

***Phacus lismorensis* Playfair, 1921**

Most likely ID: n.a.

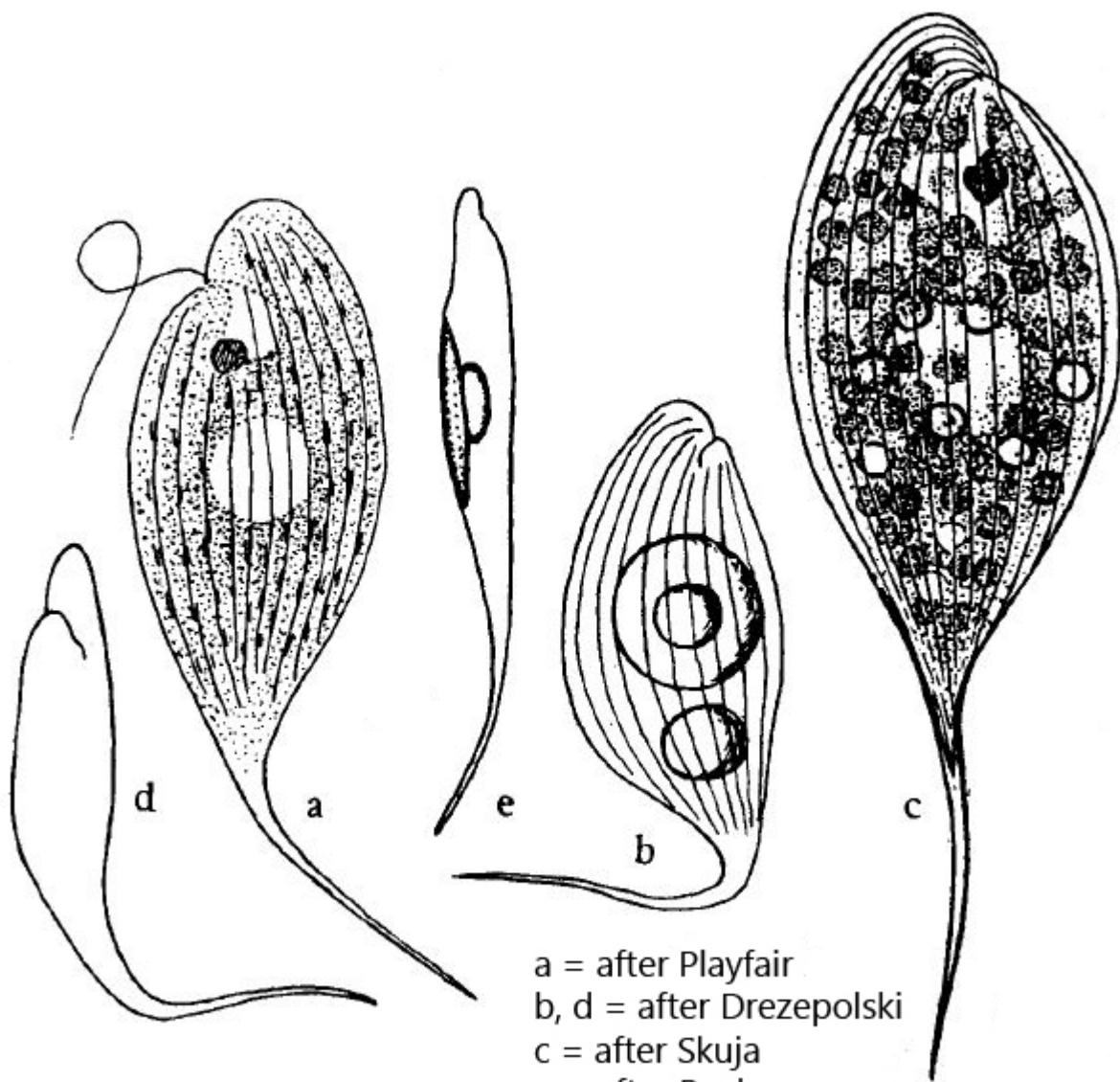
Synonyms: *Phacus Rostafinskii*, *Phacus longicauda* var. *ovalis*

Sampling location: [Simmelried](#), [Ulmisried](#)

Phylogenetic tree: [Phacus lismorensis](#)

Diagnosis:

- cell 85–130 µm long, width about 30 µm
- longitudinally ovoid in outline, slightly asymmetric
- anterior “lips” overlapping
- narrowing abruptly in a long spine, spine often bent
- pellicle longitudinally striated
- red eyespot prominent
- chloroplasts disc shaped
- paramylon in small discs or 1–2 large discs
- flagellum shorter than cell
- pyrenoids absent



Phacus lismorensis

I found the first specimens of *Phacus lismorensis* in 1994 in [Simmelried](#) and later also in [Ulmisried](#). In both locations the species is very common. The cells are typically asymmetrically shaped with a rapidly tapering spine. The cells can appear very curved and bent (s. fig. 3 a-c). The shape of the paramylon grains did not seem constant to me. I found specimens with larger, disc-shaped paramylon as well as those in which it was present in many small discs.

