Microcystis aeruginosa

(Kützing) Kützing, 1846

Most likely ID: n.a.

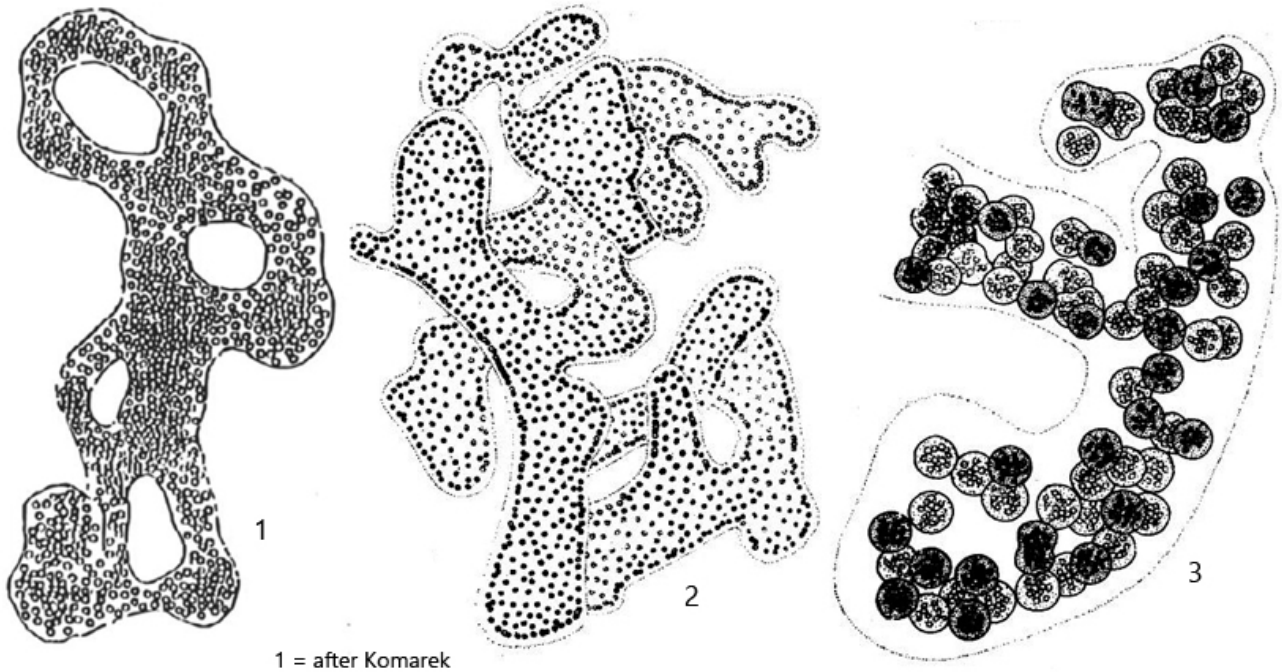
Synonym: n.a.

Sampling location: Mühlhalden pond, Lake Constance, Mühlweiher Litzelstetten

Phylogenetic tree: *Microcystis aeruginosa*

Diagnosis:

- young colonies spherical, older colonies asymmetrical and clathrate
- colonies covered by diffluent mucilage
- cells in colony separated from each other
- cells spherical to subspherical, 3–7 µm
- color olive, sometimes reddish, with gas vacuoles
- planktonic lifestyle



1 = after Komarek
2, 3 = after Smith

Microcystis aeruginosa

Microcystis aeruginosa is a very common, planktonic cyanophyceae that can form mass developments, especially in summer.

Microcystis aeruginosa can be recognized by its large, clathrate colonies. These can be up to 1 mm in size. Large colonies often break up into several daughter colonies. Cells are usually dark green or olive in color. The similar species *Microcystis flos-aquae* does not form clathrate colonies. In addition, the edges of the colonies are sharply defined, whereas the cells of *Microcystis aeruginosa* also partially grow into the surrounding mucus layer.

The cells of *Microcystis aeruginosa* in my population had a diameter of 4–5.8 µm and were mostly spherical. The edge of the cells often appears blurred at high magnifications, which is caused by the embedded gas vacuoles that provide buoyancy for the colonies (s. fig. 3).

