Bursaria truncatella Müller 1773

Most likely ID: n.a.

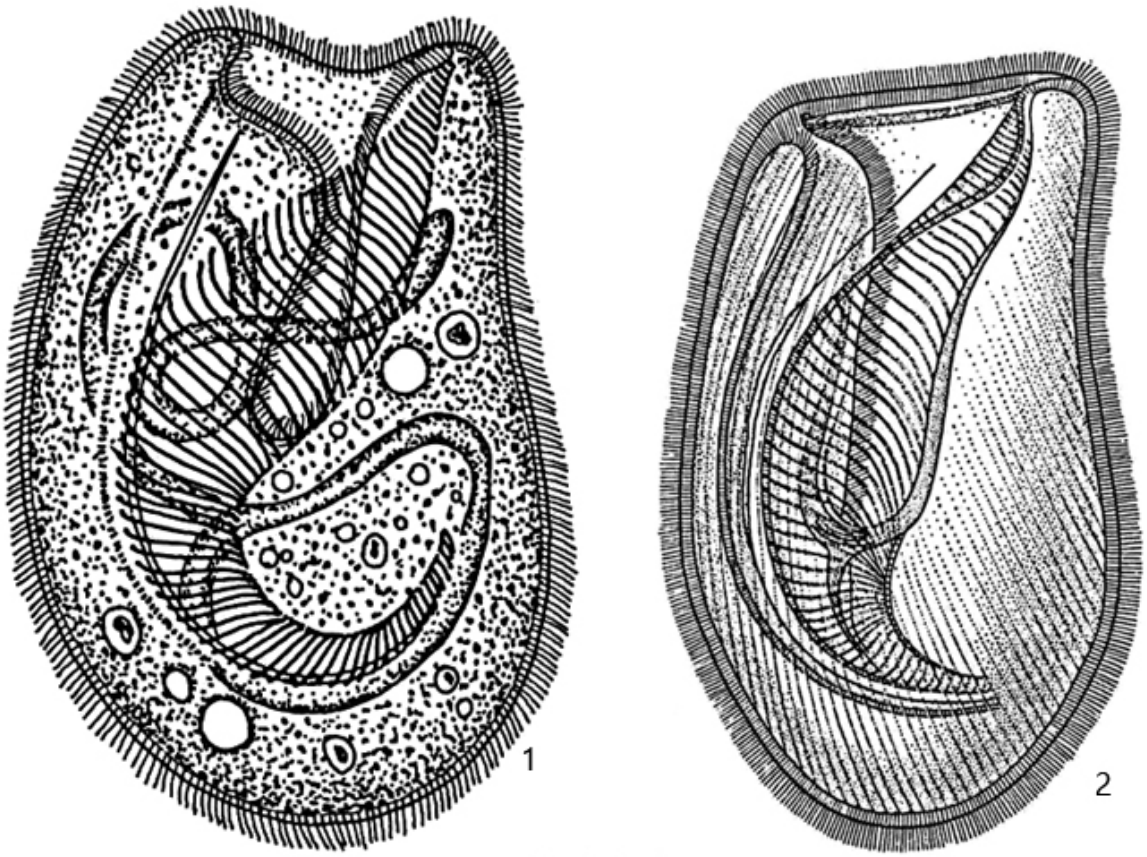
Synonym: n.a.

Sampling location: Simmelried, Purren pond, Mainau pond

Phylogenetic tree: *Bursaria truncatella*

Diagnosis:

- body broadly pouch-shaped to reniform,
- length 200–1700 µm (commonly 300–600 µm)
- mouth opening the entire front end, with deep ventral incision
- adoral zone of membranelles horn-shaped
- cytoplasm strongly vacuolated
- macronucleus vermiform, length 1000–1500 µm
- 140–250 longitudinal rows of paired cilia
- micronuclei spherical (3–5 µm), about 10–120 scattered in cytoplasm
- about 300–500 contractile vacuoles beneath cortex
- extrusomes (mucoscysts) 1–3 µm long



1 = after Lund
2 = after Grell

Bursaria truncatatella

Bursaria truncatella is one of the largest ciliates that I rarely, but regularly find in some of my sampling sites. In the samples, the specimens usually swim just above the mud layer at the bottom and can be seen with the naked eye.

