

***Trachelius subtilis* (Penard, 1922)**

Most likely ID: n.a.

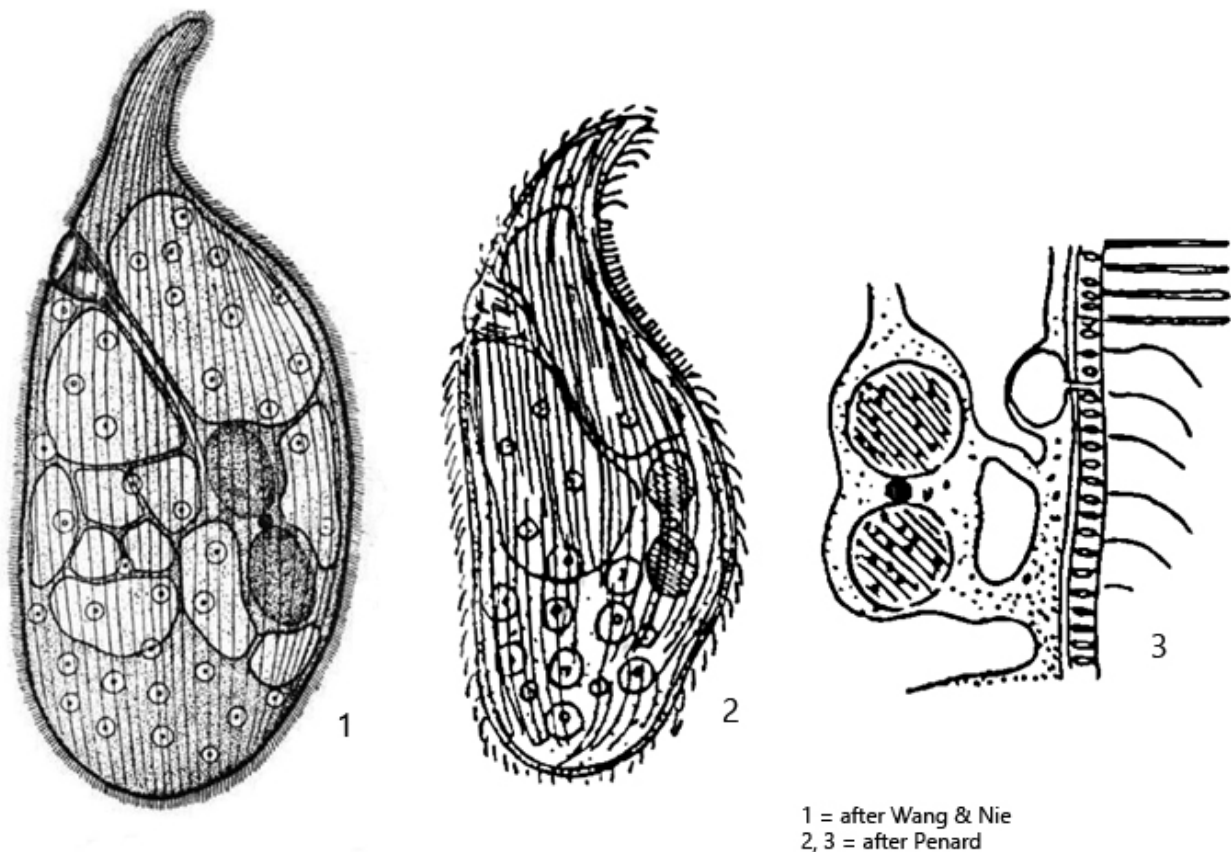
Synonym: n.a.

Sampling location: [Simmelried](#)

Phylogenetic tree: n.a.

