

Holophrya teres

(Ehrenberg, 1834) Foissner, Berger & Kohmann, 1994

Most likely ID: n.a.

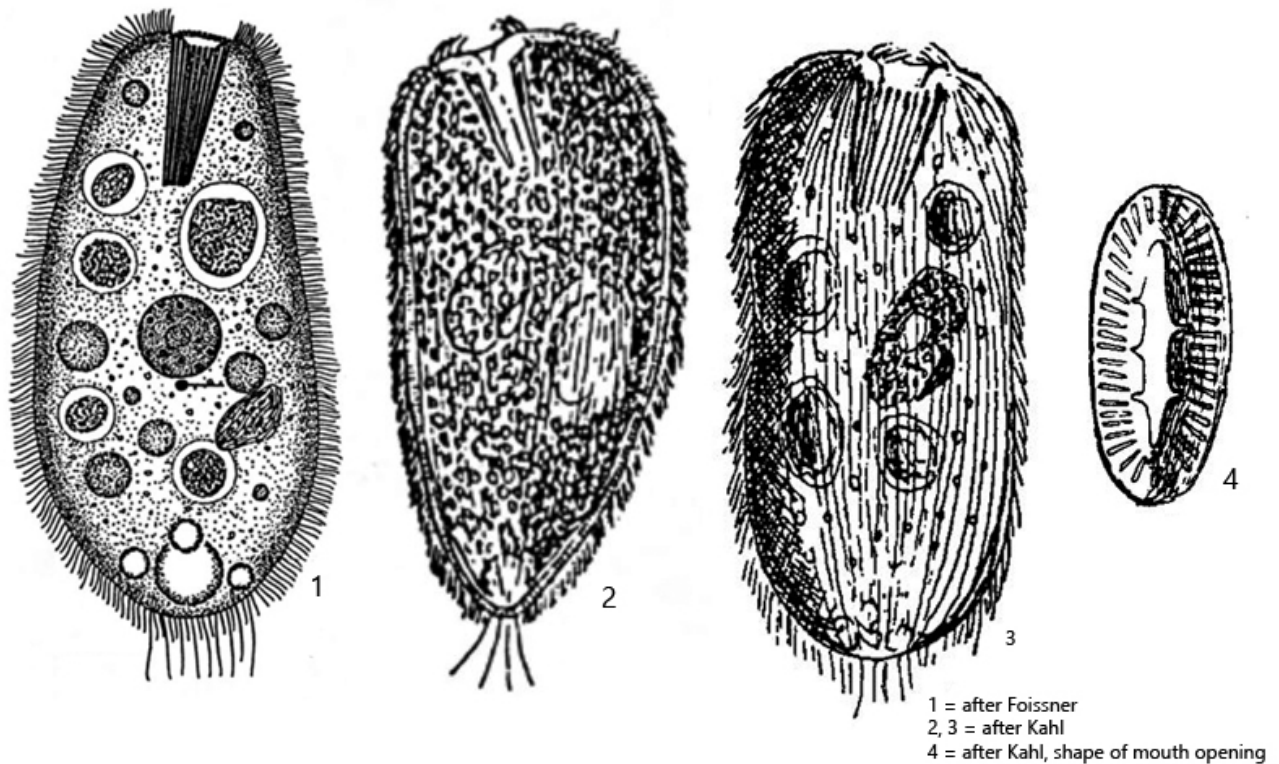
Synonym: *Prorodon teres*

Sampling location: [Simmelried](#), [Purren pond](#), [Ulmsried](#), [Mainau pond](#), [Bündtlisried](#)

Phylogenetic tree: [Holophrya teres](#)

Diagnosis:

- body long oval or cylindrical, anteriorly often slightly obliquely truncated
- cytoplasm transparent, symbiotic algae absent
- length 80–300 µm (usually 150–250 µm)
- mouth opening apical, oral basket with about 40–50 trichites
- adoral brush (3 rows), in dextrotropic position
- 80–110 longitudinal rows of cilia
- macronucleus ellipsoid, one adjacent large micronucleus
- extrusomes short, rod- or spindel-shaped
- contractile vacuole terminal with numerous auxiliary vacuoles
- several caudal cilia



Holophrya teres

Holophrya teres is a very common ciliate that occurs in almost all of my sampling sites. The species has a complex life cycle (theront-trophont-protomont-tomont-tomit). The images below show the theront phase, with little ingested food. In the trophont and protomont phases, the specimens are completely filled with food vacuoles, rounded and opaque.

Important characteristics for the identification are the number of longitudinal rows of cilia, the size and the absence of symbiotic algae. The cell surface is covered by 80-110 longitudinal rows of cilia, which are located in furrows. The total number can only be seen in anterior or posterior views. In lateral view, about 40-50 longitudinal rows can be recognized in squashed specimens (s. fig. 4). Another characteristic feature of *Holophrya teres* is the shape of the mouth opening (s. drawing 4, above). The trichites of the oral basket are not arranged in a circle, but in an oval (s. fig. 8) or sometimes almost rectangular.

