

Tokophrya fasciculata

(Lopez-Ochoterena, 1964) Matthes, 1988

Most likely ID: n.a.

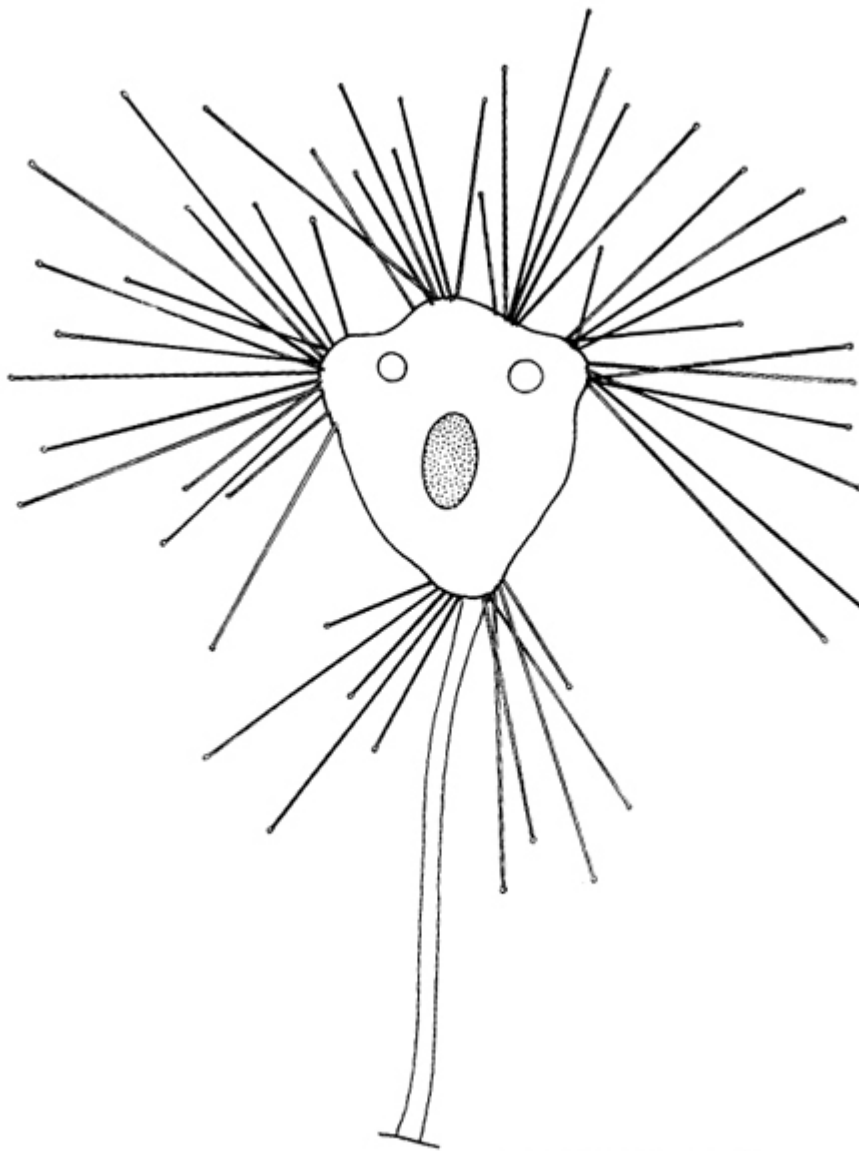
Synonym: *Hypophrya fasciculata*

Sampling location: [Pond of the waste disposal company Constance](#)

Phylogenetic tree: [Tokophrya fasciculata](#)

Diagnosis:

- body pyramidal, sit on long striated stalk
- length of body 96–126 μm , width 48–85 μm
- length of stalk 180–300 μm
- length of tentacles 28–130 μm
- four apical bundles of 8–18 tentacles
- one posterior wreath of 10–15 tentacles
- two apical contractile vacuoles
- macronucleus ellipsoid or oval
- one micronucleus



after Lopez-Ochoterena

Tokophrya fasciculata

I regularly find *Tokophrya fasciculata* as growth on the stems of the Yellow Water Lily (*Nuphar lutea*) in the [pond of the waste disposal company Constance](#). On the stems this suctorian is difficult to study. Therefore, I cut some stems into pieces and place them with some water from the sampling site into a Petri dish. Then I place floating coverslips glasses on the surface. After 2-3 days I find specimens of *Tokophrya fasciculata* that have settled on the coverslip.

Tokophrya fasciculata is a fairly large suctorian and has striking features that make identification easy. Apically, the body has four bulges, from each of which a bundle of tentacles arises. In addition, *Tokophrya fasciculata* has, at the posterior end just before the base of the stalk, a wreath of tentacles that emerge from the body in a ring shape (s. figs 1 a-b and 3 b). The stalk formed by this suctorian is long and distinctly longitudinally striped (s. fig. 6).

As further characteristics, *Tokophrya fasciculata* has two contractile vacuoles that lie near the apical bulges. The macronucleus lies centrally with an associated micronucleus (s. fig. 5).

In some specimens I was able to observe the development of swarmers (s. fig. 10). They develop in an apical invagination and swim away after maturation. I was not able to find a freely swimming swarmer, but in the specimens developing in the depression I was able to observe 5 apical rows of cilia (s. fig. 11). In the literature available to me I have not found any description of the swarmer of *Tokophrya fasciculata*. Even the original describer Lopez-Ochoterena (1964) did not describe the swarmer.

The specimens of my population had a body length of 130–160 μm , which is clearly longer than the 96–126 μm given by Lopez-Ochoterena (1964). The tentacles were also significantly longer, reaching up to 220 μm (s. fig. 7). I attribute this to the nutrient-rich habitat. Moreover, there are so far only a few records of *Tokophrya fasciculata*, which is why little is known about the variability of the species.

