Pseudomonilicaryon anser

(Müller 1773) Vďačný & Foissner, 2011

Most likely ID: n.a.

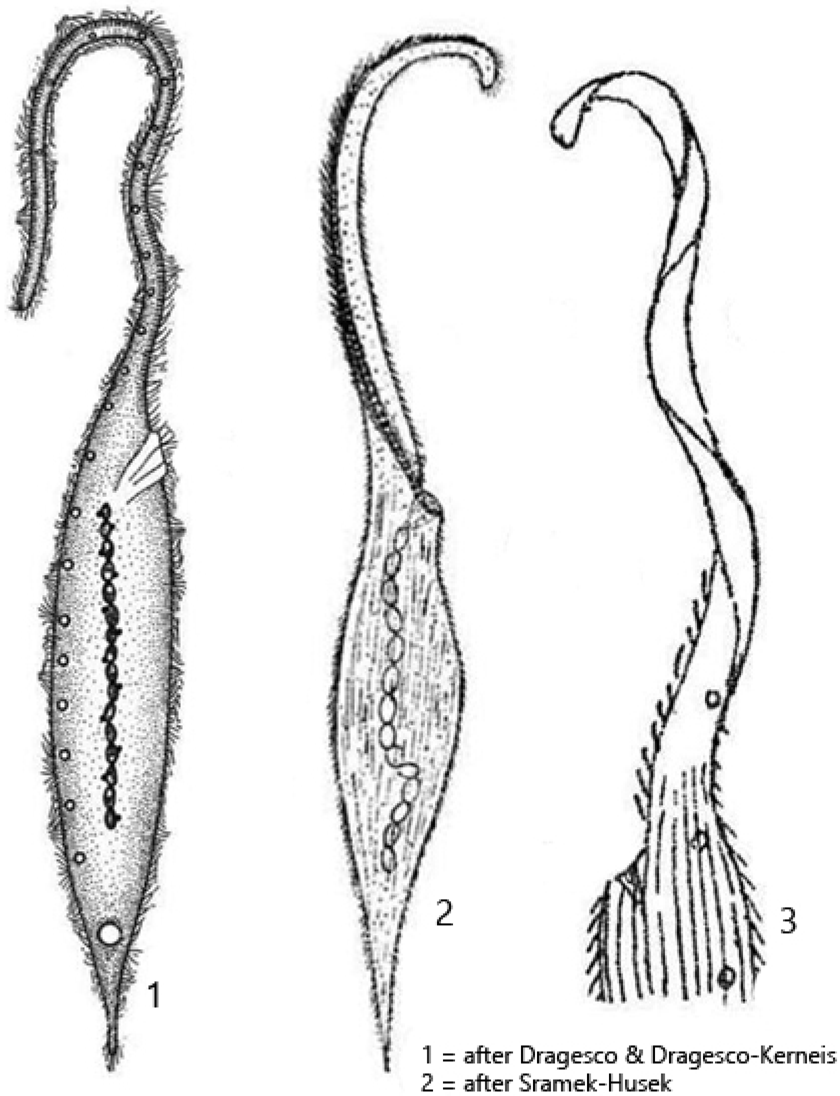
Synonym: *Dileptus anser*, *Dileptus cygnus*

Sampling location: Ulmisried

Phylogenetic tree: *Pseudomonilicaryon anser*

Diagnosis:

- body slender spindle-shaped, short tail, very flexible, s
- proboscis half of body length
- shape of oral bulge circular
- length 150–600 µm
- dorsal brush on dorsal side of proboscis
- macronucleus moniliform, 12–25 nodules
- several globular micronuclei attached to macronuclear strand
- two types of rod-shaped extrusomes, type 1 = 4–6 µm, type 2 = 2 µm
- a dorsal stripe of 15–20 contractile vacuoles reaching into proboscis
- no contractile vacuoles on ventral side and in tail



Pseudomonilicaryon anser

With the revision of the dileptid ciliates by Vďačný & Foissner (2011), the genera have been redefined and new genera have been created. The authors define the ratio of the length of the proboscis to the trunk, the form of the nuclear apparatus and the shape and length of the extrusomes as important distinguishing criteria. All forms with isolated macronuclear nodules were placed in the genus *Dileptus*, while forms with a moniliform macronucleus and a distinct proboscis were placed in the new genus *Pseudomonilicaryon*. Therefore, *Dileptus anser* has now been placed in the genus *Pseudomonilicaryon*.

