Closterium lunula

Ehrenberg & Hemprich ex Ralfs 1848

Most likely ID: n.a.

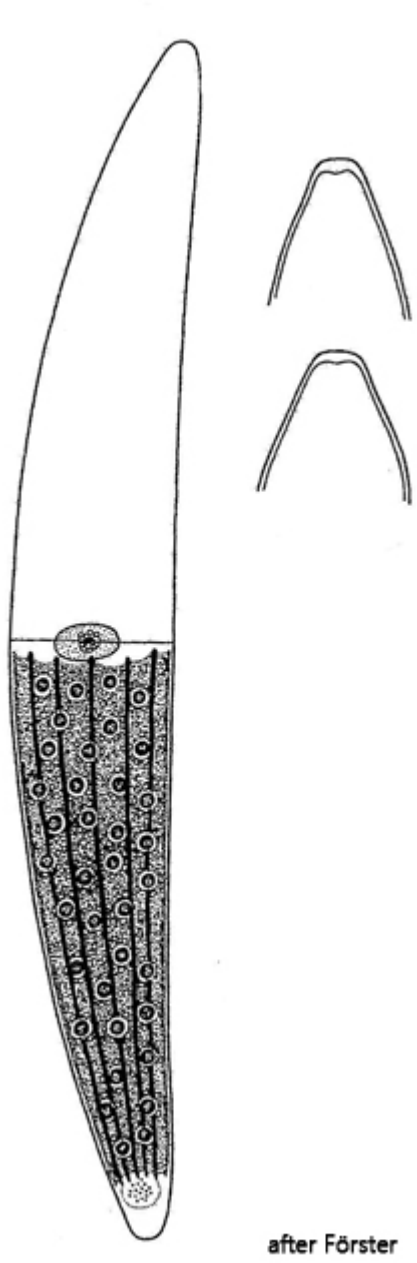
Synonym: n.a.

Sampling location: Paradieswiesen (Austria)

Phylogenetic tree: *Closterium lunula*

Diagnosis:

- cells arch-shaped, ventral margin almost straight
- length 250–650 µm
- chloroplasts stellate, each with 6–10 ridges
- chloroplasts ridges with notches
- numerous pyrenoids scattered in chloroplasts
- cell wall with fine striation (9–18 striae/10 µm)
- apices broadly rounded, sometimes thickened internally
- girdle bands absent
- terminal vacuoles with 10–30 small gypsum crystals



Closterium lunula

So far I have only found *Closterium lunula* in the Paradieswiesen in Austria. I have not yet been able to find this species in the sites in my immediate vicinity.

The cells of *Closterium lunula* are very large and stand out due to their almost straight shape, which differs from the crescent shape of other *Closterium* species. Numerous pyrenoids are scattered throughout the two chloroplasts (s. fig. 4). The ridges of the chloroplasts are clearly notched, which is very typical for this species (s. fig. 3 b). The terminal vacuoles in my population were filled with a fine crystal grit, with only a few larger crystals (s. fig. 5). The very fine and inconspicuous striation of the cell wall can only be recognized at highest magnification (s. fig. 6).

