

***Spathidium chlorelligerum* Kahl, 1930**

Most likely ID: n.a.

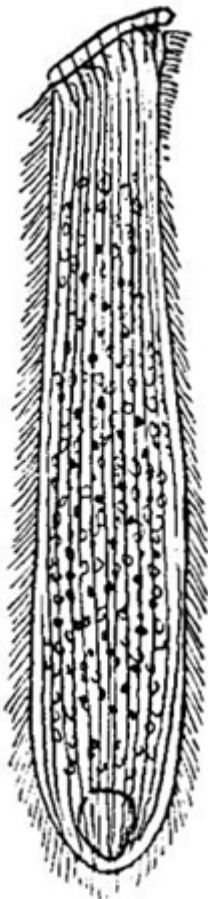
Synonym: n.a.

Sampling location: [Simmelried](#)

Phylogenetic tree: [Spathidium chlorelligerum](#)

Diagnosis:

- body narrowly spatulate, anterior half laterally flattened
- length 200–300 µm
- dorsal brush with long bristles
- contractile vacuole terminal
- extrusomes curved rods, 10–12 µm long
- 50–100 scattered macronucleus nodules
- cytoplasm colored green due to symbiotic algae



after Kahl

Spathidium clorelligerum

I have only found *Spathidium clorelligerum* three times in 2003, 2010 and most recently in 2024. In the first two cases, these were single specimens, while in July 2024 I was able to observe a mass development of about 20 specimens/ml. All specimens came from the [Simmelried](#).

The only available description of *Spathidium clorelligerum* is by Kahl (1930), but it is very short. In my population I was able to find deviations from Kahl's description. In the specimens I examined, the macronucleus was always a sausage-shaped or filiform strand with a length of 100–200 μm (s. fig. 3). At high magnification it could also be seen that this strand has several short branches (s. fig. 4). I was unable to find specimens with 50–100 scattered nodules, as described by Kahl.

The spherical micronuclei are very small (diameter 1.5 μm) and are attached to the macronucleus (s. fig. 5). They are difficult to recognize. The extrusomes are slightly curved rods with a length of 11.4–11.7 μm , which corresponds to Kahl's description (s. fig. 6). The dorsal brush reaches about one third of the body length. The bristles

have a maximum length of 8-9 μm (s. fig. 2).

The symbiotic algae are described by Kahl as “very small”. In my population they were algae of the *Chlorella* type with a cup-shaped chloroplast and their own nucleus (s. fig. 7). They had a diameter of 5-6 μm , which is a common diameter of symbiotic algae in other species as well.



Fig. 1 a-b: *Spathidium chlorelligerum*. L = 250 μ m. A freely swimming specimen from right (a) and in ventral view (b). CV = contractile vacuole, DB = dorsal brush,

OB = oral bulge. Obj. 40 X.