The oral apparatus of *Bursaria truncatella* is very complicated designed and difficult to examine in living specimens. Dominant is the adoral zone of membranelles, which begins on the left side of the ventral incision and takes a horn-shaped course (s. fig. 2 and 4) and reach to the posterior end.

Bursaria truncatella is omnivorous and can also devour very large prey. Numerous eaten ciliates and colonies of algae are often found. But rotifers are also among the prey organisms.

The macronucleus is vermiform and, according to my observations, lies parallel to the adoral zone of membranelles in unsquashed specimens. In squashed specimens it detaches from the oral tube and becomes entangled (s. fig. 5).

Numerous micronuclei are scattered in the cytoplasm (s. fig. 6), but they are difficult to detect in the highly vacuolated cytoplasm and between the food vacuoles. In addition to these micronuclei scattered in the cytoplasm, I was also able to find micronuclei attached to the macronucleus (s. fig. 7). These micronuclei adjacent to the macronucleus are not mentioned in the literature.

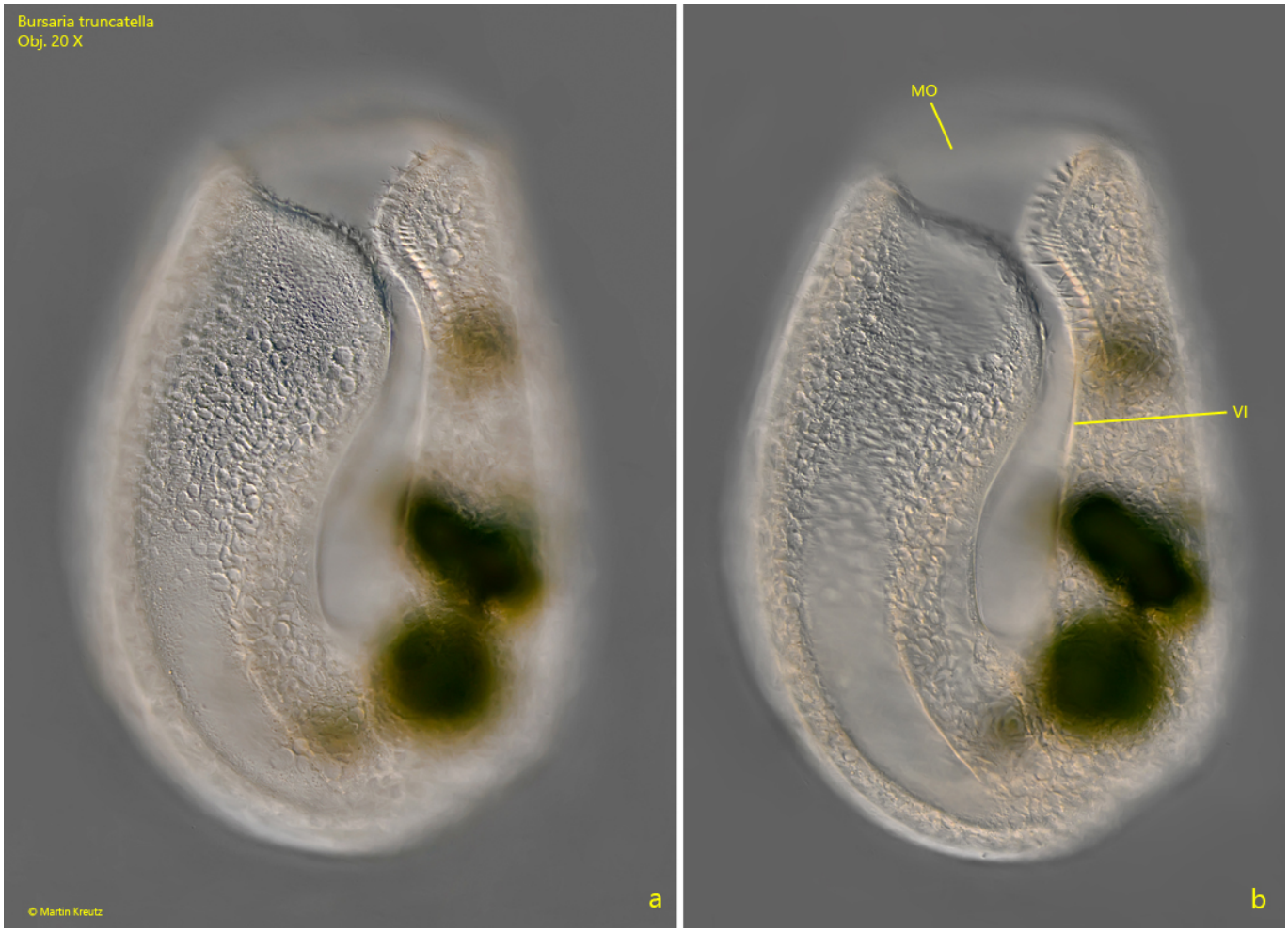


Fig. 1 a-b: *Bursaria truncatella*. L = 680 µm. A freely swimming specimen with focal plane on the ventral incision (VI) of the mouth opening. Obj. 20 X.

Fig. 2: *Bursaria truncatella*. L = 620 µm. Focal plane on the horn-shaped adoral zone of membranelles (arrows) in a slightly squashed specimen from ventral. Obj.

20 X.

Fig. 3: *Bursaria truncatella*. Detail of the ventral incision. Note the dense ciliation. Obj. 40 X.

