form (s. fig. 1 a-e).

Higher magnification reveals the complicated structure of the pellicle (s. figs. 2 b, 3

b, 5 and 6). Only weakly spiralized rows of tubercles can be seen, which usually have a triangular or trapezoidal shape. Between these rows of tubercles there are often “empty spaces” which are free of tubercles or these are only weakly developed. In addition, the shape of the tubercles can change from anterior to posterior.

At maximum magnification, I was able to recognize a fine structure of the tubercles that is not described in the literature. The cusps appear to be finely granulated (s. figs. 5 and 6). This may be a peculiarity of my population or it may have been overlooked so far.

The very similar species *Lepocinclis spirogyroides* has fewer rows of tubercles (14-12). These tubercles are pearl-shaped (hemispherical) and sometimes almost rectangular (brick-shaped).

Fig. 1 a-e: *Lepocinclis fusca*. L = 120 µm. A slowly moving specimen from the curved to an elongated form. Obj. 60 X.

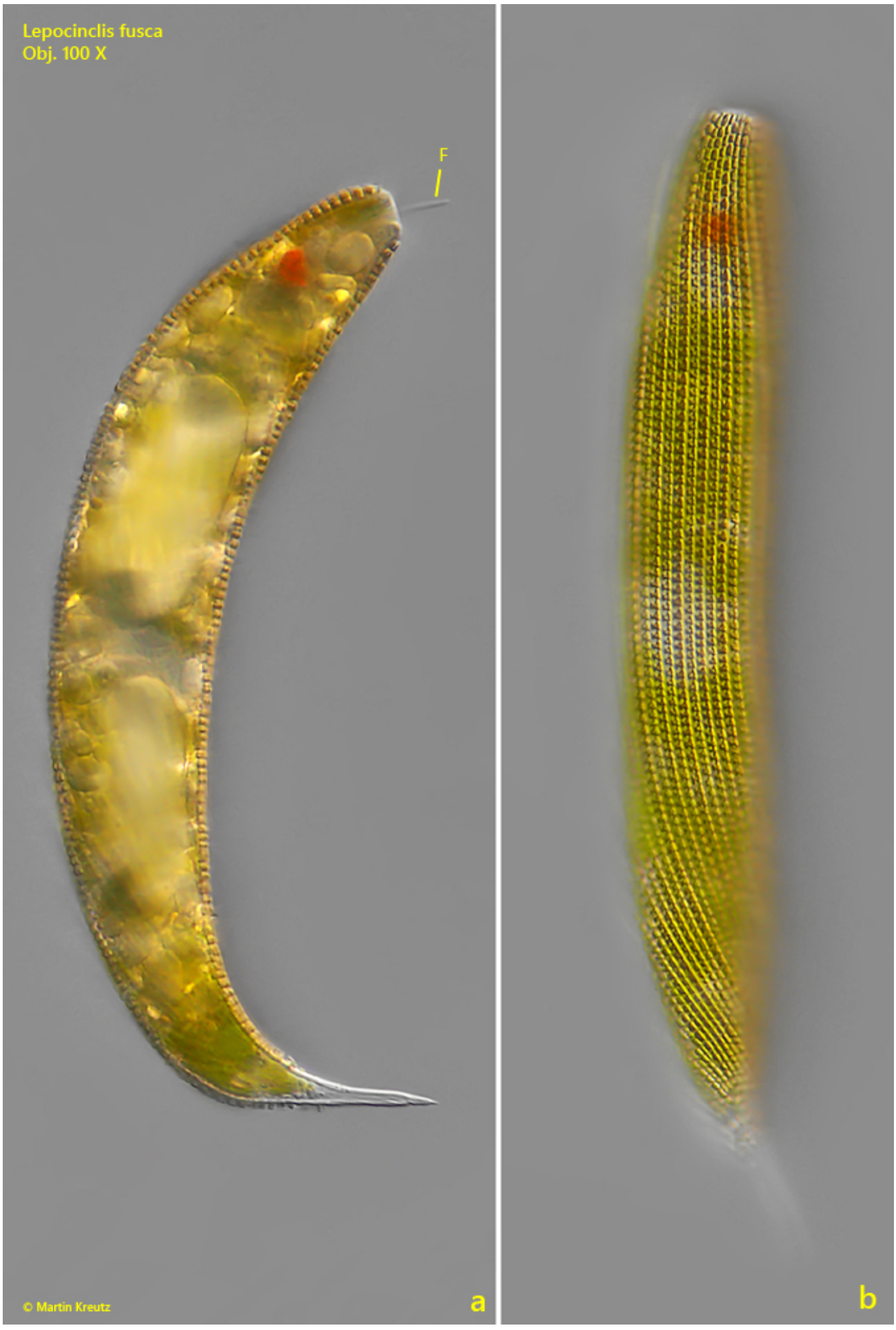

Lepocinclis fusca
Obj. 100 X
F
© Martin Kreutz
a
b

Fig. 2 a-e: *Lepocinclis fusca*. L = 136 µm. Two focal planes of a second specimen. F = flagellum. Obj. 100 X.