I have so far only found *Pseudomonilicaryon anser* in the Ulmisried. A mass development occurred there in August 2016, which made it possible to examine fully extended specimens (s. figs. 1 a-c, 2 and 3 a-b). The specimens react sensitively to coverslip pressure and contract quickly. Therefore, it is necessary to try a little to find the optimum layer thickness. It is always advisable to leave some detritus under the coverslip. In my experience, this seems to encourage the natural groping and searching movements of the specimens and keeps the layer thickness constant.

Some of the specimens in my population were over 1000 µm long when stretched out (s. fig. 1 a-c) and thus 40 % longer than stated by Vďačný & Foissner. However, the earlier authors often measured fixed specimens and it was not yet possible to capture freely moving specimens by photography with the microflash in order to measure them later. I therefore believe that the actual range for the total length must be extended upwards.

An important feature for the identification of *Pseudomonilicaryon anser* is the length ratio of the proboscis to the trunc. This should be approximately 1:1, which was the case in my population. In addition, *Pseudomonilicaryon anser* has a moniliform macronucleus and no single and scattered macronuclear nodules (s. fig. 8). On the dorsal side there is a row of contractile vacuoles extending up into the proboscis, whereas no contractile vacuoles are present in the tail (s. figs. 6 and 7).

Another important characteristic is the shape and length of the extrusomes. *Pseudomonilicaryon anser* has two forms, both of which are rod-shaped. In my population, the extrusomes of type 1 were 6.9-7.1 µm long and those of type 2 were 1.9-2.0 µm long (s. fig. 10). The length of type 1 extrusomes is given by Vďačný & Foissner as 4–6 µm, whereby these length specifications are based exclusively on the measurements of an Australian population. Further in vivo measurements of the extrusomes are not available. I therefore believe that the slightly longer extrusomes of type 1 in my population are still within the natural variance.

Pseudomonilicaryon anser
Obj. 20 X
© Martin Kreutz
a
b
c

Fig. 1 a-c: *Pseudomonilicaryon anser*. L = 1025 µm. A freely gliding specimen. with a fully extended proboscis. Obj. 20 X.

