Apiocystis brauniana Nägeli, 1849

Most likely ID: n.a.

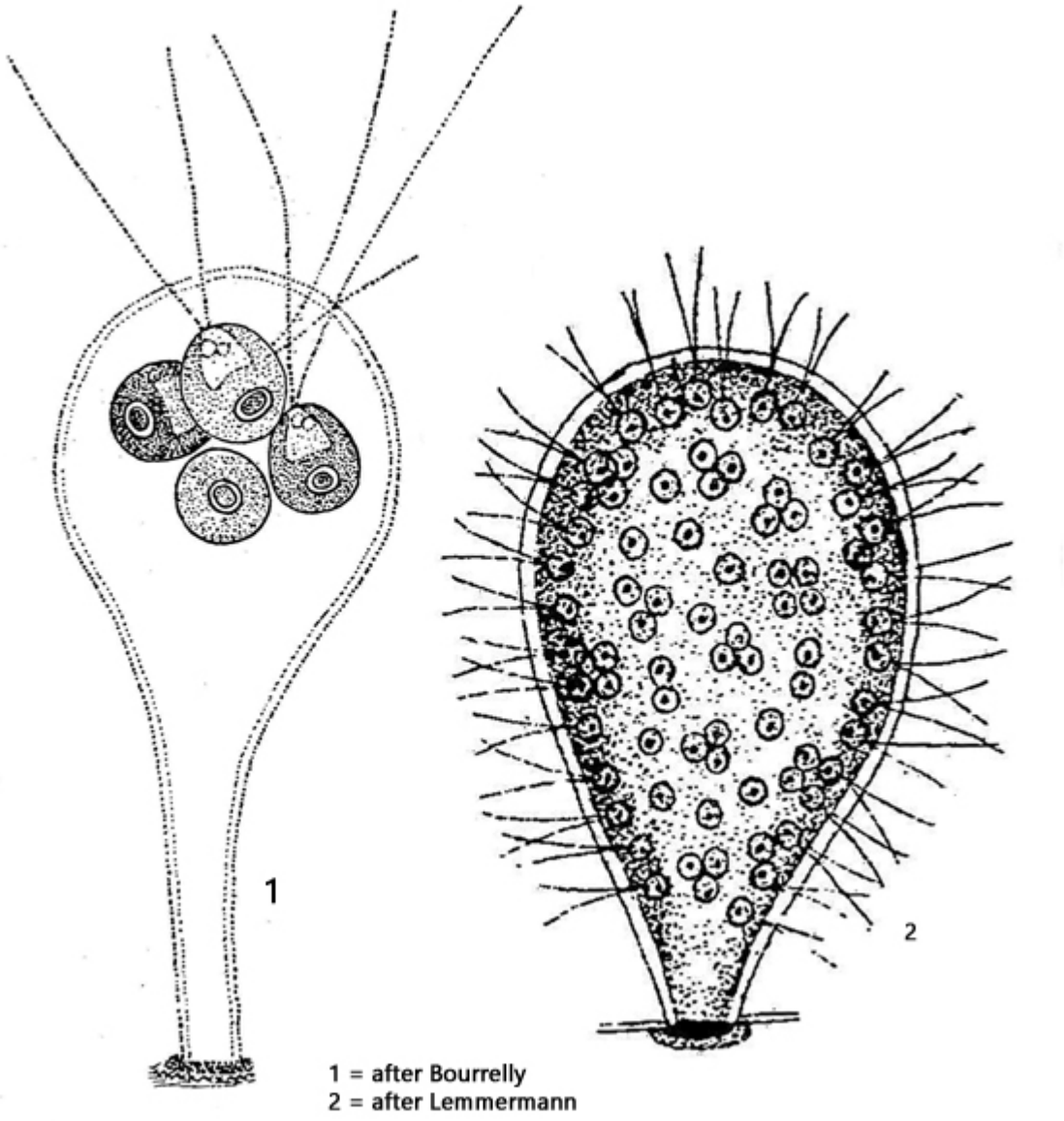
Synonym: n.a.

