Euplotes eurystomus

Wrzesniowski, 1870

Most likely ID: n.a.

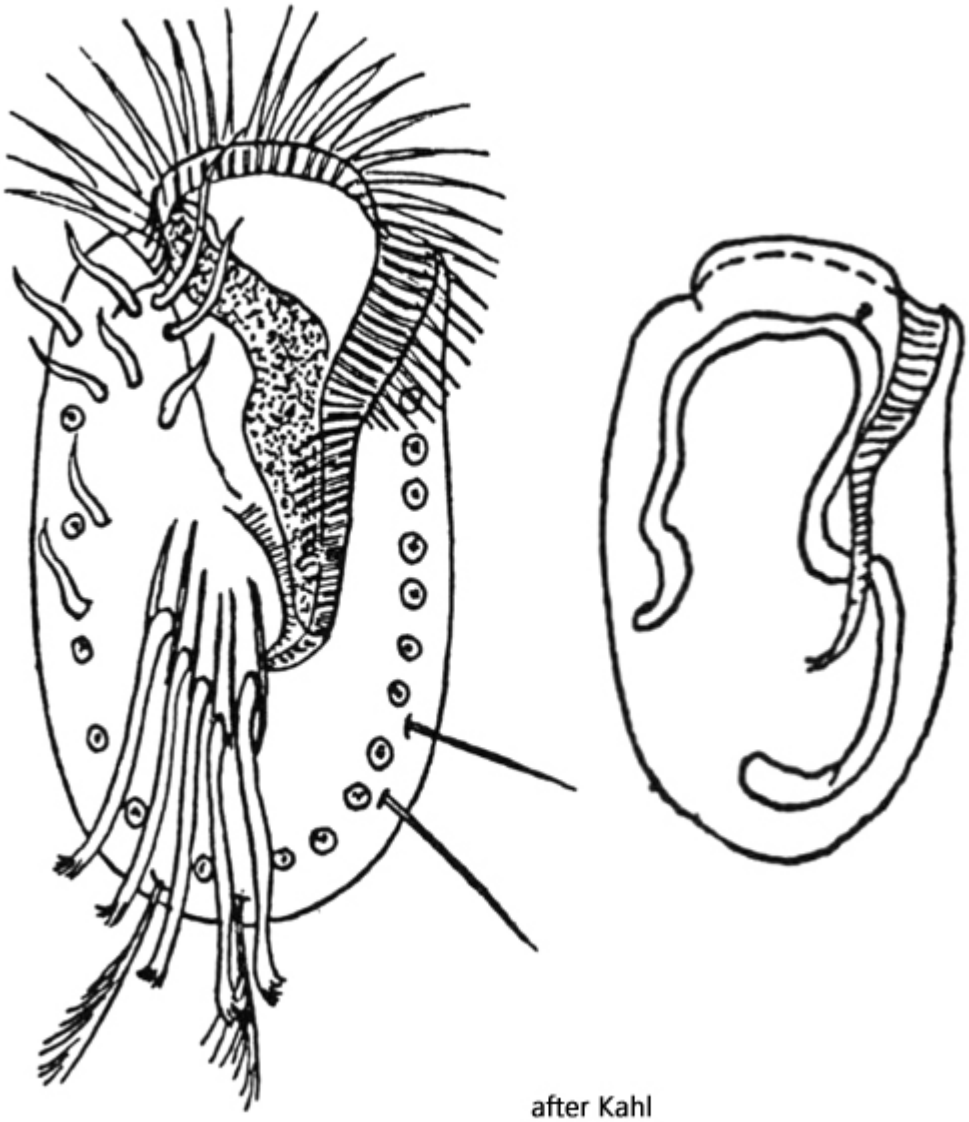
Synonym: n.a.

Sampling location: Pond of the waste disposal company Constance

Phylogenetic tree: *Euplotes eurystomus*

Diagnosis:

- body ellipsoid, almost parallel sided
- length 140–180 µm, width 95–135 µm
- apically a collar-shaped protrusion
- oral field large, triangular, in middle with convex fold
- large adoral zone, S-shaped, reach to posterior third
- 6 frontal cirri
- 1 buccal cirrus
- 2 frontoventral cirri
- 5 transversal cirri between 6 ridges
- 2 caudal cirri
- 2 left marginal cirri
- macronucleus C-shaped or 3-shaped
- small, spherical micronucleus in anterior third
- contractile vacuole in anterior third, right



Euplotes eurystomus

I have only found *Euplotes eurystomus* once, in an old sample with decomposing water lily leaves, together with a large population of *Paramecium aurelia*. According to Foissner et al. (1991), *Euplotes eurystoma* is a rather rare species within the genus. The authors themselves did not find any specimens.

Euplotes eurystomus is notable for a very large, triangular oral field, which on the left side is bordered by a very pronounced adoral zone running in a distinct S-shape (s. fig. 5). Additionally, I noticed that the specimens often swim freely and do not walk along glass surfaces as frequently. The 5 transverse cirri are long and extend clearly beyond the posterior end (fig. 3 a-b). Furthermore, there are 2 caudal cirri at the posterior end and two marginal cirri on the left side (s. fig. 2 d). On the ventral side, a total of 9 cirri can be seen, divided into 6 frontal cirri, 1 buccal cirrus, and 2 frontoventral cirri (s. fig. 3 a). The latter are quite far apart from each other.

In the cytoplasm, I could identify the symbiotic bacteria mentioned by Foissner et al. (s. fig.

9). According to my observations, they are 8–10 µm long and about 1 µm thick. In the food vacuoles, I very frequently found phagocytized amoebae of the genus *Nuclearia*. Additionally, in the cytoplasm of all specimens of the population, round, strongly birefringent bodies of unknown composition were found. Some were vaguely dumbbell-shaped (s. fig. 7).