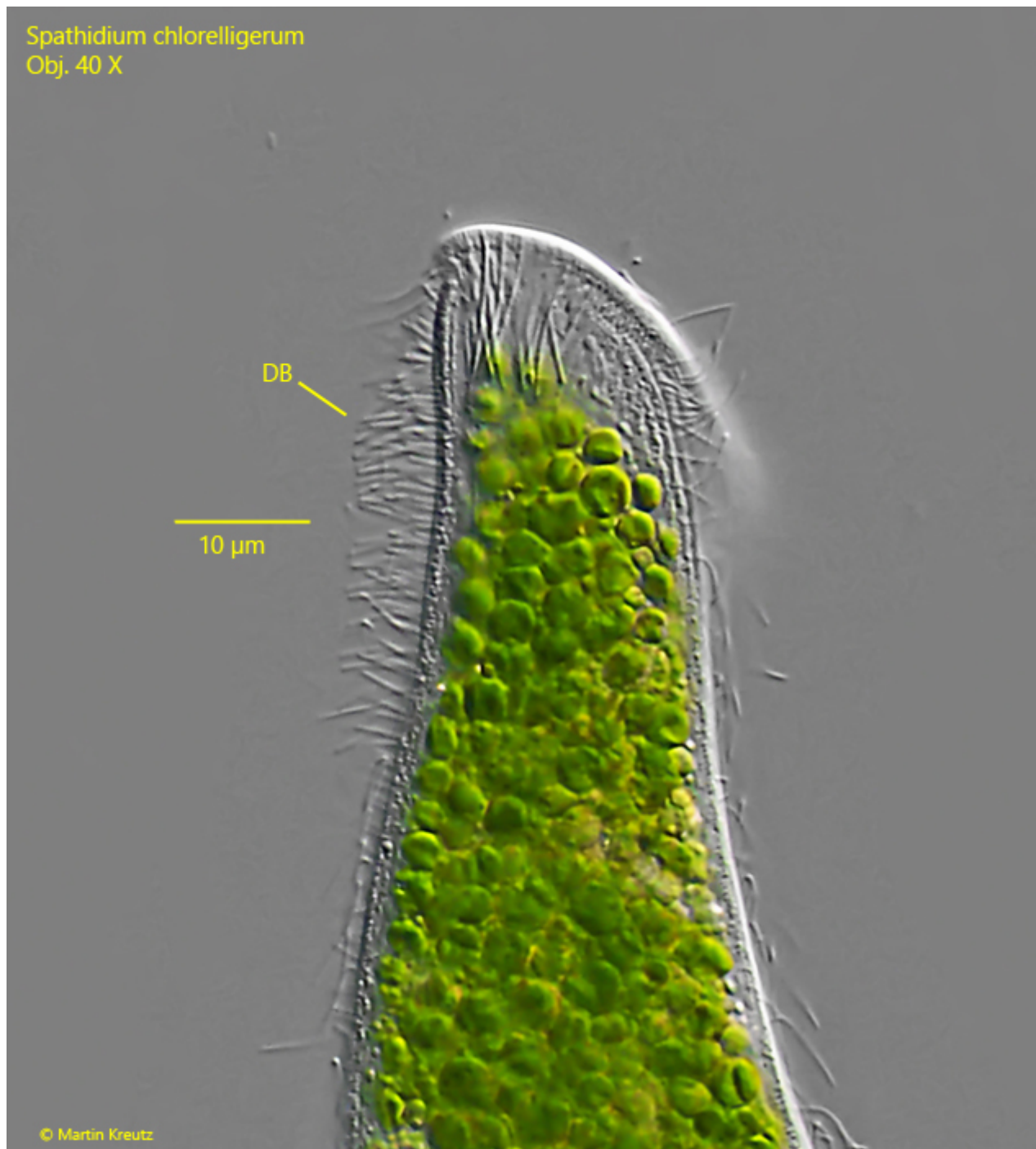


Fig. 2: *Spathidium chlorelligerum*. The bristles of the dorsal brush (DB) have a length of 8–9 µm. Obj. 40 X.