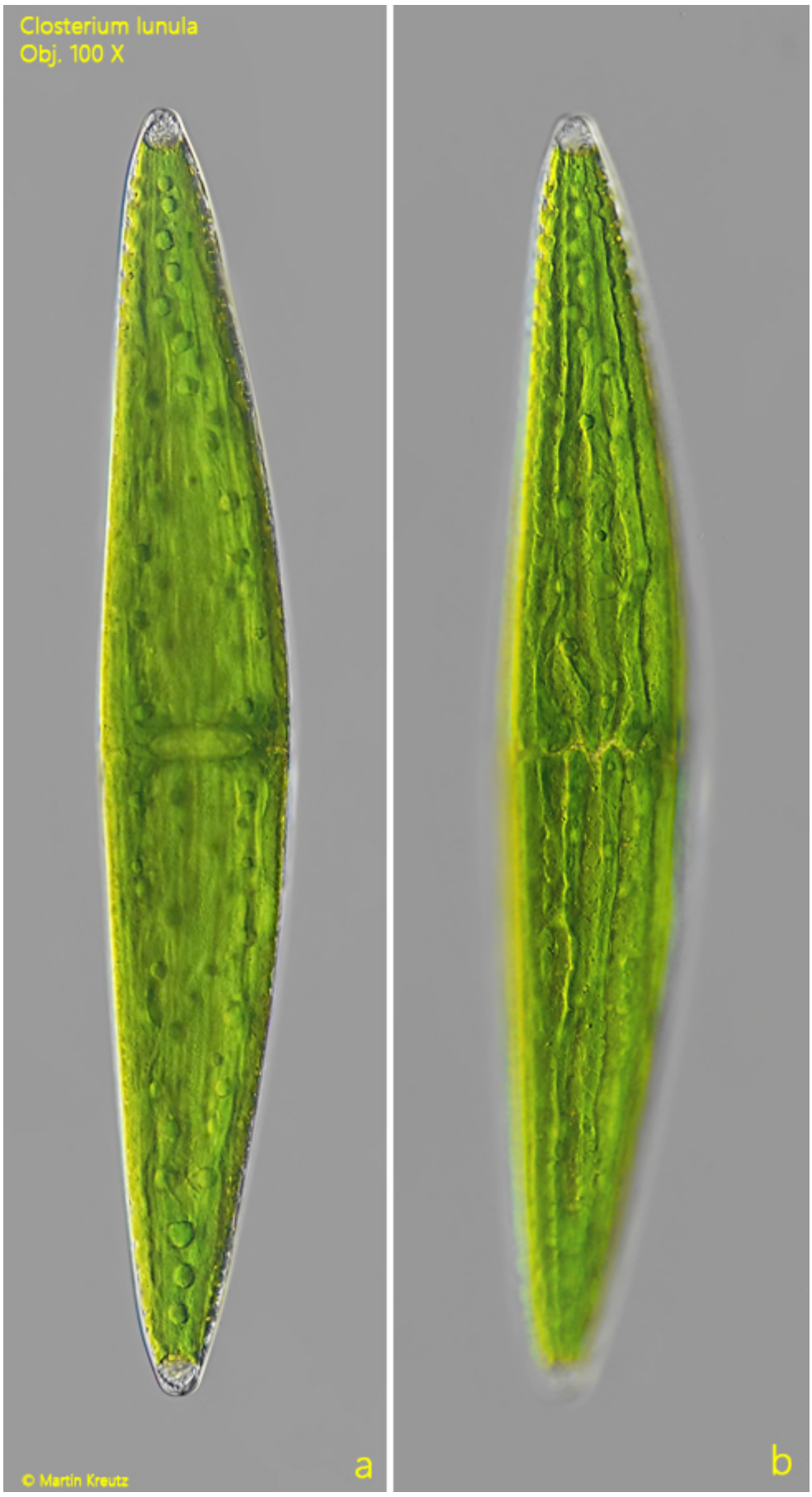


Fig. 1 a-b: *Closterium lunula*. L = 575 µm. Two focal planes of a slightly squashed specimen. Obj. 20 X.

Fig. 2 a-b: *Closterium lunula*. L = 575 µm. The same specimen as shown in fig. 1 a-b in brightfield illumination. Obj. 20 X.

