Gonium pectorale Müller, 1773

Most likely ID: n.a.

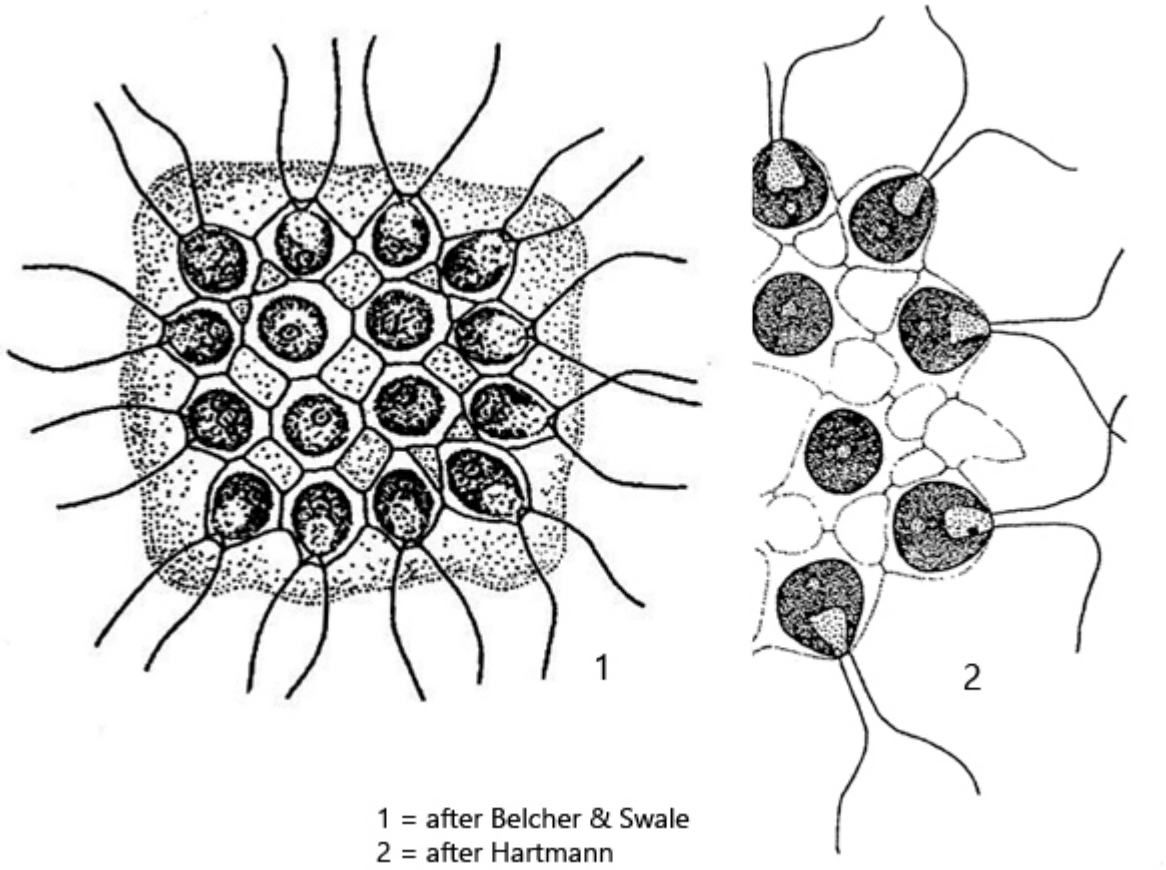
Synonym: n.a.

Sampling location: Mühlhalden pond, Pond of the waste disposal company Constance, Ulmisried, Mainau pond, Simmelried

Phylogenetic tree: *Gonium pectorale*

Diagnosis:

- coenobia 4–8–16–(32) celled
- cells platelike arranged, connected via gelatinous bridges
- diameter of coenobium 70–100 µm
- cells spherical or pear-shaped
- diameter of cells 5–14 µm
- each cell with 2 flagella of equal length, directed outwards
- chloroplast cup-shaped with one pyrenoid
- apically 2 contractile vacuoles and one eyespot



Gonium pectorale

The volvococcal alga *Gonium pectorale* is common in many of my sampling sites and I find it regularly. The arrangement of the cells in a plane is very characteristic and the coenobia can can be recognized even at low magnifications.