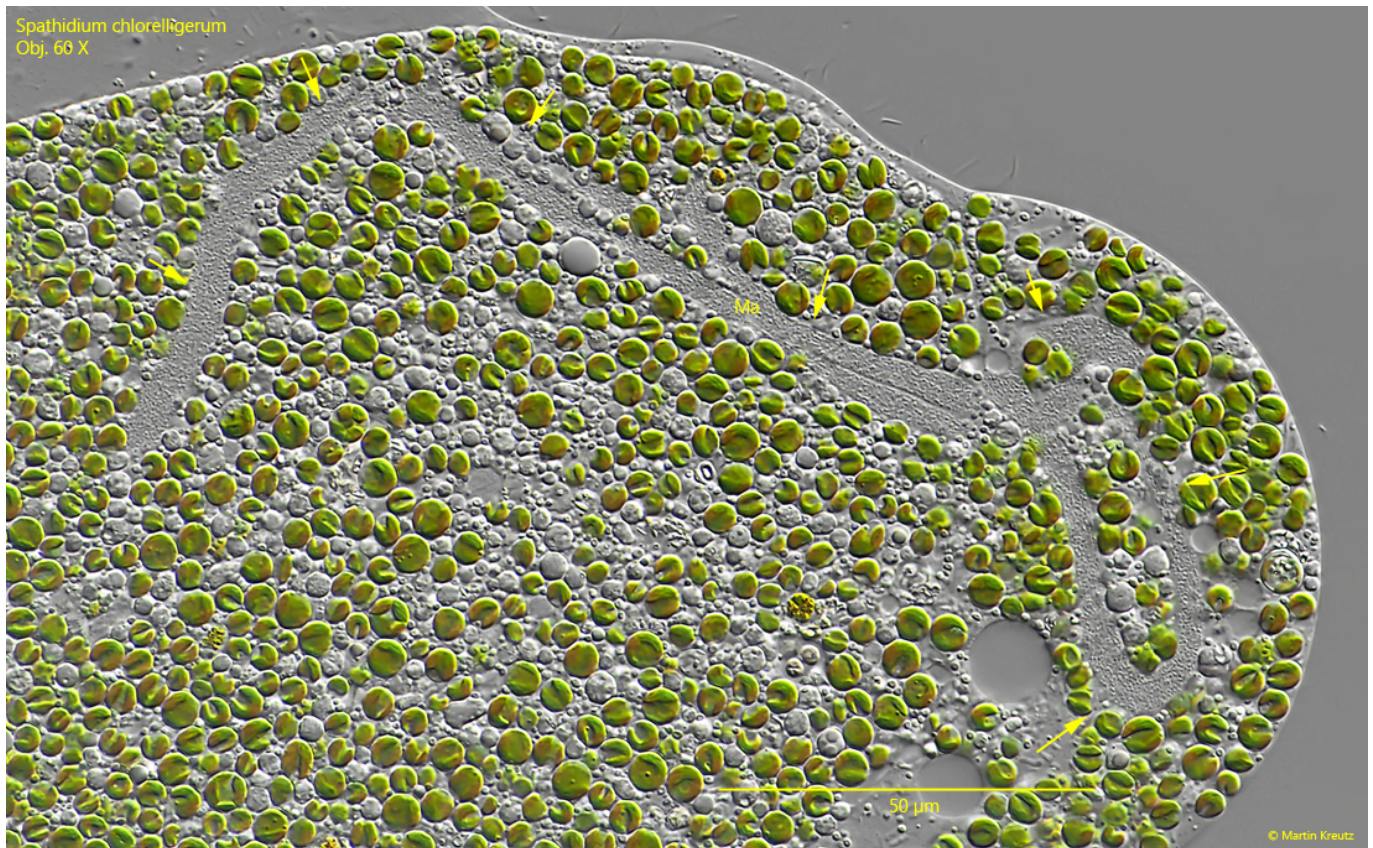


Fig. 3: *Spathidium chlorelligerum*. In a squashed specimen the macronucleus (Ma) with the shape of a filiform strand becomes visible (s. arrows). The macronucleus has a length of about 150 µm. Obj. 60 X.