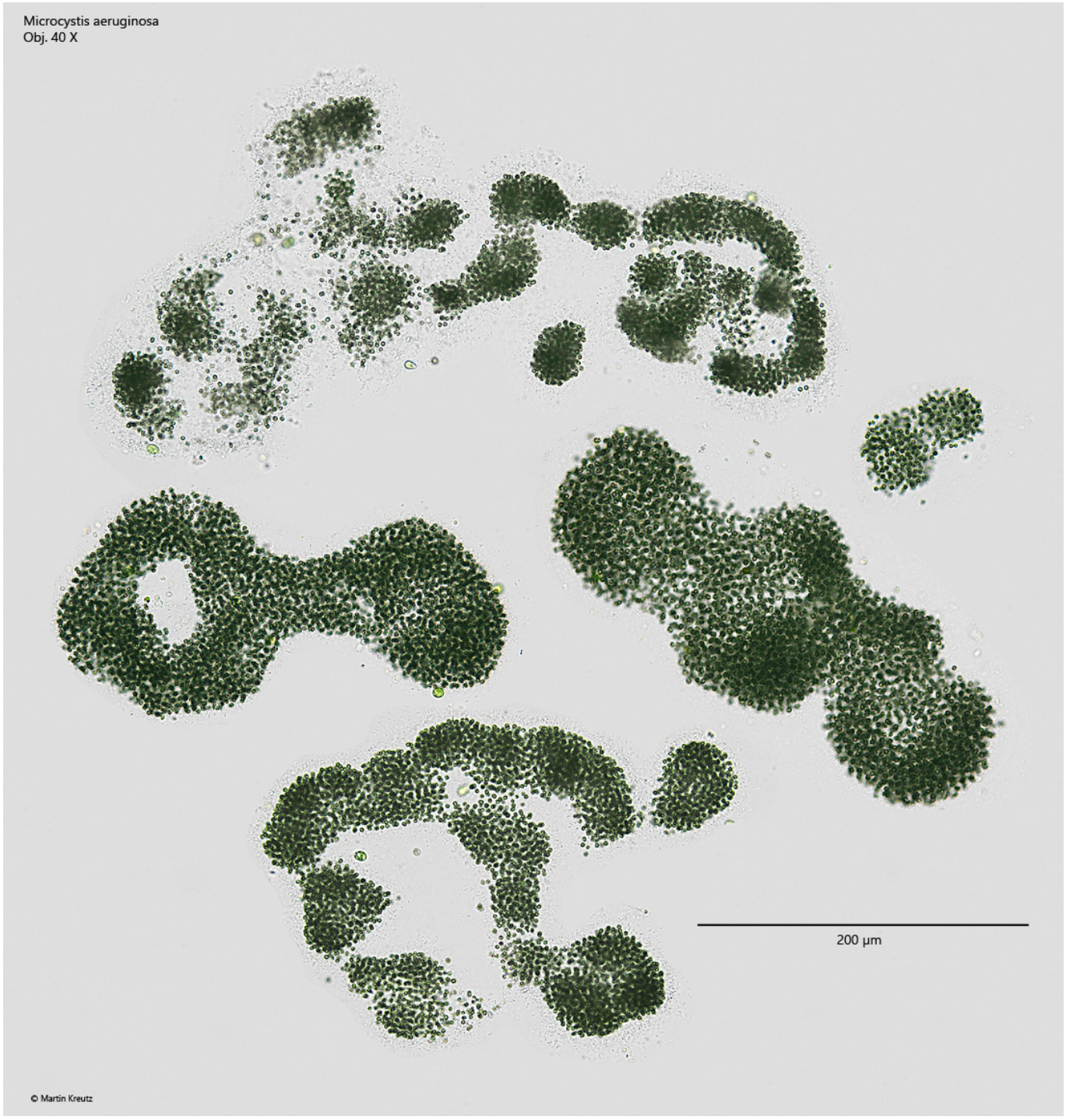


Fig. 1: *Microcystis aeruginosa*. D = 45–310 µm (of colonies). Overview of some clathrate colonies. Obj. 40 X.

