Kirchneriella phaseoliformis

Hortobágyi, 1952

Most likely ID: n.a.

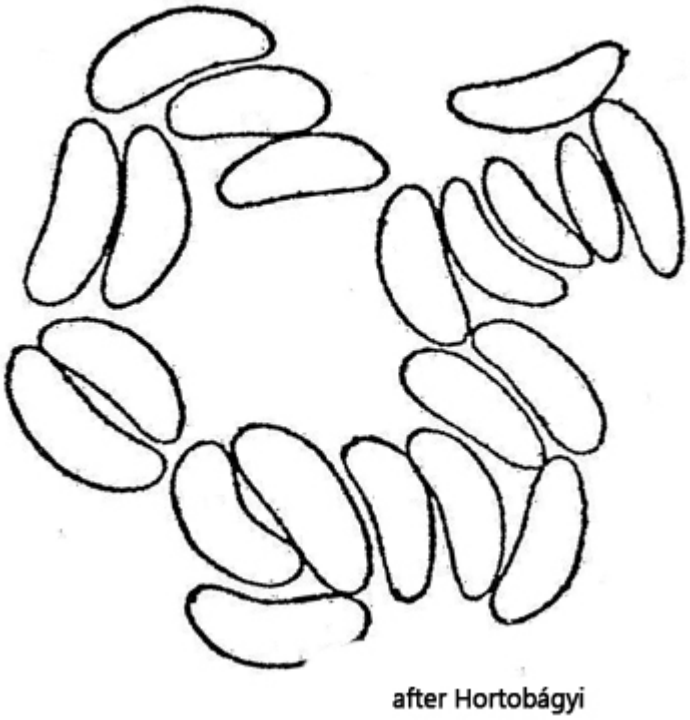
Synonym: n.a.

Sampling location: Lauchsee Moor (Austria)

Phylogenetic tree: *Kirchneriella phaseoliformis*

Diagnosis:

- colonies with irregularly scattered cells
- colonies with delicate gelatinous sheath
- cells bean-shaped, slightly curved, apices broudly rounded
- length (of cell) 3–4.5 µm
- one parietal chloroplast
- pyrenoid absent



Kirchneriella phaseoliformis

I have only found *Kirchneriella phaseoliformis* once before in June 2024 in the Lauchsee Moor in Austria.

The colonies stand out due to the very small cells. The bean-shaped cells are irregularly scattered in a gelatinous envelope. The edge of the colony is not sharply delimited, but rather deliquescent. The cells in my population had a length of 4.5–6.7 µm and were thus partly 40 % longer than indicated by Hortobágyi (1952). However, a population in China was also described as *Kirchneriella sinensis*, which had cells up to 5.5 µm long. The species *Kirchneriella sinensis* is considered synonymous with *Kirchneriella phaseoliformis*. The actual range of variation in the cells has therefore been little studied.

Kirchneriella phaseoliformis can be confused with the similar species *Monoraphidium nanum* (syn. *Nephrodiella nana*) and *Gloeobotrys lunatus*, whose cells have a similar size and shape. However, *Monoraphidium nanum* only occurs solitary and the colonies of *Gloebotrys lunatus* are sharply defined, with only a few cells (4–16). There is also the similar species *Kirchneriella nana*, which has so far only been found in highly eutrophic waters. Since I found my population in a nutrient-poor bog water, *Kirchneriella nana* can be ruled out as an alternative.