Sampling location: Pond behind parking space St. Ulrich (Austria), Simmelried

Phylogenetic tree: *Apiocystis brauniana*

Diagnosis:

- mucilaginous colonies club-shaped or pear-shaped
- 50 to about 500 cells per colony
- pseudoflagella of cells extending beyond mucilage envelope of colony
- length of colonies up to 1500 µm
- spherical cells arranged in periphery of colony
- cells arranged in groups of 2–4 cells with separate envelope
- diameter 6–8 µm (of cells)
- chloroplast cup-shaped with one pyrenoid
- 2 contractile vacuoles



Apiocystis brauniana

I only very rarely find the tetrasporal alga *Apiocystis brauniana*. It usually grows epiphytically on aquatic plants. The colonies are easy to recognize even at low magnifications due to their size and typical club-shape.

As it is a tetrasporal alga, the cells have two contractile vacuoles, which are easy to recognize (s. figs. 5 and 6). In some cells I could also recognize a faint eyespot (s. figs. 5) which is not described in the literature. The size of the cells is consistently given in the literature as 6–8 µm, which is why it can be assumed that Nägeli's information was copied. In my population, however, the cells had a diameter of 11–13 µm (s. fig. 5).

Each cell has two pseudoflagella. The cells are arranged on the inner side of the thick mucus layer and the pseudoflagella pierce this and protrude above the surface

of the colony, giving it a “hairy” appearance (s. fig. 3 a-b).

