Quadrigula sabulosa Hindák 1980

Most likely ID: n.a.

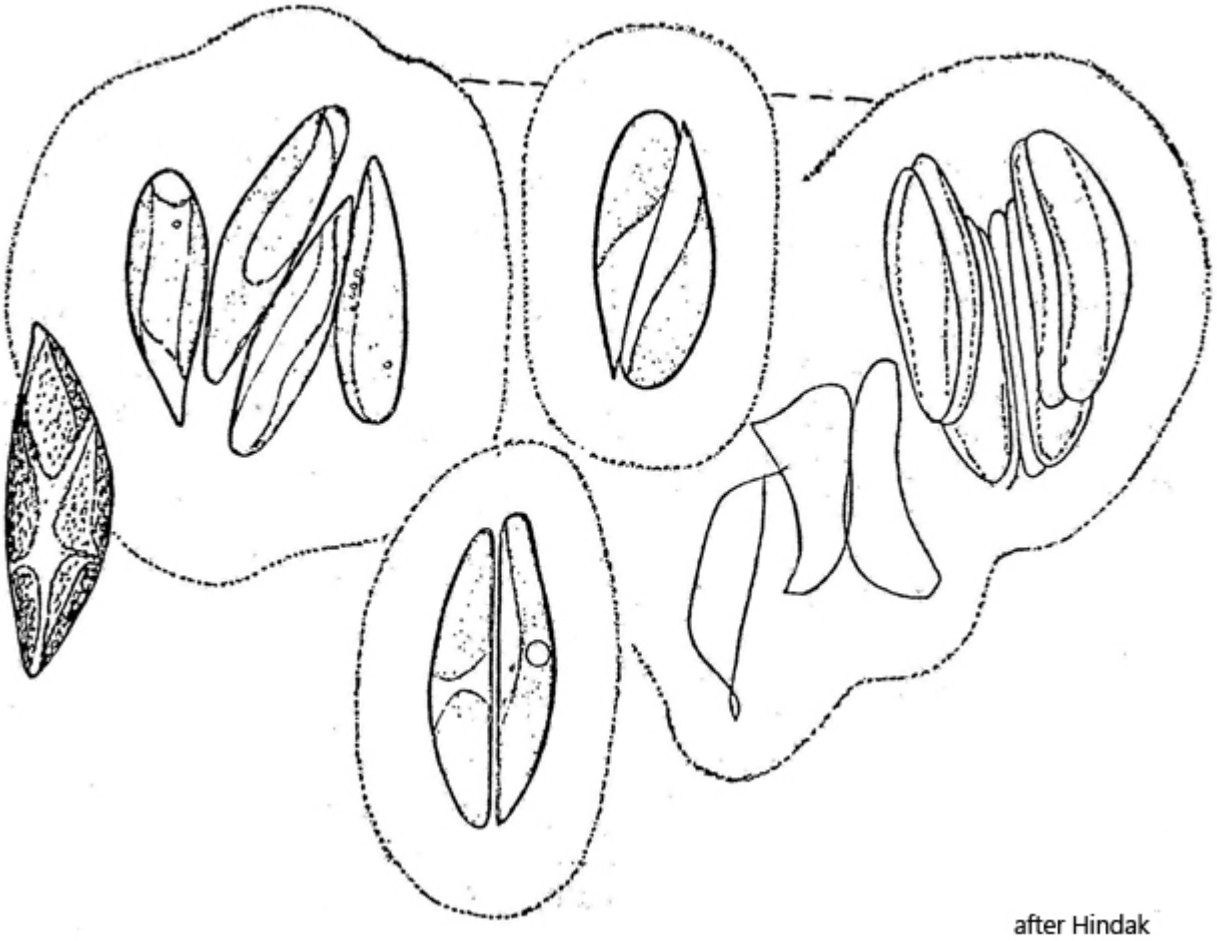
Synonym: n.a.