Diagnosis:

- body oval to ellipsoid with short proboscis
- inconspicuous ventral groove
- length 150–280 µm
- cytoplasm strongly vacuolated
- cytostome circular at the base of proboscis
- two globular or oval macronuclei with a spherical micronucleus in between
- many scattered contractile vacuoles
- pellicle with fringe of rod-shaped extrusomes, about 1 µm long
- brownish colored excretion vacuoles
- feeding mainly on rotifers



Trachelius subtilis

I find *Trachelius subtilis* comparatively rarely and so far exclusively in the [Simmelried](#). There I found *Trachelius subtilis* in decomposing plant material in June 2021 and August 2022.

Trachelius subtilis was first described by Penard (1922). The species is smaller than *Trachelius ovum* and its main characteristic is a two-part macronucleus with a spherical micronucleus in the middle (s. figs. 2 and 3, above). In 2012 Vďačný & Foissner synonymized *Trachelius subtilis* with *Trachelius ovum* with the argument that Penard (1922) possibly only found specimens of *Trachelius ovum* with a macronucleus constricted in the middle and that this is an observational error. Vďačný & Foissner obviously did not find any specimens with such a constricted macronucleus themselves. However, Penard was a very precise observer and Kahl (1935) also found specimens of *Trachelius subtilis*, which confirmed and supplemented Penard's results.

I cannot agree with the synonymization with *Trachelius ovum* by Vďačný & Foissner, because I could often observe *Trachelius ovum* and the specimens of *Trachelius subtilis* I found definitely had other characteristics. Rather, I can confirm the descriptions of Penard and Kahl, especially with regard to the nuclear apparatus of *Trachelius subtilis*. Since I

found several specimens of *Trachelius subtilis*, I was also able to prove that the characteristics are constant.

The specimens of my population of *Trachelius subtilis* were 190–240 μm long and thus smaller than *Trachelius ovum* (250–400 μm). The specimens were also more slender than *Trachelius ovum*. The propocis was short and bent backwards (s. fig. 2 a). The very large food vacuoles mainly contained rotifers, which was also described by Kahl (s. fig. 1 a). In all specimens I examined, the macronucleus consisted of two broadly oval parts with a length of about 12–15 μm , between which was a spherical micronucleus with a diameter of about 2–3 μm (s. figs. 4 a and 5). The two macronuclei were definitely separated. Thus they correspond exactly to the description and drawing by Penard (s. drawing 3, above). The oral bulge was circular and had a diameter of 8–10 μm (s. fig. 6). In some specimens a large number of brownish colored excretory vacuoles were found in the cytoplasm, which are also described by Kahl (s. fig. 3). In the pellicle a fringe of rod-shaped extrusomes is located with a length of about 1 μm (s. fig. 7). I could not find longer extrusomes in the cytoplasm. There are numerous contractile vacuoles scattered over the body under the pellicle (s. fig. 4 b).