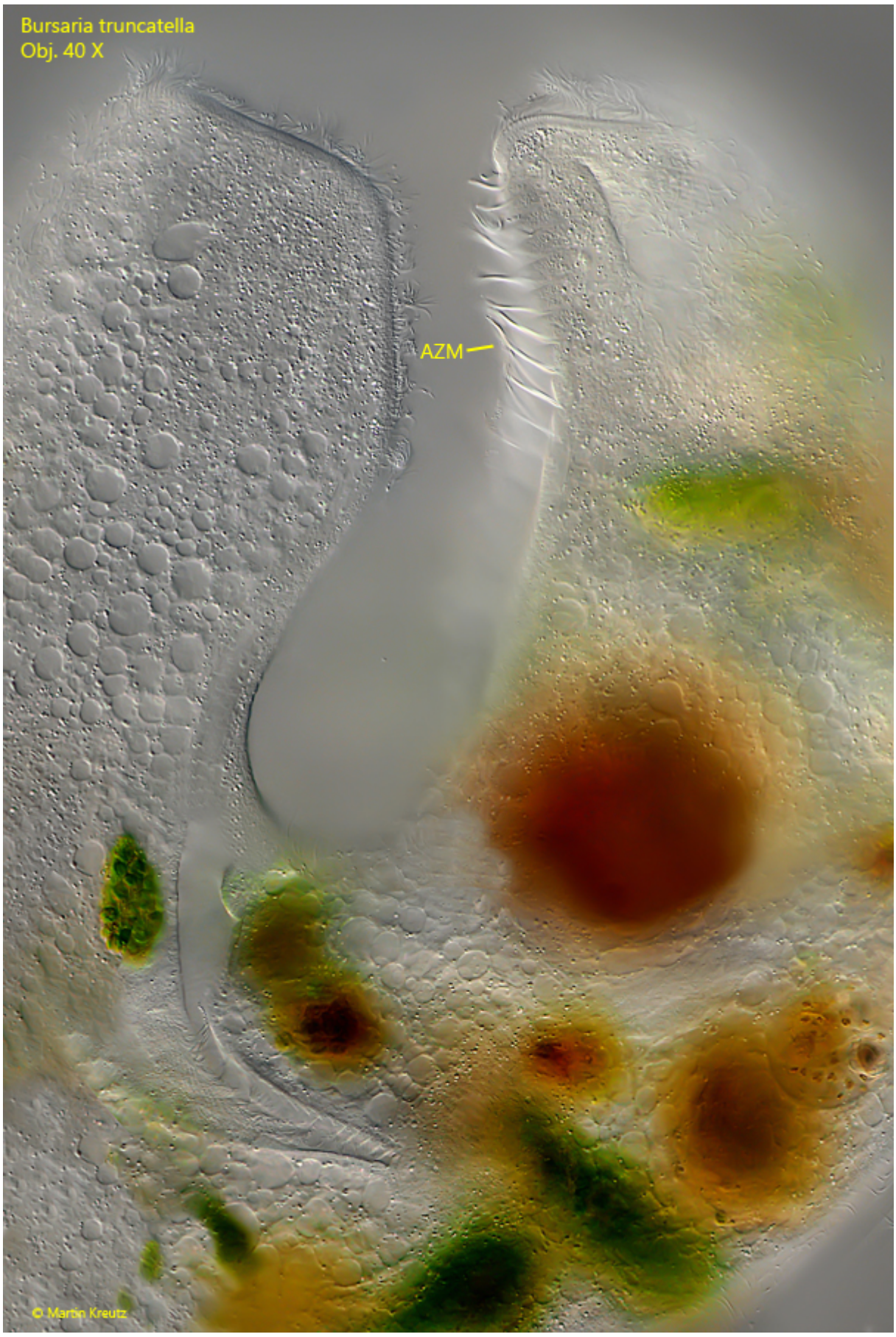


Fig. 4: *Bursaria truncatella*. Detail of the central incision with focal plane on the adoral zone of membranelles (AZM) at the left side. Obj. 40 X.

Fig. 5: *Bursaria truncatella*. The vermiform macronucleus (Ma) in a squashed specimen. Obj. 40 X.