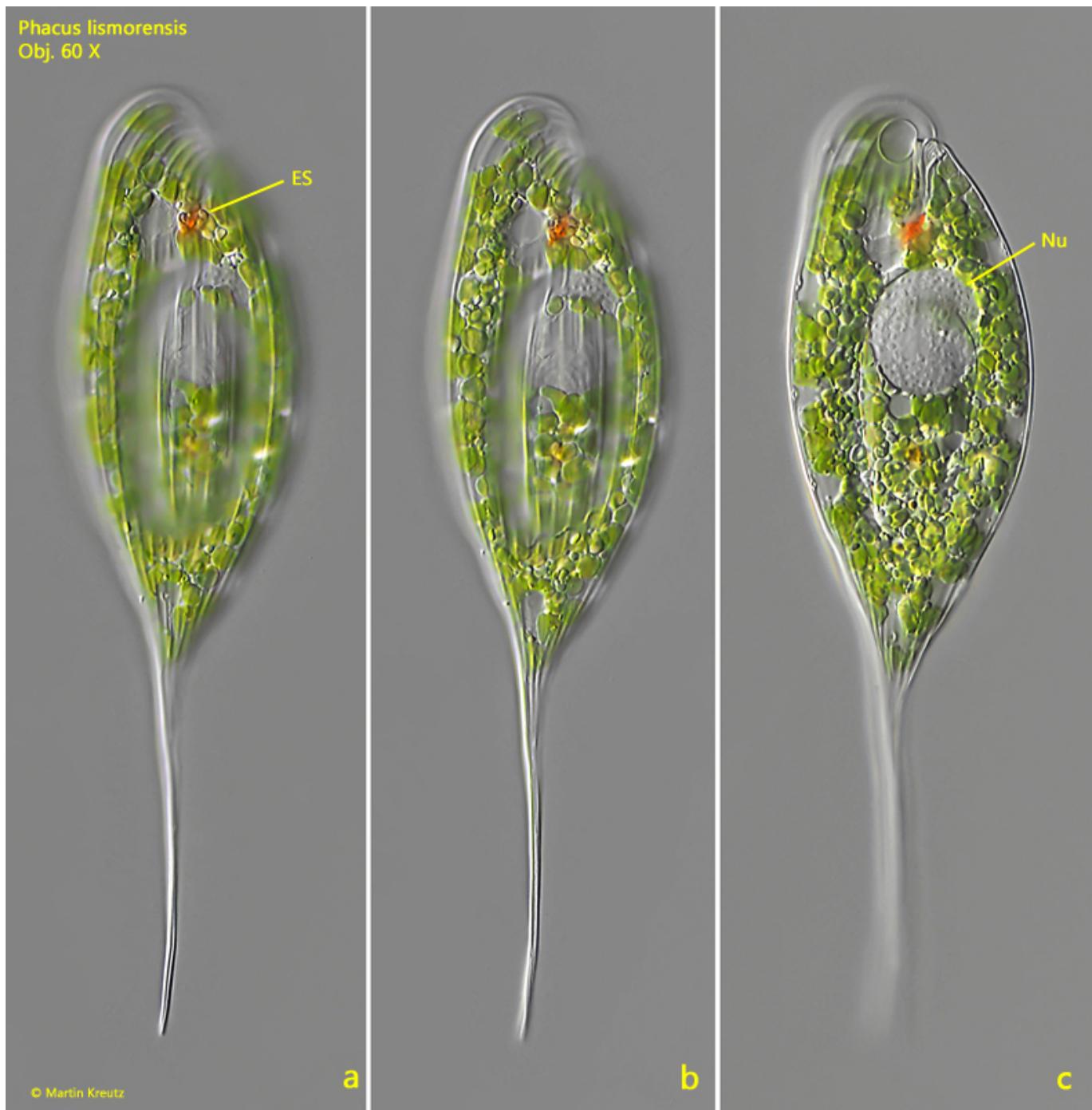


Fig. 1 a-c: *Phacus lismorensis*. L = 154 μ m. Three focal planes of an unsquashed specimen. ES = eyespot, Nu = nucleus. Obj. 100 X.