The similar species [*Holophrya discolor*](#) is smaller (usually 80-120 μm) and has only 35-64 longitudinal rows, i.e. about half as many as *Holophrya teres*. If the cytoplasm contains symbiotic algae and the cells are smaller than 160 μm , then it is *Holophrya ovum*.

In my population, the specimens of *Holophrya teres* were consistently longer than 250 μm . The oral basket consisted of about 40 trichites in most specimens. All specimens had about 20–30 caudal cilia. I had the impression that these were arranged in a circle around the posterior cell pole (s. figs. 3 a and 3 b).



Fig. 1 a-c: *Holophrya teres*. L = 270 μm . A freely swimming specimen. CC = caudal cilia, CV = contractile vacuole, MO = mouth opening, OB = oral basket. Obj. 40 X.



Fig. 2 a-c: *Holophrya teres*. L = 282 μ m. A second, freely swimming specimen. CC = caudal cilia, Ma = macronucleus. Obj. 40 X.

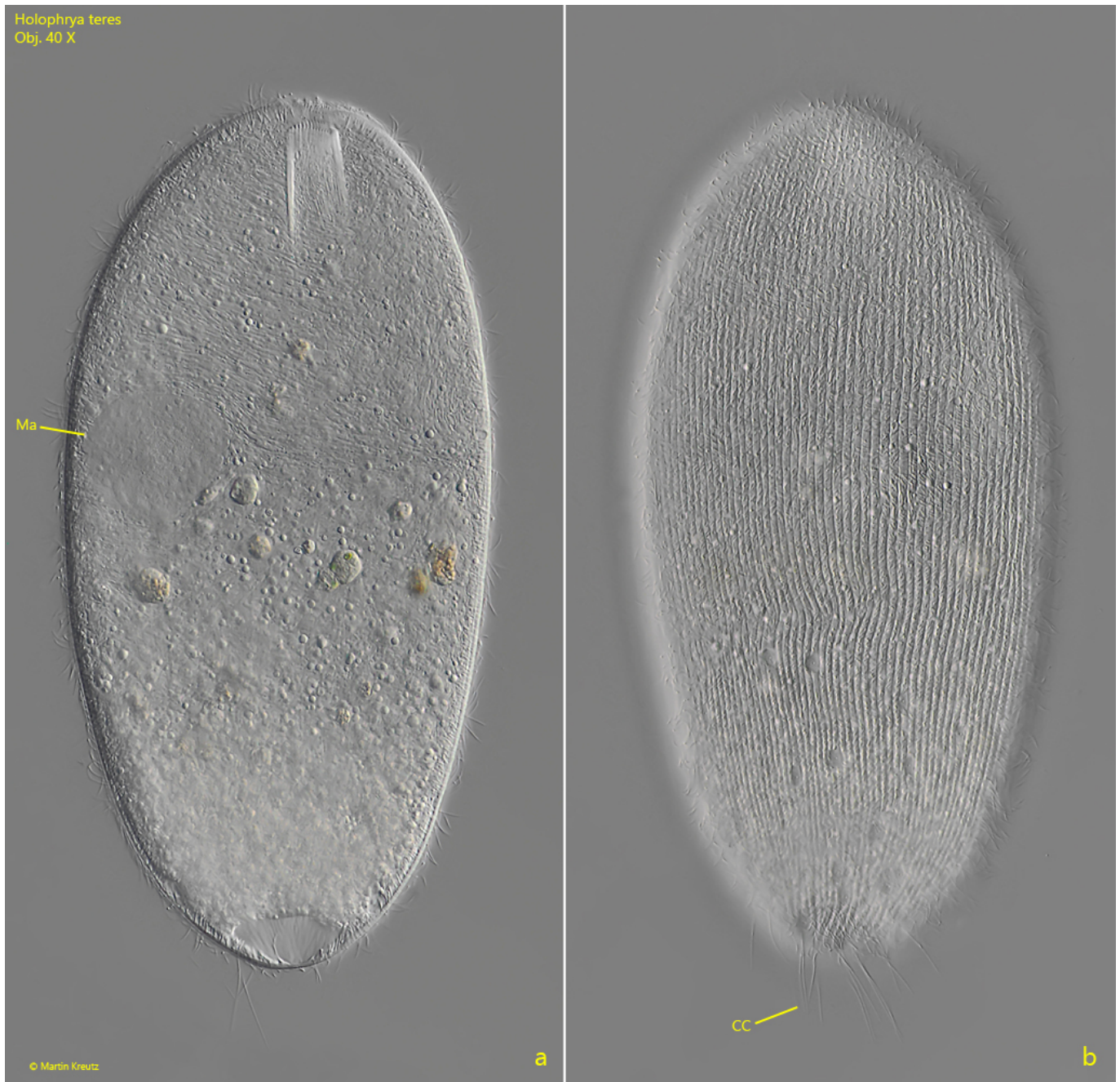


Fig. 3 a-b: *Holophrya teres*. L = 280 μ m. Two focal planes of a slightly squashed specimen. CC = caudal cilia, Ma = macronucleus. Obj. 40 X.