The cells in the coenobia each have 2 flagella of equal length, which are all directed to one side of the coenobium. This results in a typical staggering swimming style. At the front end of the cells there are two contractile vacuoles and an eyespot (s. figs. 2 and 3).

So far I have only found coenobia with 16 cells. Obviously, coenobia with 2-8 cells undergo rapid cell division and are therefore rarely found. There are also supposed to be coenobia with 32 cells, which I have also not found so far. In some coenobia I was able to observe different stages of asexual reproduction (s. figs. 4 and 5). However, *Gonium pectorale* is also capable of anisogamous sexual reproduction, which I have never been able to observe.

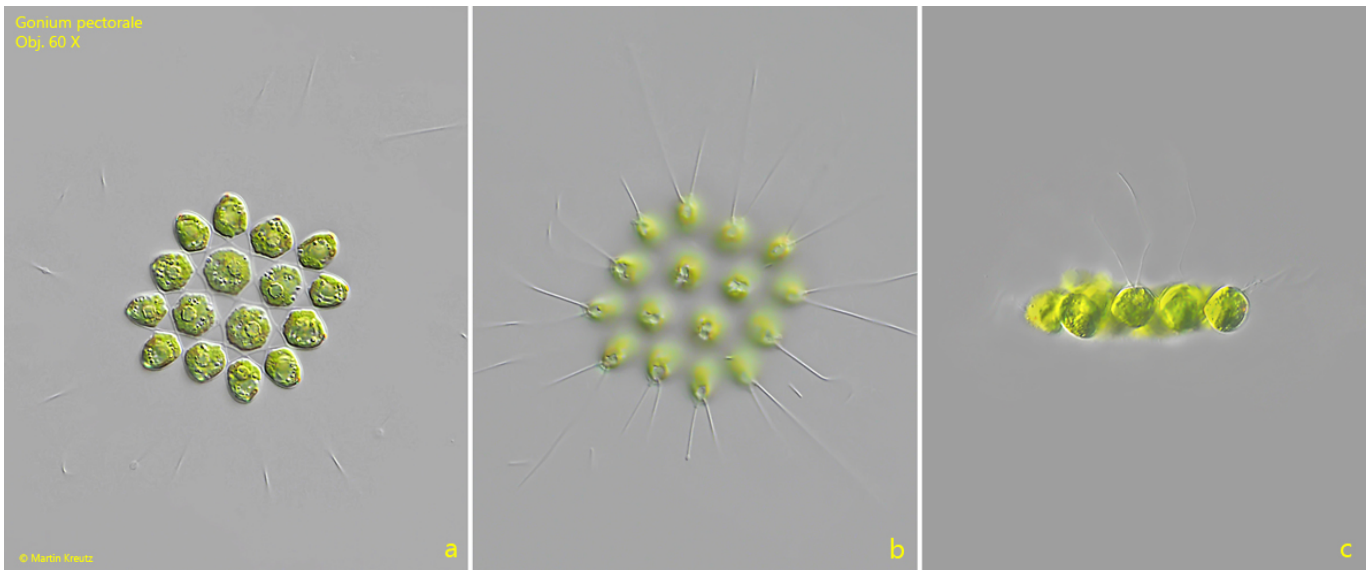


Fig. 1 a-c: *Gonium pectorale*. D = 69 µm (of coenobium). A young coenobium of 16 cells in apical view (a, b) and from lateral (c). Obj. 60 X.