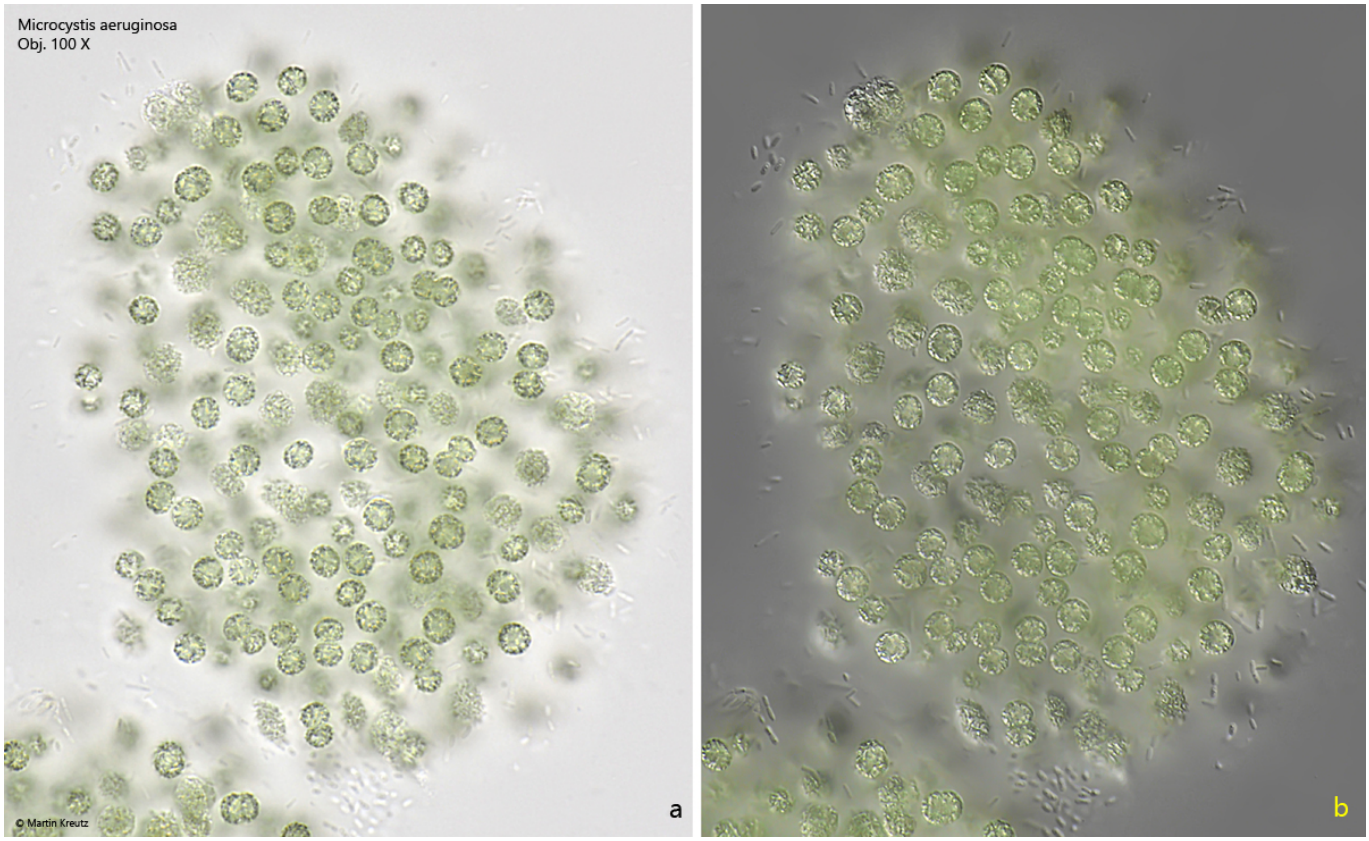


Fig. 2 a-b: *Microcystis aeruginosa*. Part of a colony in brightfield illumination (a) and DIC (b). Obj. 100 X.