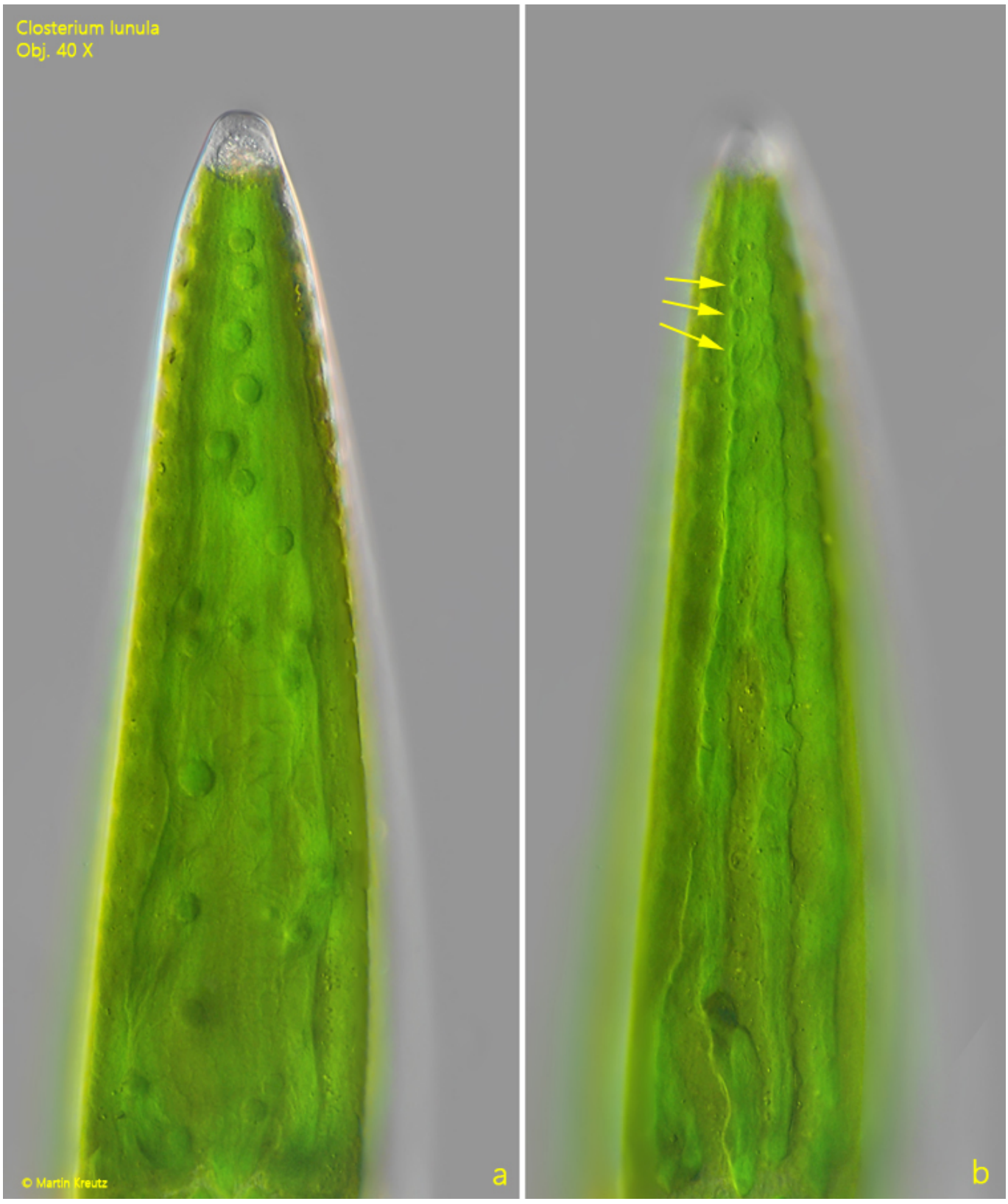


Fig. 3 a-b: A semi-cell in detail. Note the notched ridges of the chloroplast (arrows). Obj. 40 X.