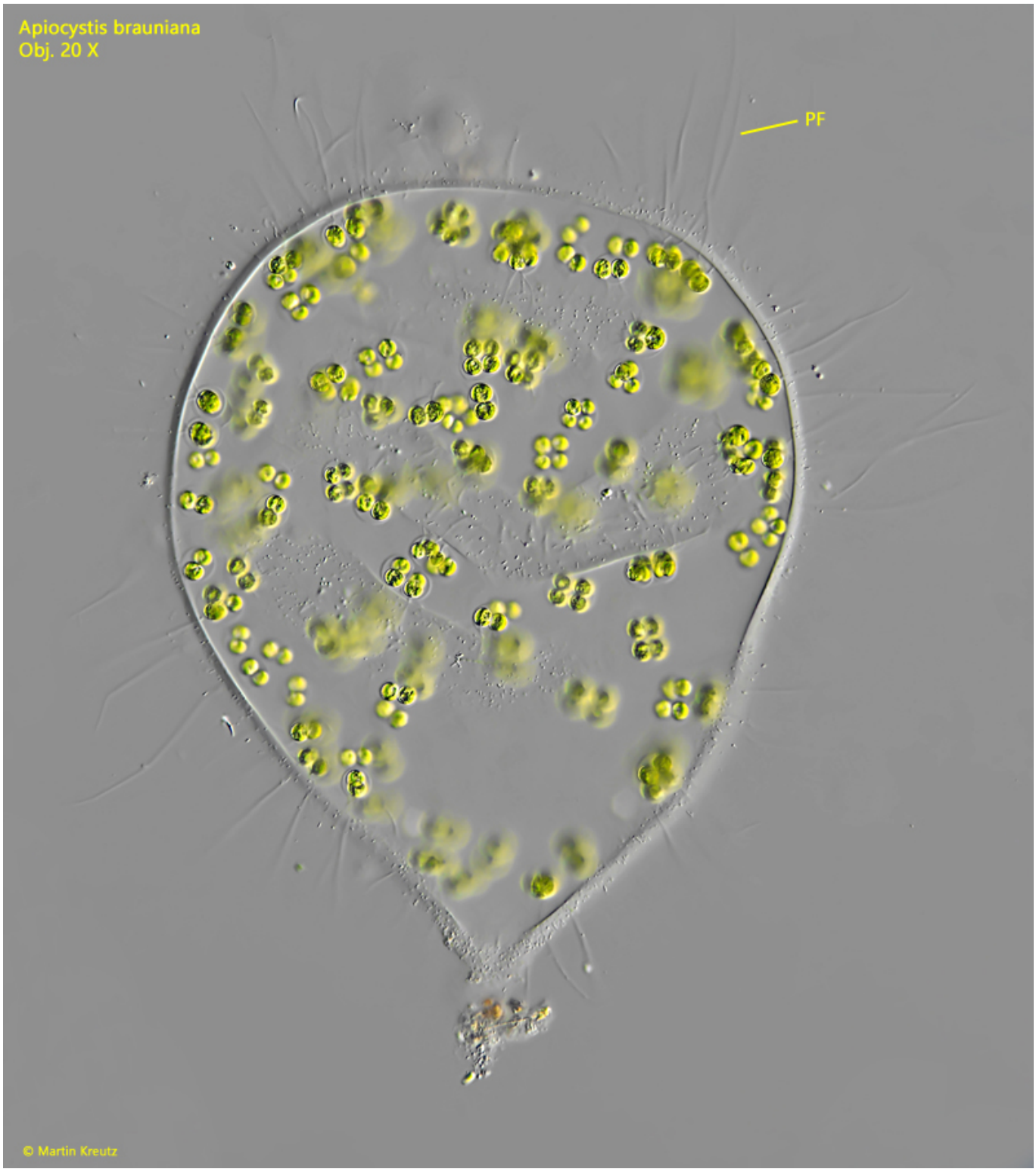


Fig. 1 : *Apiocystis brauniana*. L = 470 µm. A slightly squashed colony of about 100 cells. Note the pseudoflagella (PF) of the cells which extending from the mucilage envelope of the colony. Obj. 20 X.