Euplotes eurystomus is difficult to distinguish from the very similar species *Euplotes aediculatus*. The pattern of cirri is identical in both species, but *Euplotes aediculatus* is somewhat smaller (on average 120 µm), the adoral zone is at most slightly S-shaped, and it lacks the collar-shaped protrusion at the front end around which the adoral zone winds in *Euplotes eurystomus* (s. fig. 1 c).

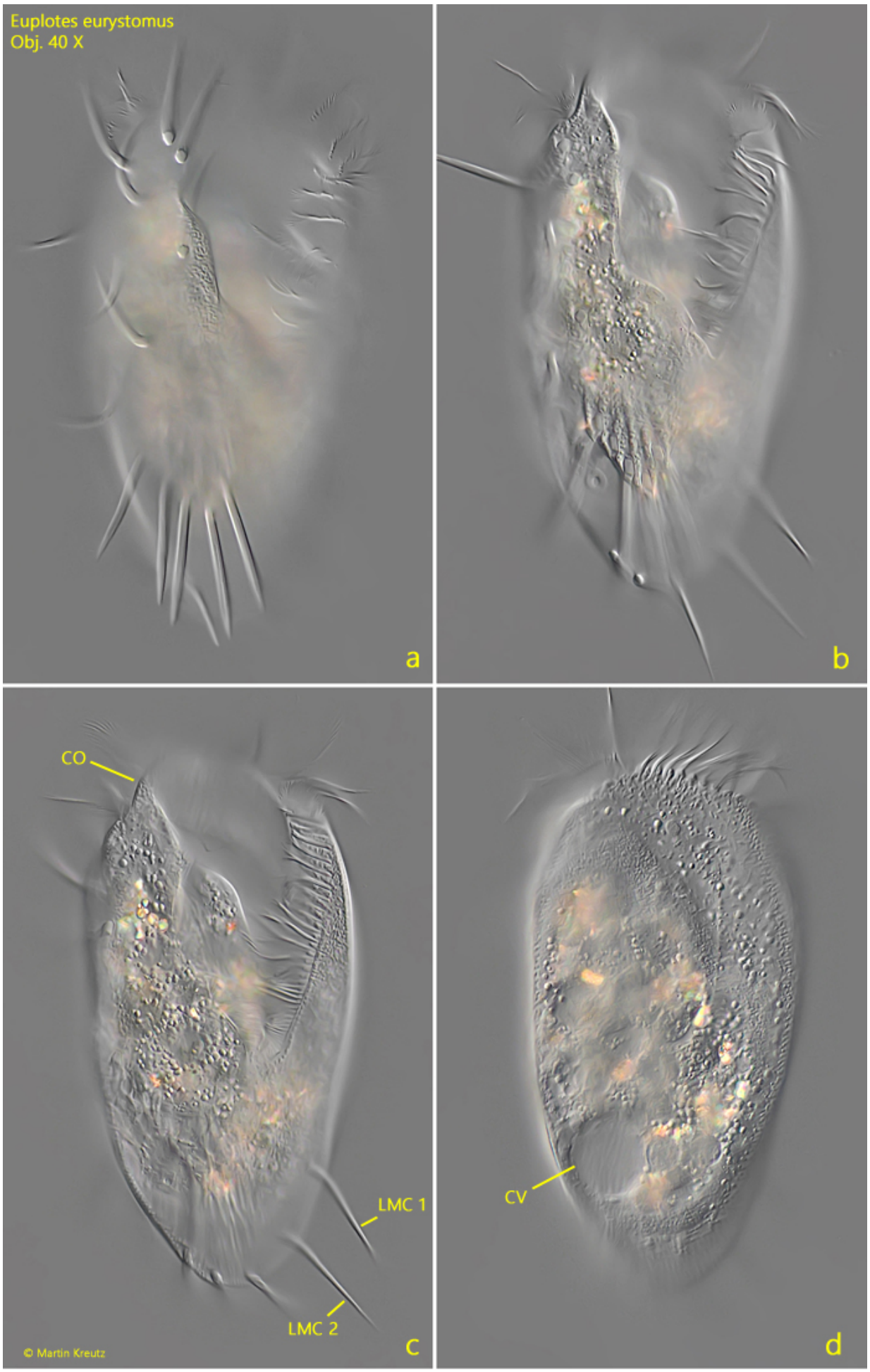
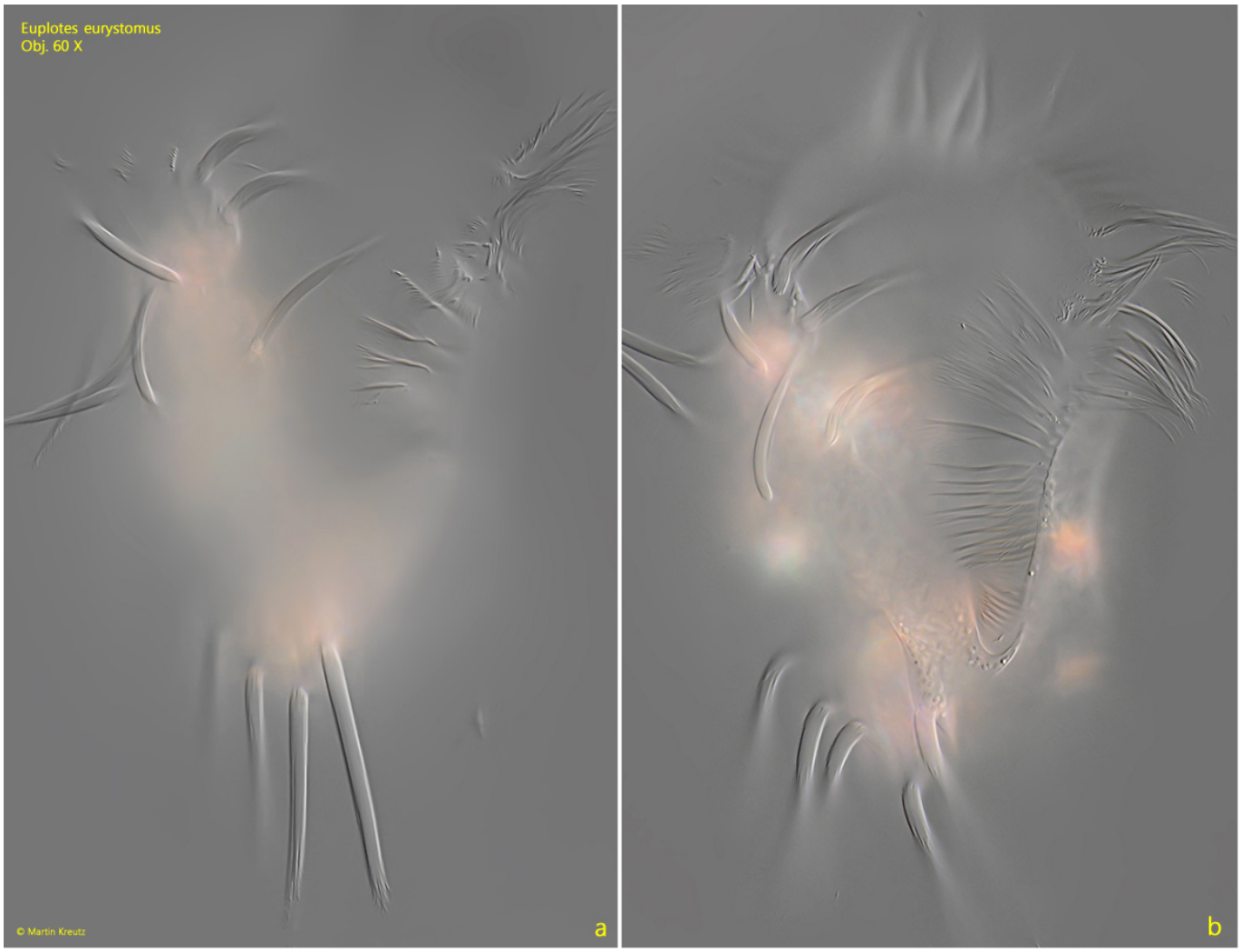