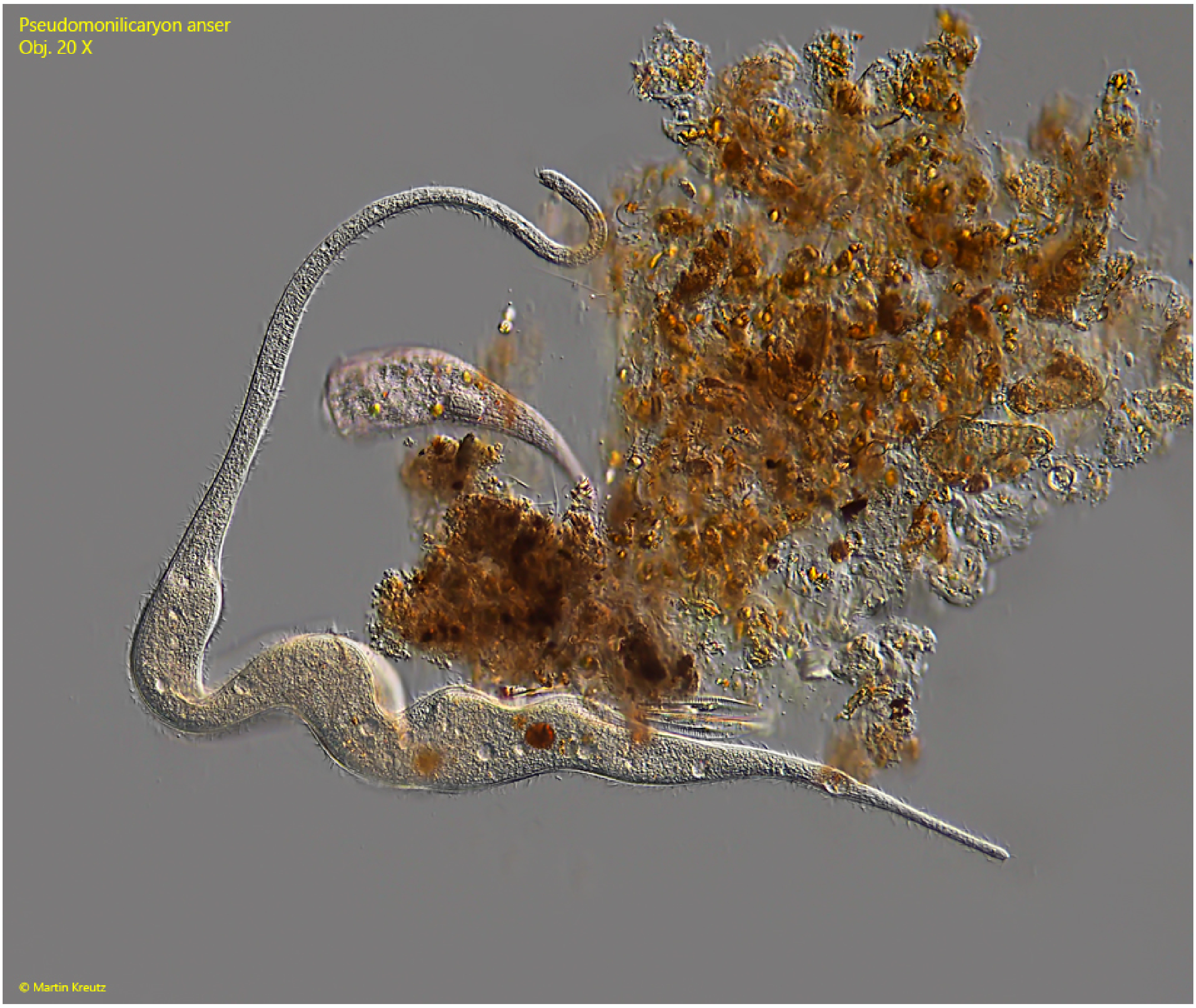


Fig. 2: *Pseudomonilicaryon anser*. L = 1025 µm. The same specimen as shown in fig. 1 a-c gliding around a detritus flake with a pink *Stentor igneus*. Obj. 20 X.

Fig. 3 a-b: *Pseudomonilicaryon anser*. L = 875 µm. A second freely gliding specimen. Obj. 20 X.