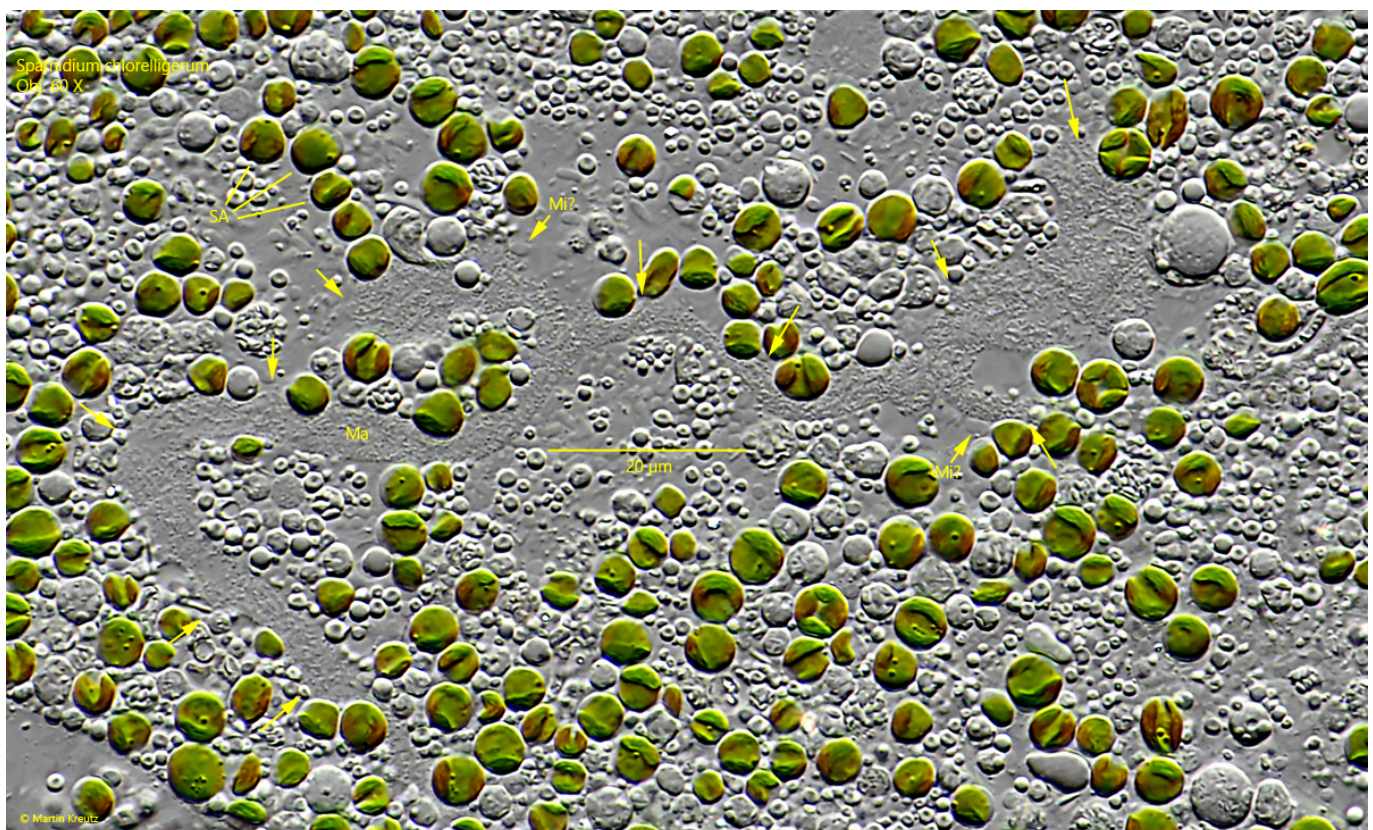


Fig. 4: *Spathidium chlorelligerum*. In a more squashed specimen it is visible that the macronucleus (Ma) is branched in some places with short extensions (arrows). Mi? = probably micronuclei, SA = symbiotic algae. Obj. 60 X.