Euplotes eurystomus
Obj. 40 X
a
b
CO
LMC 1
LMC 2
© Martin Kreutz
c
CV
d

Fig. 1 a-d: *Euplotes eurystomus*. L = 185 µm. A freely swimming specimen with an elliptical shaped body from ventral. On the left side the two marginal cirri are visible (LMC 1, LMC 2). Note the collar-shaped protrusion of the anterior end (CO). CV = contractile vacuole. Obj. 40 X.



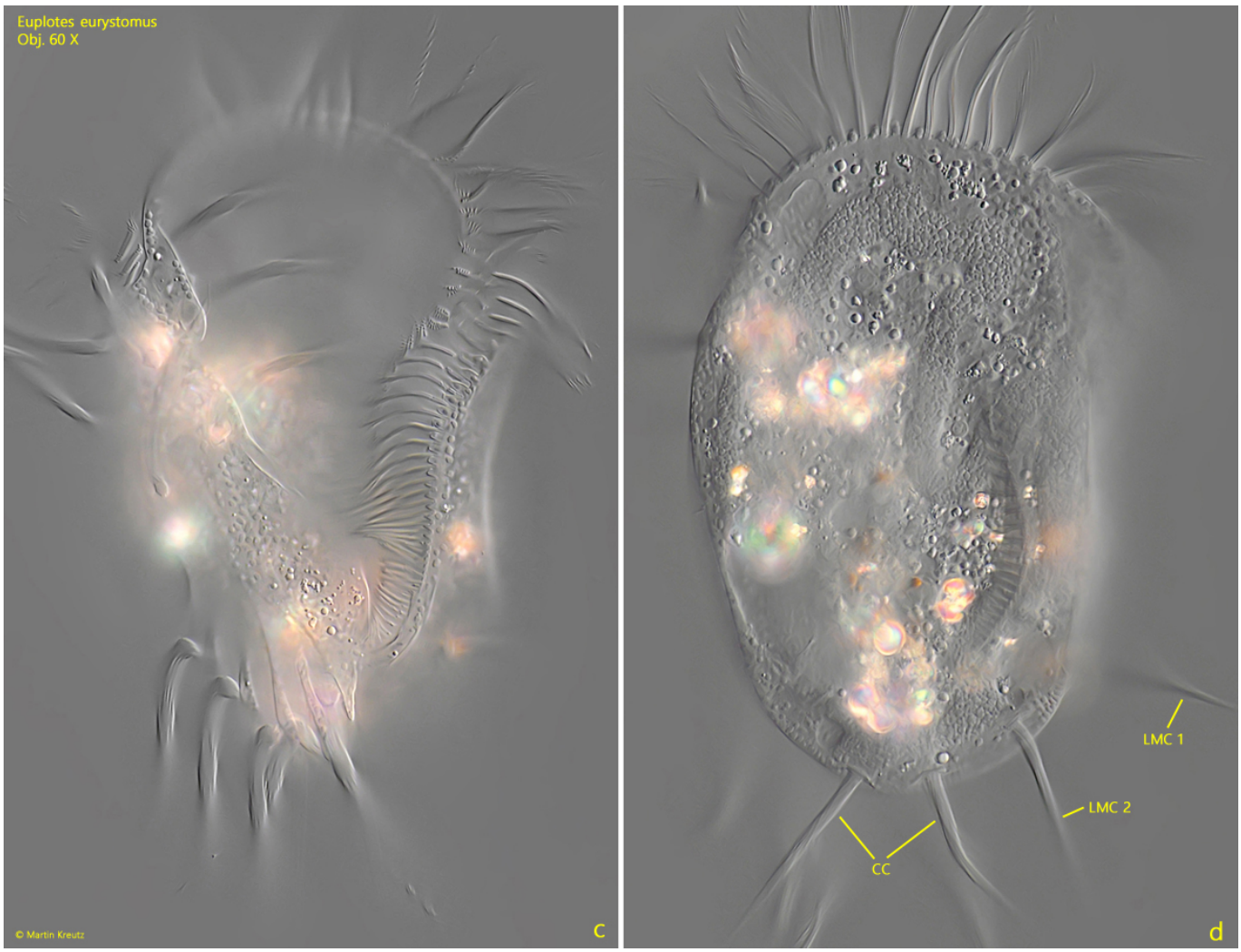


Fig. 2 a-d: *Euplotes eurystomus*. L = 150 µm. A freely swimming specimen with an broadly elliptical body from ventral. Note the two marginal cirri (LMC 1, LMC 2) and the two caudal cirri (CC). Obj. 60 X.