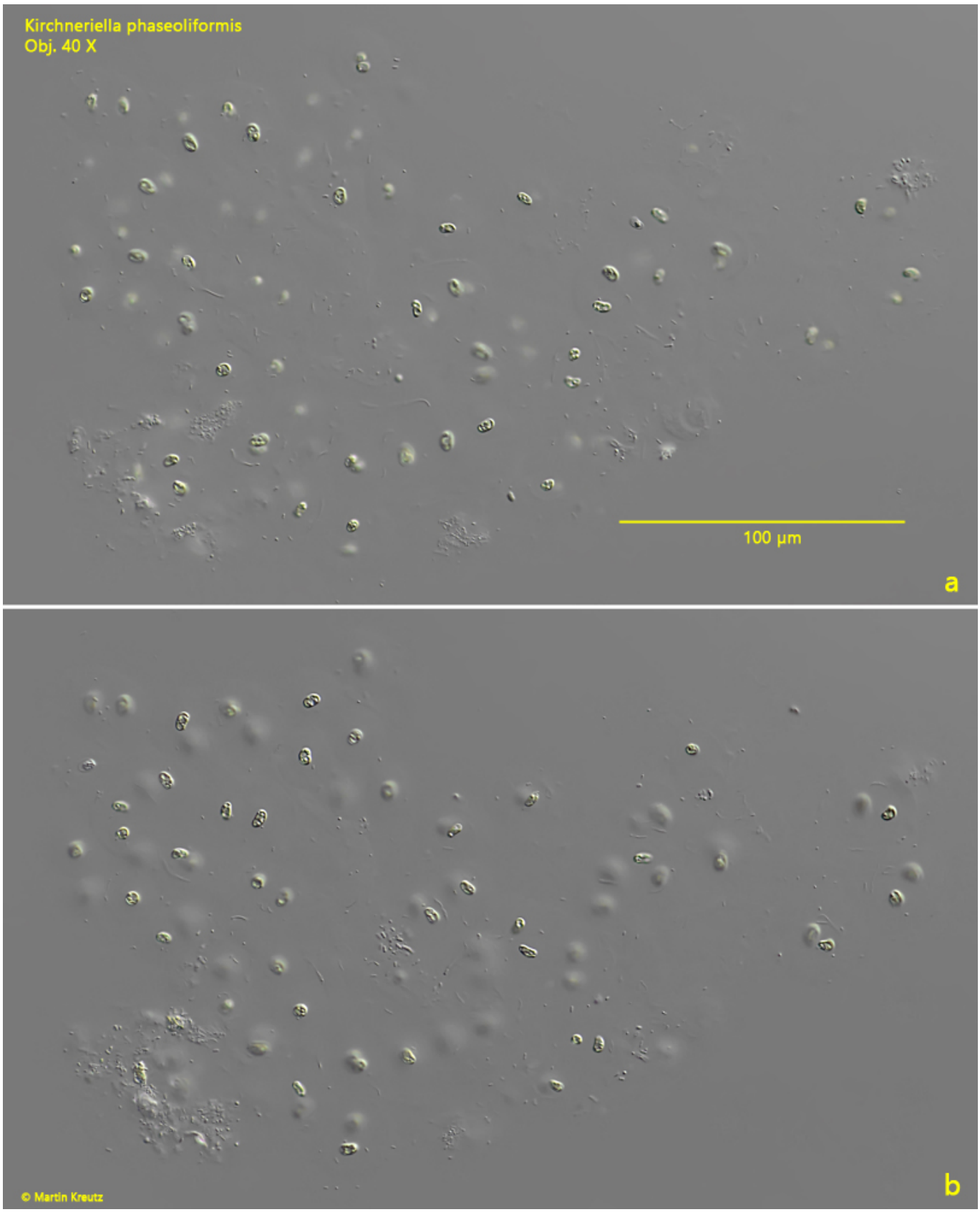


Fig. 1 a-b: *Kirchneriella phaseoliformis*. L = 300 µm (of colony). Two focal planes of a irregularly shaped colony with scattered, bean-shaped cells. The margin of the gelatinous sheath is deliquescent. Obj. 40 X.