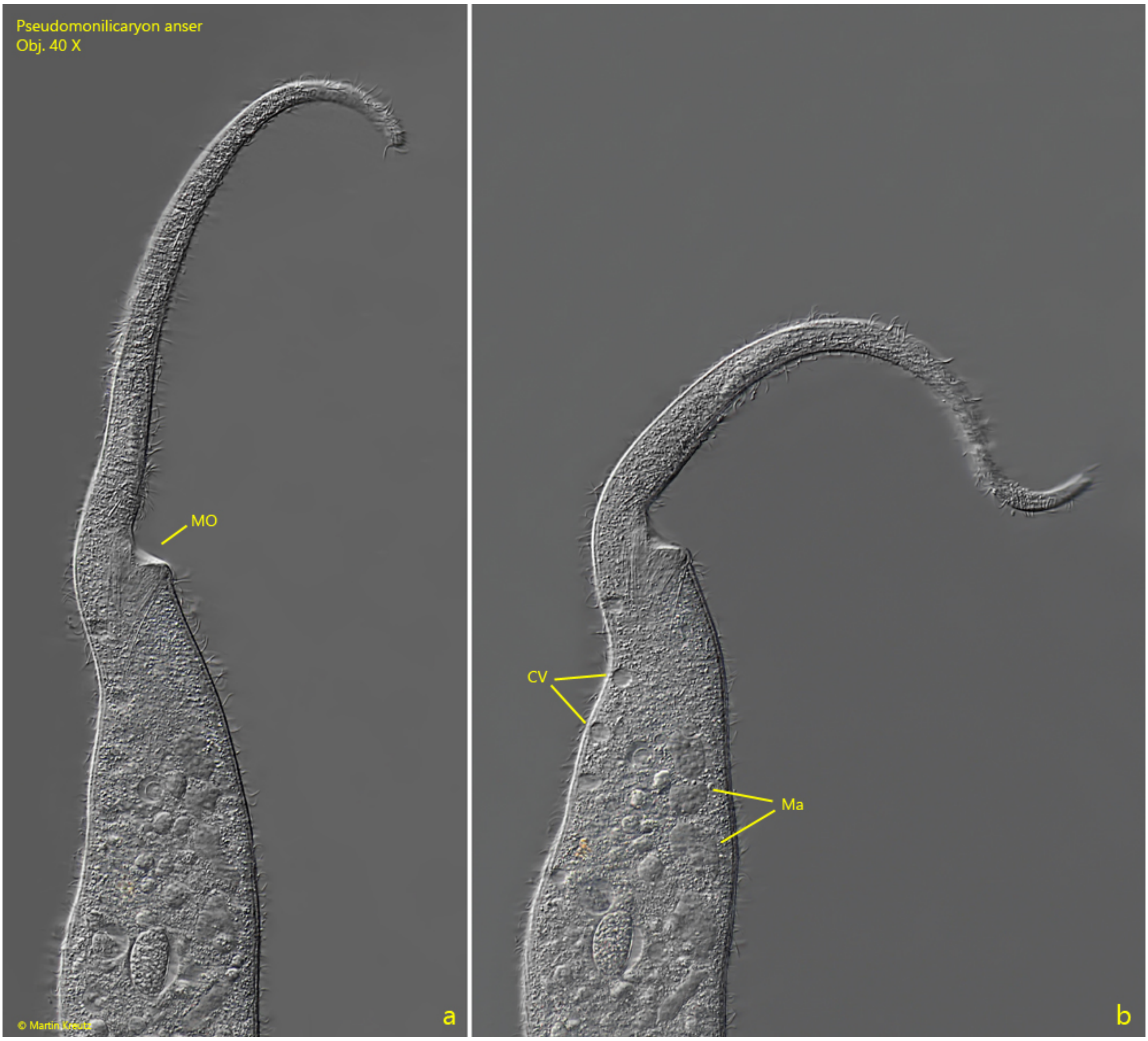


Fig. 4 a-b: *Pseudomonilicaryon anser*. A slightly squashed specimen with focal plane on the mouth opening (MO) and the moniliform macronucleus (Ma). CV = contractile vacuoles. Obj. 40 X.