More images and information on *Tokophrya fasciculata*: [Philipp Mayer-Mikrokosmos-Tokophrya fasciculata- Ein bisher nur in Mexiko gefundener Suctor.](#)



Fig. 1 a-b: *Tokophrya fasciculata*. L = 580 μ m (with stalk, without tentacles). Two focal planes of an extended specimen in brightfield illumination. Apically four knobs with each one bundle of tentacles is present as well as a posterior wreath of tentacles. Obj. 20 X.

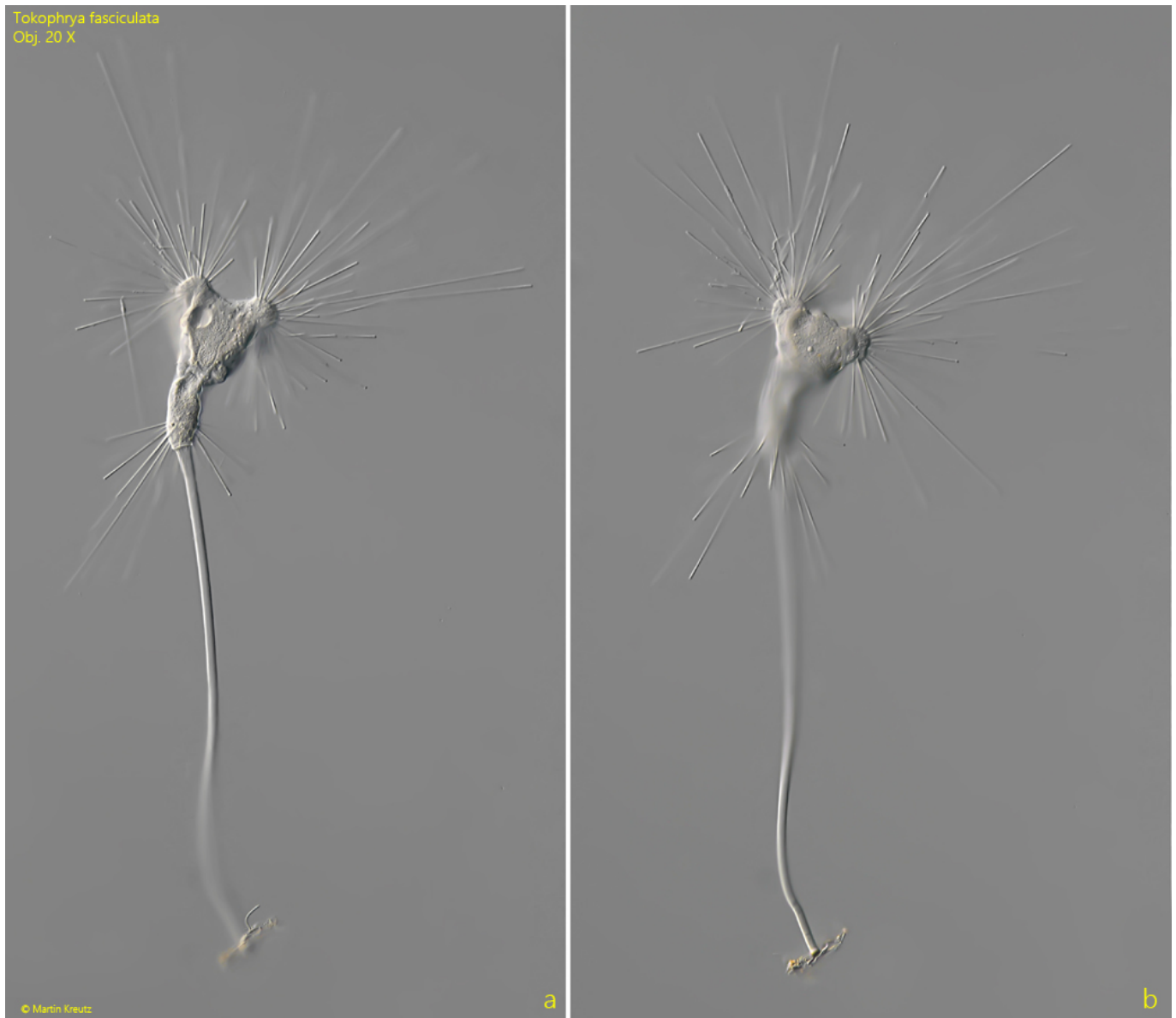
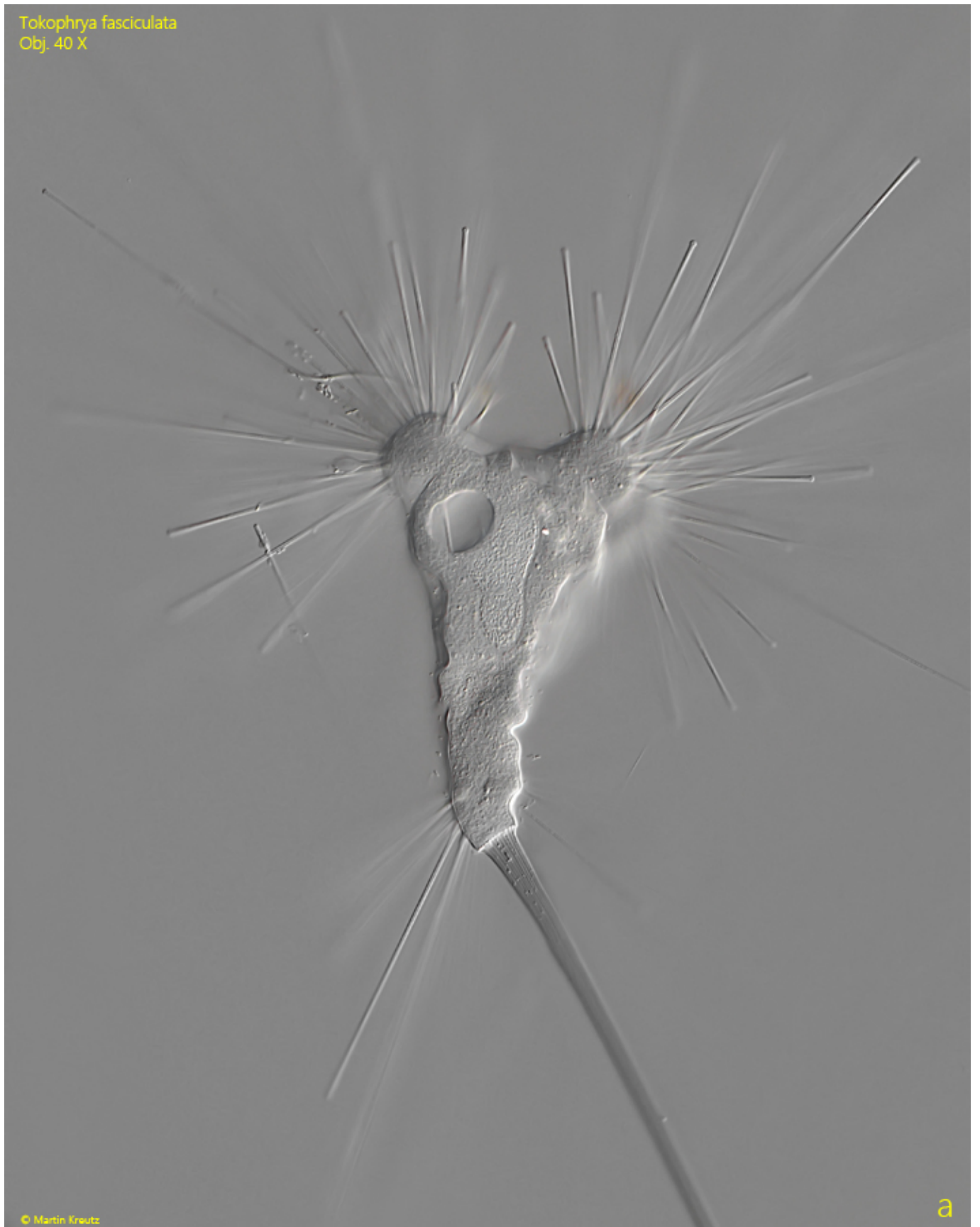