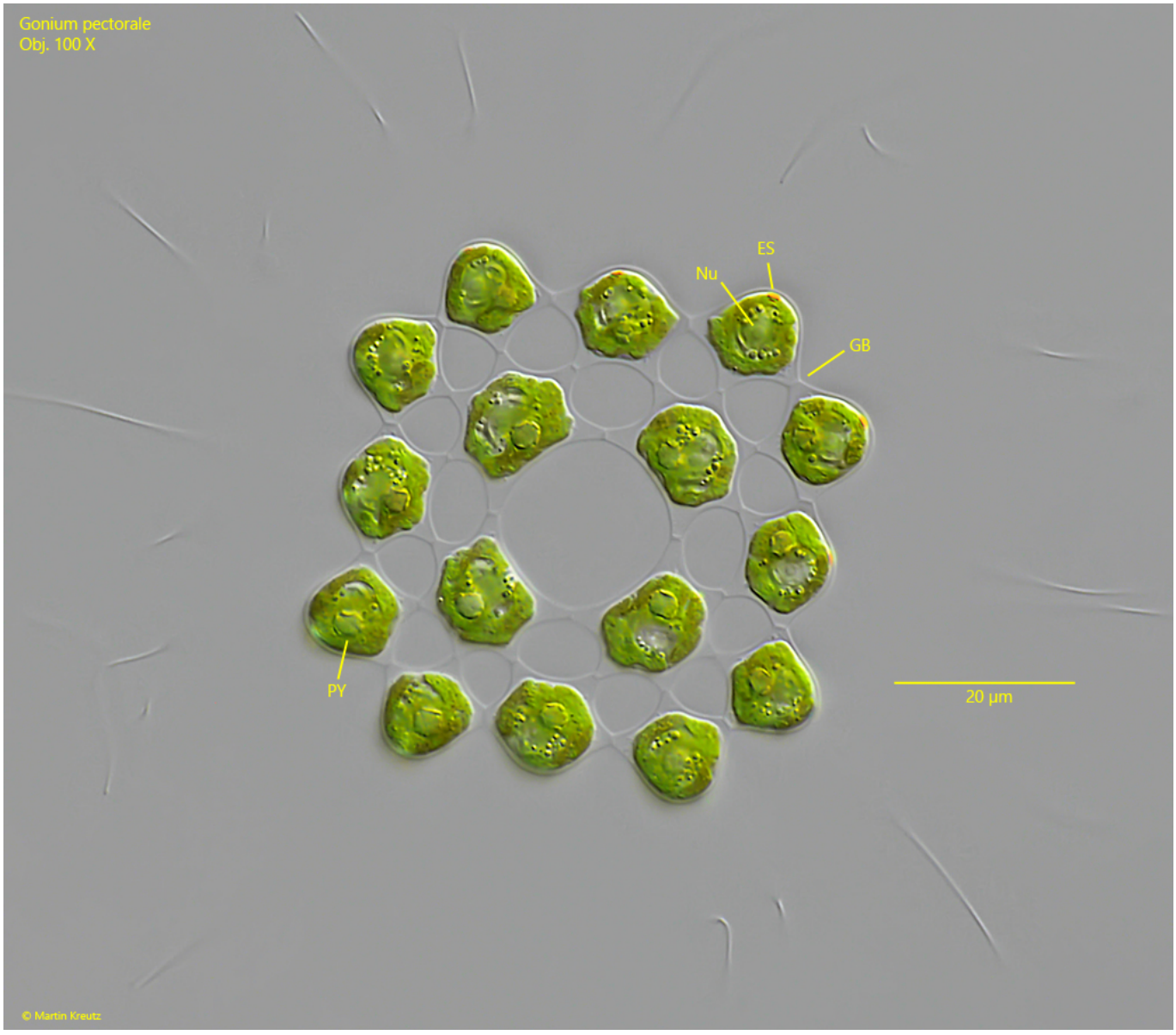


Fig. 2: *Gonium pectorale*. D = 68 µm (of coenobium). A slightly squashed coenobium of 16 cell. Note the gelatinous bridges (GB) between the cells and the apically located eyespot (ES). Nu = nucleus, PY = pyrenoid. Obj. 100 X.