Sampling location: Paradieswiesen (Austria)

Phylogenetic tree: *Quadrigula sabulosa*

Diagnosis:

- colonies of 4–16 cells, in delicate gelatinous sheath
- cells nearly parallel arranged
- cells 7–13 µm long, width 2–4 µm
- cells asymmetrical spindle-shaped, slightly curved
- apices broadly ronded
- one parietal chloroplast attached to convex side
- pyrenoid absent



Quadrigula sabulosa

I have found *Qudrigula sabulosa* only once in June 2024 in the Paradieswiesen in Austria. In one sample there was a large accumulation of the 4-cell colonies.

Characteristic of *Quadrigula sobulosa* are the slightly asymmetrically shaped cells, which are often slightly curved. The dorsal margin is convex, while the ventral margin is almost straight. The cells of my population were on average 11 µm long, which agrees well with the length data given by Hindák. Only one chloroplast is present, which has no pyrenoid.

The similar species *Pseudoquadrigula obtusa (*synonymous with *Kirchneriella obtusa* and *Coenocystis obtusa*) is about 30 % larger with an average length of 16 µm and, above all, the chloroplast has a clear visible pyrenoid. In addition, the cells of *Pseudoquadrigula obtusa* are irregularly distributed in a common gelatinous envelope.

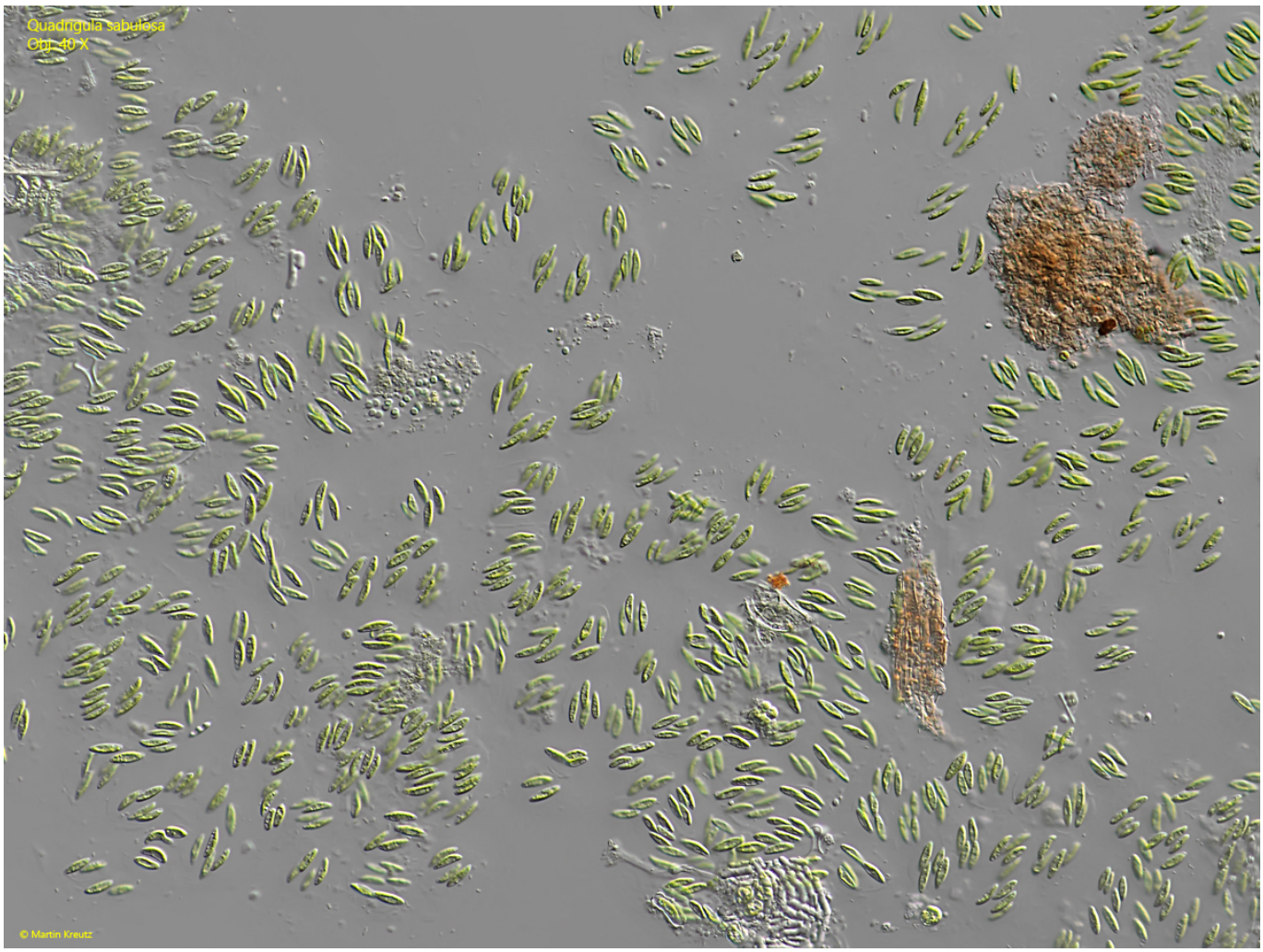


Fig. 1: *Quadrigula sabulosa*. Overview of an aggregation of colonies. Obj. 40 X.

