Spirostomum caudatum

(Müller, 1786) Delphy, 1939

Most likely ID: n.a.

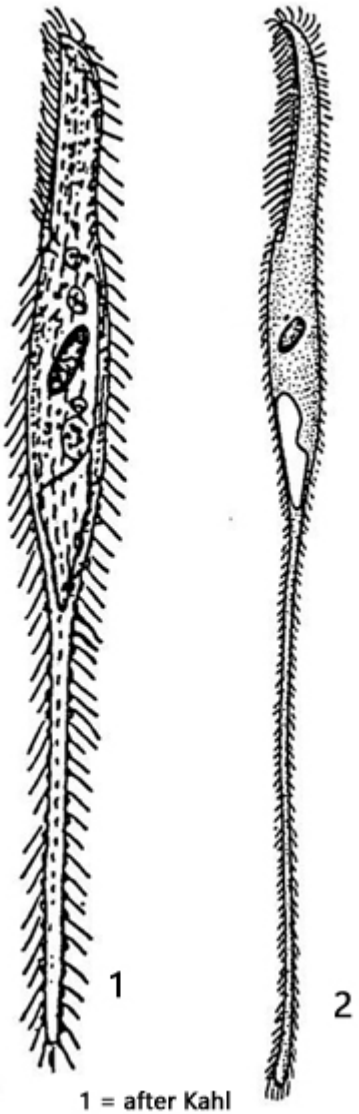
Synonym: n.a.

Sampling location: Simmelried

Phylogenetic tree: *Spirostomum caudatum*

Diagnosis:

- body elongate, worm-like, posterior half tail-shaped
- body highly contractile
- length 200–700 µm
- contractile vacuole terminal with a dorsal collecting canal
- macronucleus ellipsoid near middle third
- 1–2 flattened micronuclei adjcent to macronucleus
- 28–32 longitudinal rows of cilia
- rows of colorless cortical granules between rows of cilia
- oral groove one third of body length
- adoral zone on left side of oral groove
- inconspicuous undulating membrane on rigth side (hard to see)



Spirostomum caudatum

So far I have only found *Spirostomum caudatum* in the Simmelried, where the species is rare. All the specimens shown here come from the uppermost mud layer.

The body shape of *Spirostomum caudatum* is very characteristic. The posterior half of the body is tapered like a tail (s. fig. 1 a-c). This means that free-swimming individuals cannot be confused with the similar species *Spirostomum teres*, which also has an ellipsoid macronucleus. However, one should always consider free-swimming specimens, as all species of the genus *Spirostomum* are strongly contractile and change their shape in the process.

The specimens in my population were very large at around 700 µm in length. Some specimens were even 10 % longer. The number of macronuclei is given by Foissner

et al. (1992) as 1-2. In some specimens I was able to discover three micronuclei when carefully focusing through them (s. fig. 5 a-c).

Close under the pellicle are stripes of cortical granules, which are colorless in *Spirostomum caudatum* (s. fig. 4 a-b). The stripes are located between the rows of cilia. The granules vary in size and they are arranged randomly. In the similar species *Spirostomum teres*, the granules are arranged in 2-3 parallel rows.