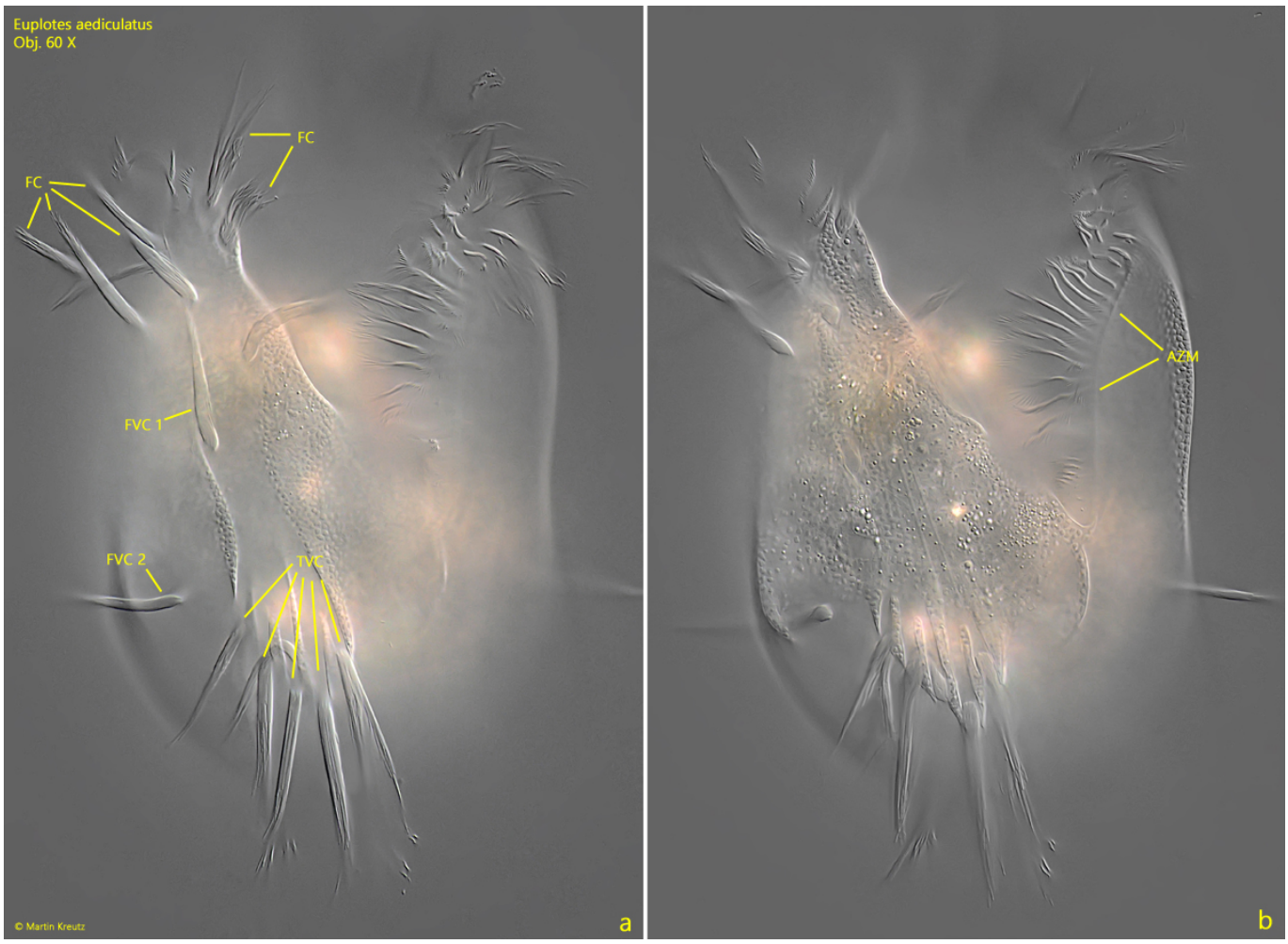


Fig. 3 a-b: *Euplotes eurystomus*. L = 194 µm. The pattern of the ventral cirri of a slightly squashed specimen. There 6 frontal cirri (FC), one buccal cirrus (BC) and two, separated frontoventral cirri (FVC 1, FVC 2). The 5 transversal cirri (TVC) arise between longitudinal ridges. AZM = adoral zone of membranelles. Obj. 60 X.