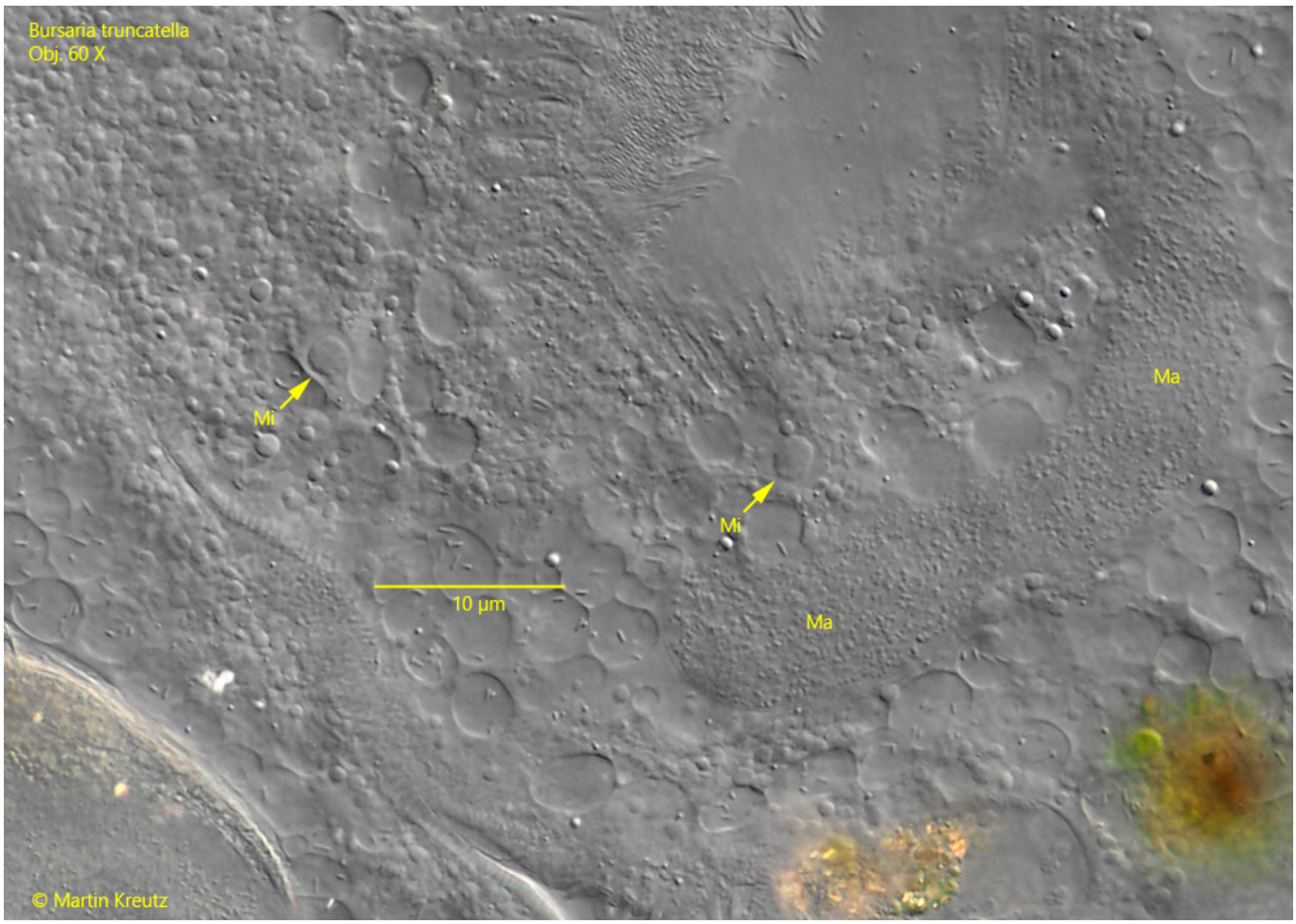


Fig. 6: *Bursaria truncatella*. Two of the numerous micronuclei (Mi) scattered in the cytoplasm. Obj. 60 X.