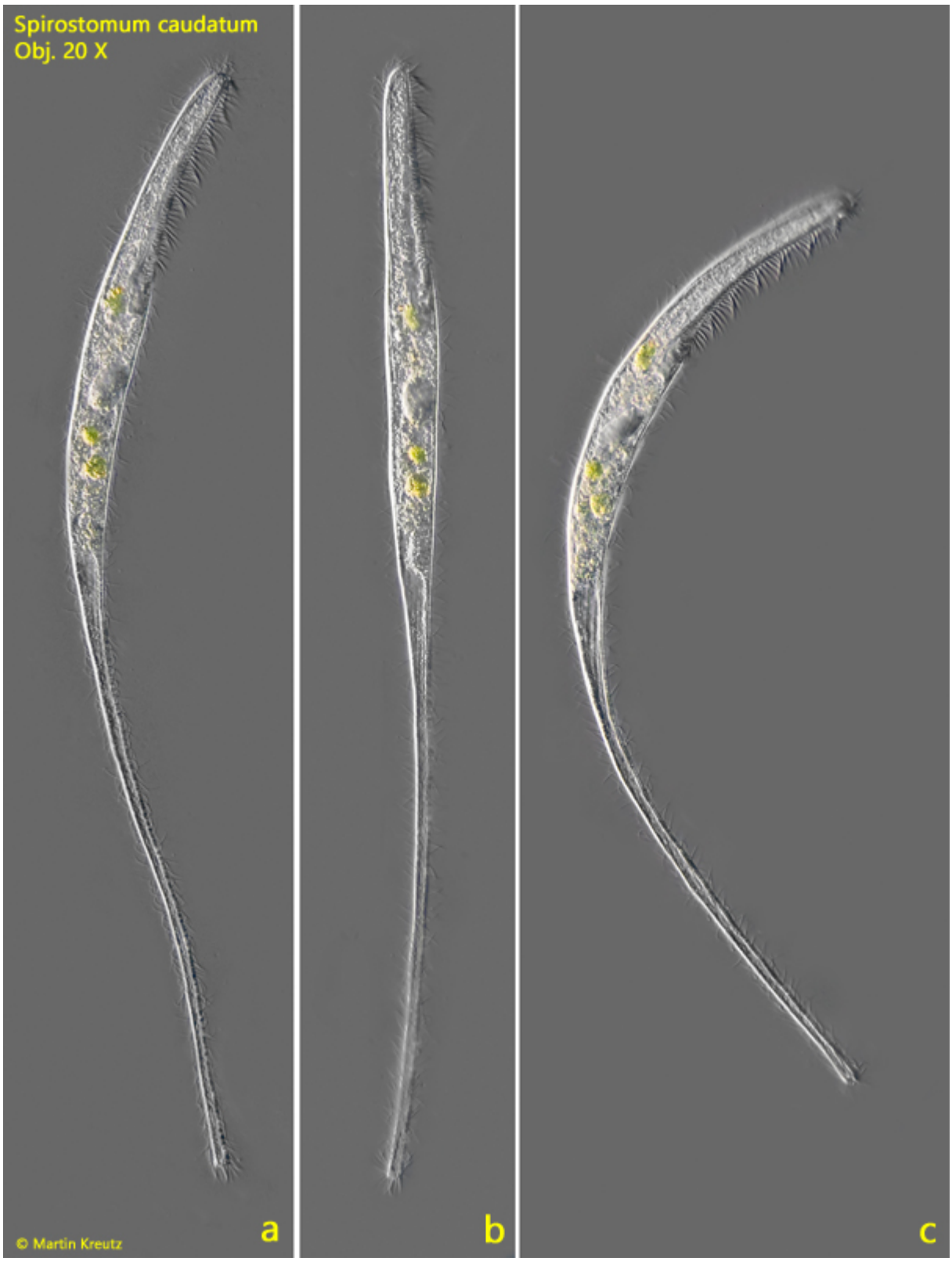


Fig. 1 a-c: *Spirostomum caudatum*. L = 750 µm. A freely swimming specimen. Note the tail-shaped, posterior half. Obj. 20 X.


Spirostomum caudatum
Obj. 40 X
AZM
Ma
CC
CV
© Martin Kreutz
a
OG
b

Fig. 2 a-b: *Spirostomum caudatum*. L = 480 µm. A slightly squashed specimen from ventral. Note the oral groove (OG) with one third of body length. The adoral zone of membranelles (AZM) is located on the left side of the oral groove. CC = collecting canal of the contractile vacuole, CV = contractile vacuole, Ma = macronucleus. Obj. 40 X.