Fig. 2 a-b: *Tokophrya fasciculata*. L = 580 μ m (with stalk, without tentacles). The same specimen as shown in fig. 1 a-b in DIC. Obj. 20 X.

Tokophrya fasciculata
Obj. 40 X



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a

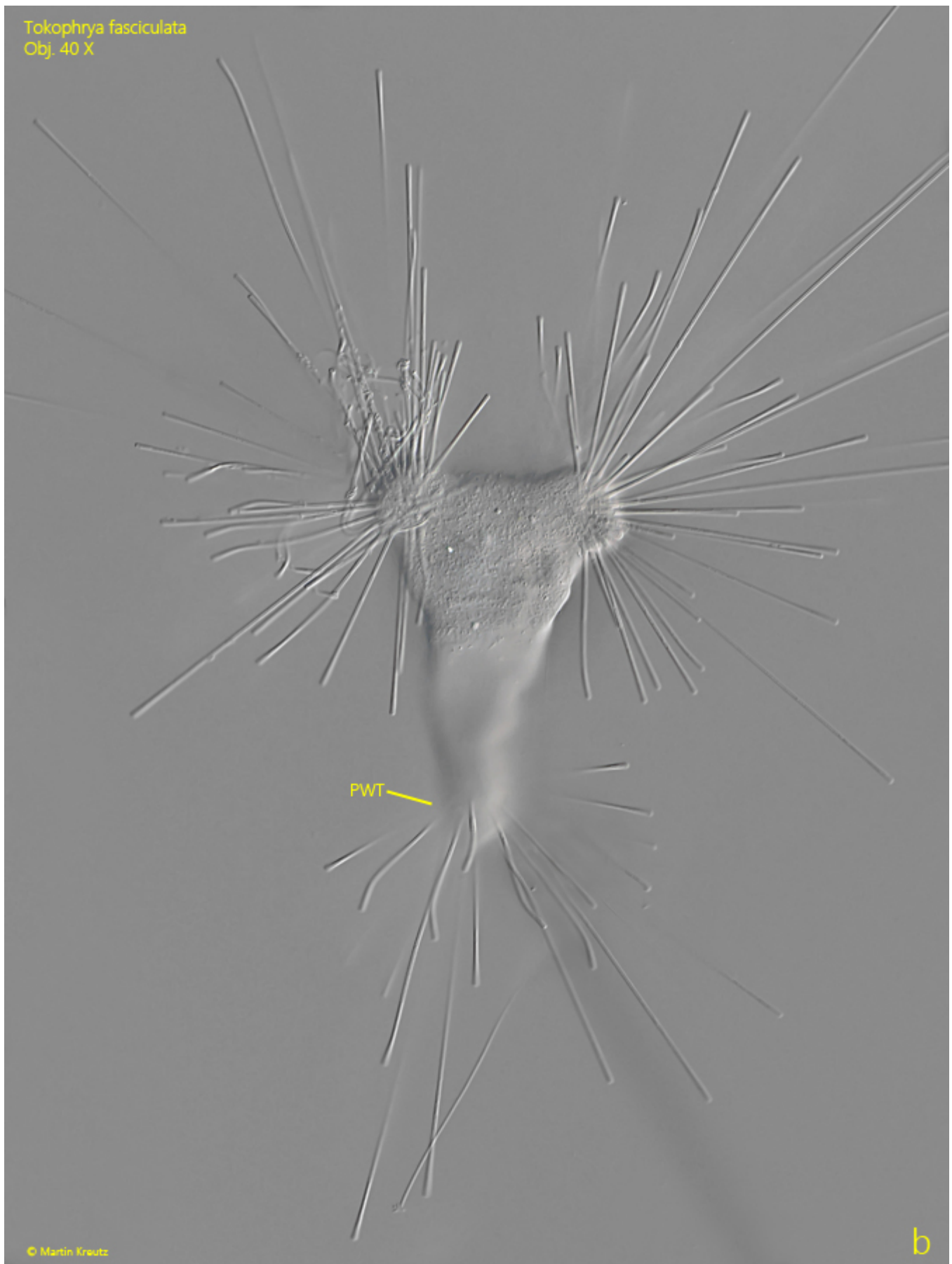
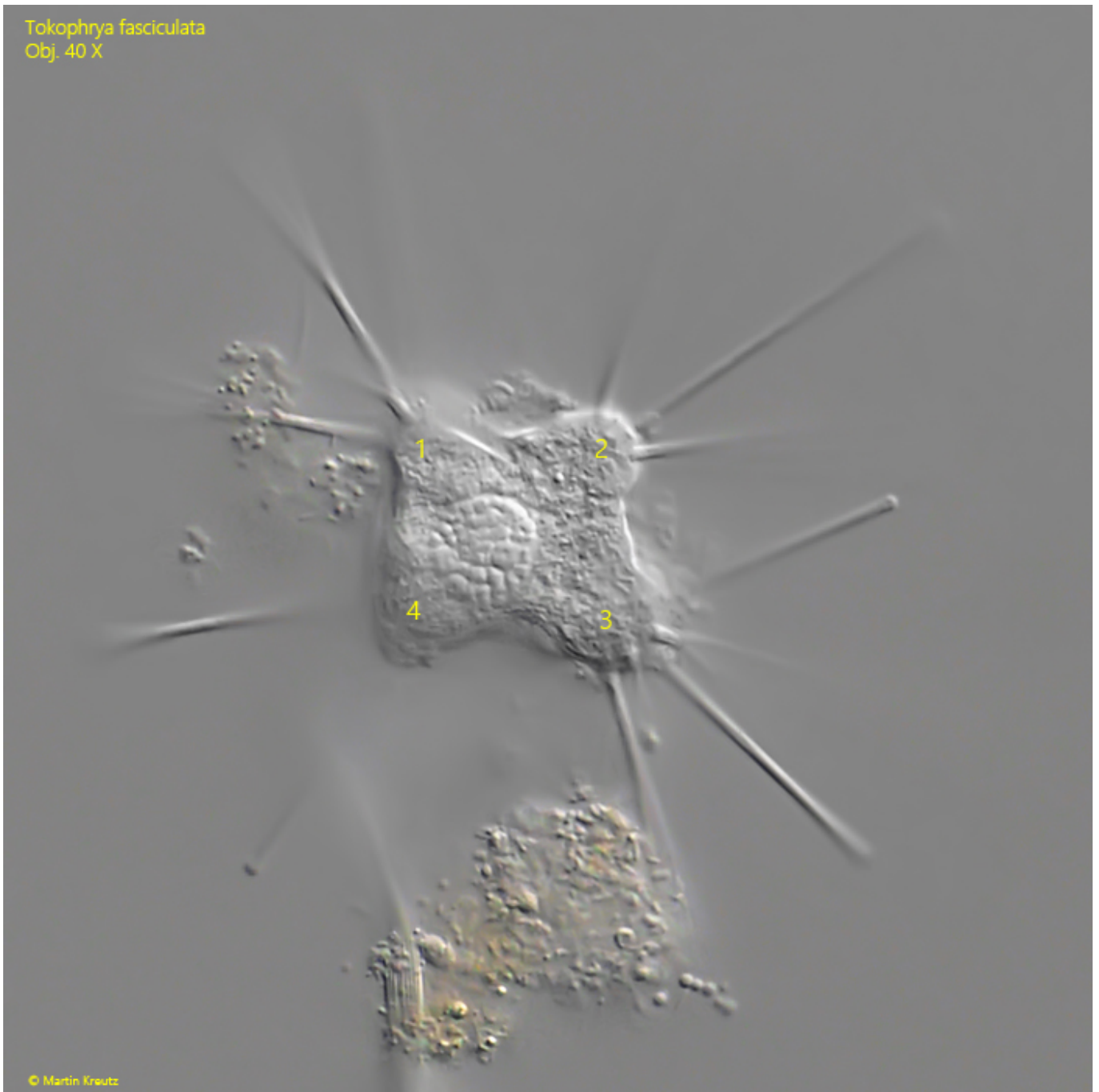


Fig. 3 a-b: *Tokophrya fasciculata*. L = 152 μm (of body). Two focal planes of the body. Note the posterior wreath of tentacles (PWT). Obj. 40 X.

Tokophrya fasciculata
Obj. 40 X



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Fig. 4: *Tokophrya fasciculata*. Apical view on the four knobs (1-4) where the bundles of tentacles arise. Obj. 40 X.