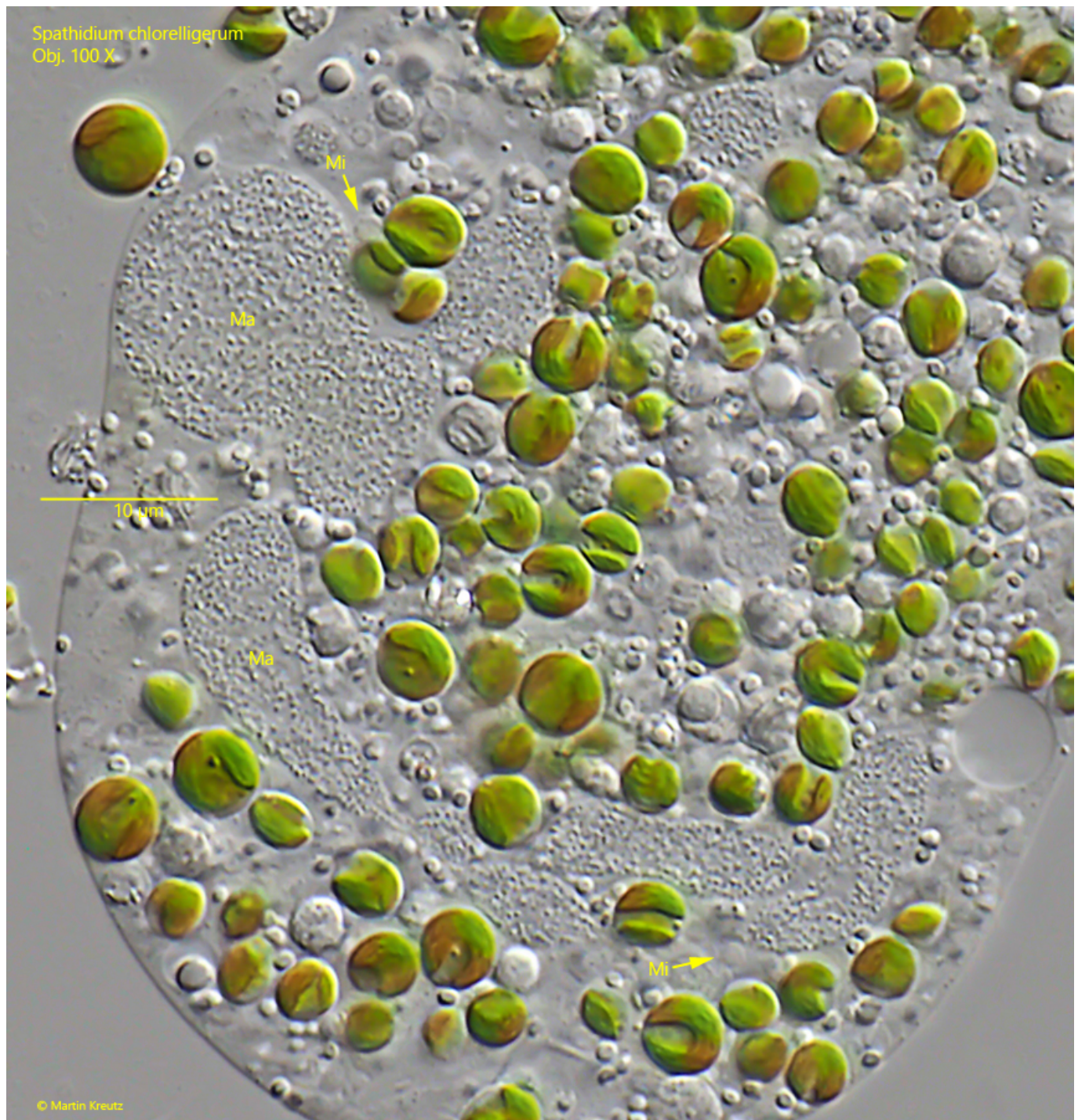