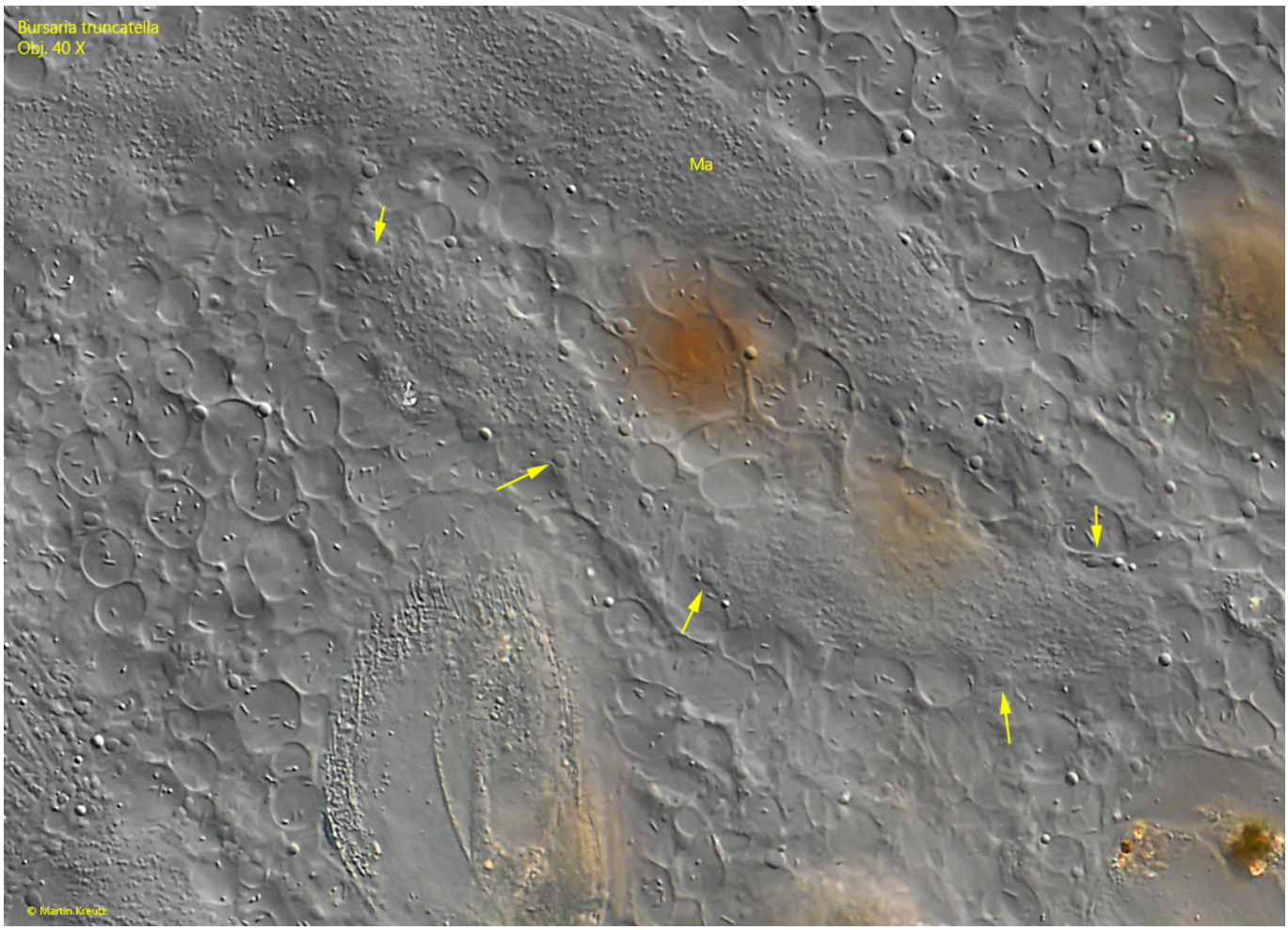


Fig. 7: *Bursaria truncatella*. Some micronuclei (arrows) are adjacent to the macronucleus. Obj. 40 X.