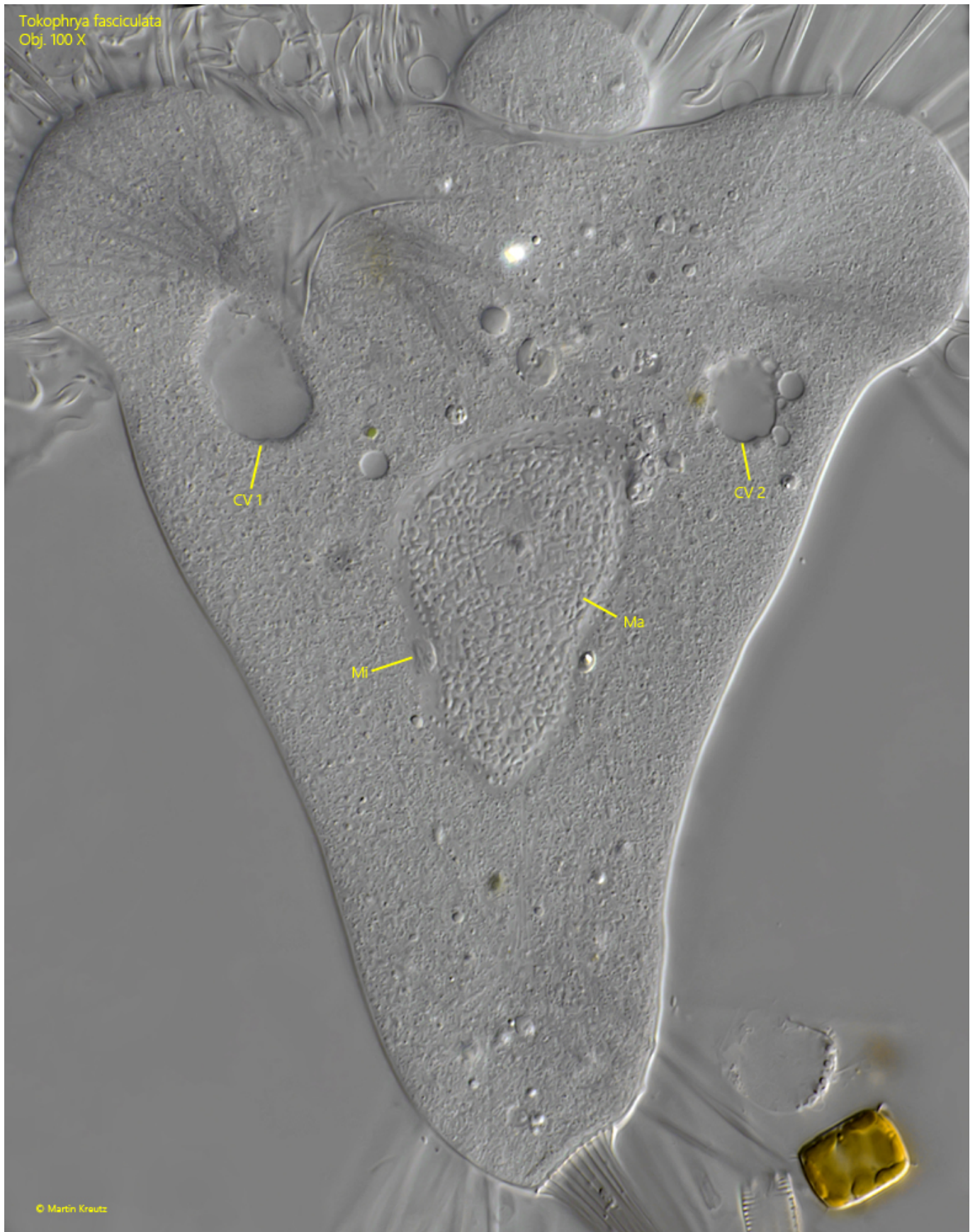


Fig. 5: *Tokophrya fasciculata*. A slightly squashed specimen. The two apical contractile vacuoles are visible (CV 1, CV 2) and the macronucleus (Ma) with an adjacent micronucleus (Mi) in the center. Obj. 100 X.