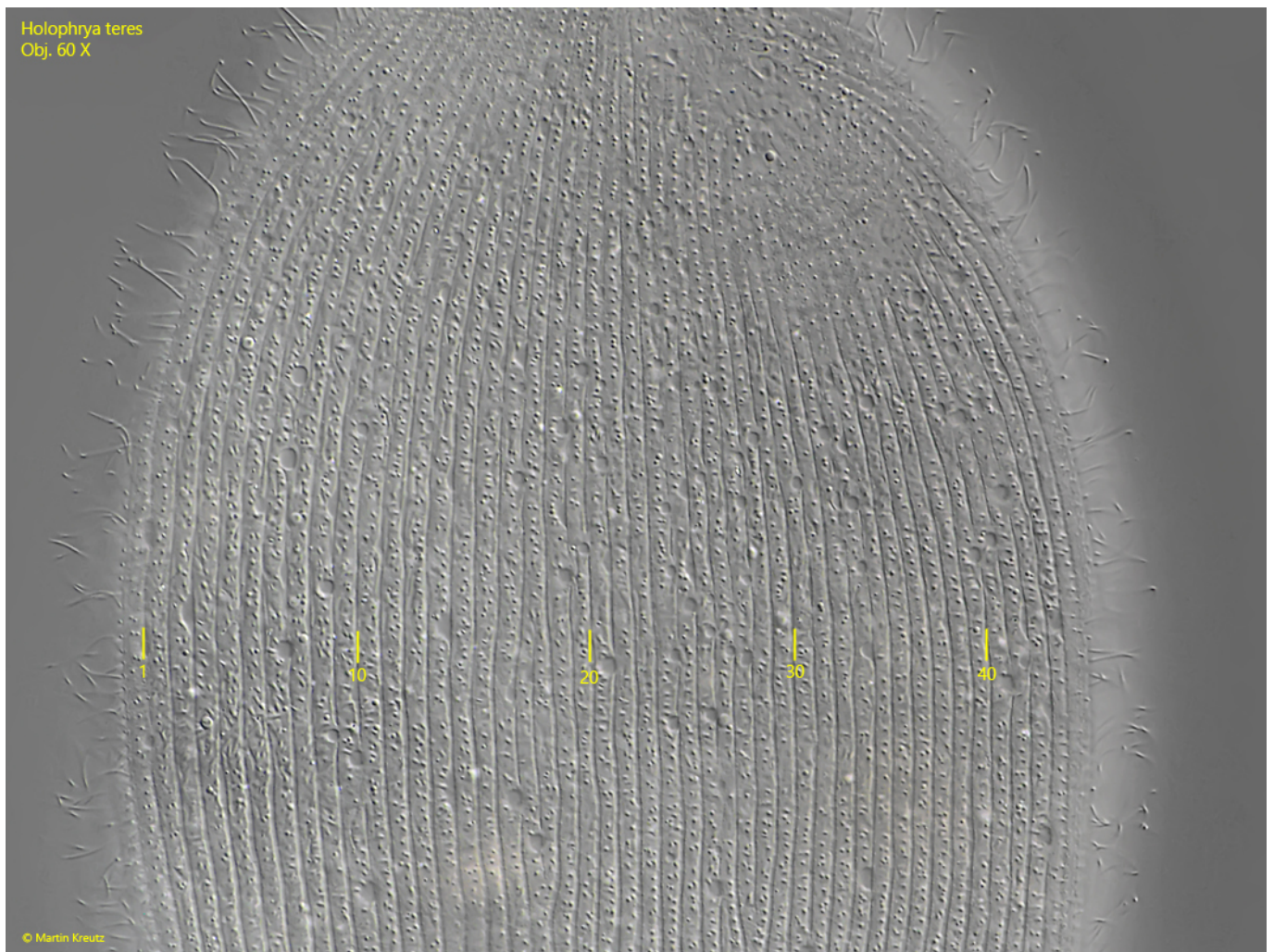


Fig. 4: *Holophrya teres*. The longitudinal rows of cilia in a squashed specimen. On this side of the body 46 rows are visible. Obj. 60 X.