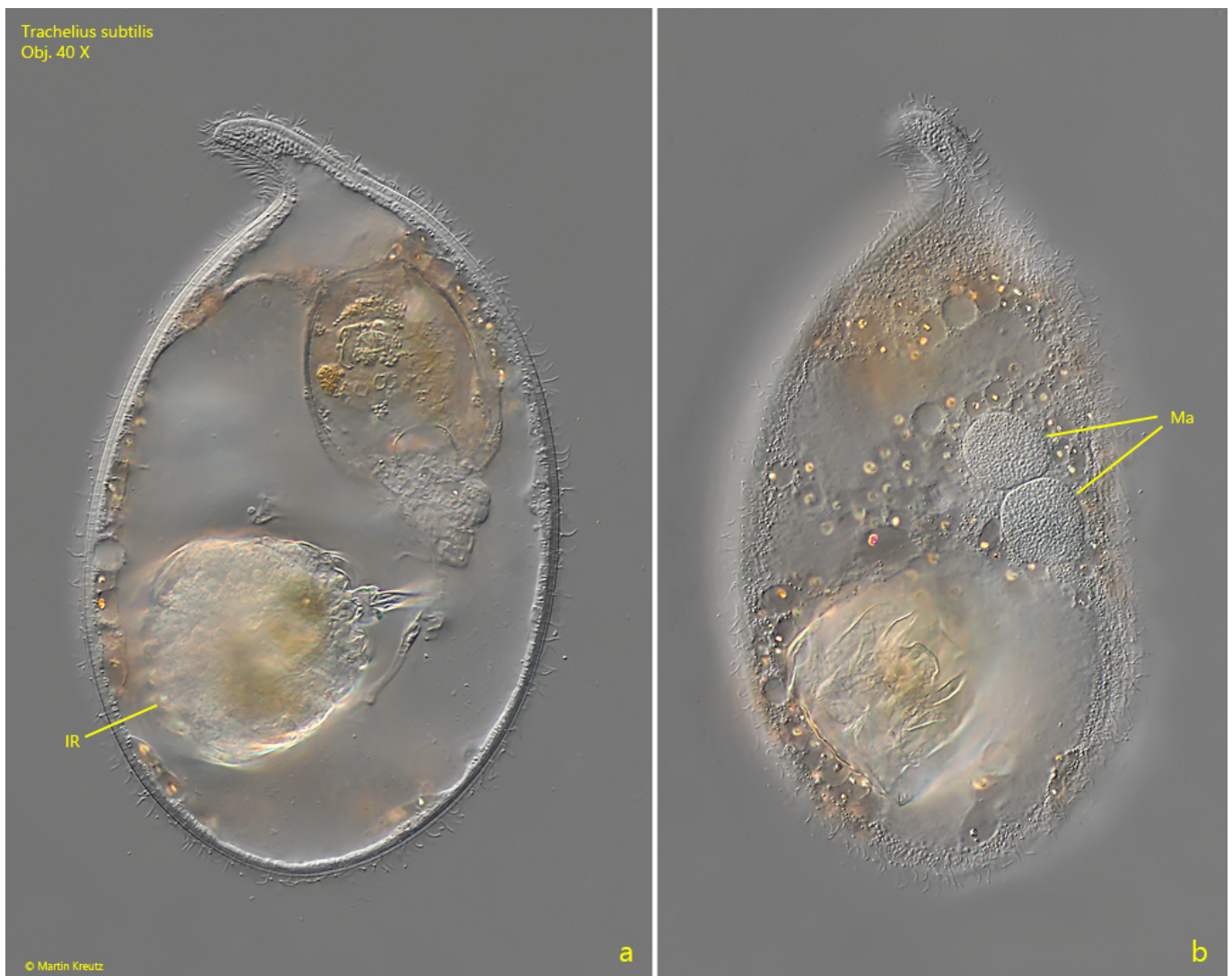


Fig. 1 a-b: *Trachelius subtilis*. L = 230 μ m. A freely swimming specimen. IR = ingested rotifer, Ma = macronucleus consisting of two parts. Obj. 40 X.