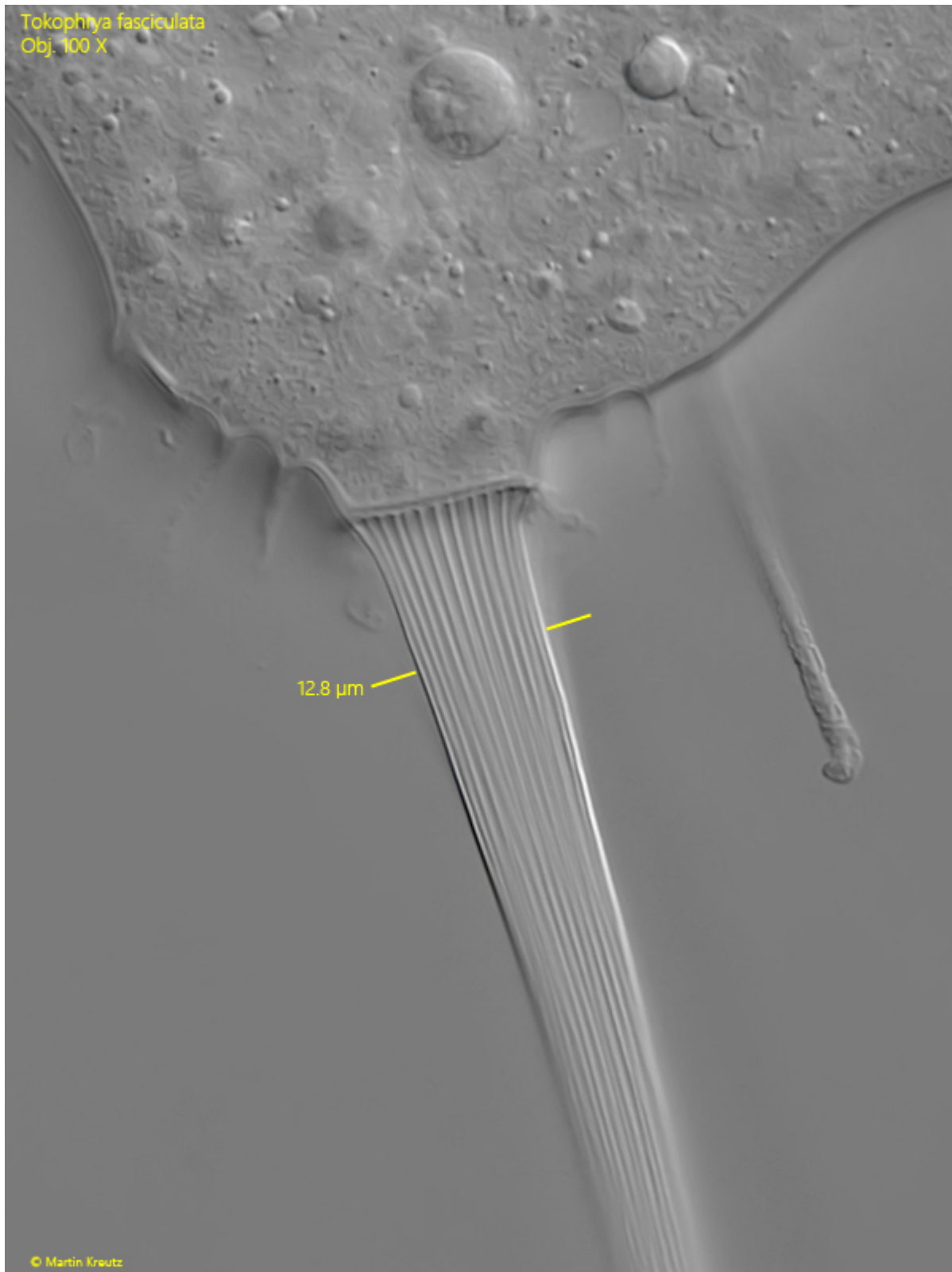


Fig. 6: *Tokophrya fasciculata*. The stalk with diameter of 12.8 μm has a distinct longitudinal striation. Obj. 100 X.

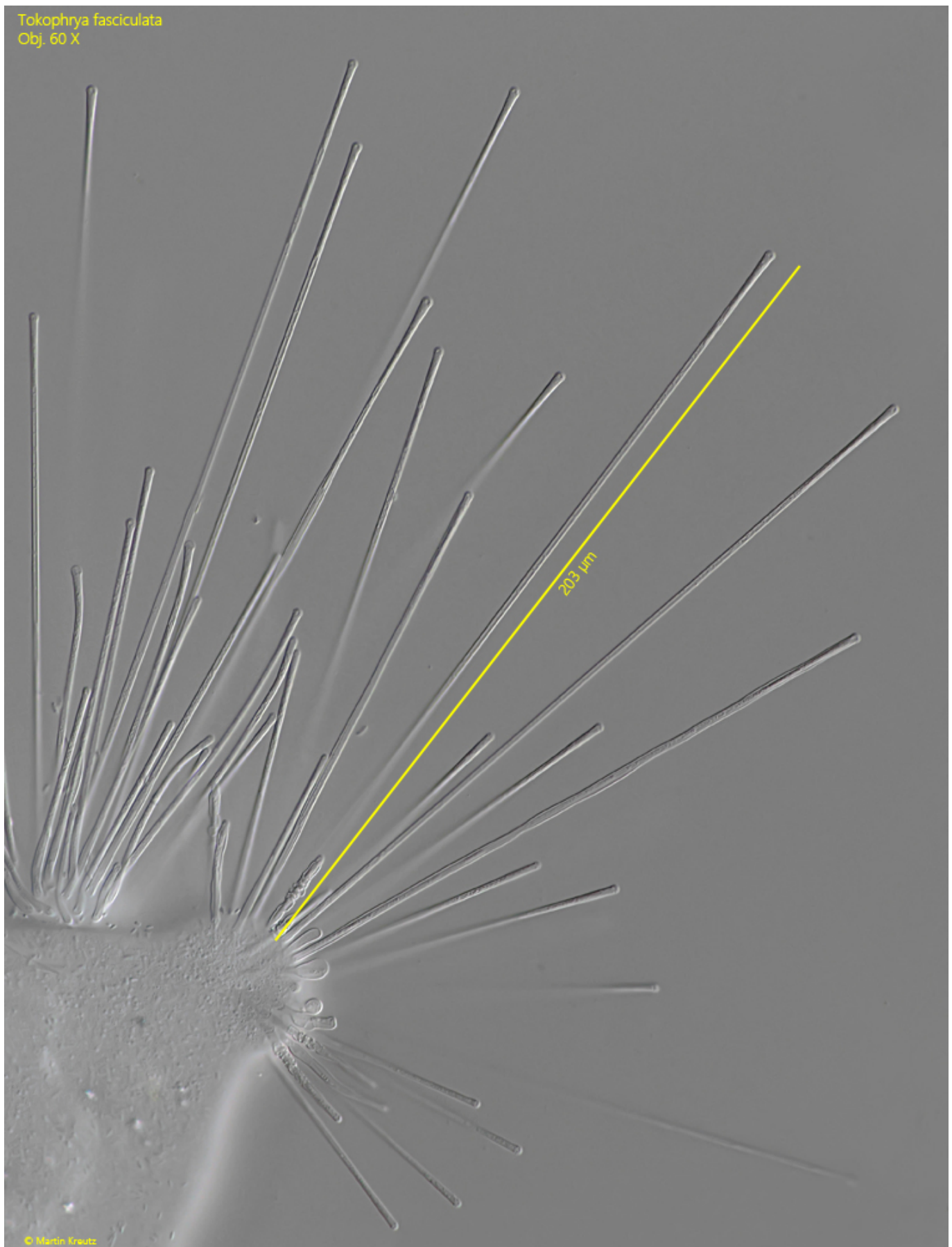


Fig. 7: *Tokophrya fasciculata*. One of the apical bundles of tentacles in detail. They have a length of about 200 μm . Obj. 40 X.



Fig. 8: *Tokophrya fasciculata*. In the cytoplasm of the knobs bundles of microtubules (MT) are visible where the apical tentacles (TE) arise. They continue into the tentacles. Obj. 40 X.