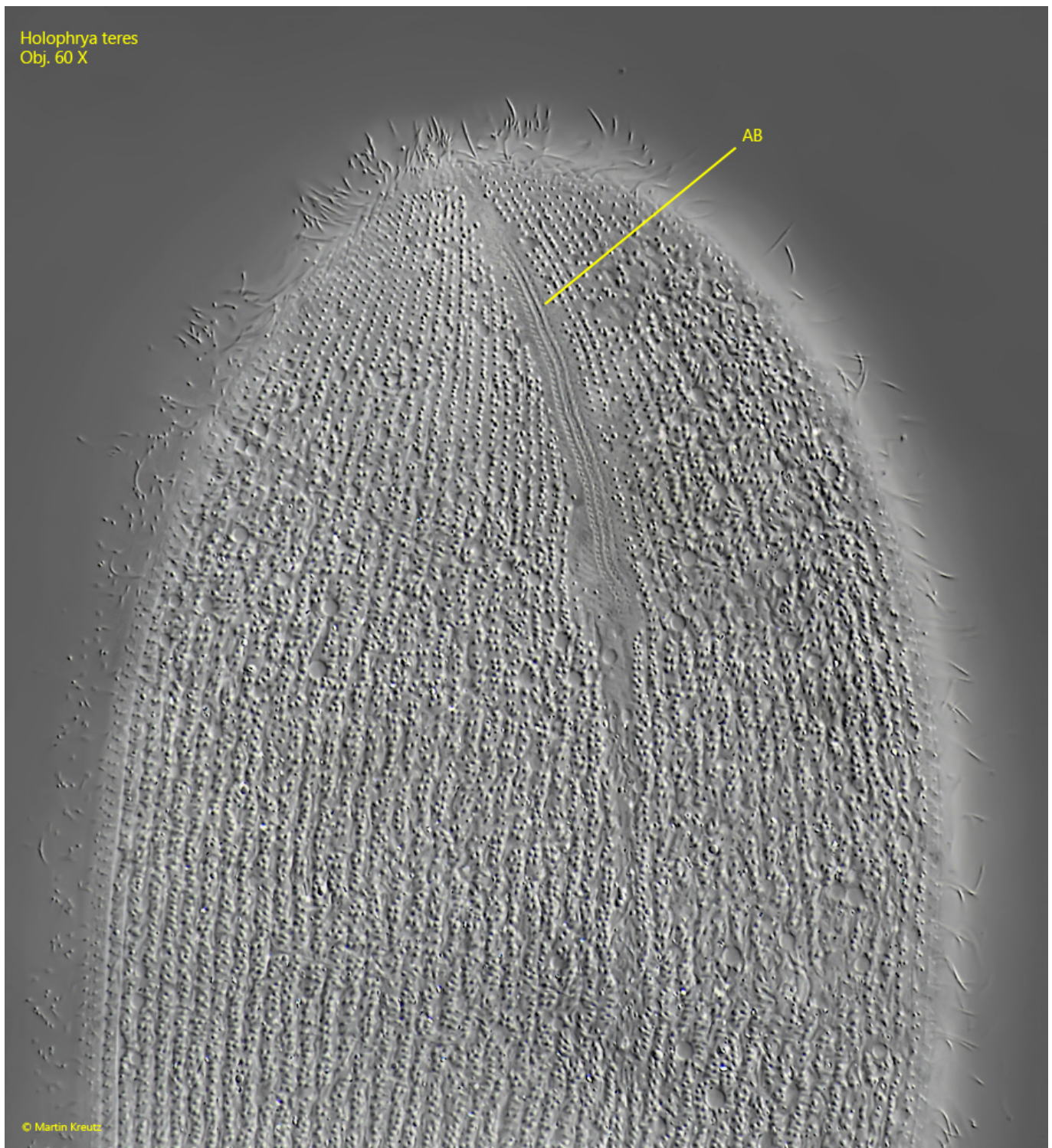


Fig. 5: *Holophrya teres*. The adoral brush (AB) of a slightly squashed specimen. Obj. 60 X.