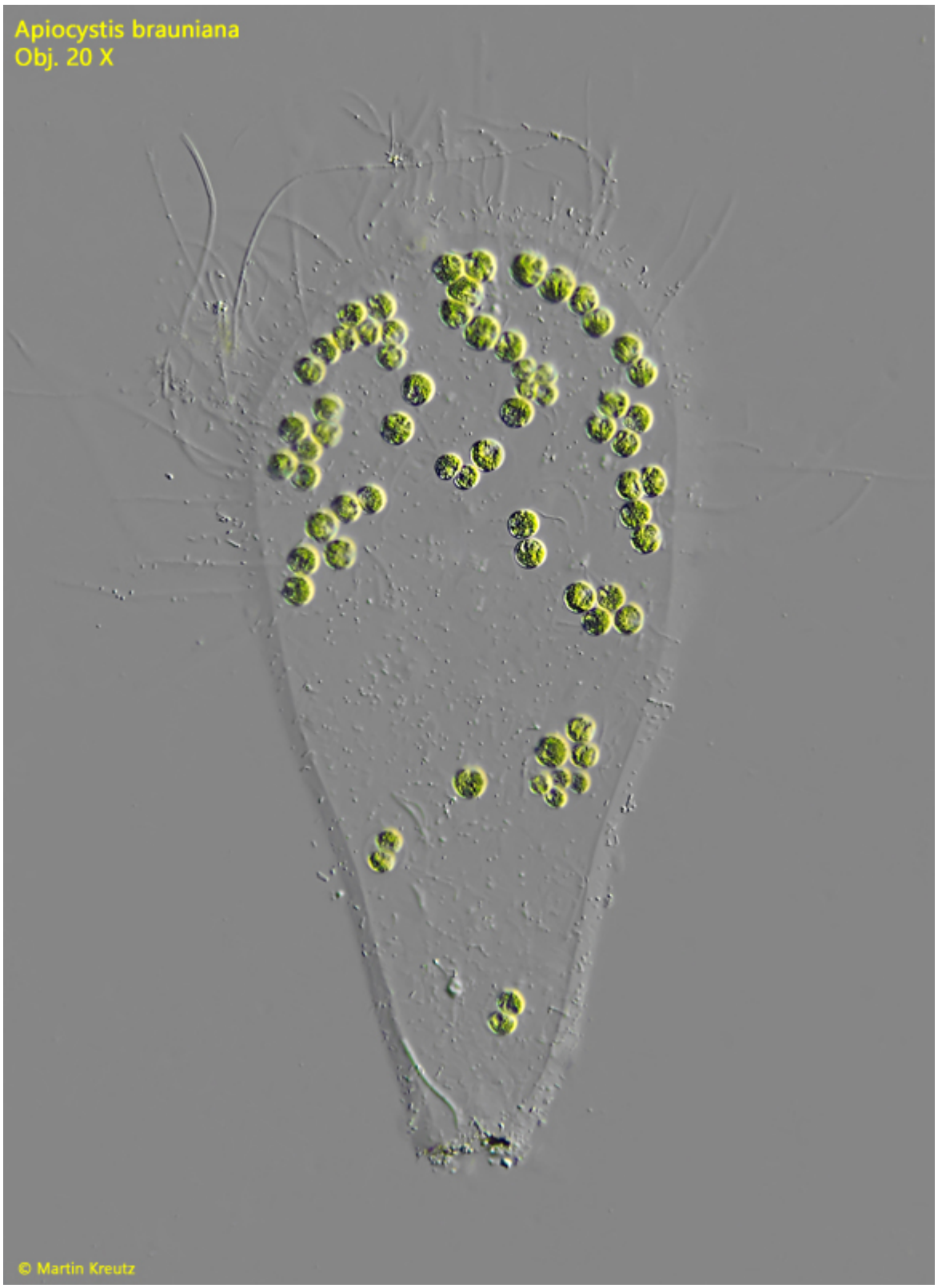


Fig. 2 : *Apiocystis brauniana*. L = 395 µm. A second colony of about 50 cells. Obj. 20 X.

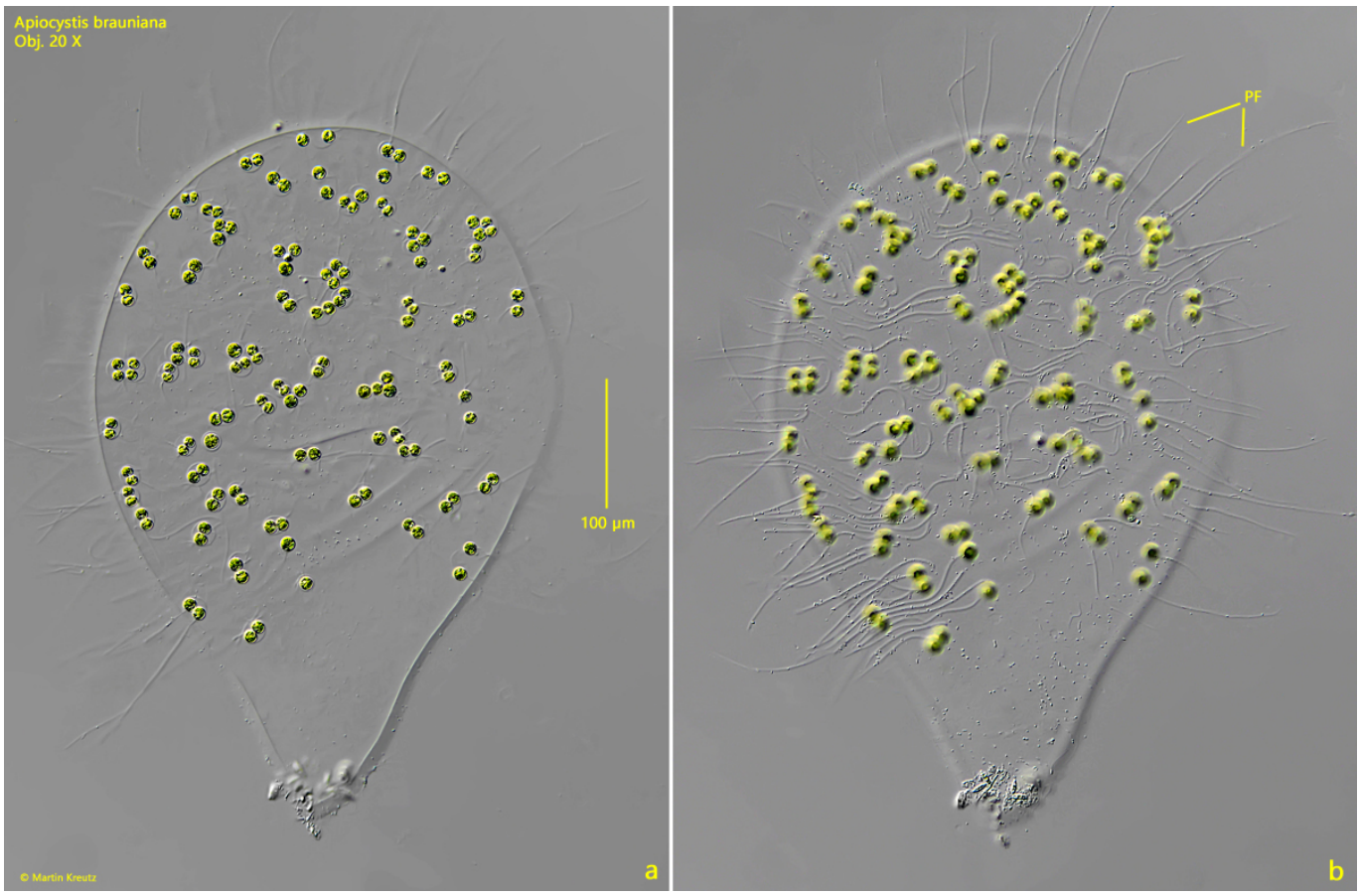


Fig. 3 a-b : *Apiocystis brauniana*. L = 600 µm. Two focal planes of a third colony. Note the pseudoflagella (PF) arsing from the cells. Obj. 20 X.