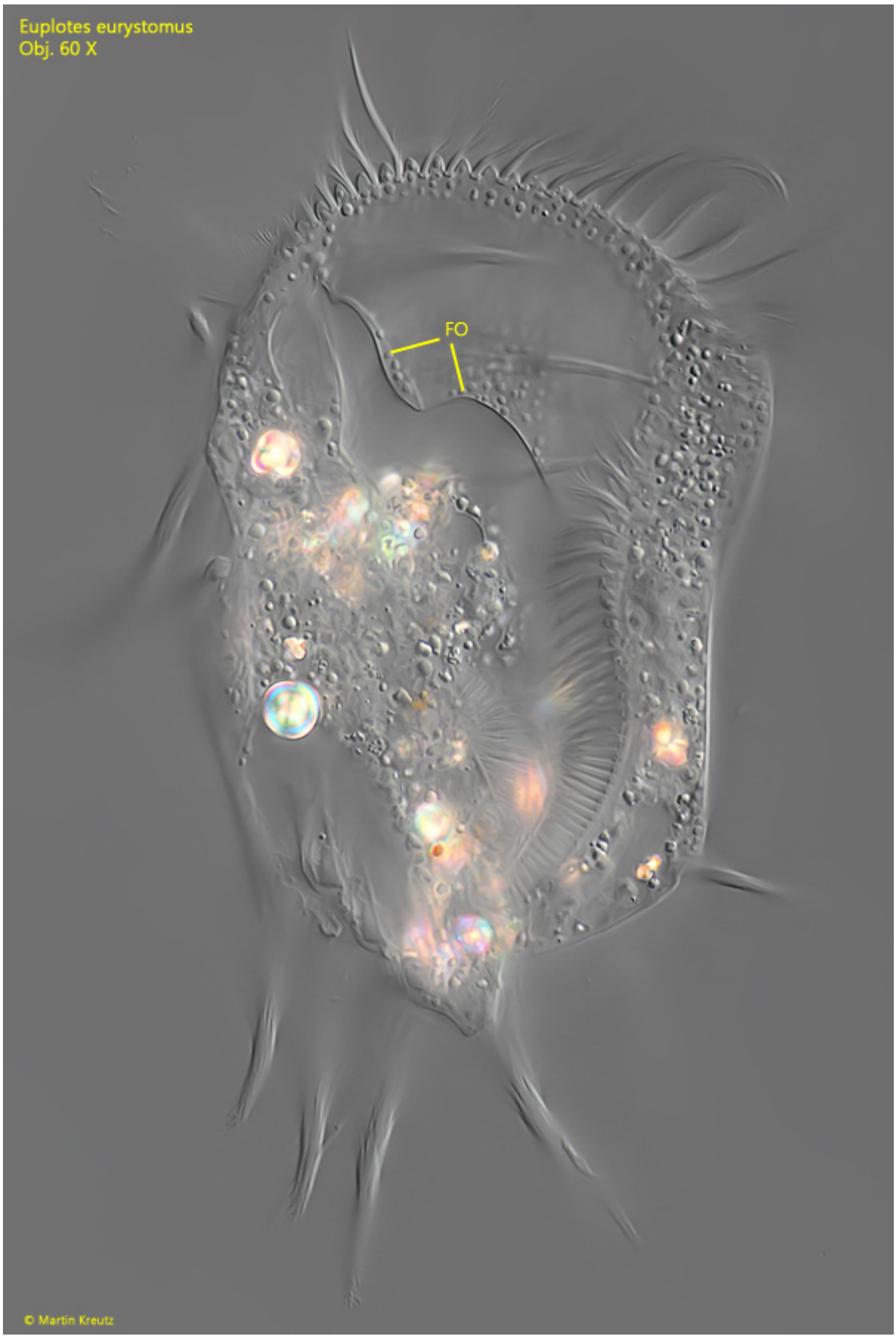


Fig. 4: *Euplotes eurystomus*. L = 185 µm. On the right side of the oral field a convex fold (FO) is located. Obj. 60 X.