Holophrya teres
Obj. 100 X

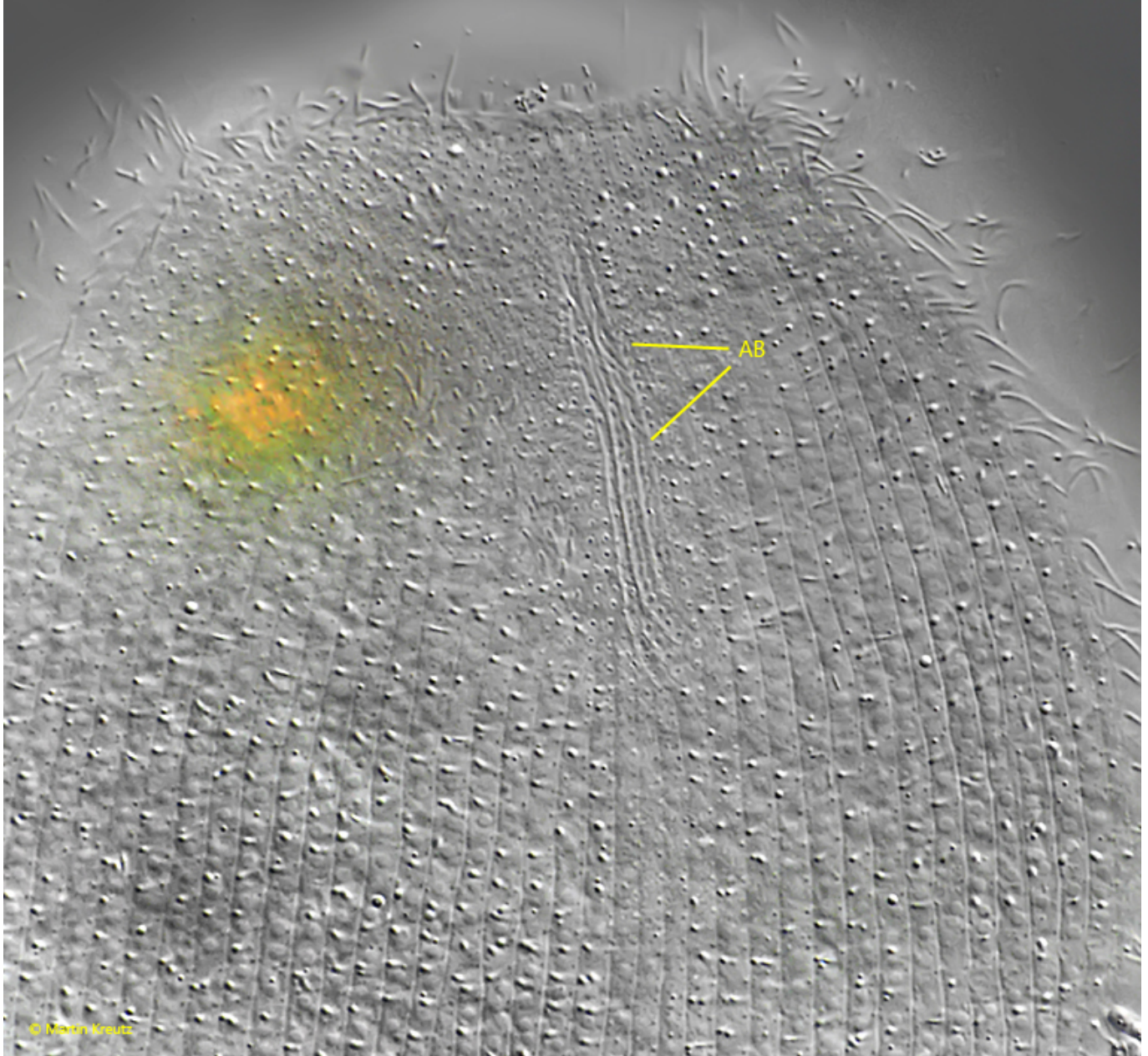


Fig. 6: *Holophrya teres*. The adoral brush (AB) of a second, squashed specimen. Obj. 100 X.