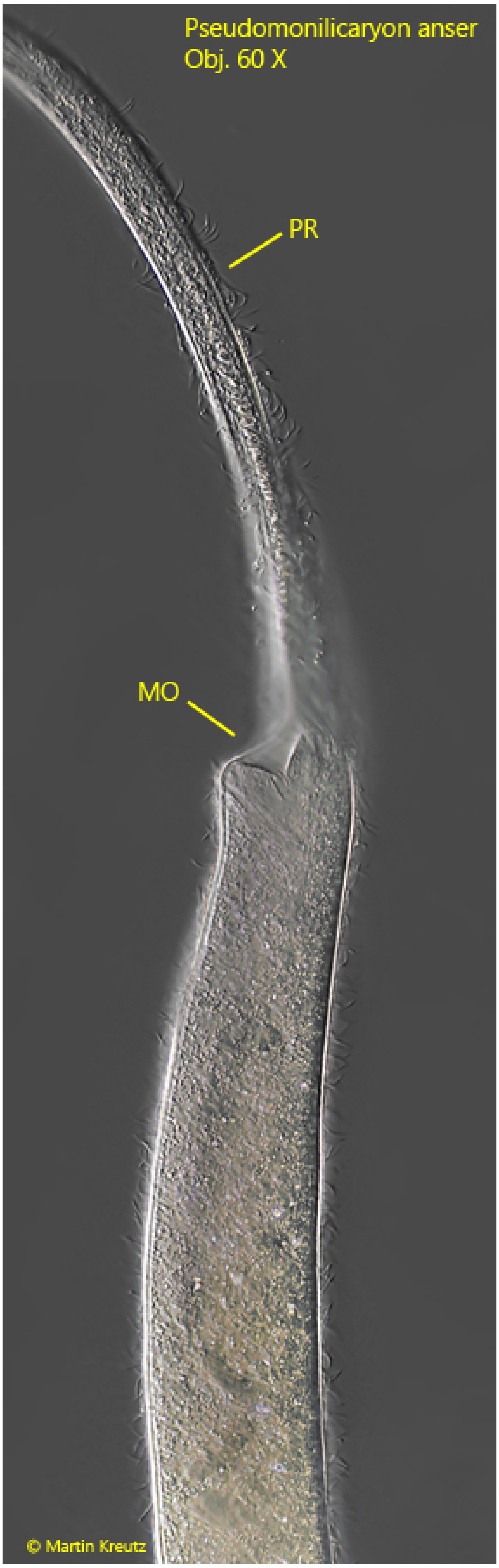


Fig. 5: *Pseudomonilicaryon anser*. The mouth opening (MO) in ventral view. Obj. 60 X.

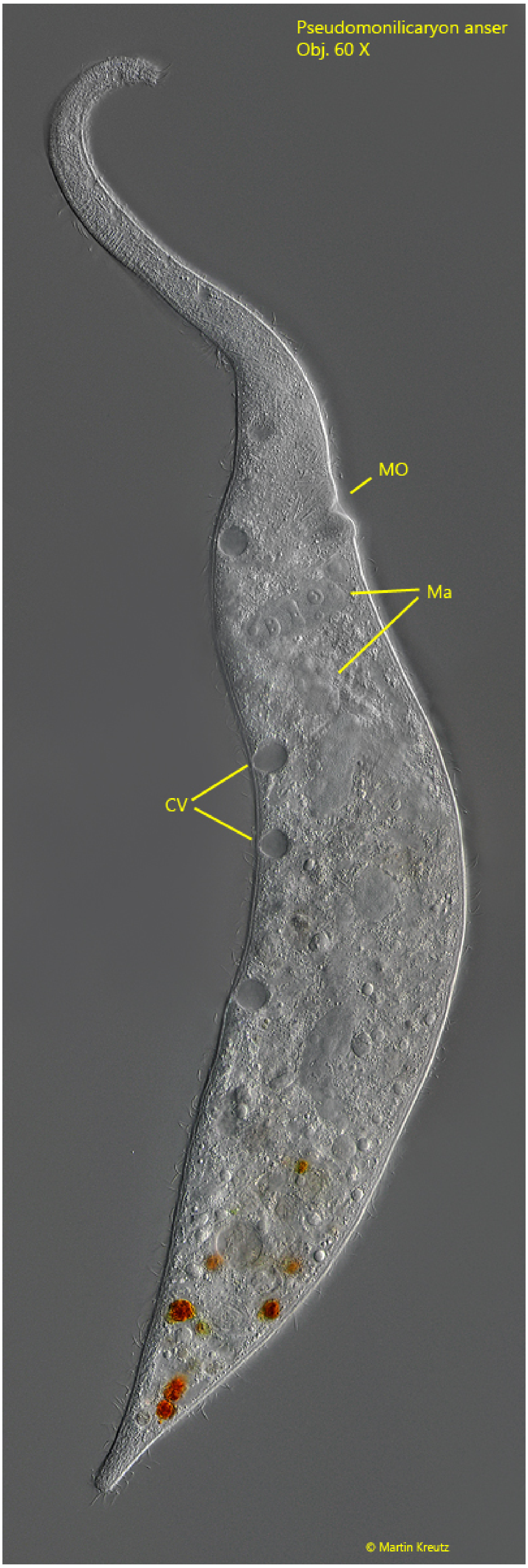

Pseudomonilicaryon anser
Obj. 60 X
MO
Ma
CV
© Martin Kreutz

Fig. 6: *Pseudomonilicaryon anser*. L = 480 µm. Total view of a slightly squashed specimen. Note the dorsal row of contractile vacuoles (CV). Ma = macronuclear nodules, MO = mouth opening. Obj. 60 X.

Fig. 7: *Pseudomonilicaryon anser*. The proboscis (PR) of the same specimen as shown in fig. 6 with contractile vacuoles (CV). Obj. 60 X.