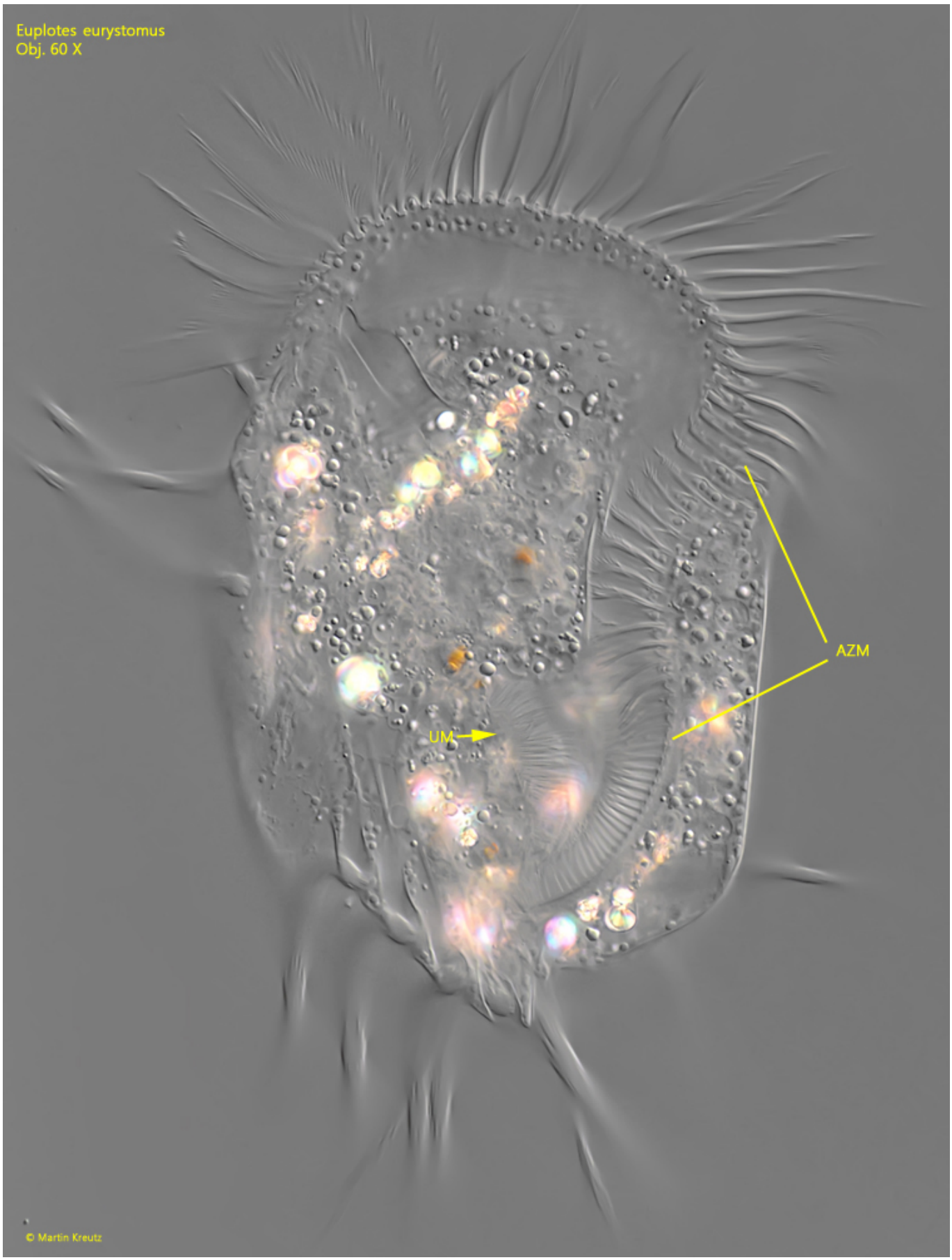


Fig. 5: *Euplotes eurystomus*. L = 148 µm. The adoral zone of membranelles has an S-shape. In the posterior third the inconspicuous undulating membrane (UM) is visible. Obj. 60 X.

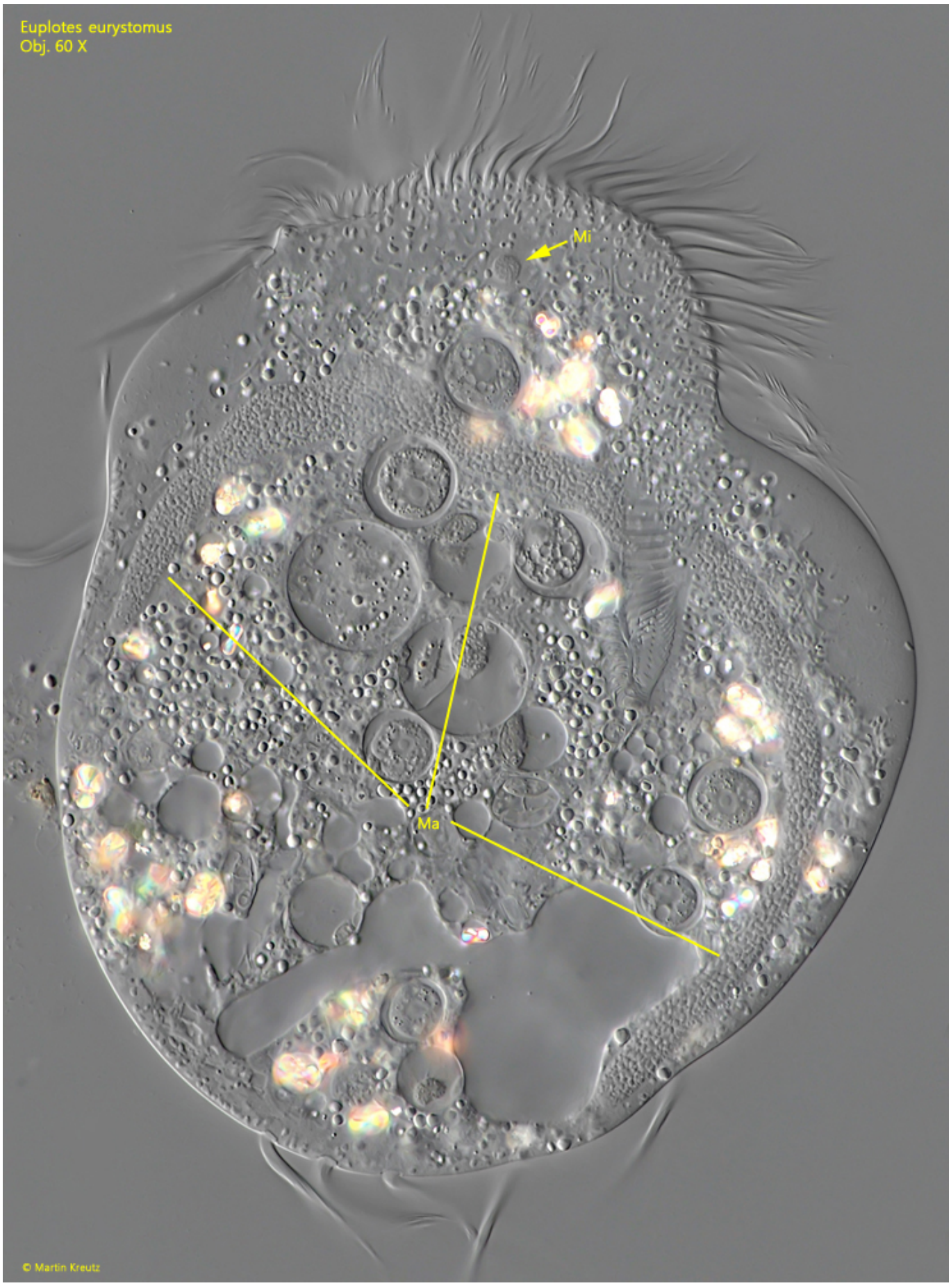


Fig. 6: *Euplotes eurystomus*. The long C-shaped macronucleus (Ma) and the small spherical

micronucleus (Mi) in a squashed specimen. Obj. 60 X.