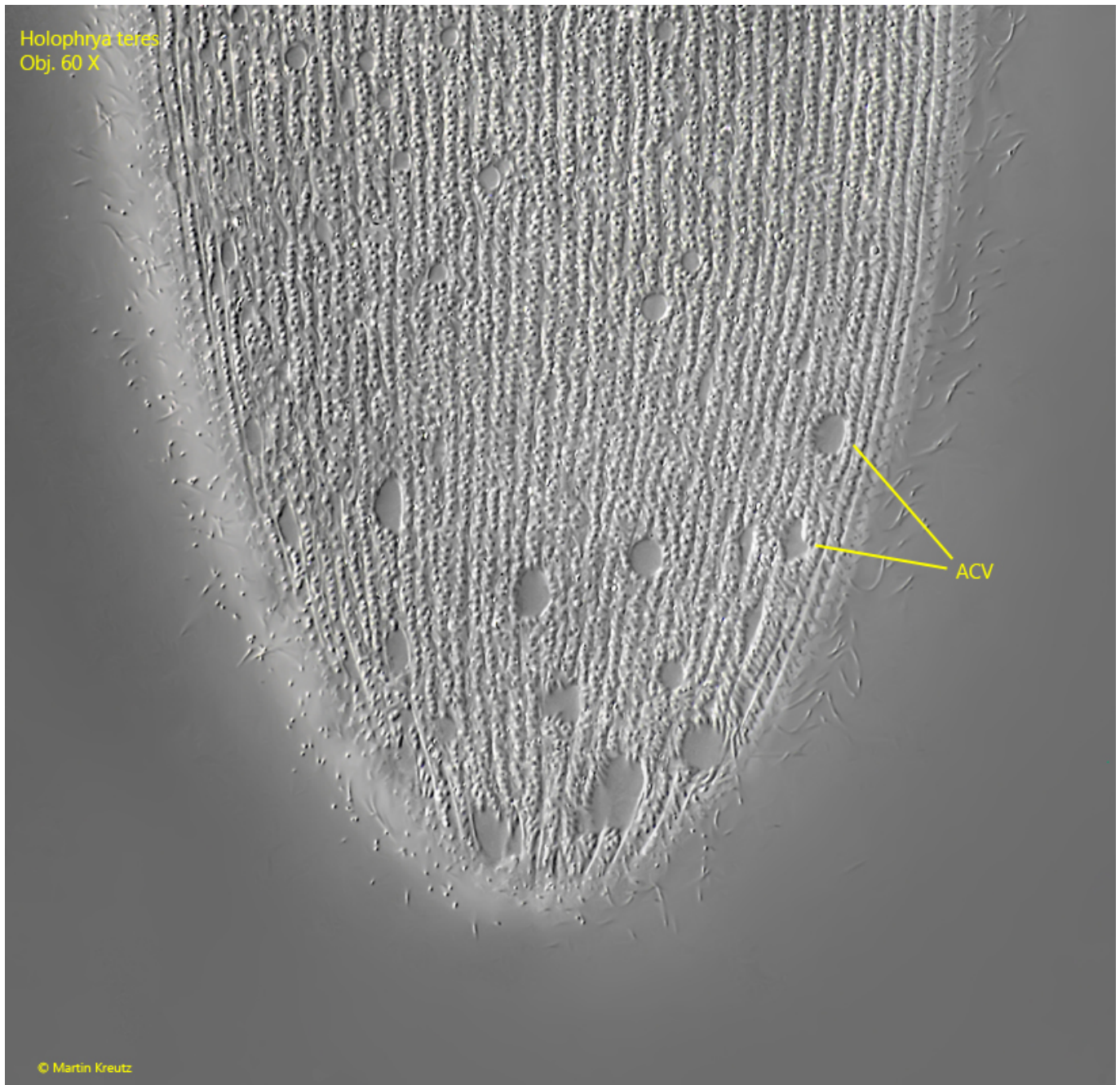


Fig. 7: *Holophrya teres*. Beneath the pellicle numerous auxiliary contractile vacuoles are located, especially in the posterior fifth of the body. They are connected to the terminal contractile vacuole via collecting canals. Obj. 60 X.