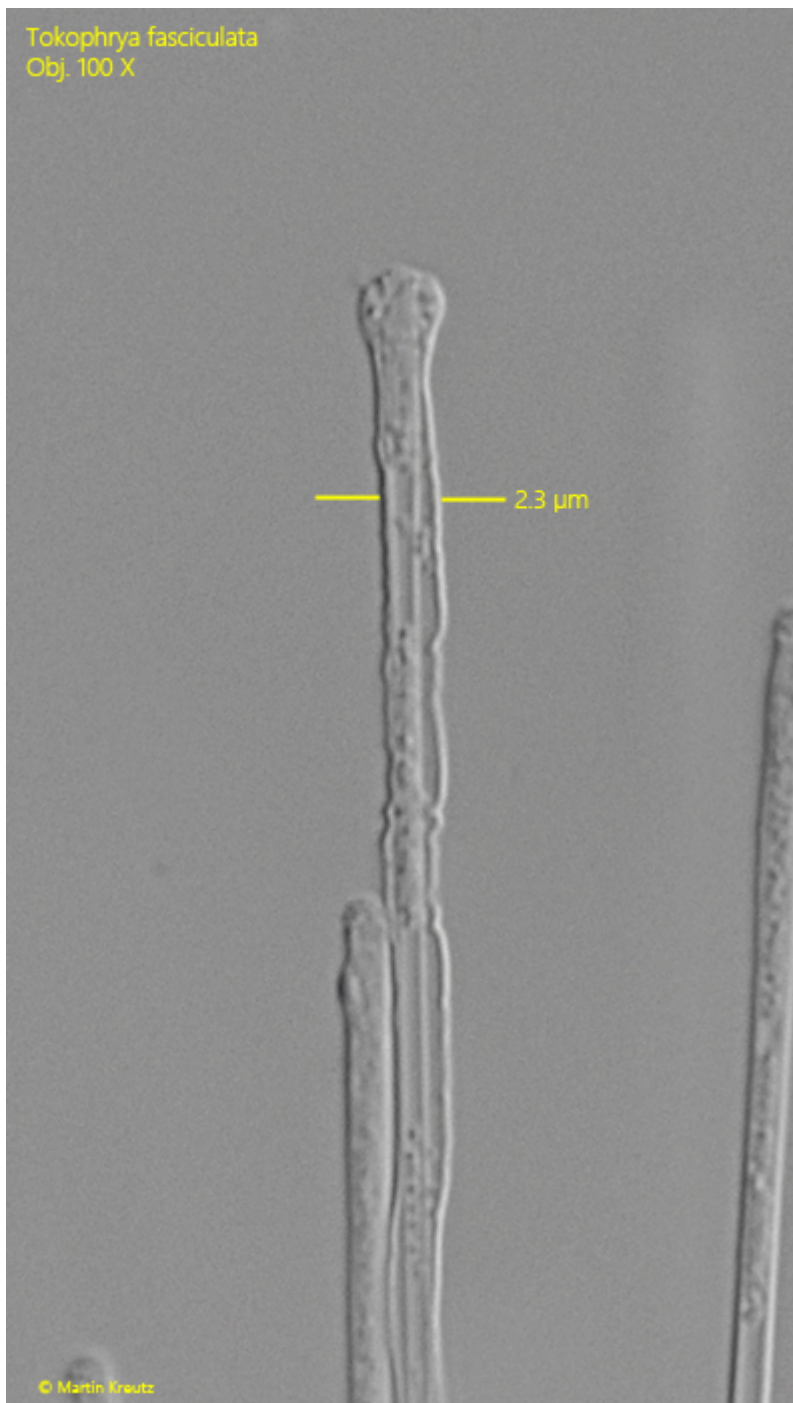


Fig. 9: *Tokophrya fasciculata*. One of the tentacles in detail. They have a diameter of 2.2–2.5 μm . Obj. 100 X.