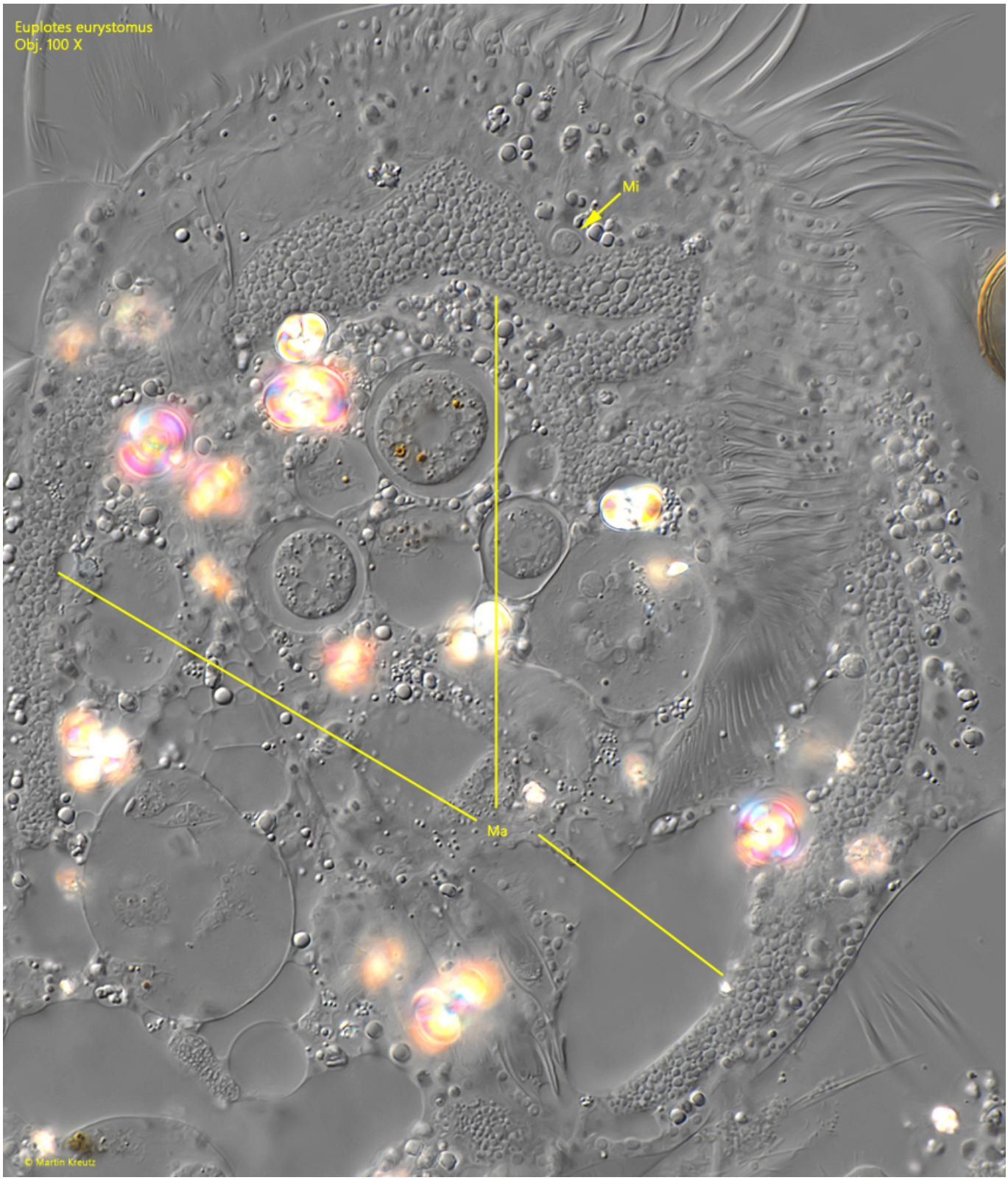


Fig. 7: *Euplotes eurystomus*. The macronucleus (Ma) and micronucleus (Mi) in a second, squashed specimen. Obj. 100 X.