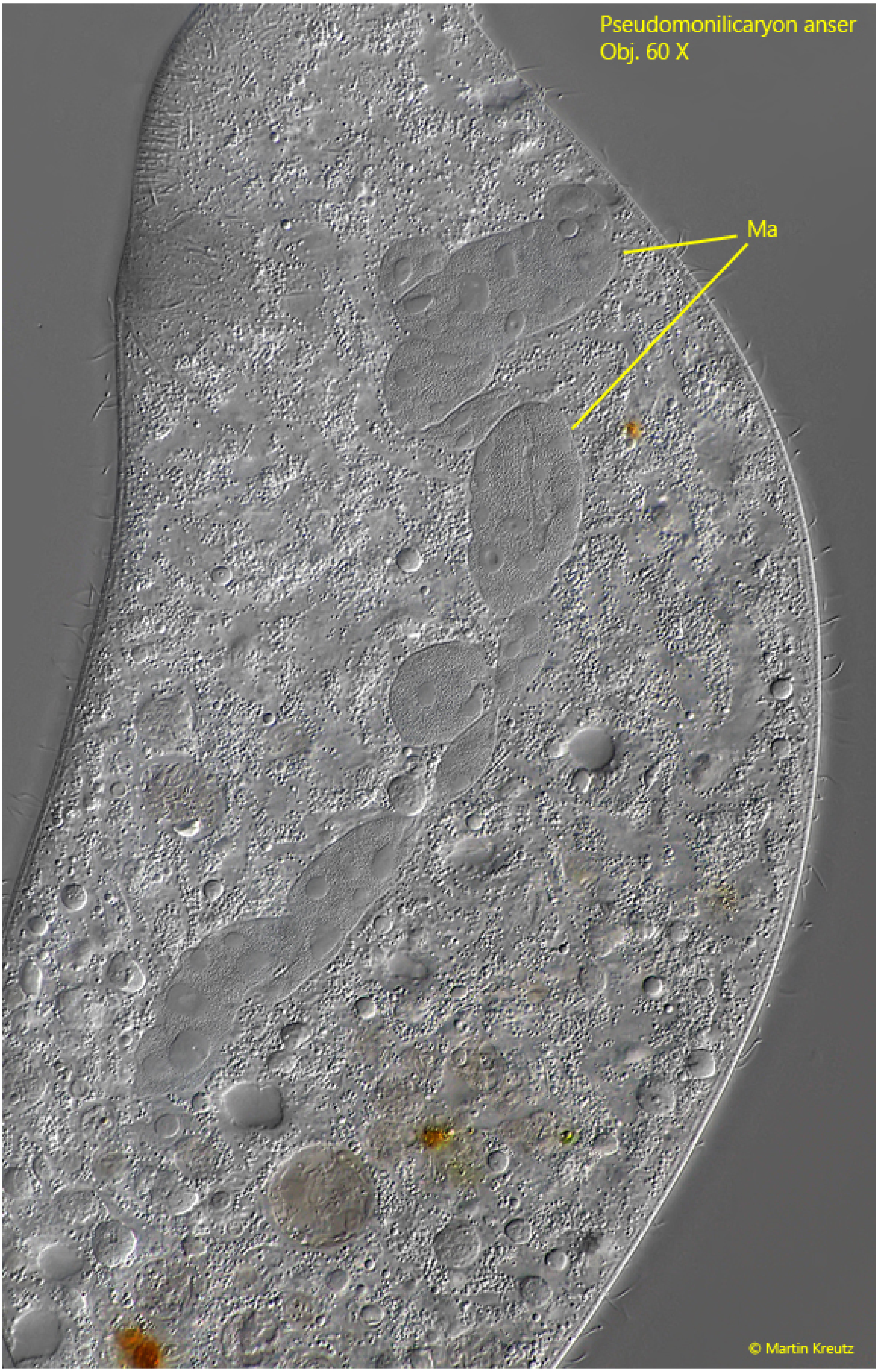


Fig. 8: *Pseudomonilicaryon anser*. The moniliform macronucleus (Ma) of the same specimen as shown in fig. 6. with contractile vacuoles (CV). Obj. 60 X.