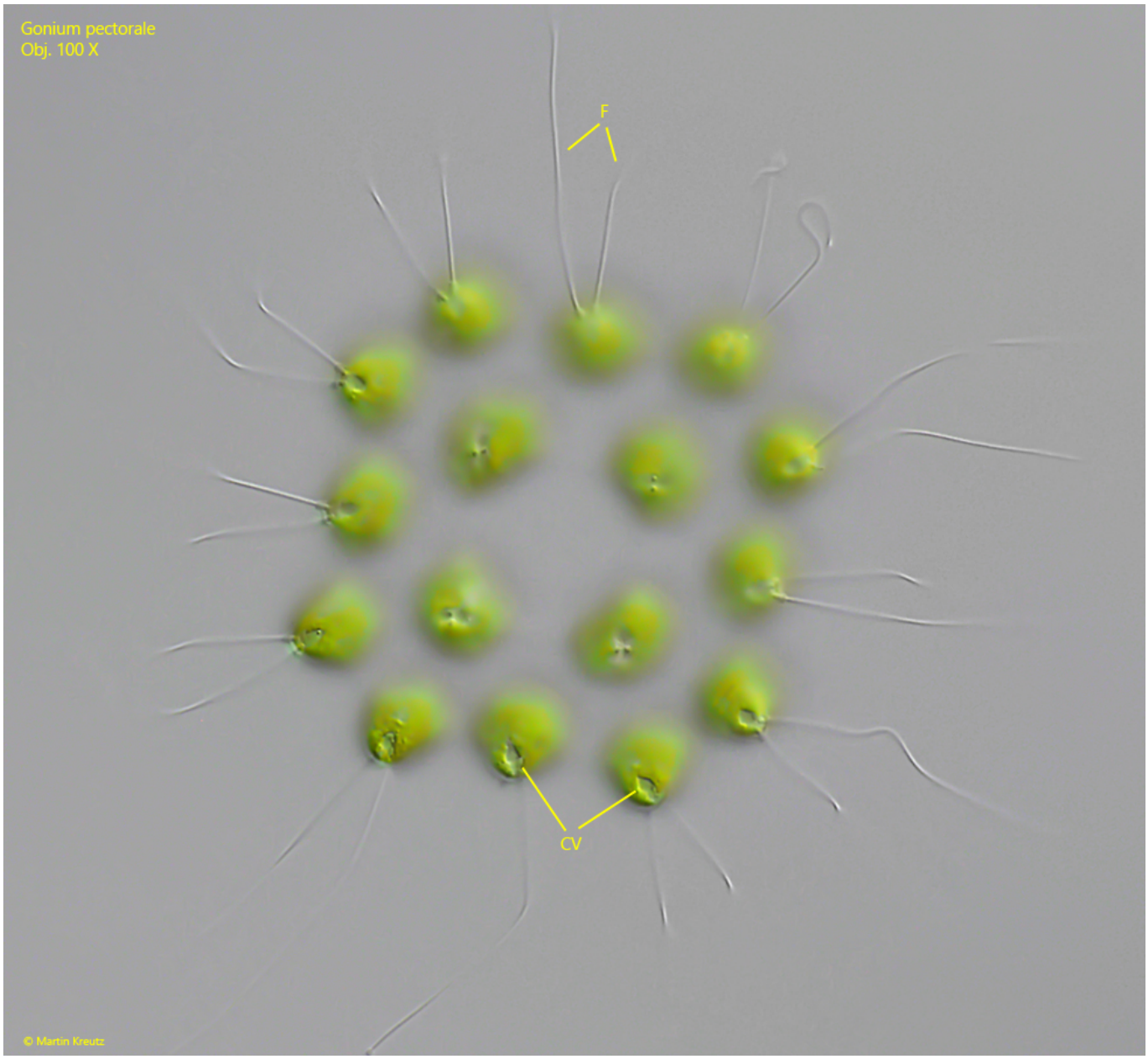


Fig. 3: *Gonium pectorale*. D = 68 µm (of coenobium). The same coenobium as shown in fig. 2 with focal plane on the apical contractile vacuoles (CV) of the cells and the two flagella (F) of equal length. Obj. 100 X.



Fig. 4: *Gonium pectorale*. D = 68 µm (of coenobium). A coenobium with different stages of asexual reproduction. Note the daughter coenobia with 2, 4 and 16 cells (arrows). Obj. 100 X.