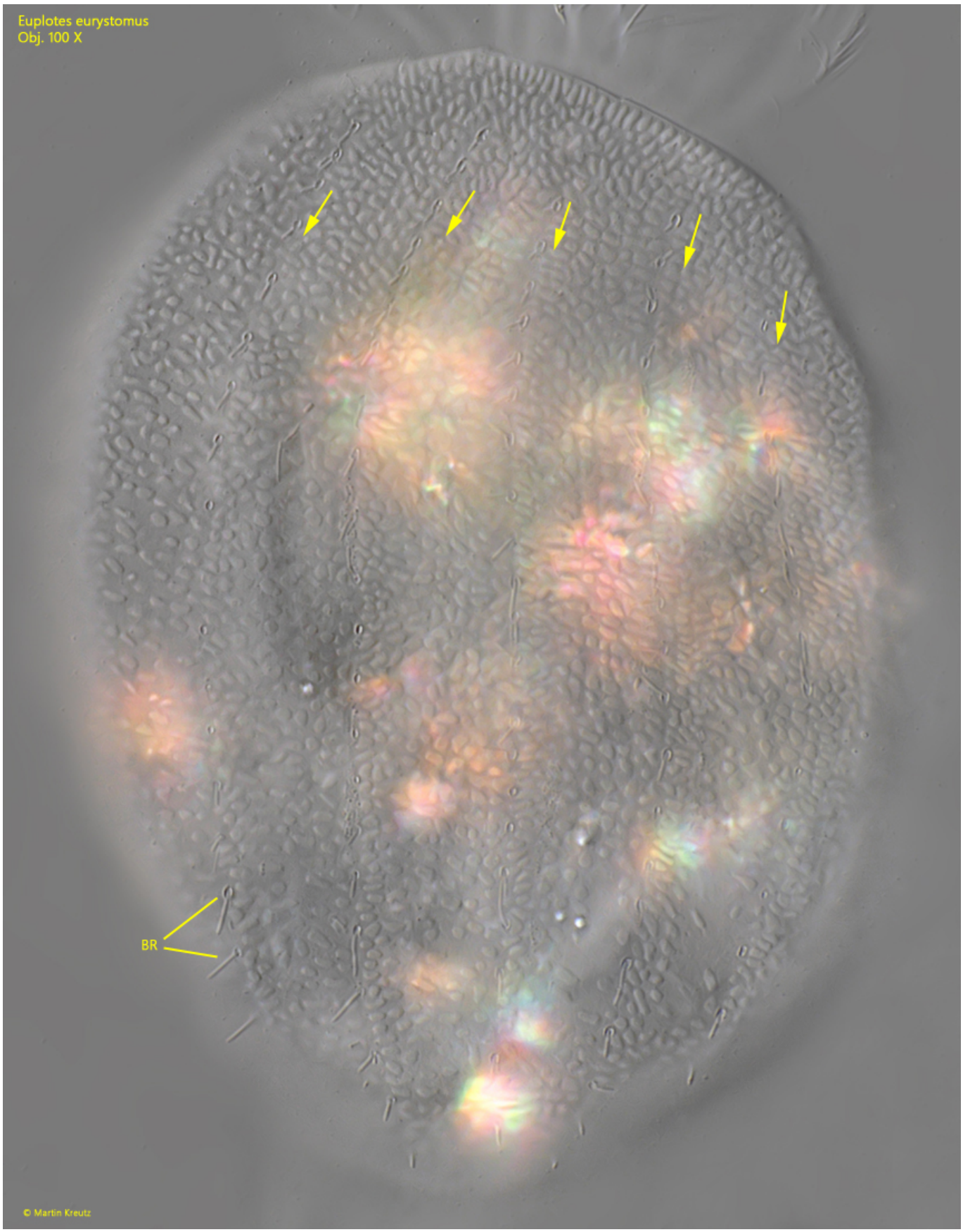


Fig. 8: *Euplotes eurystomus*. The dosal side of a slightly squashed specimen. From the 10 dorsal rows of cilia 5 are visible (arrows). The dorsal cilia are short as bristles (BR) and arise from pores. Obj. 100 X.

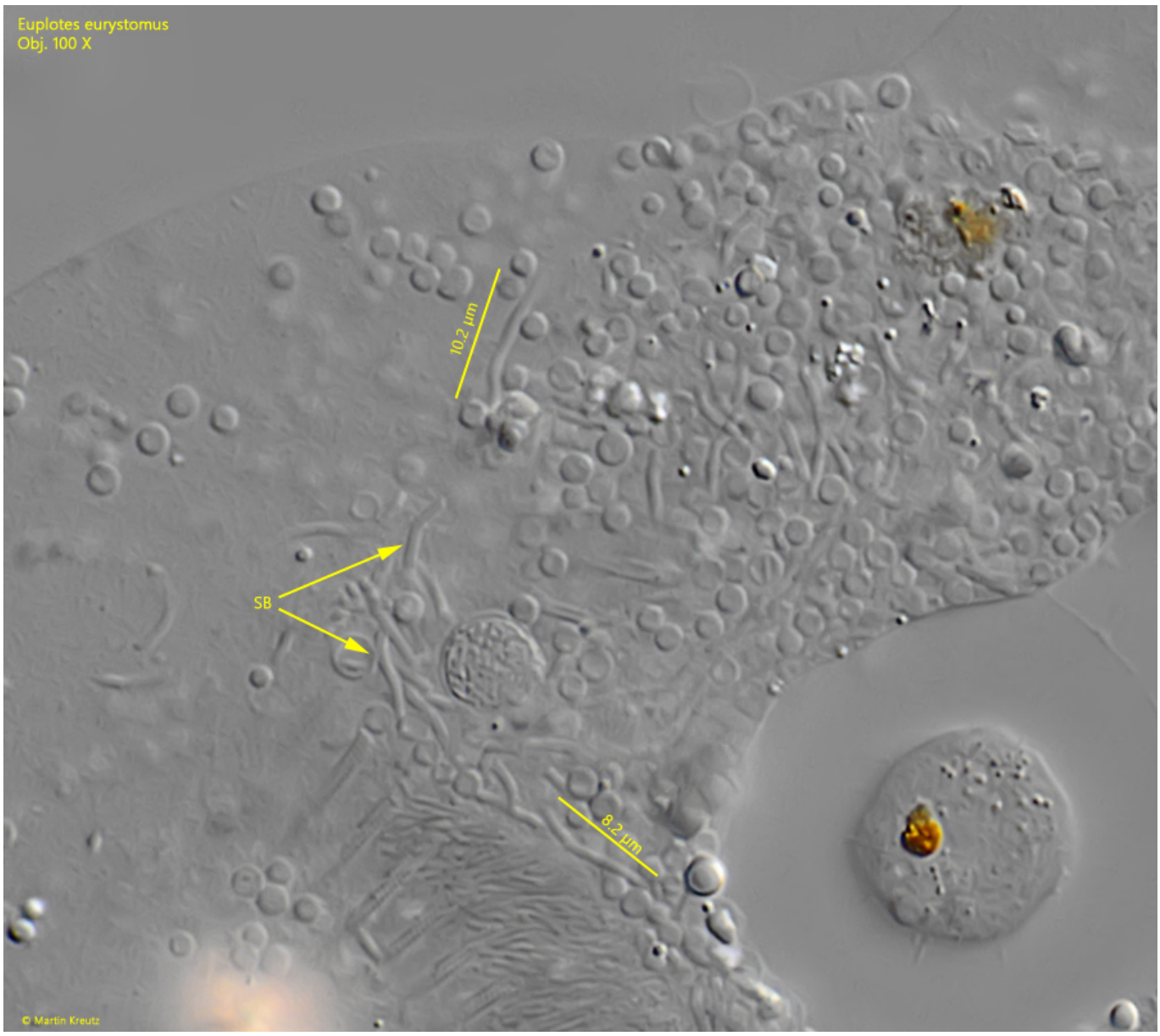


Fig. 9: *Euplotes eurystomus*. The symbiotic bacteria (SB) in the cytoplasm are 8–10 µm long and slightly cureved. Obj. 100 X.