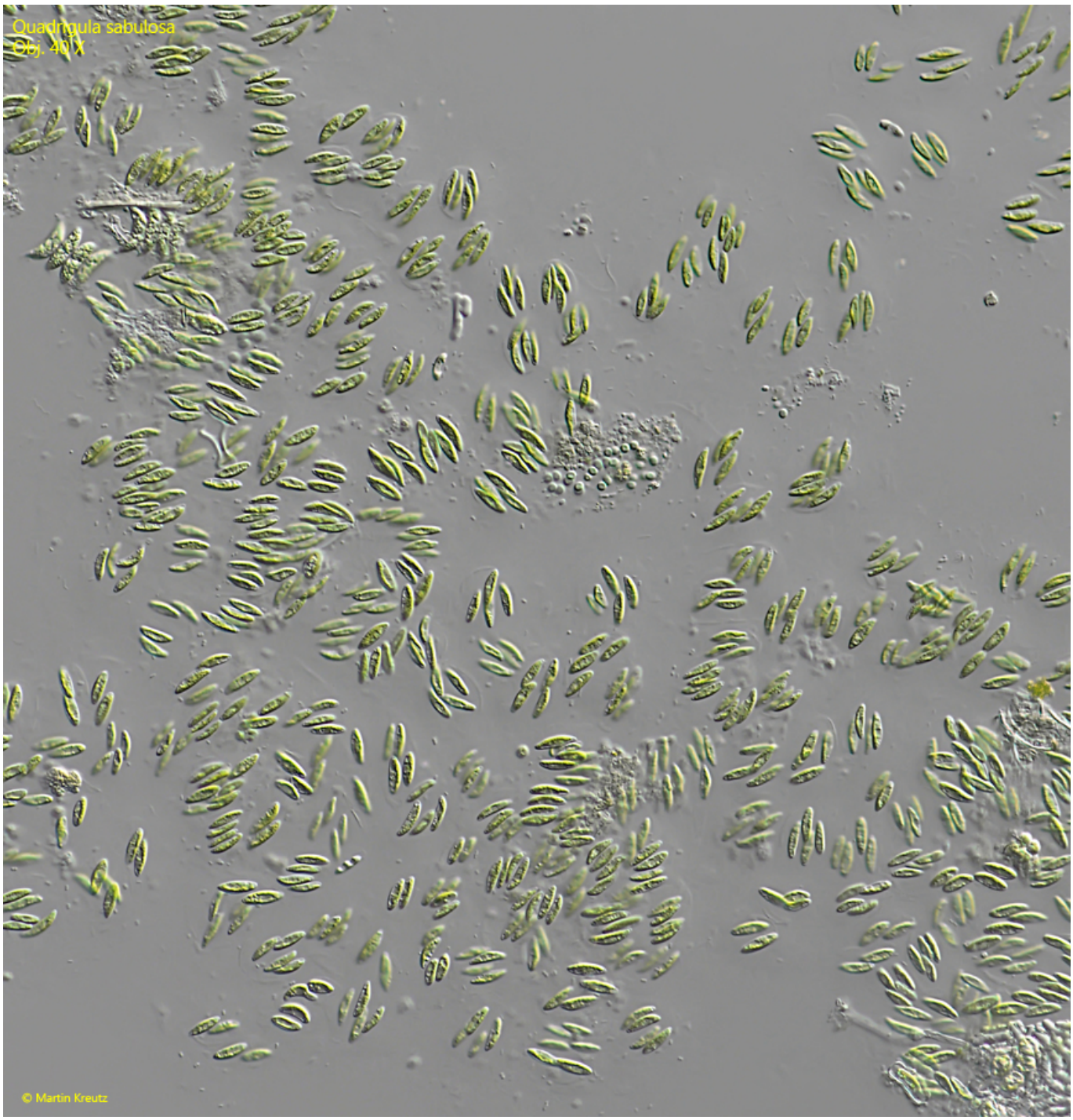


Fig. 2: *Quadrigula sabulosa*. A second overview of the aggregation of colonies. Obj. 40 X.

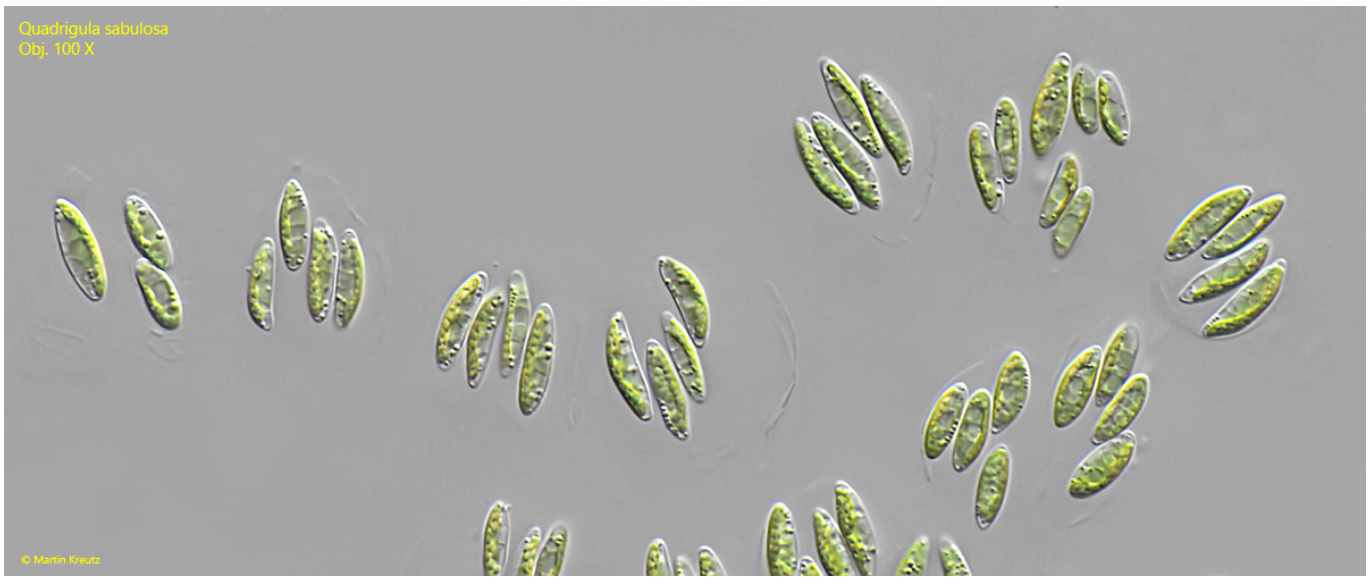


Fig. 3: *Quadrigula sabulosa*. L = 10–11 µm (of cells). Some colonies of each 4 cells. The nearly parallel arranged cells are shifted by the pressure of the coverslip. Obj. 100 X.