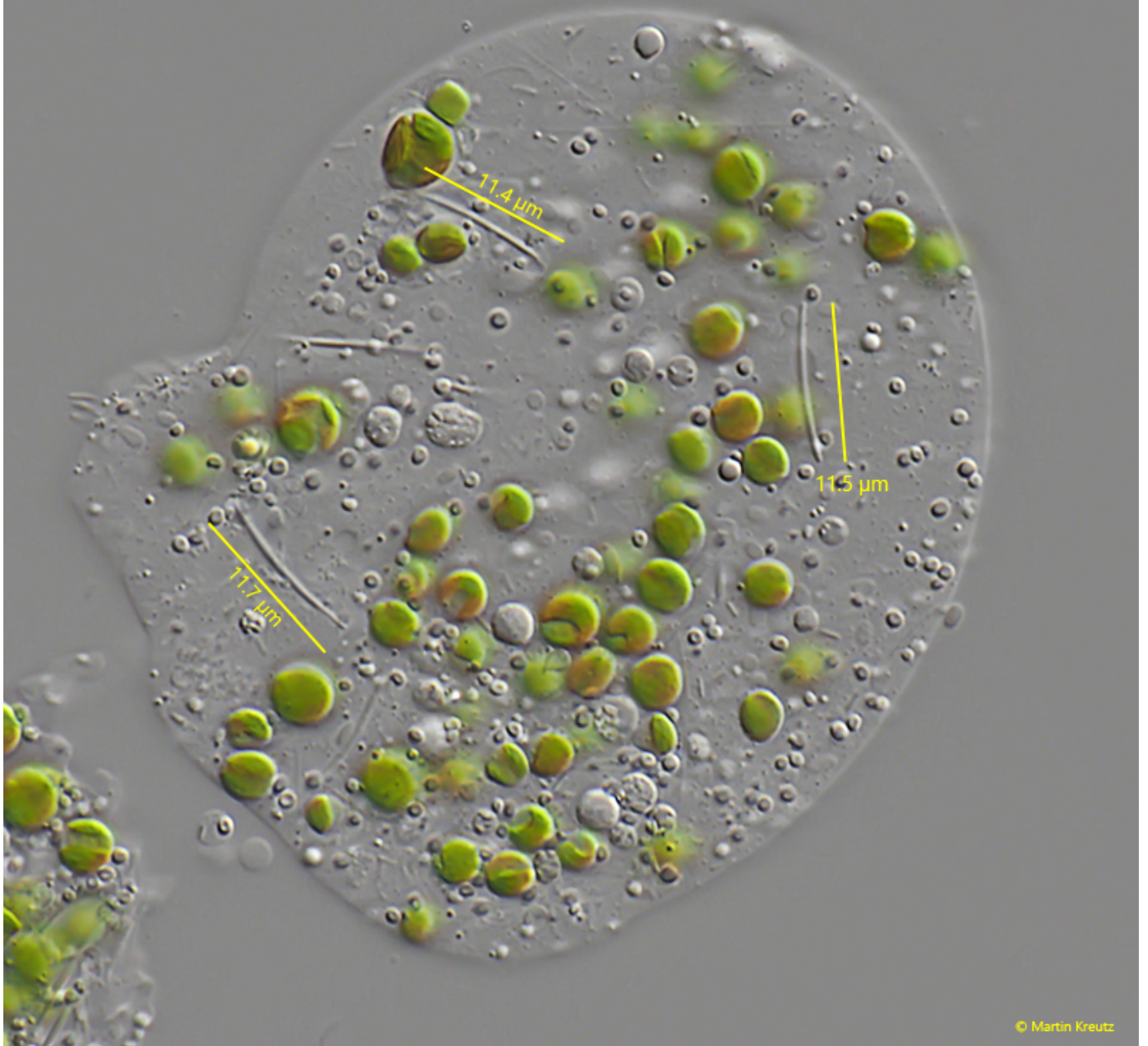