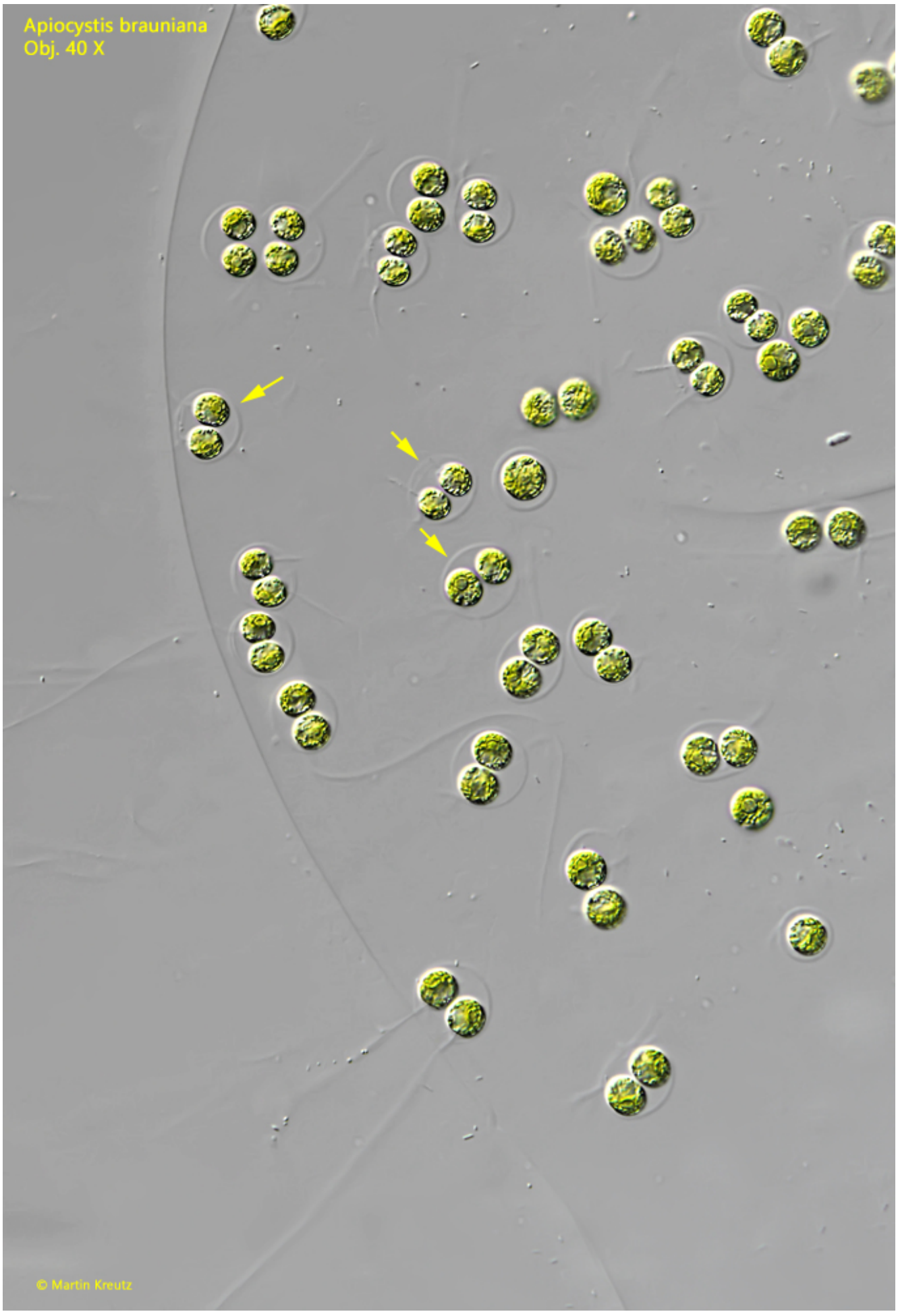

Apiocystis brauniana
Obj. 40 X
© Martin Kreutz

Fig. 4 : *Apiocystis brauniana*. Within the colony the cells are arranged in groups of 2 or 4 cells, each covered by a separate envelope (arrows). Obj. 20 X.