Tokophrya fasciculata
Obj. 60 X

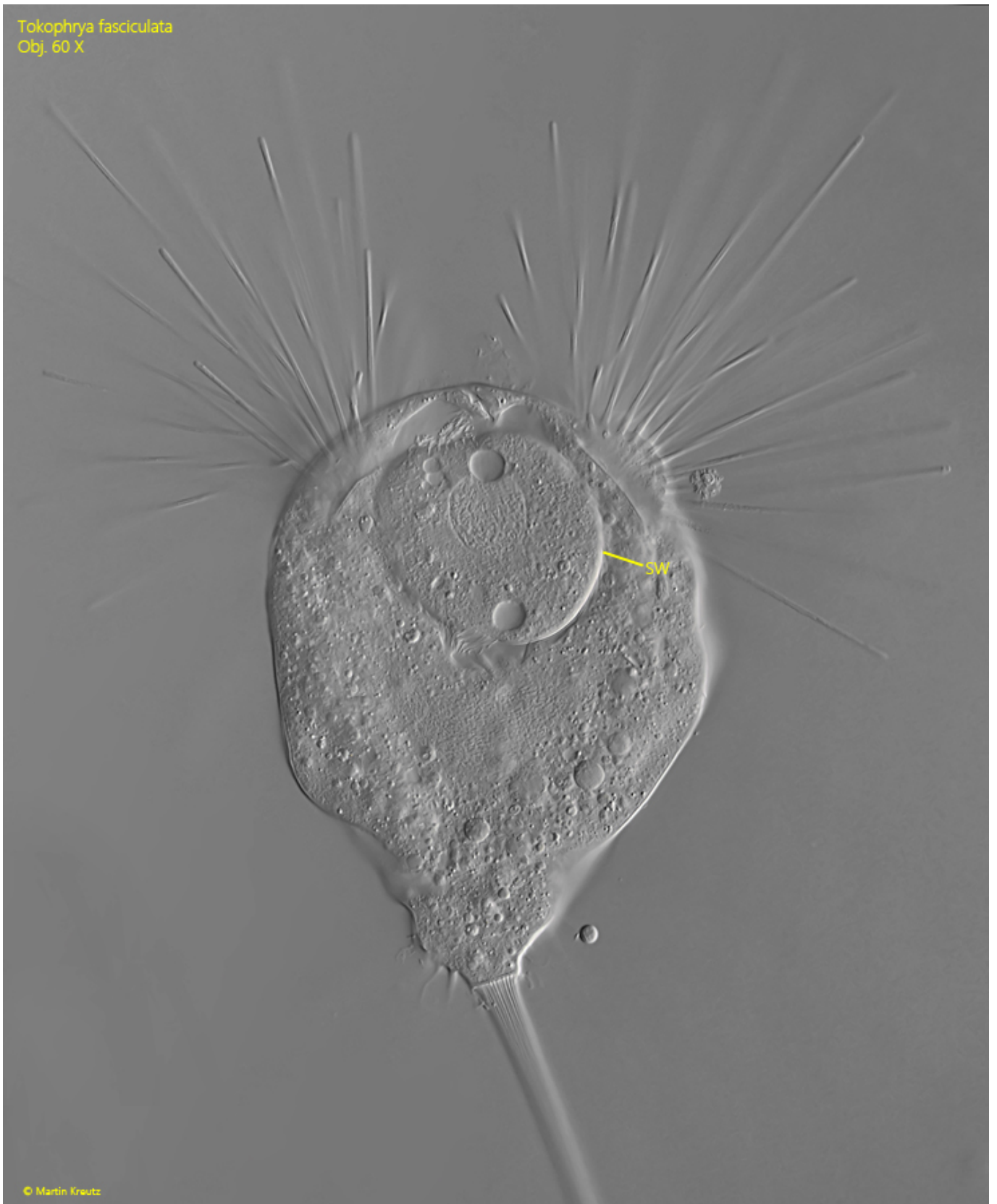


Fig. 10: *Tokophrya fasciculata*. L = 130 μm (of body). A specimen with an spherical swarmer (SW) in an apical invagination. The two contractile vacuoles as well as the macronucleus of the swarmer are visible. Obj. 100 X.

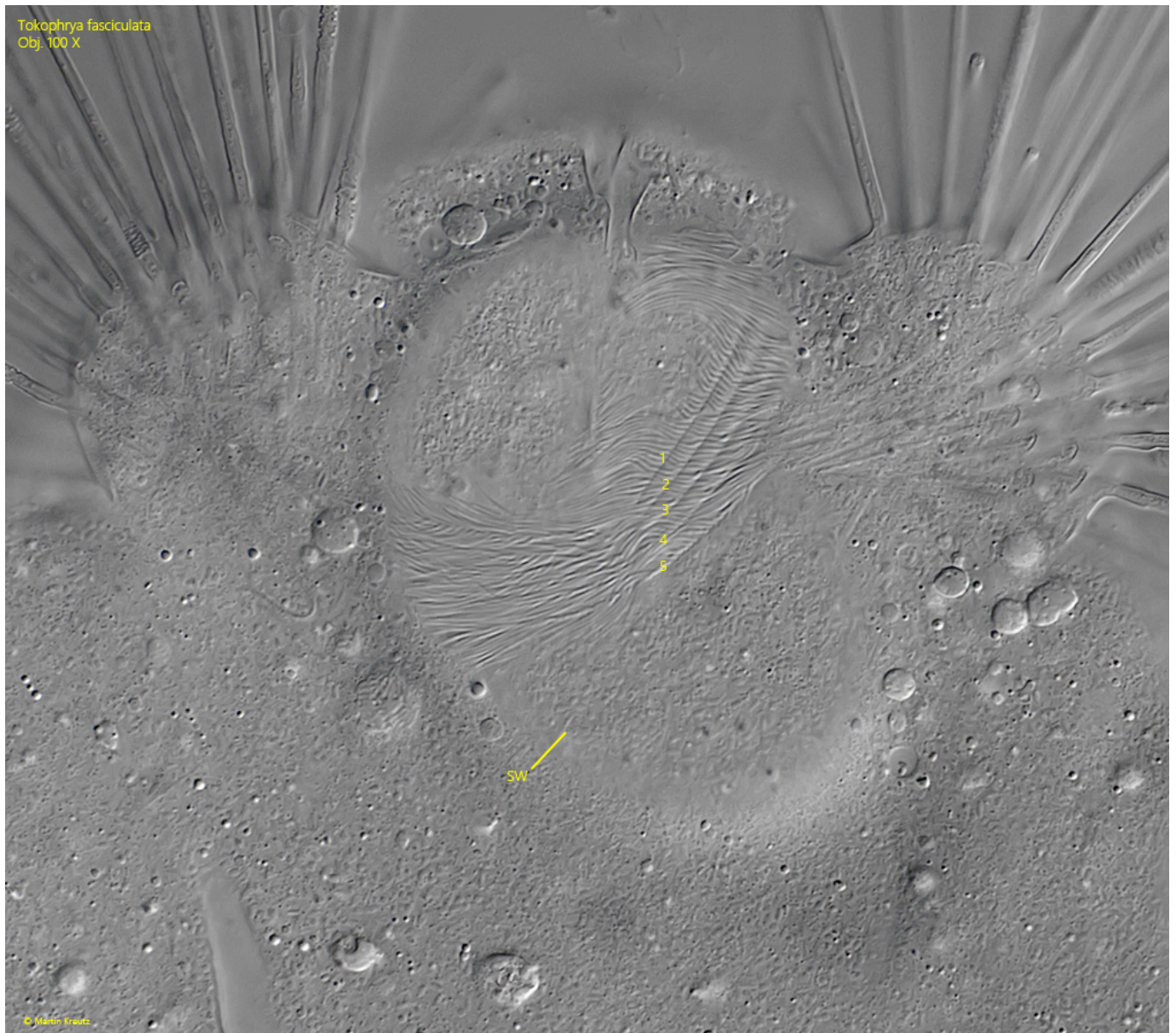


Fig. 11: *Tokophrya fasciculata*. Focal plane on the 5 apical rows of cilia (1-5) of the swarmer (SW). Obj. 100 X.