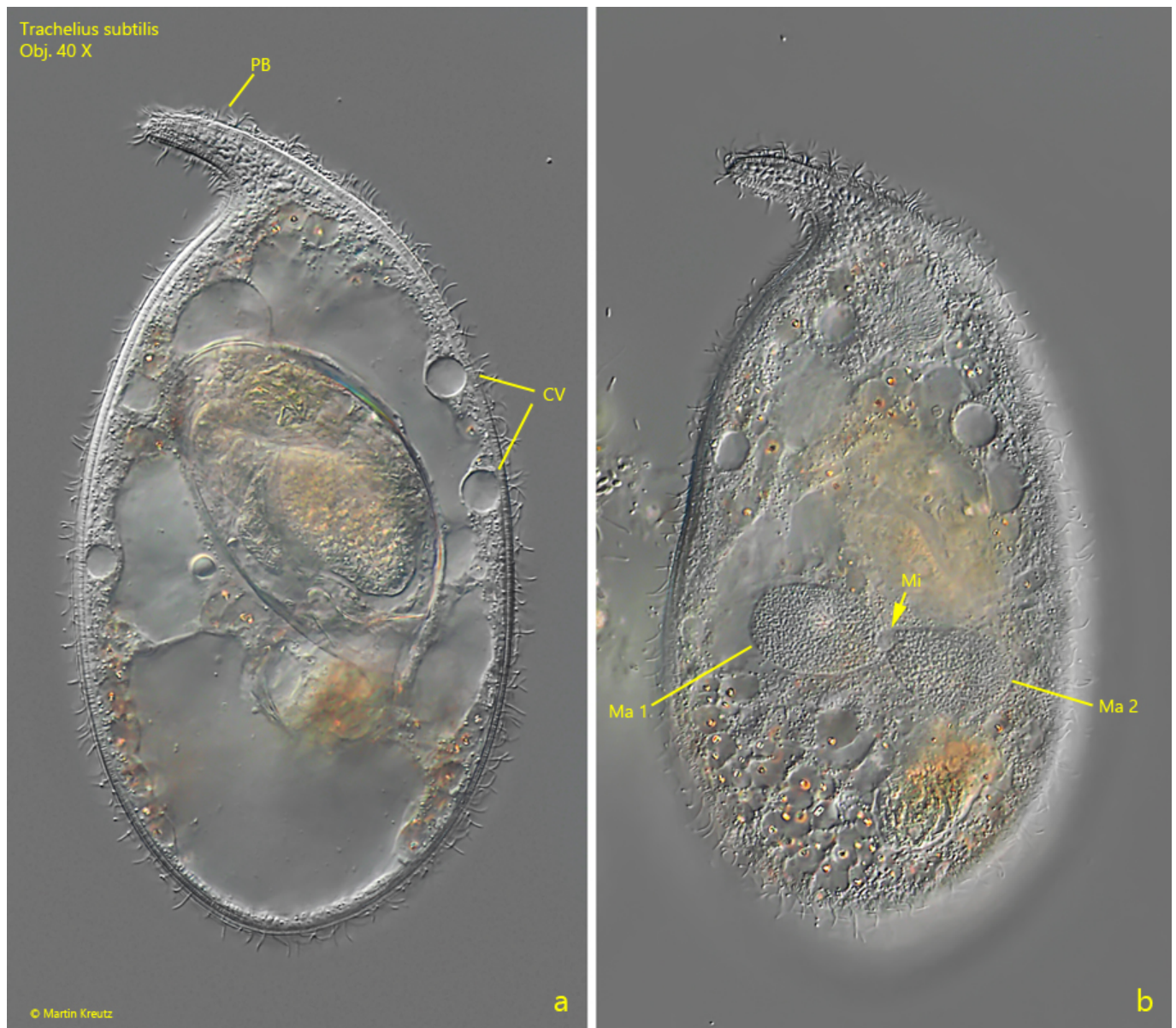


Fig. 2 a-b: *Trachelius subtilis*. L = 218 μ m. A second freely swimming specimen. Note the two oval macronuclei (Ma 1, Ma 2) with the spherical micronucleus (Mi) in between. CV = contractile vacuoles, PB = proboscis. Obj. 40 X.



Fig. 3: *Trachelius subtilis*. The brownish colored excretion vacuoles (BCV) in the slightly squashed specimen as shown in fig. 1 a-b. Obj. 60 X.