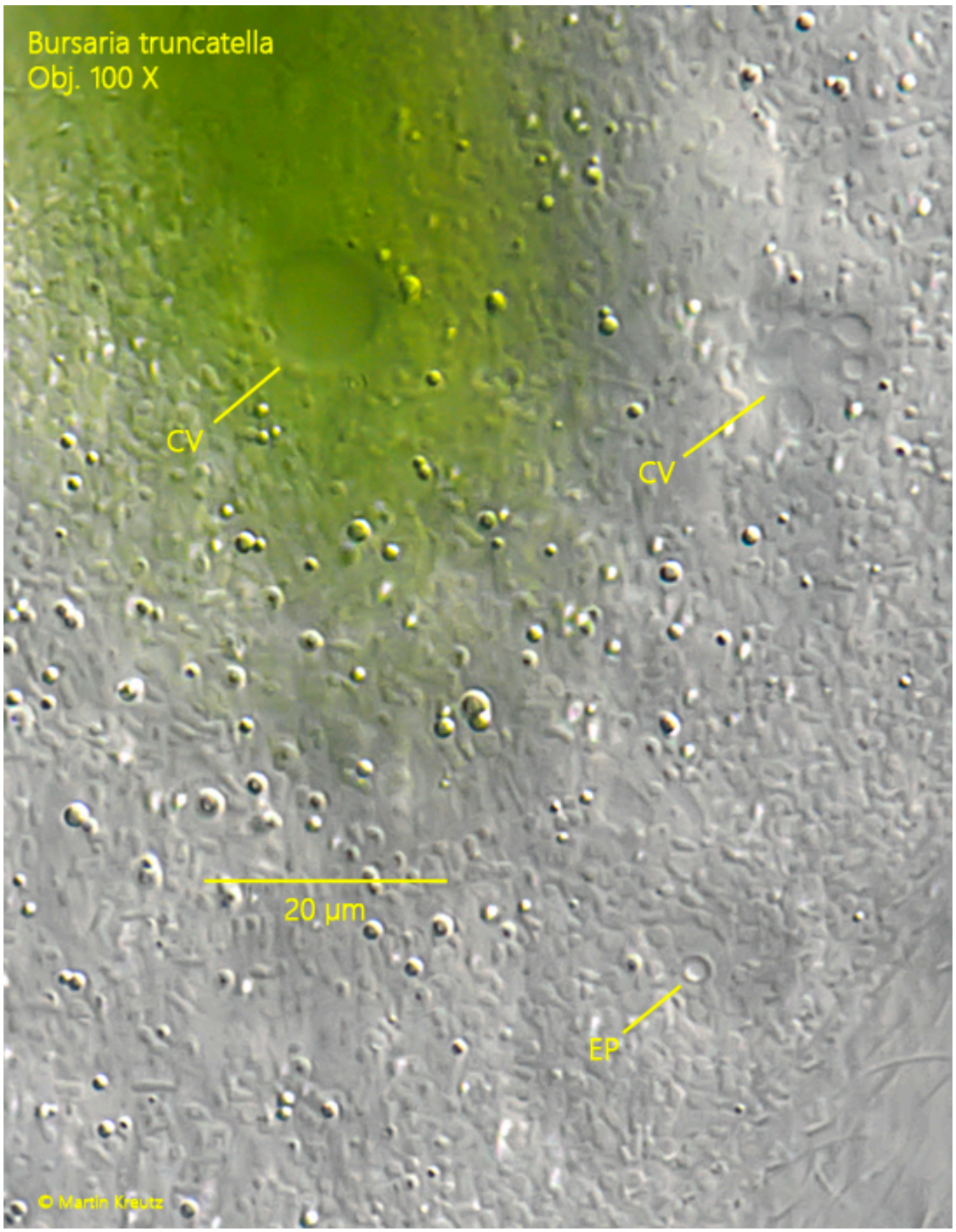


Fig. 8: *Bursaria truncatella*. Two of the numerous contractile vacuoles (CV) scattered over the cortex and an exctretion porus (EP). Obj. 100 X.