Fig. 5: *Spathidium chlorelligerum*. A detail of the macronucleus with small, adjacent micronuclei (Mi). The spherical micronuclei have a diameter of 1.5 µm. Obj. 100 X.

Spathidium chlorelligerum
Obj. 100 X



© Martin Kreutz

Fig. 6: *Spathidium chlorelligerum*. The extrusomes are slightly curved rods with a length of 11.4–11.7 µm. Obj. 100 X.

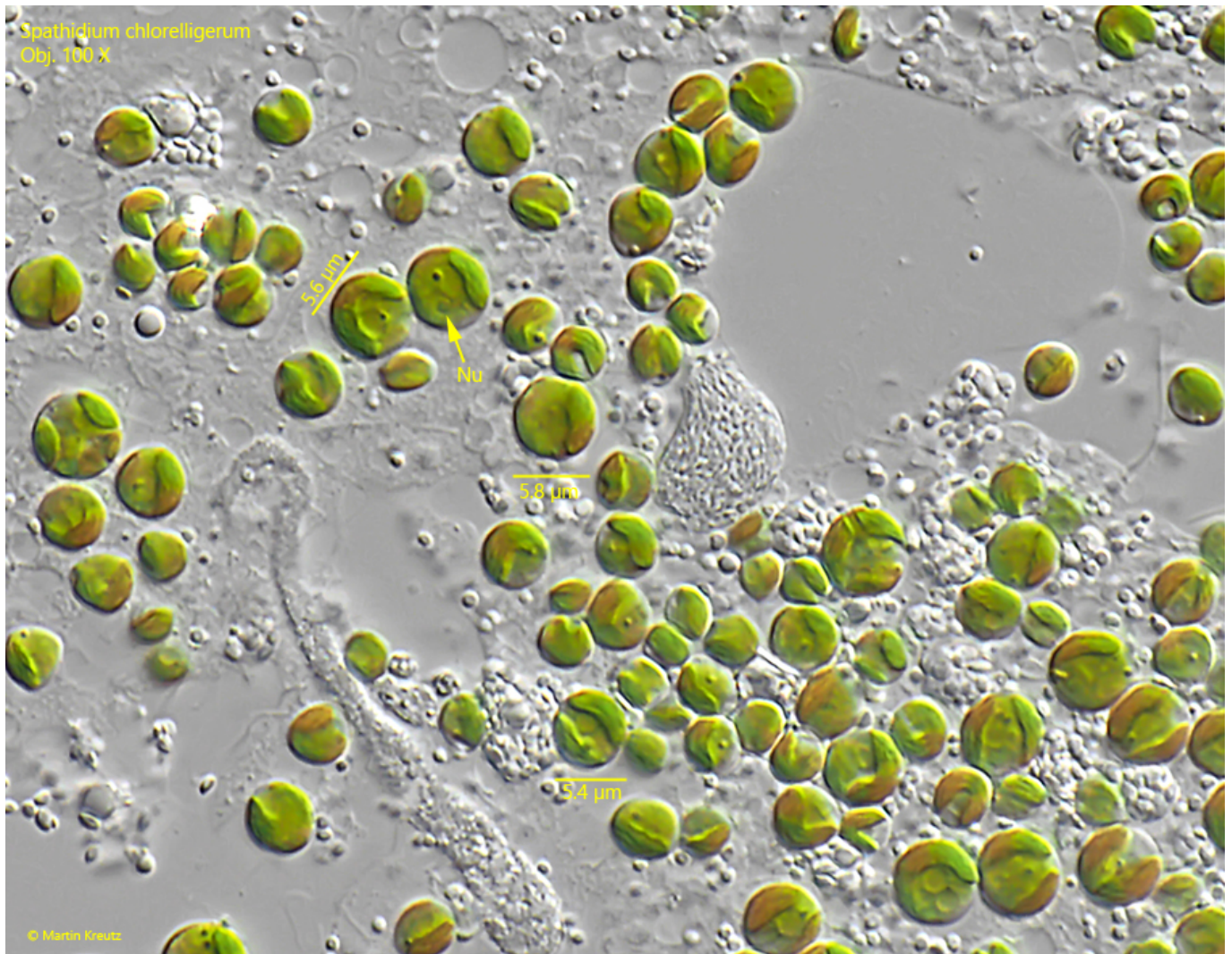


Fig. 7: *Spathidium chlorelligerum*. The symbiotic algae are from the *Chlorella* type with a cup-shaped chloroplast without pyrenoid. The spherical cells have a diameter of 5.4–5.8 μm . Each alga cell has an own nucleus (Nu). Obj. 100 X.