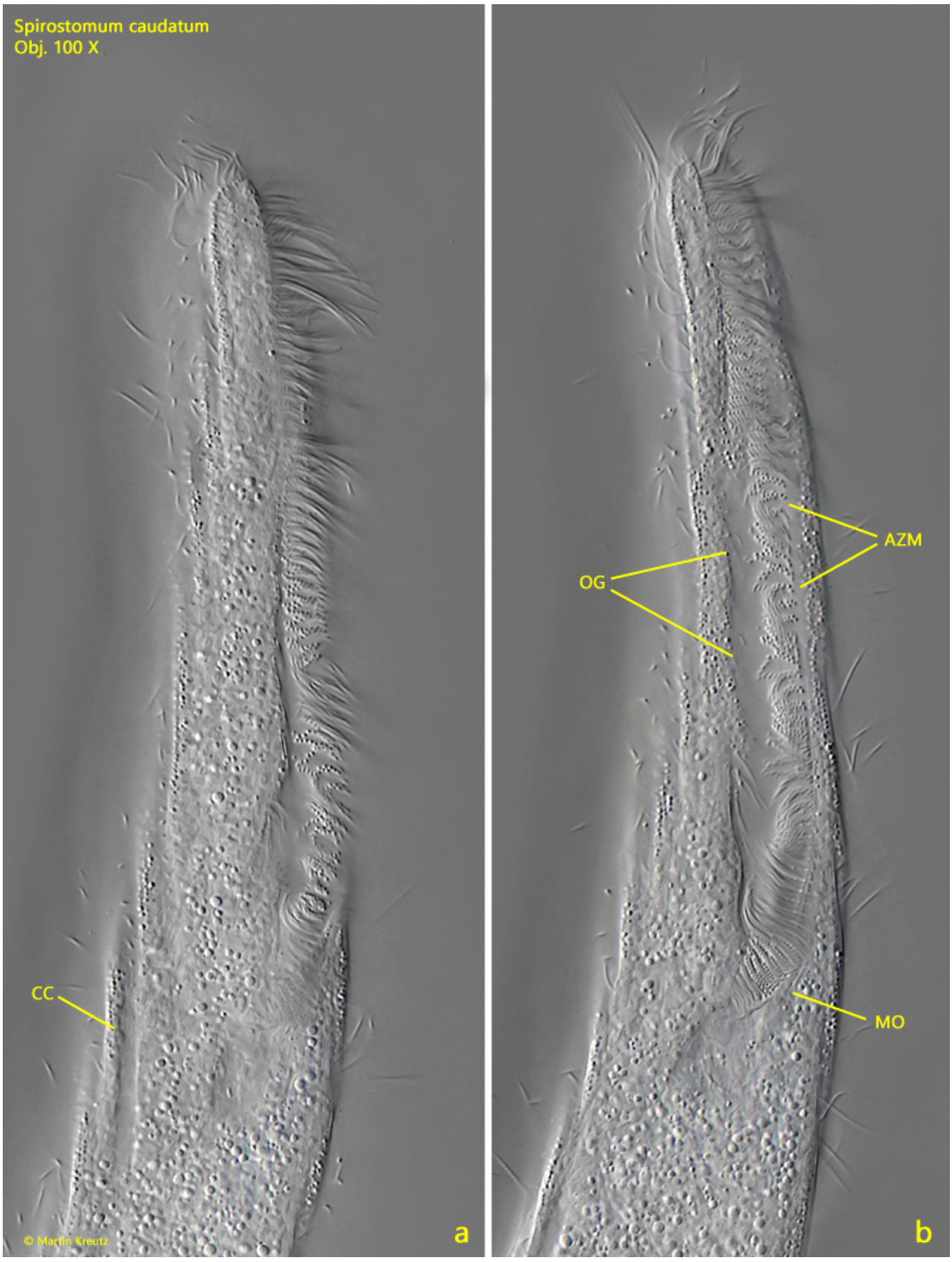


Fig. 3 a-b: *Spirostomum caudatum*. The oral groove (OG) and the adoral zone of membranelles (AZM) in detail. CC = collecting canals of the contractile vacuole MO

= mouth opening. Obj. 100 X.