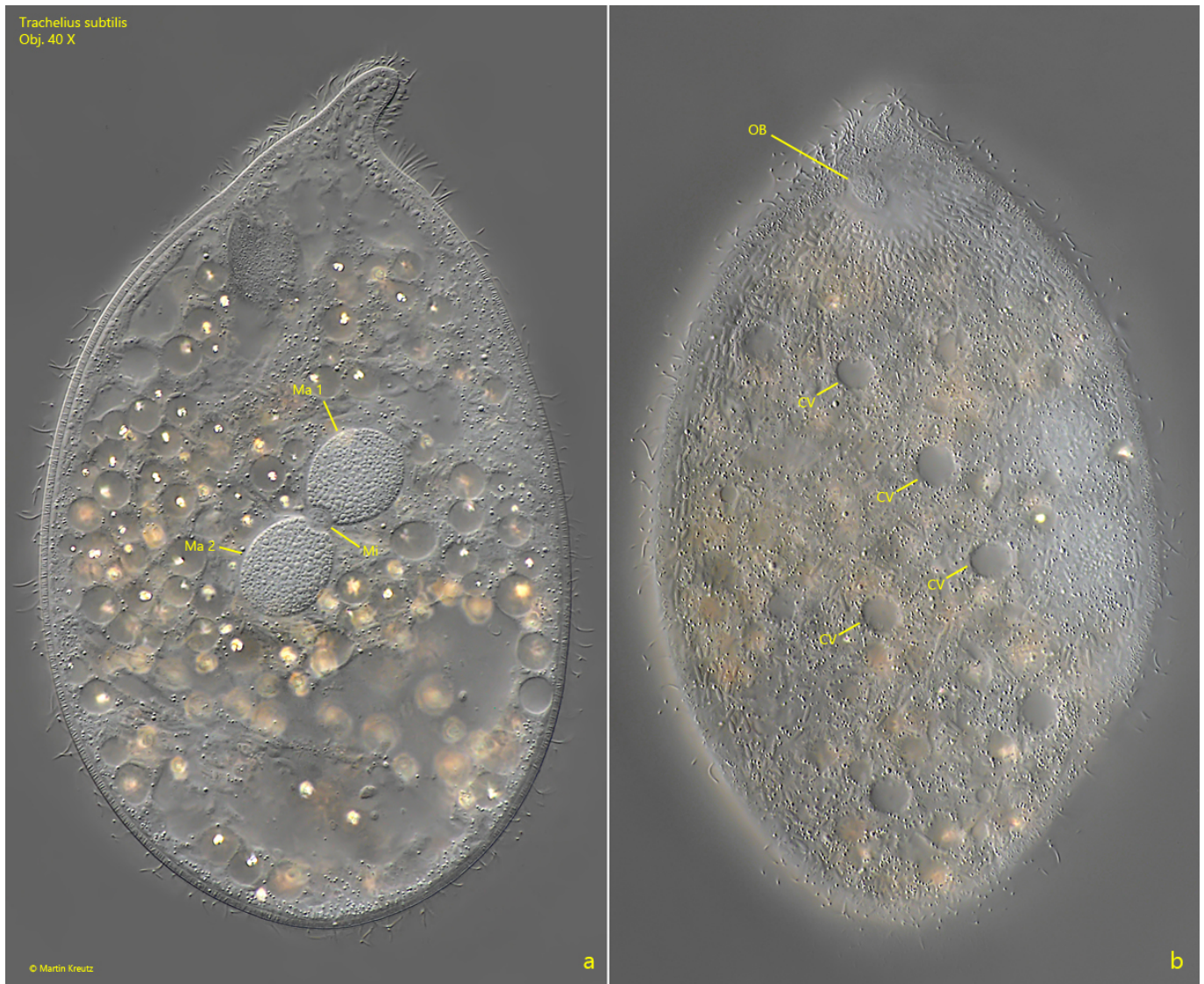


Fig. 4 a-b: *Trachelius subtilis*. L = 200 μ m. Two focal planes of a slightly squashed specimen. CV = contractile vacuole; Ma 1, Ma 2 = macronuclei; Mi = micronucleus; OB = oral bulge. Obj. 60 X.