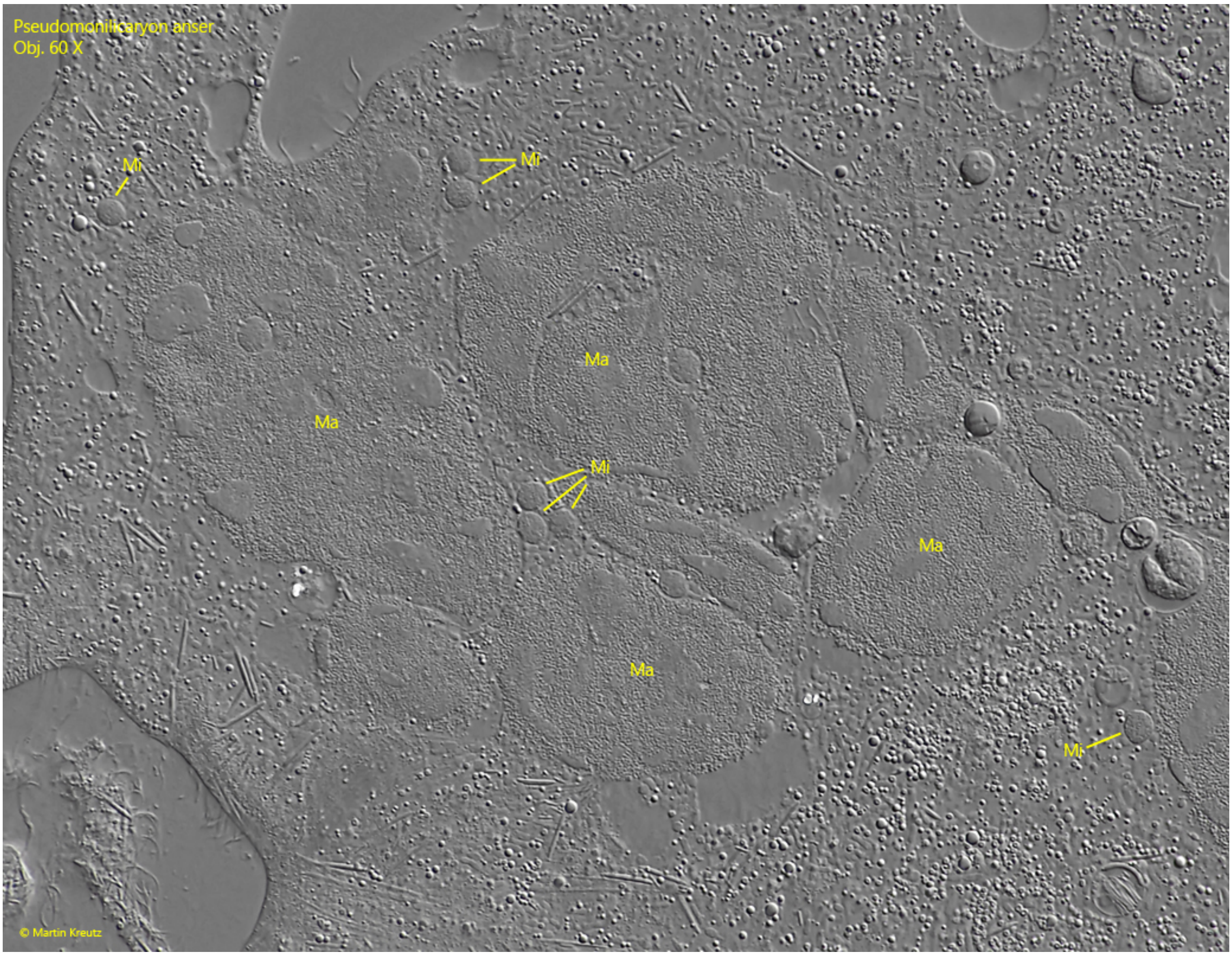


Fig. 9: *Pseudomonilicaryon anser*. The micronuclei (Mi) between the macronuclear nodules (Ma) in a strongly squashed specimen. Obj. 100 X.