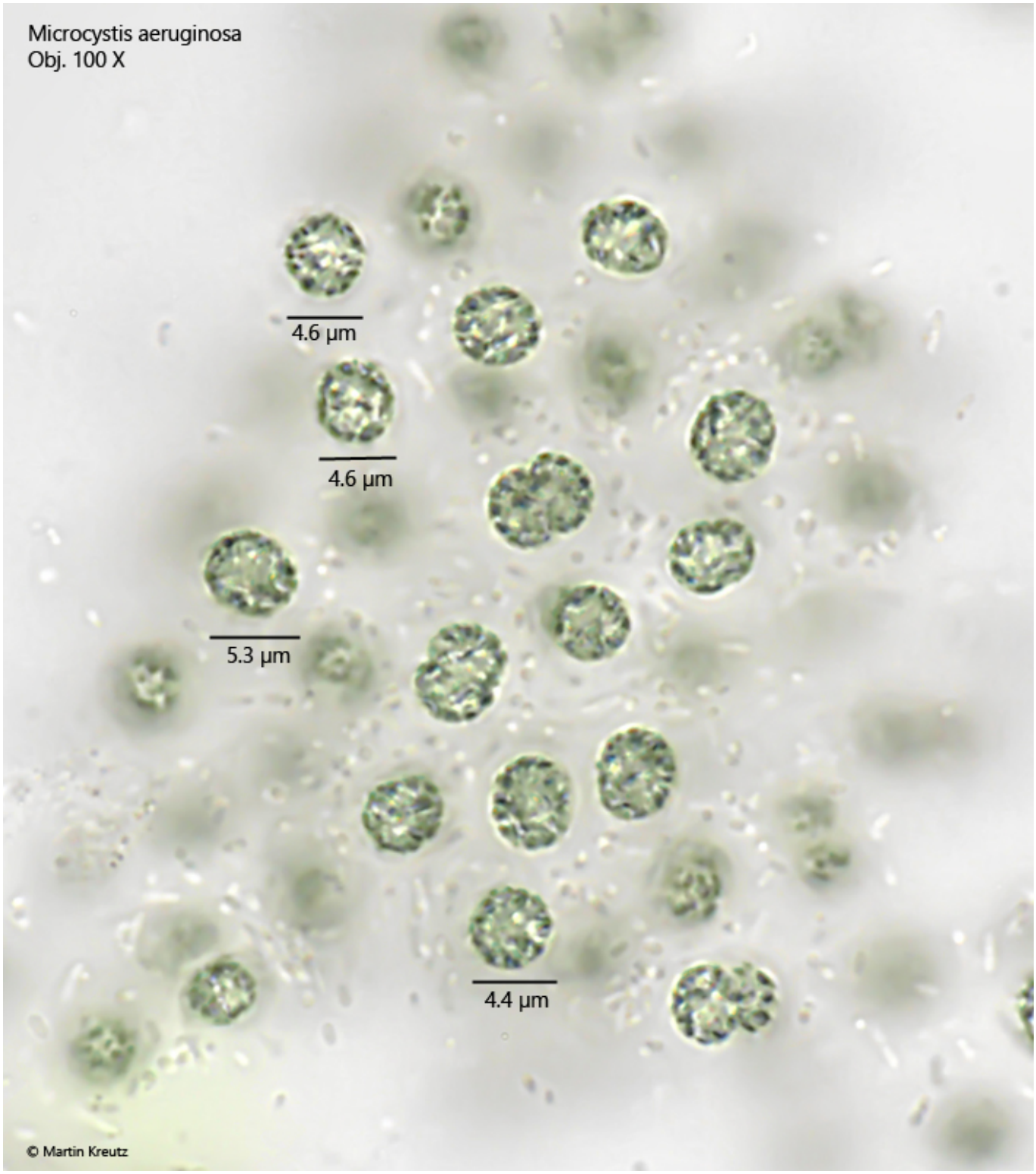


Fig. 3: *Microcystis aeruginosa*. The cells of a coloniy in detail. The diameter of the spherical and subspherical cells is 4.4–5.3 µm. The bright spots in the olive colored cells are gas vacuoles. Obj. 100 X.