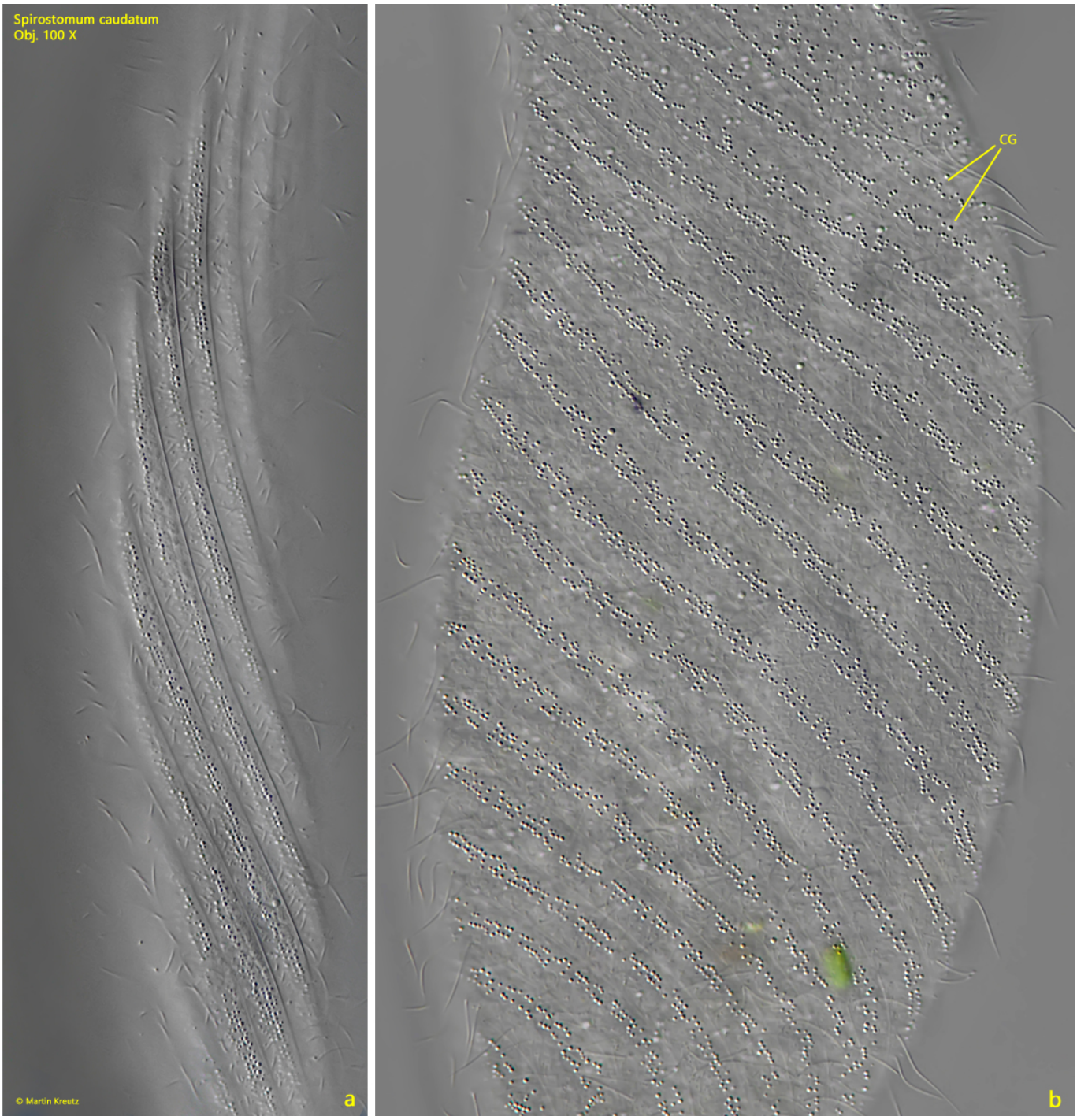


Fig. 4 a-b: *Spirostomum caudatum*. The rows of cortical granules (CG) in a slightly squashed (a) and a squashed specimen (b). Obj. 100 X.