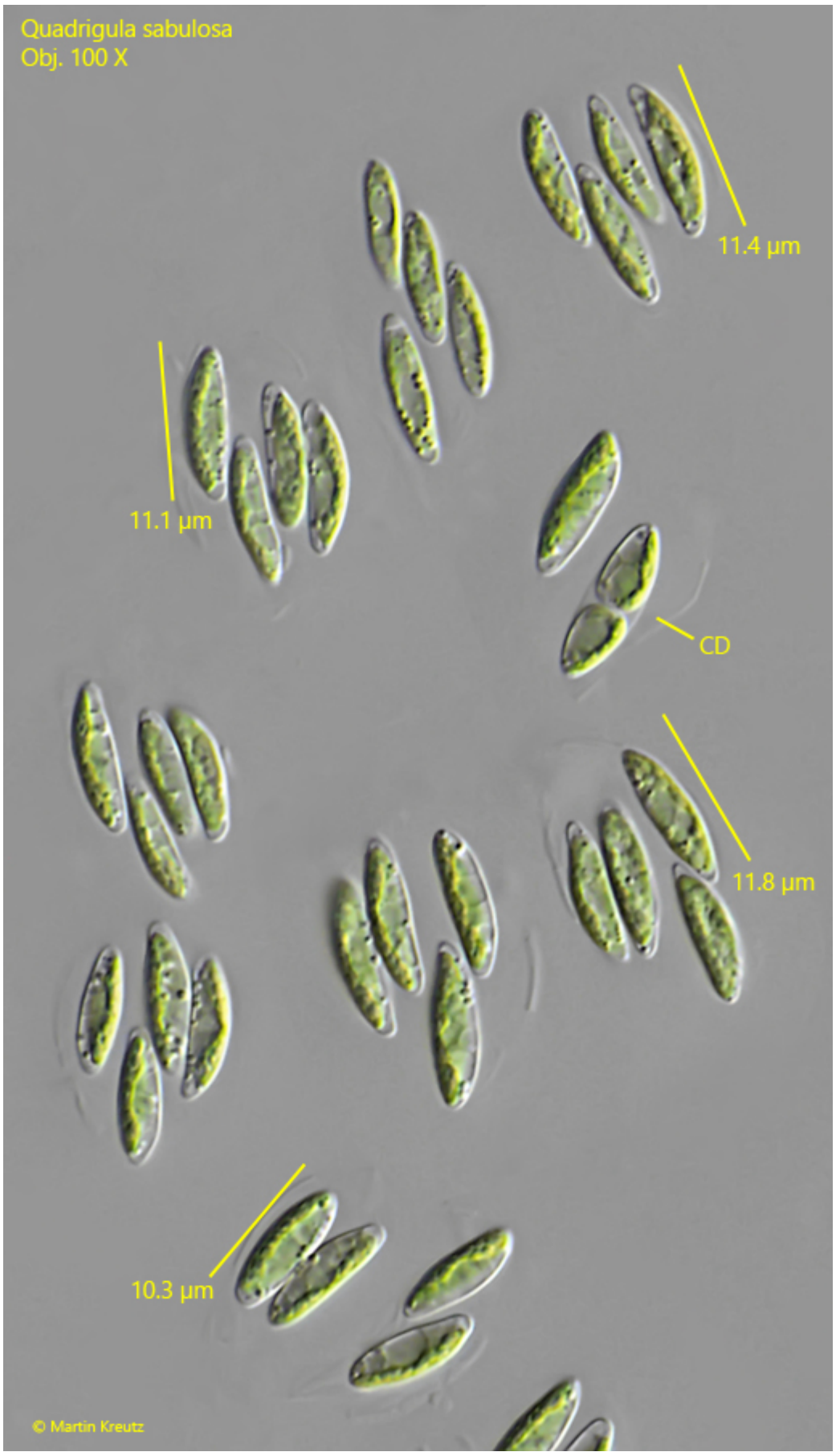


Fig. 4: *Quadrigula sabulosa*. L = 10.3–11.8 µm (of cells). Some slightly squashed colonies of each 4 cells. Note the cell division (CD) within the mother cell. Obj. 100

X.