Phacus lismorensis
Obj. 60 X

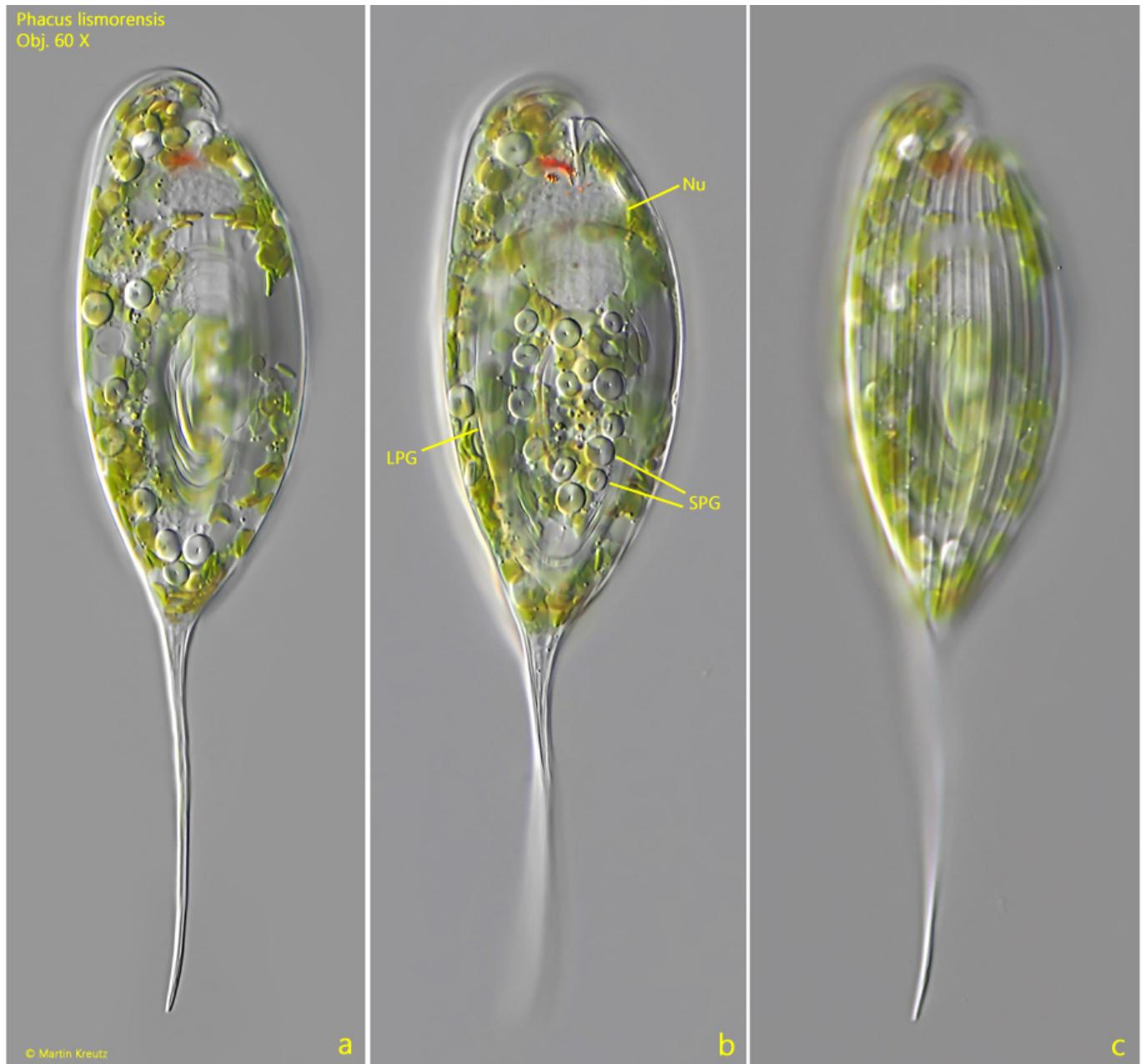


Fig. 2 a-c: *Phacus lismorensis*. L = 141 μ m. A second, slightly squashed specimen. Note the large paramylon grain (LGP) filling almost the whole body and the small paramylon grains (SPG). Nu = nucleus. Obj. 60 X.