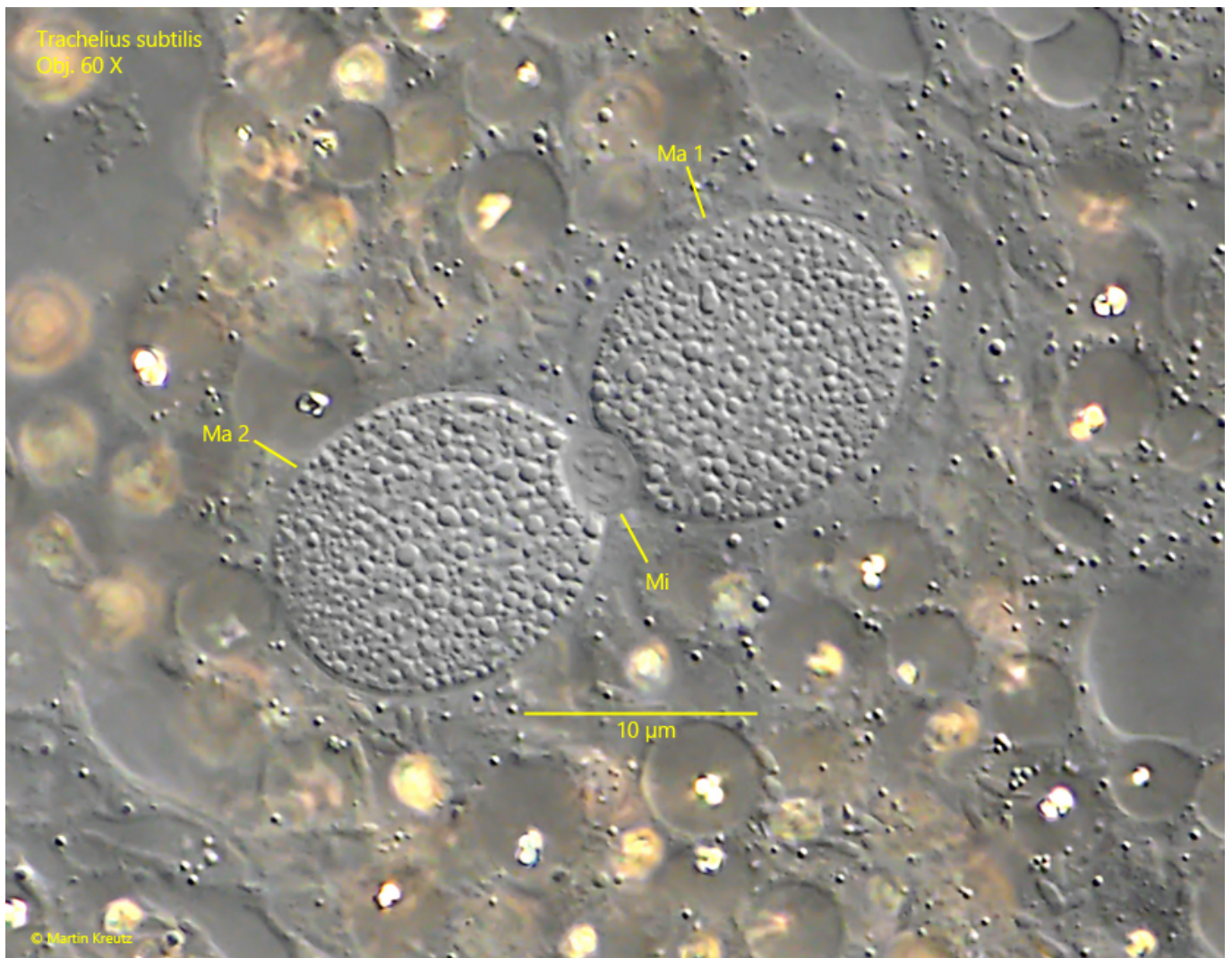


Fig. 5: *Trachelius subtilis*. The nuclear apparatus of the specimen as shown in fig. 3 a-b in detail. Ma 1, Ma 2 = macronuclei; Mi = micronucleus. Obj. 60 X.