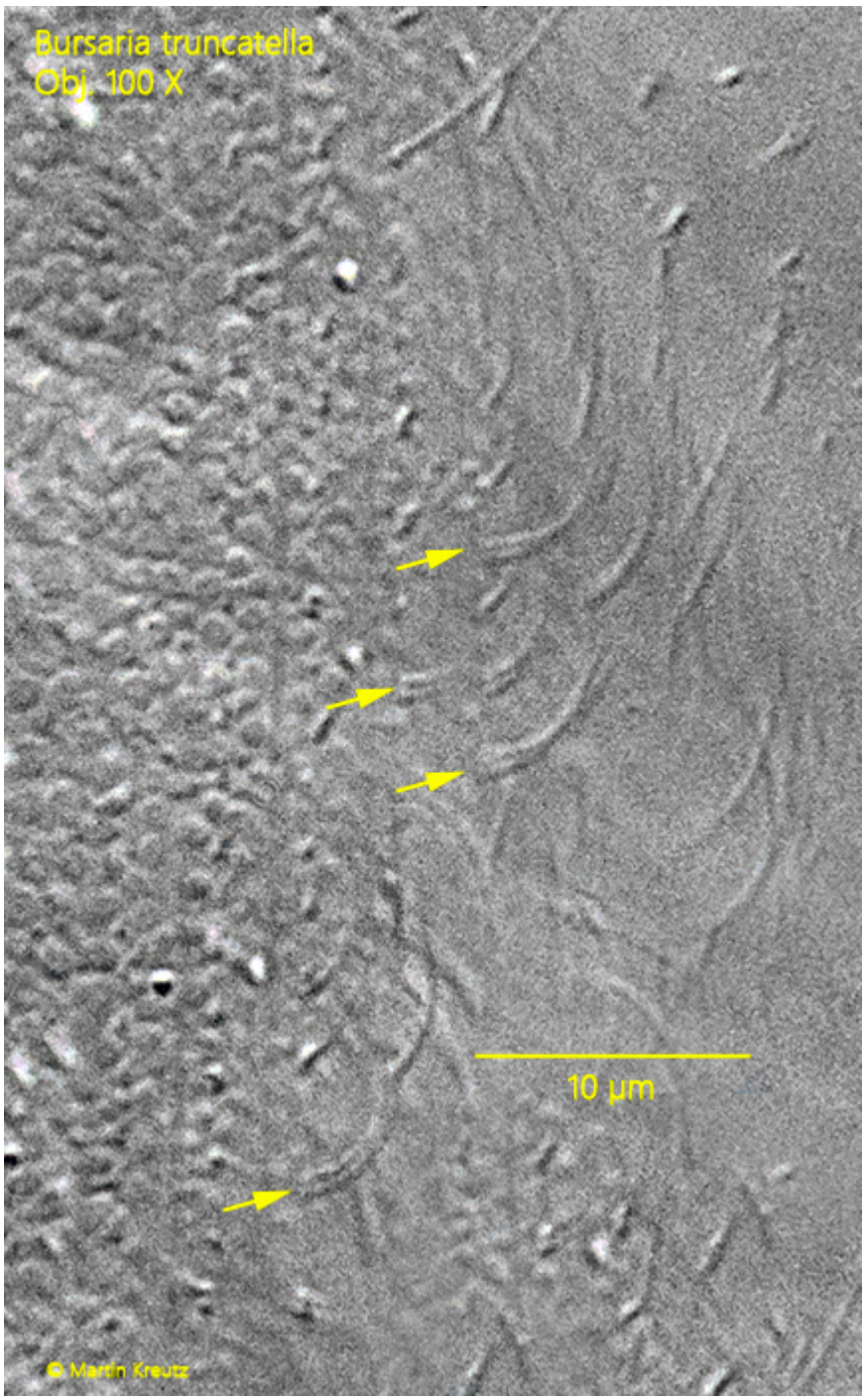


Fig. 9: *Bursaria truncatella*. The paired cilia of the longitudinal rows of cilia. Obj. 100 X.

Fig. 10: *Bursaria truncatella*. Two specimens in conjugation. Obj. 20 X.