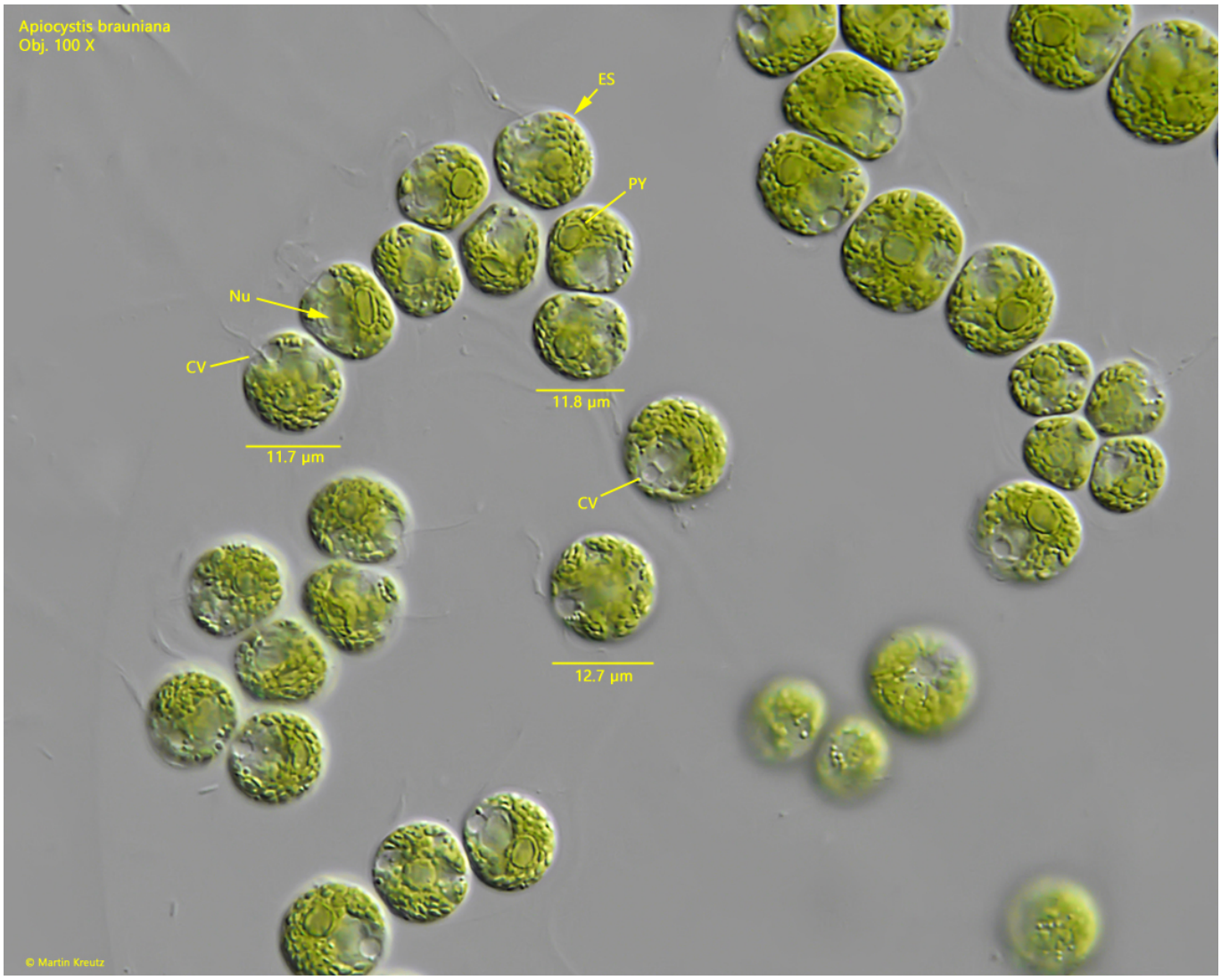


Fig. 5 : *Apiocystis brauniana*. The cells have a diameter of 11–13 µm. Each cell has two contractile vacuoles (CV) and one pyrenoid (PY). ES = eyespot, Nu = nucleus. Obj. 100 X.