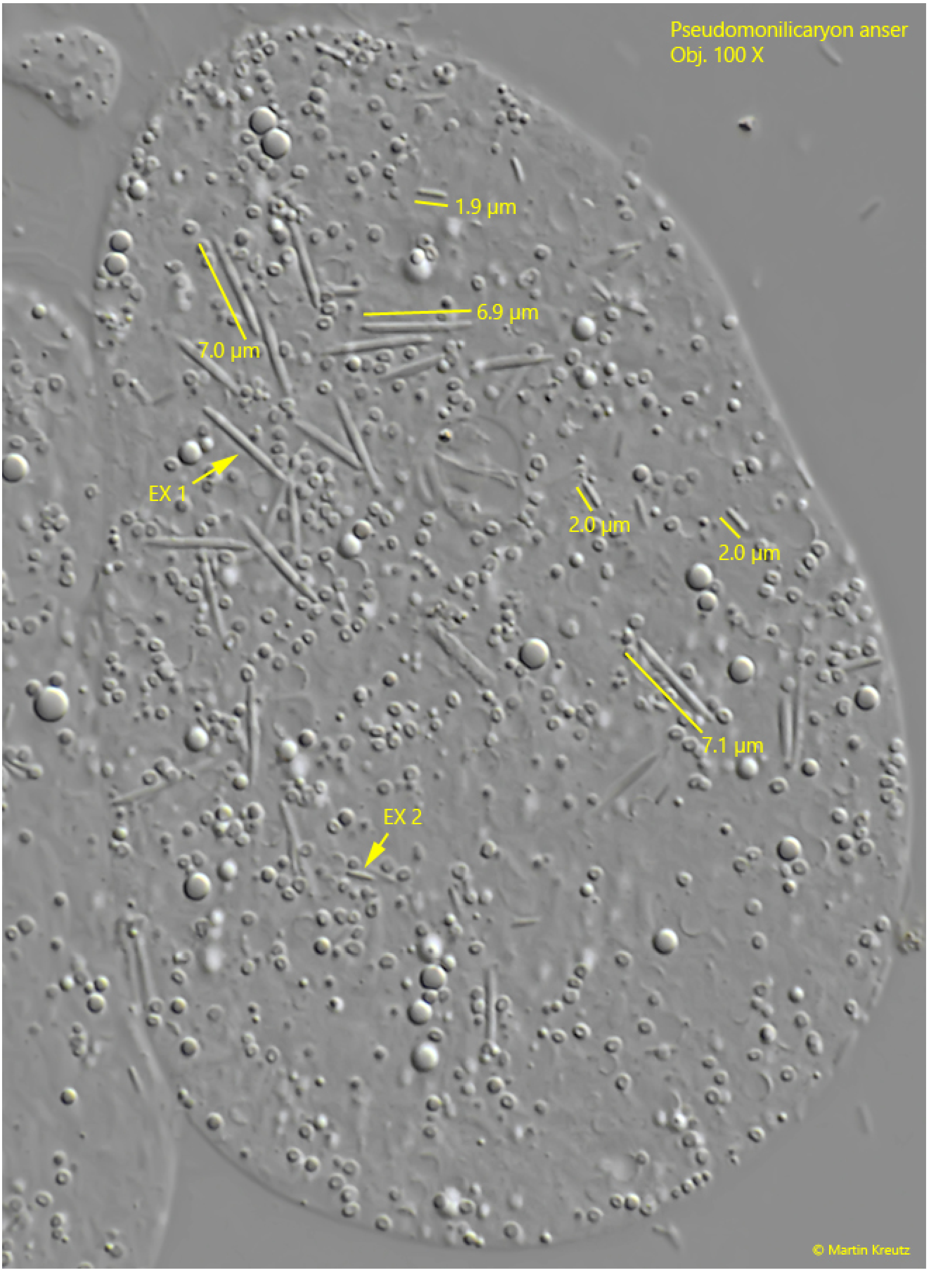


Fig. 10: *Pseudomonilicaryon anser*. The extrusomes of type 1 (EX 1) have a length of 6.9–7.1 µm while the extrusomes of type 2 (EX 2) have a length of 1.9–2.0 µm.

Obj. 100 X.