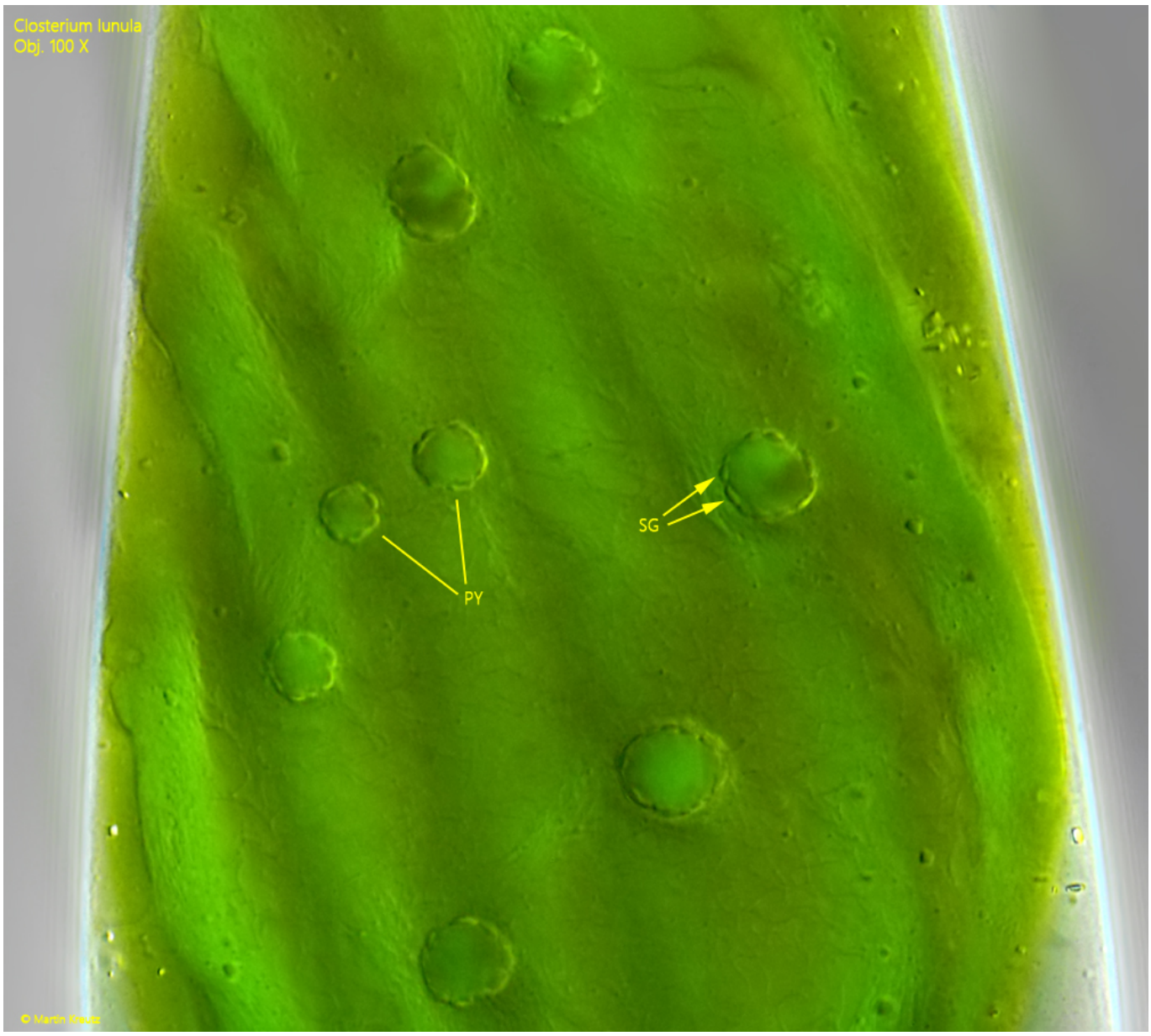


Fig. 4: *Closterium lunula*. The scattered pyrenoids (PY) in the chloroplasts. The pyrenoids are covered with a layer of starch grains (SG). Obj. 100 X.

Fig. 5: *Closterium lunula*. The terminal vacuole (TV) in the apex of this specimen is filled with crysal grit. Obj. 100 X.