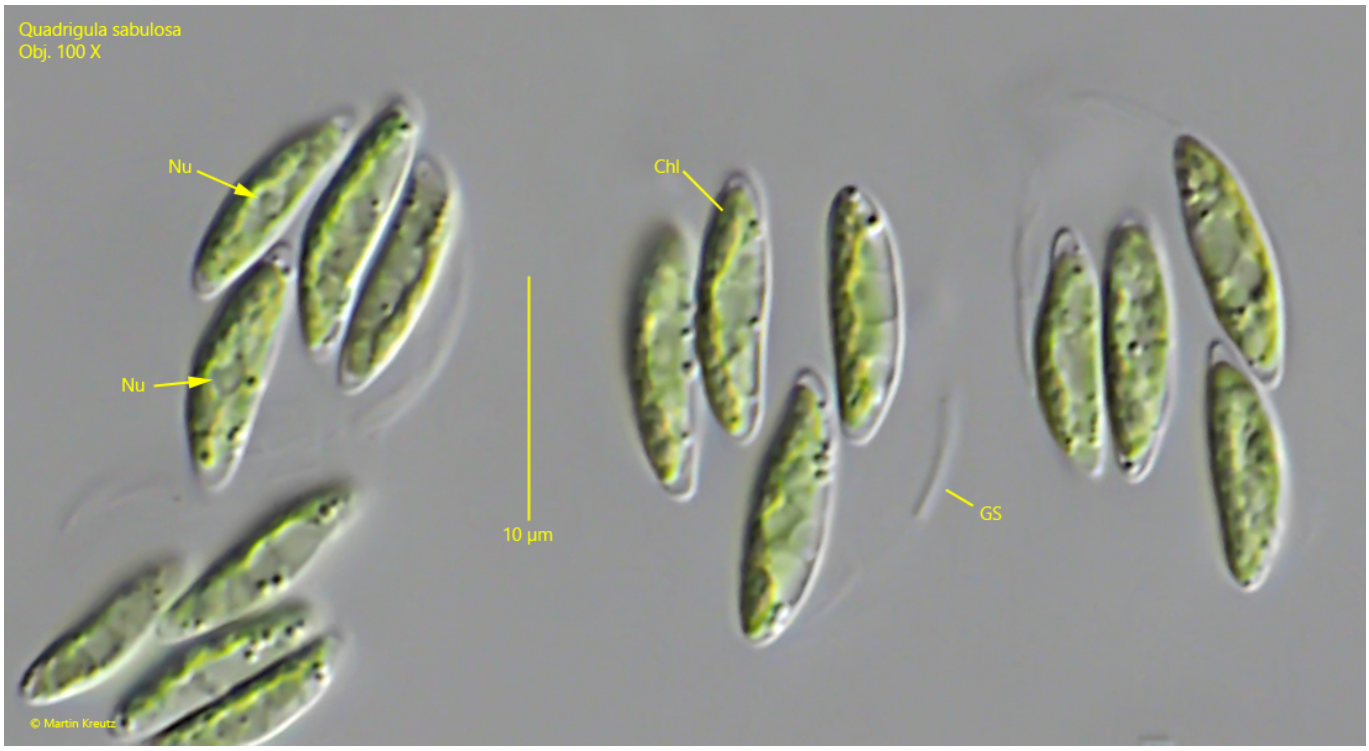


Fig. 5: *Quadrigula sabulosa*. L = 10–11 µm (of cells). Some slightly squashed colonies in detail. Note the central nucleus (Nu) and the parietal chloroplast (Chl) without pyrenoid. GS = gelatinous sheath. Obj. 100 X.