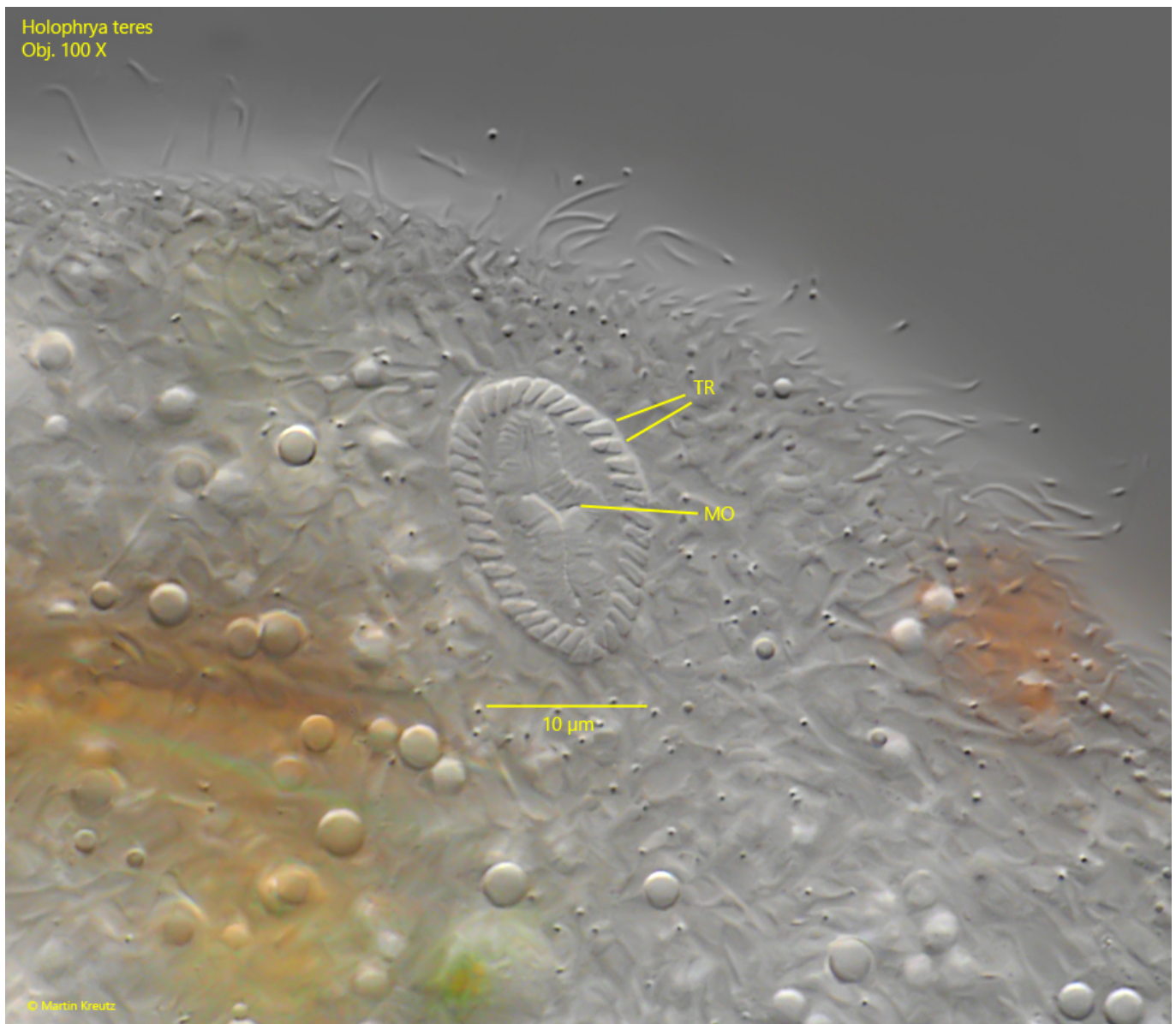


Fig. 8: *Holophrya teres*. Apical view of the mouth opening (MO) with the 40 trichites of the oral basket (OB). Obj. 100 X.

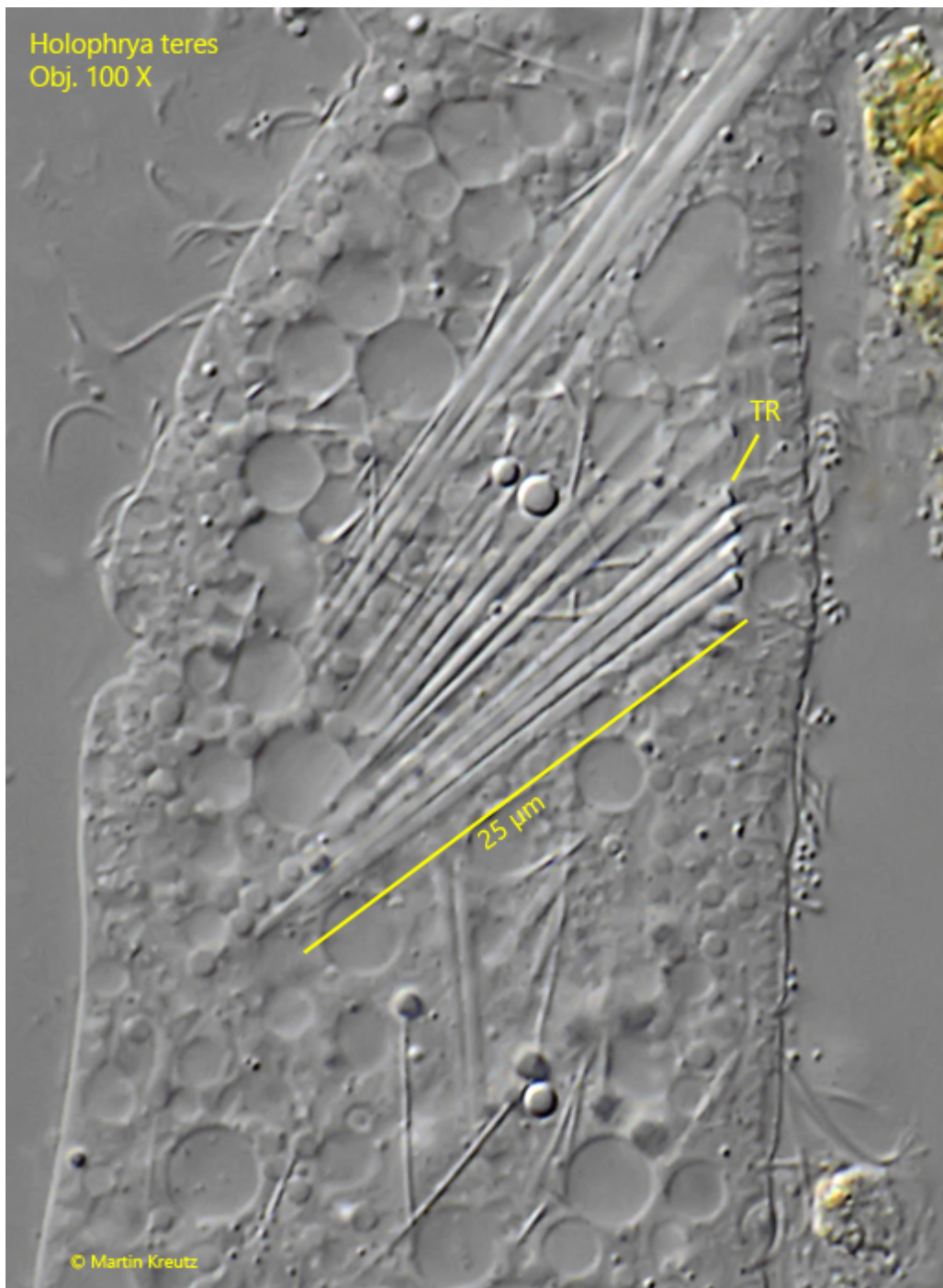


Fig. 9: *Holophrya teres*. The trichites (TR) of the oral basket about 25 µm. The anterior end is thickened with a tooth. Obj. 100 X.