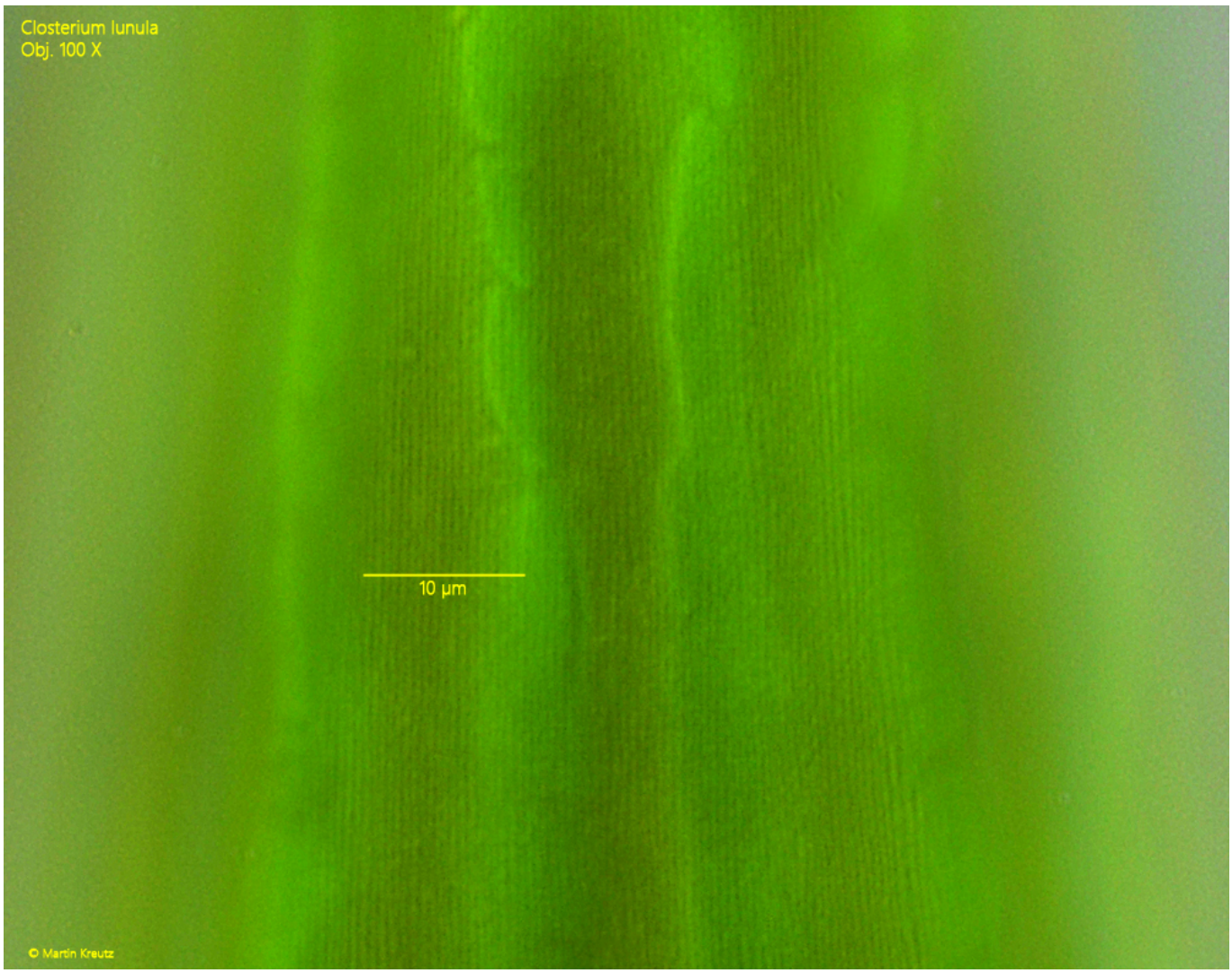


Fig. 6: *Closterium lunula*. The striation of the cell wall is very fine and inconspicuous. This specimen has 19 stria/10 µm. Obj. 100 X.