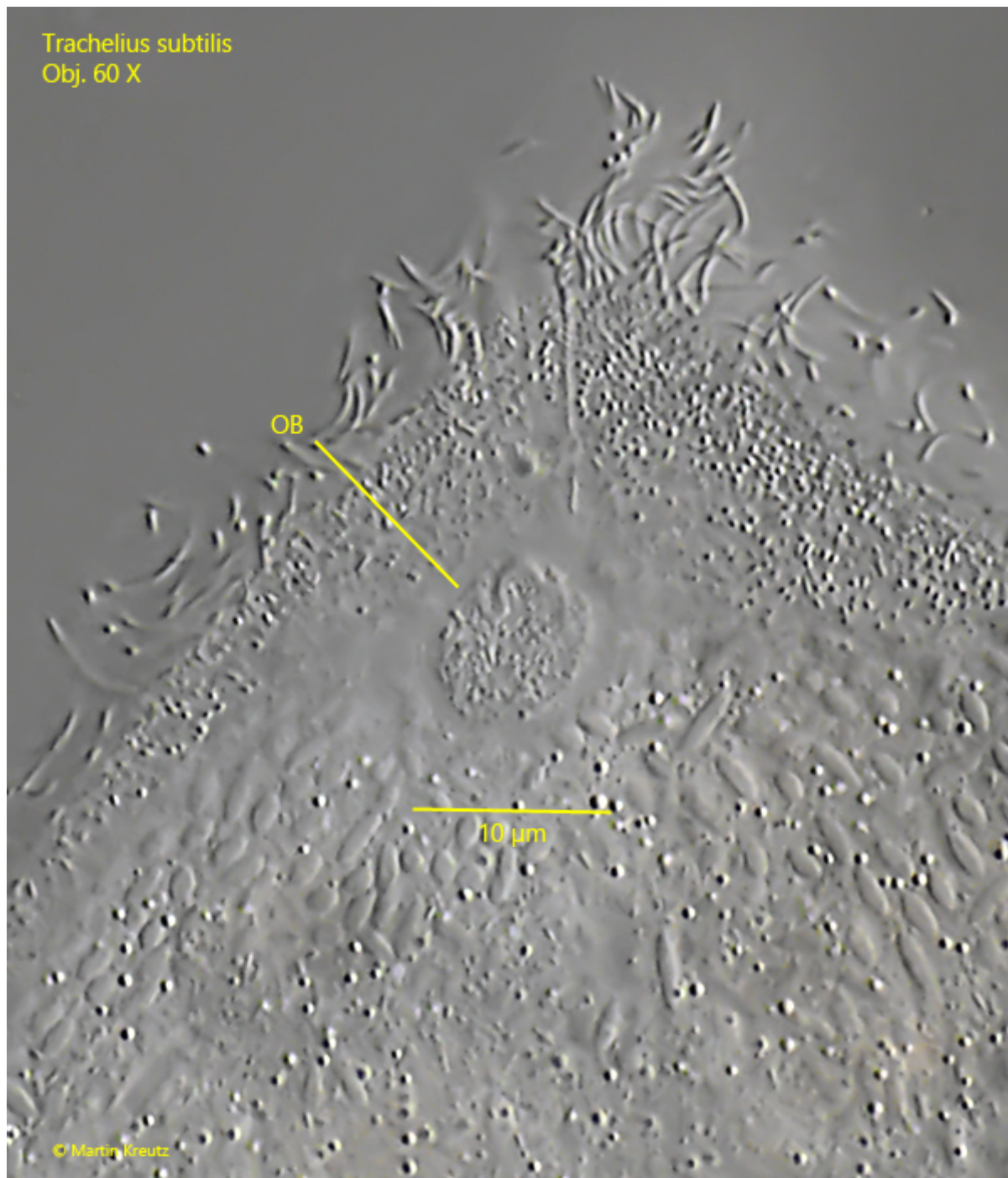


Fig. 6: *Trachelius subtilis*. The oral bulge (OB) of this specimen has a diameter of 8.5 μm . Obj. 60 X.