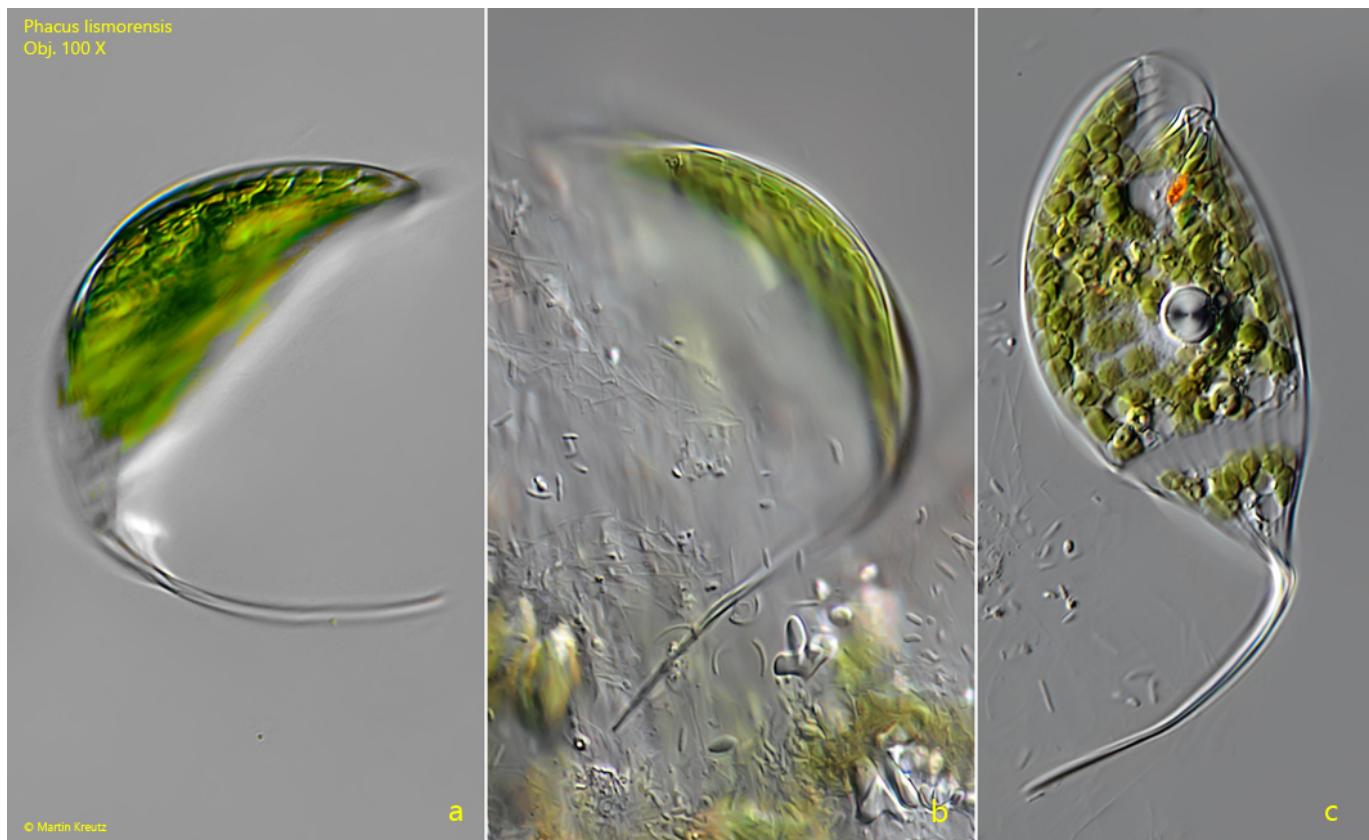


Fig. 3 a-c: *Phacus lismorensis*. L = 105 µm. a, b) a strongly bent specimen. c) the same specimen strongly squashed. Obj. 100 X.

In many samples I found infestation of *Phacus lismorensis* by a parasitic fungus. In most cases it was only one very large parasitic cell, which was intracellular (s. fig. 4 a-b). Sometimes there were even two parasitic cells. Reddish-brown metabolites were deposited in these cells and after prolonged infestation, the paramylon granules were completely degraded to feed the parasite. Unfortunately, I could not observe the complete life cycle of the parasitic fungus.