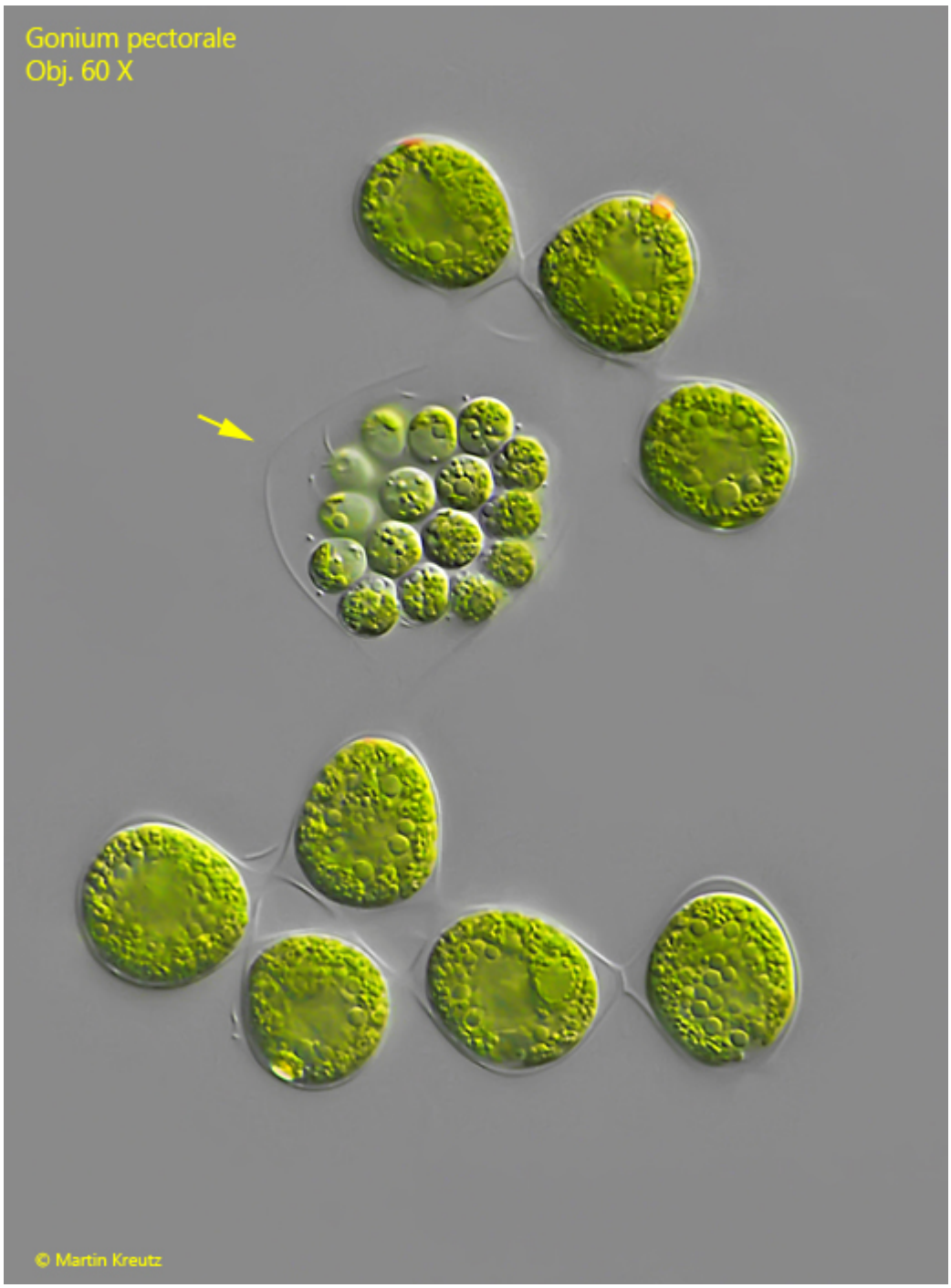


Fig. 5: *Gonium pectorale*. D = 68 µm (of coenobium). A second coenobium in the status of asexual reproduction (arrow). The coenobium is patchy because some daughter coenobia have already left it. Obj. 100 X.