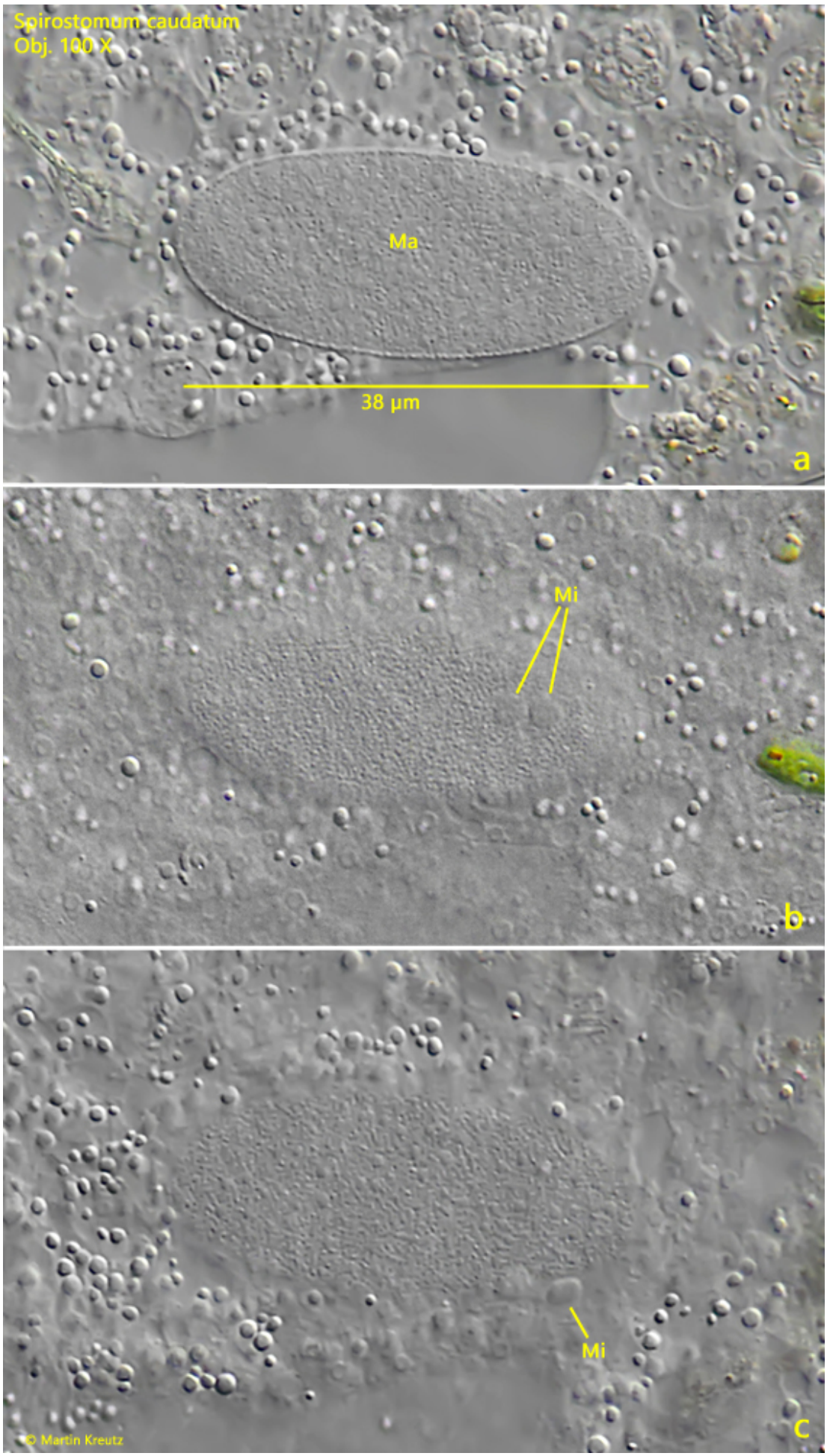

Spirostomum caudatum
Obj. 100 X
Ma
38 µm
a
Mi
b
Mi
c
© Martin Kreutz

Fig. 5 a-c: *Spirostomum caudatum*. Different focal planes of the ellictical macronucleus (Ma) with three adjacent micronuclei (Mi). Obj. 100 X.