Fig. 6 : *Apiocystis brauniana*. A pair of cells in detail. CV = contractile vacuole, PF = pseudoflagella, PY = pyrenoid. Obj. 100 X.

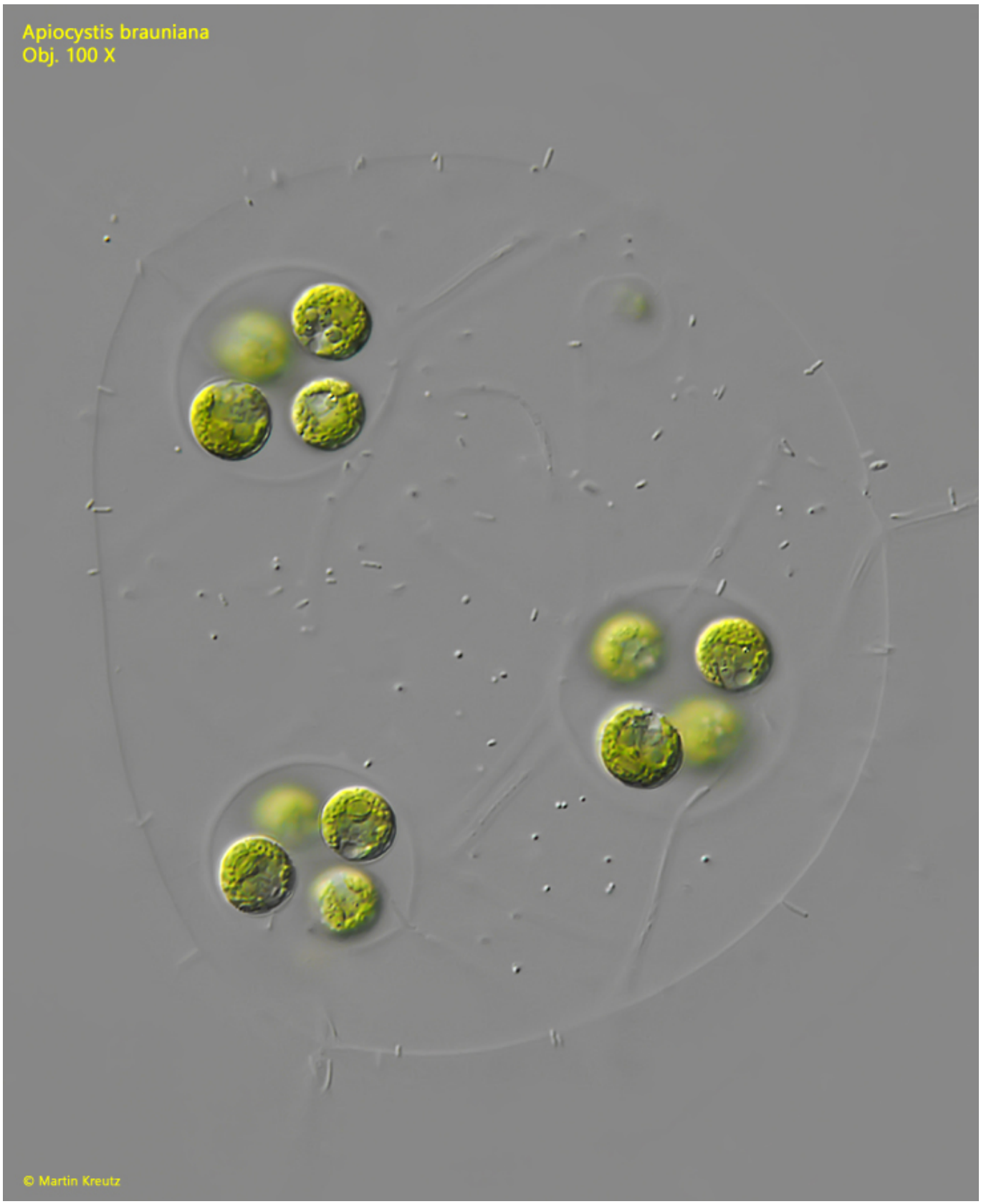


Fig. 7 : *Apiocystis brauniana*. A young, almost spherical colony of 12 cells. Obj. 100 X.