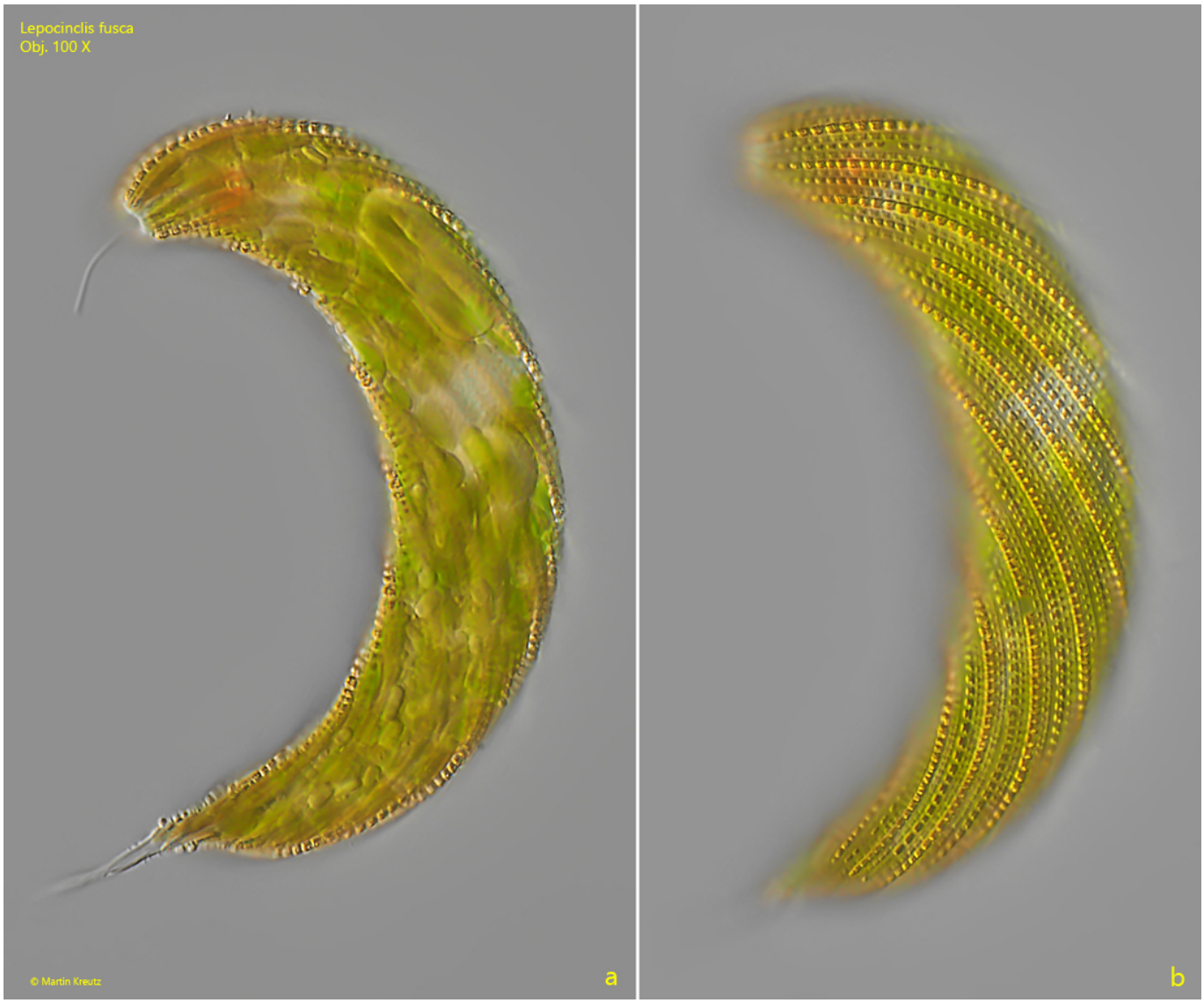


Fig. 3 a-b: *Lepocinclis fusca*. L = 130 µm. Two focal planes of a thrird specimen. Obj. 100 X.

Lepocinclis fusca
Obj. 100 X
ES
LPG
Nu
LPG
HG
Chl

Fig. 4 a-b: *Lepocinclis fusca*. L = 120 µm. Two focal planes of a squashed specimen. Note the two large paramylon grains (LPG) anterior and posterior of the nucleus (Nu). The chloroplasts (Chl) are disc-shaped and without a pyrenoid. ES = eyespot, HG = haematochrome granules. Obj. 100 X.

Lepocinclis fusca
Obj. 100 X
© Martin Kreutz

Fig. 5: *Lepocinclis fusca*. Focal plane on the triangularly shaped tubercles arranged in longitudinal rows of a slightly squashed specimen. The tubercles appear to be finely granulated (dark spots). Obj. 100 X.

Fig. 6: *Lepocinclis fusca*. An excerpt from fig. 5 to illustrate the fine structure of the triangular tubercles at the limit of possible optical resolution. Obj. 100 X.