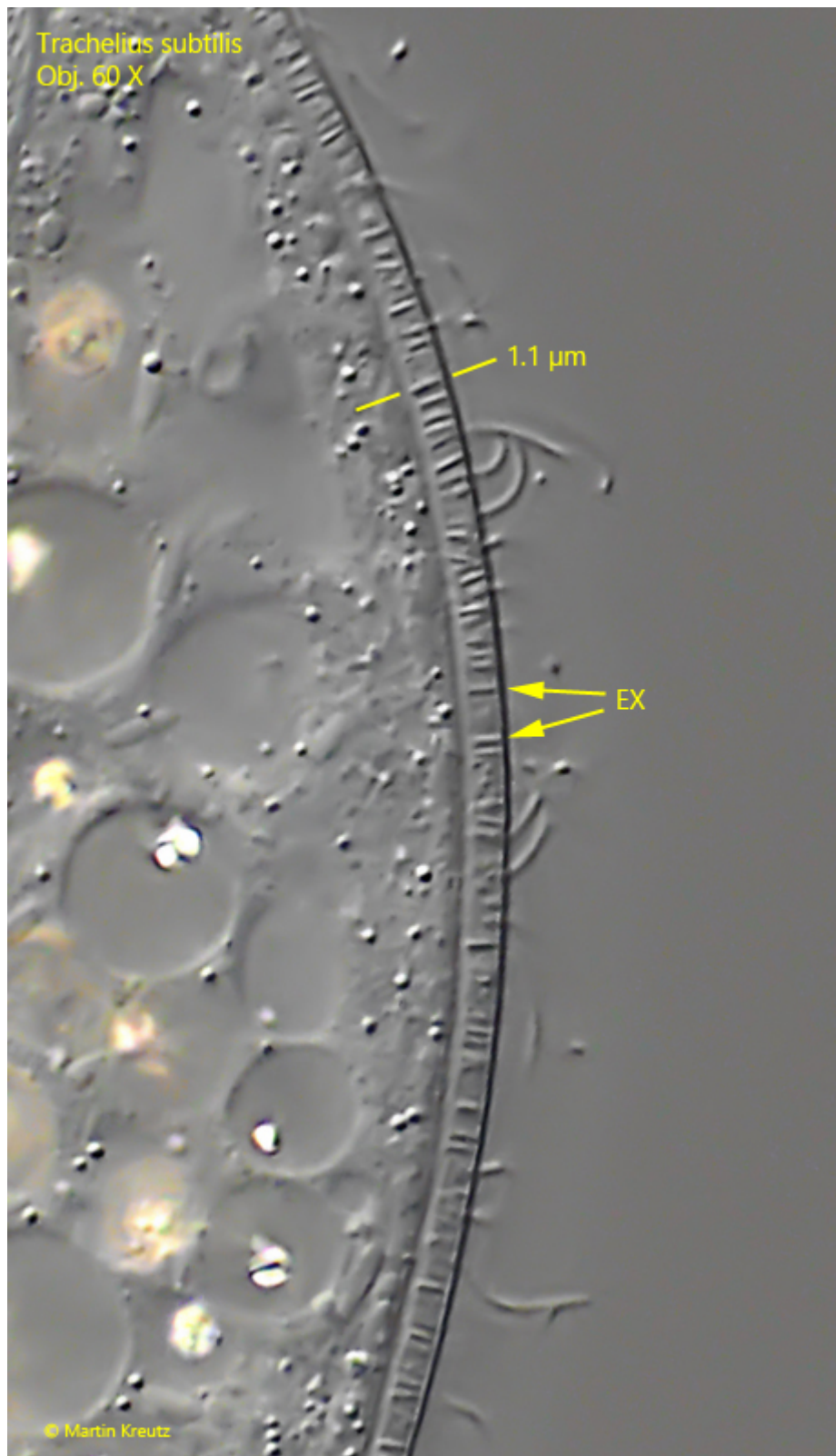


Fig. 7: *Trachelius subtilis*. Focal plane on the pellicle with a fringe of rod-shaped extrusomes (EX) with a length of about 1 μm . Obj. 60 X.



Fig. 8: *Trachelius subtilis*. The proboscis with a part of the dorsal brush (DB). Obj. 60 X.