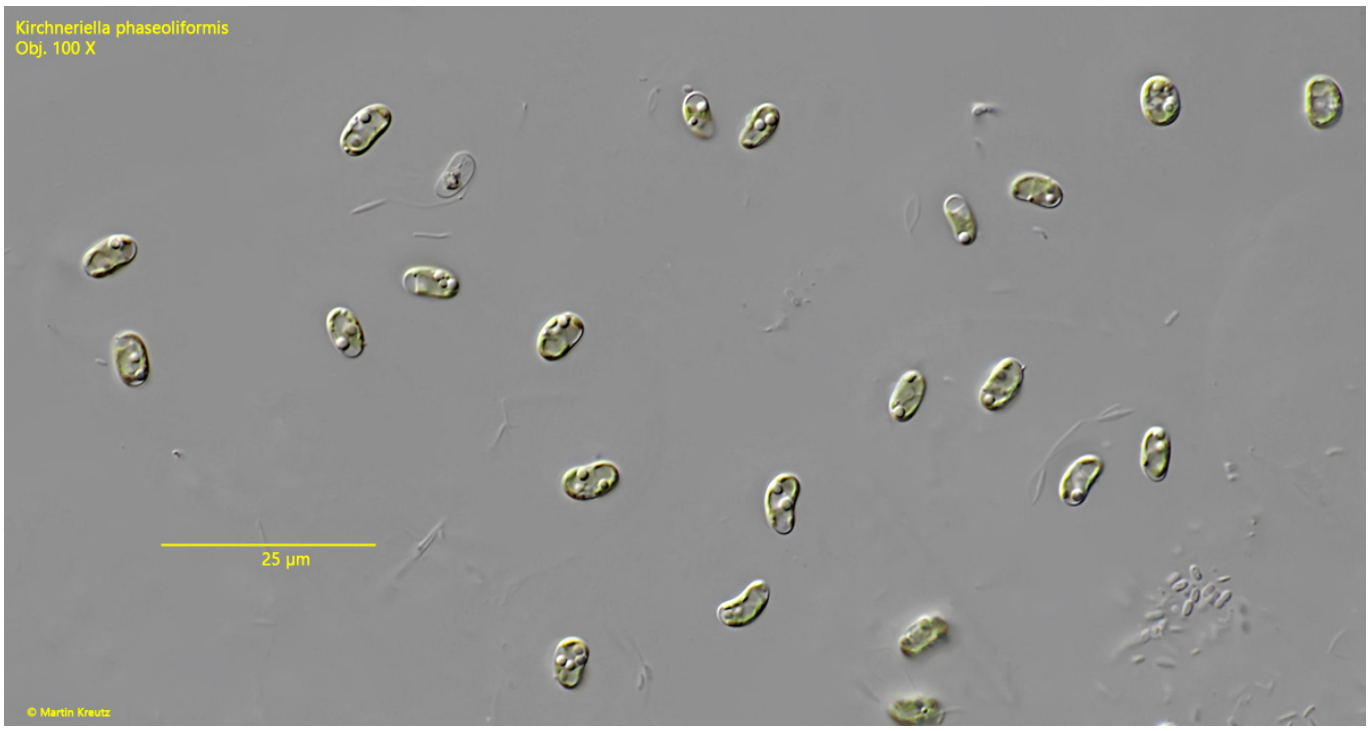


Fig. 2: *Kirchneriella phaseoliformis*. L = 4.5–6.7 µm (of cells). The bean-shaped cells in the squashed colony. Obj. 100 X.

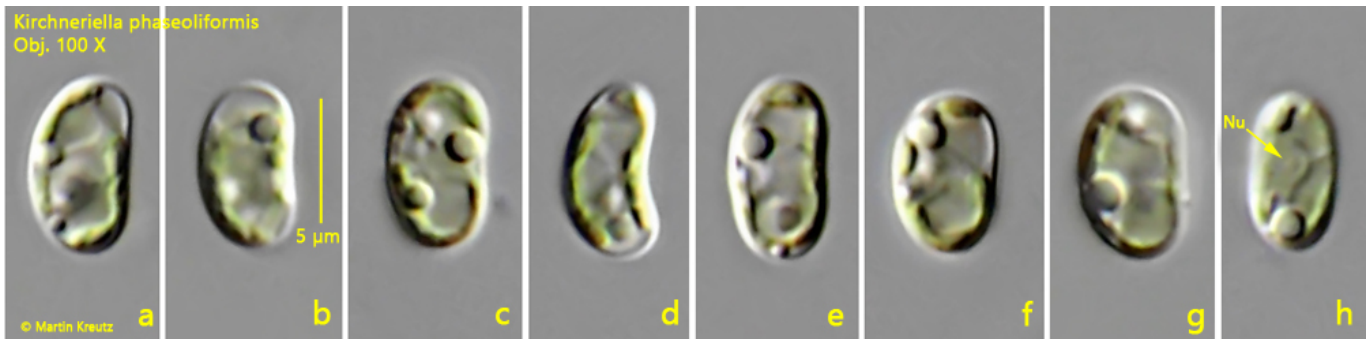


Fig. 3 a-h: *Kirchneriella phaseoliformis*. L = 4.8–6.7 µm. Different bean-shaped cells in detail. Nu = nucleus. Obj. 100 X.