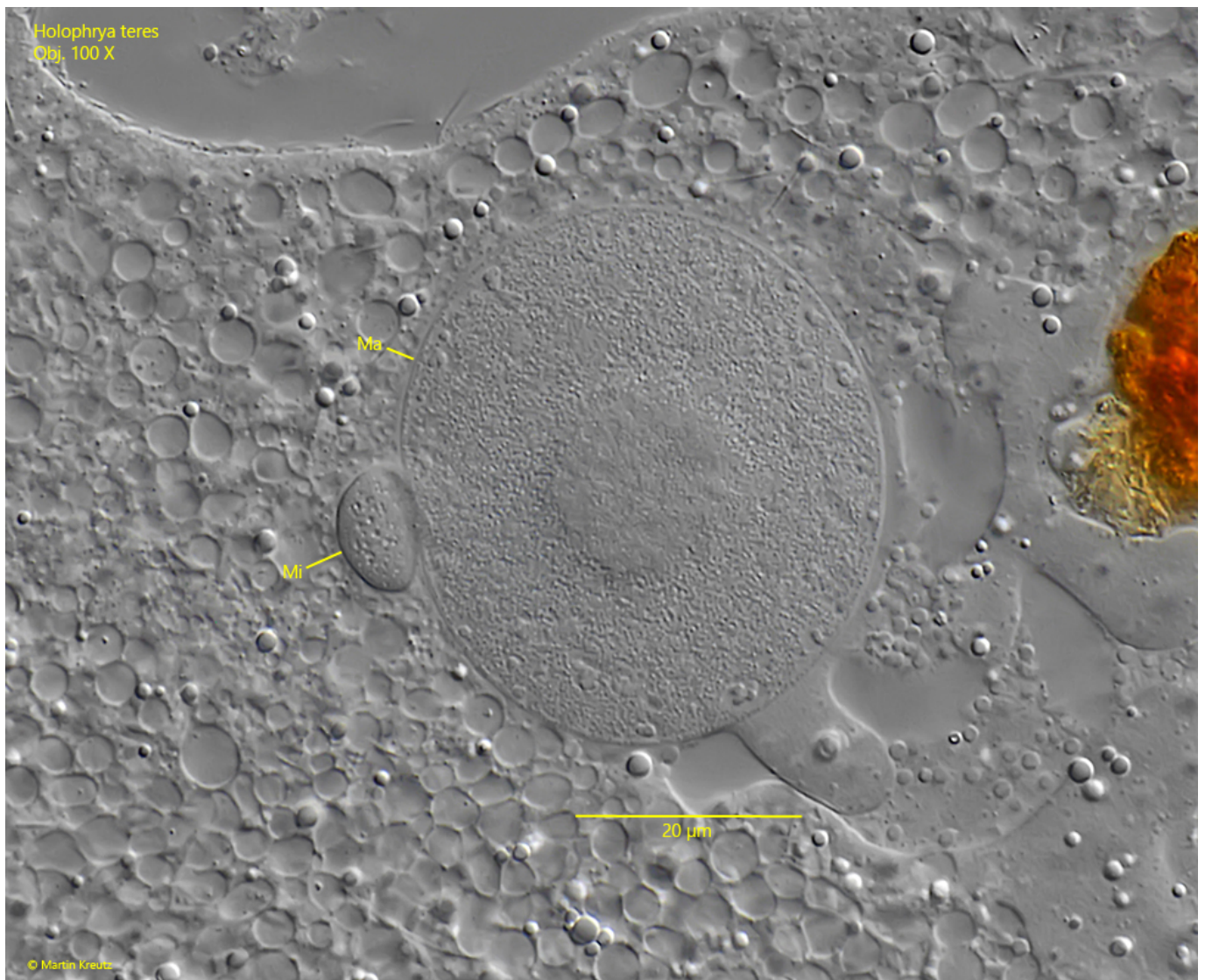


Fig. 10: *Holophrya teres*. The macronucleus (Ma) with the adjacent micronucleus (Mi) in a strongly squashed specimen. Obj. 100 X.



Fig. 11 a-b: *Holophrya teres* (L = 298 μ m). A specimen with an ingested rotifer of the genus *Trichocerca*. Obj. 20 X (a) and 40 X (b).