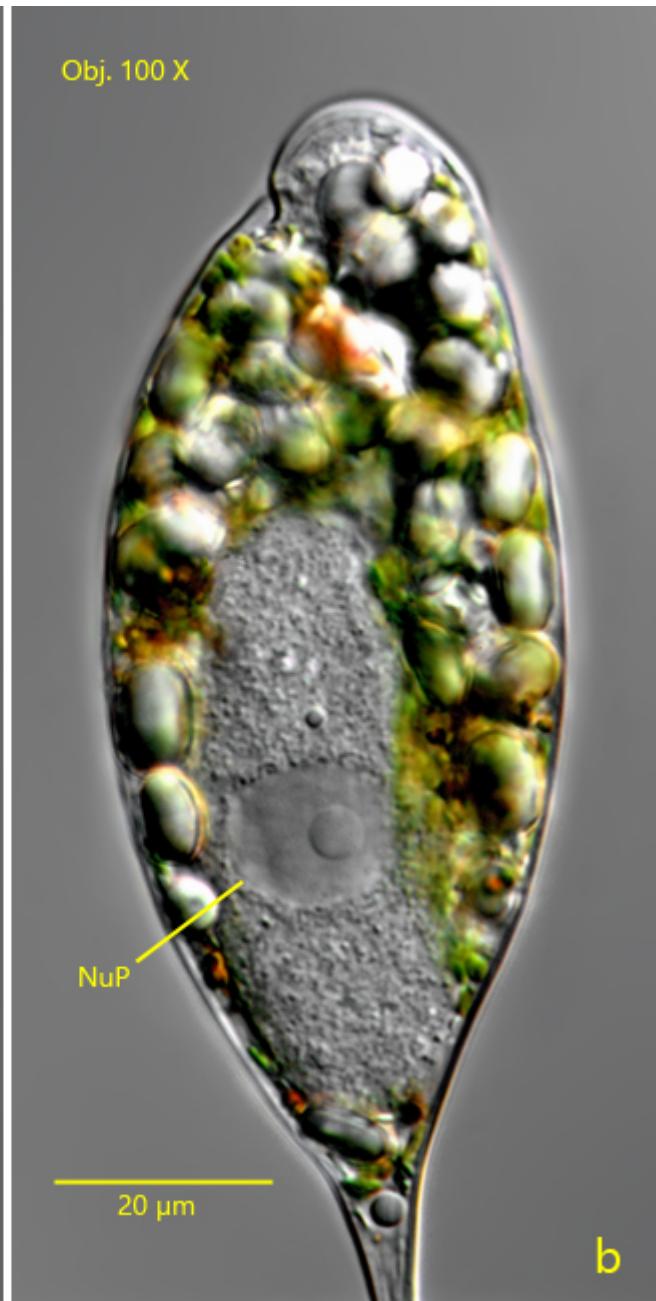
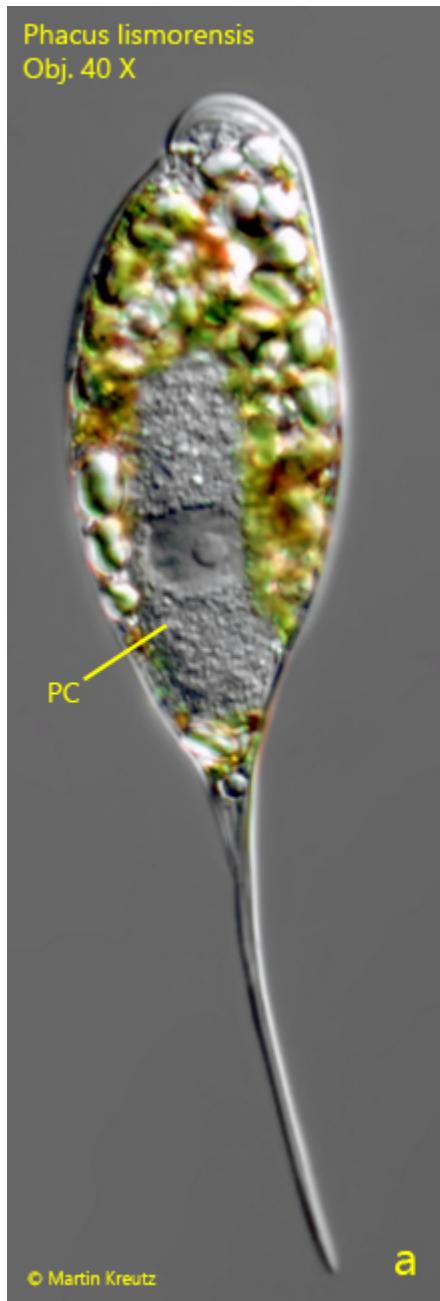


Fig. 4 a-b: *Phacus lismorensis*. L = 88 μ m. A specimen that has been infested by a parasitic fungus. PC = parasitic cell, NuP = nucleus of the parasitic cell. Obj. 100 X.