Spathidium spathula

(Müller, 1773) Dujardin, 1841

Most likely ID: n.a.

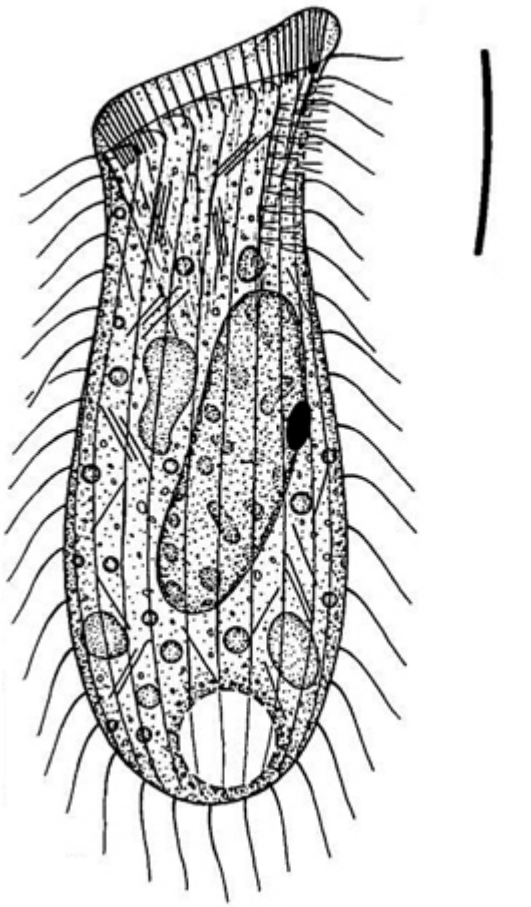
Synonym: n.a.

Sampling location: Moss

Phylogenetic tree: *Spathidium spathula*

Diagnosis:

- body amphora-shaped or jug-shaped, slightly flattened
- length 55–120 µm
- dorsal brush with 1.5–3 µm long bristles
- contractile vacuole terminal with several excretion pores
- extrusomes slightly curved rods, 4–6 µm long
- macronucleus kidney-shaped, horseshoe-shaped or strand-shaped
- one spherical micronucleus adjacent to macronucleus
- somatic cilia about 10 µm long



Spathidium spathula

I regularly find *Spathidium spathula* in moss samples. So far I have not been able to find this species in my sampling sites. I put some dried moss from trees or rocks in a Petri dish and pour a little water over it so that the bottom of the Petri dish is just covered. The spathidiid ciliates only appear when sufficient ciliates have formed as prey in the samples (e.g. *Colpoda*). This is usually the case after 7–10 days.

When Kahl (1935) recorded the spathiid ciliates as a whole for the first time, he had difficulties in precisely identifying the species *Spathidium spathula* because the species is quite variable in shape and in the nuclear apparatus. As a result, the species was characterized and described differently by the earlier authors. It was not until 1984 that Foissner gave a re-description of the species based on two populations that he had studied. I refer to this redescription here.

In my population of *Spathidium spathula* the specimens were about 60–90 µm long. Most of the specimens had an elongated elliptical macronucleus (s. fig. 1 a) or it was short strand-like. All characteristics of my population corresponded with the description of Foissner.

Particularly important is the shape and length of the extrusomes, which are a fairly constant feature in spathidiid ciliates. Foissner describes them as slightly curved with a length of 4–6 µm. In my population they were also slightly curved and 5.5–6.6 µm long, which is a good match.

Spathidium spathula can easily be confused with the similar species *Cultellothrix coemeterii* (syn. *Spathidium coemeterii*). However, this species is much more slender, has a more sloping oral bulge and has 18–30 rows of cilia. *Spathidium spathula* has only 9–14 rows of cilia.

Fig. 1 a-c: *Spathidium spathula*. L = 88 µm. Different focal planes of a freely swimming specimen from left. Note the circumoral kinety (CK) below the oral bulge (OB). CV = contractile vacuole, Ma = macronucleus, Mi = micronucleus. Obj. 100 X.

Fig. 2 a-c: *Spathidium spathula*. L = 88 µm. Different focal planes on the dorsal brush (DB) of the slightly squashed specimen as shown in fig. 1 a-c. Obj. 100 X.

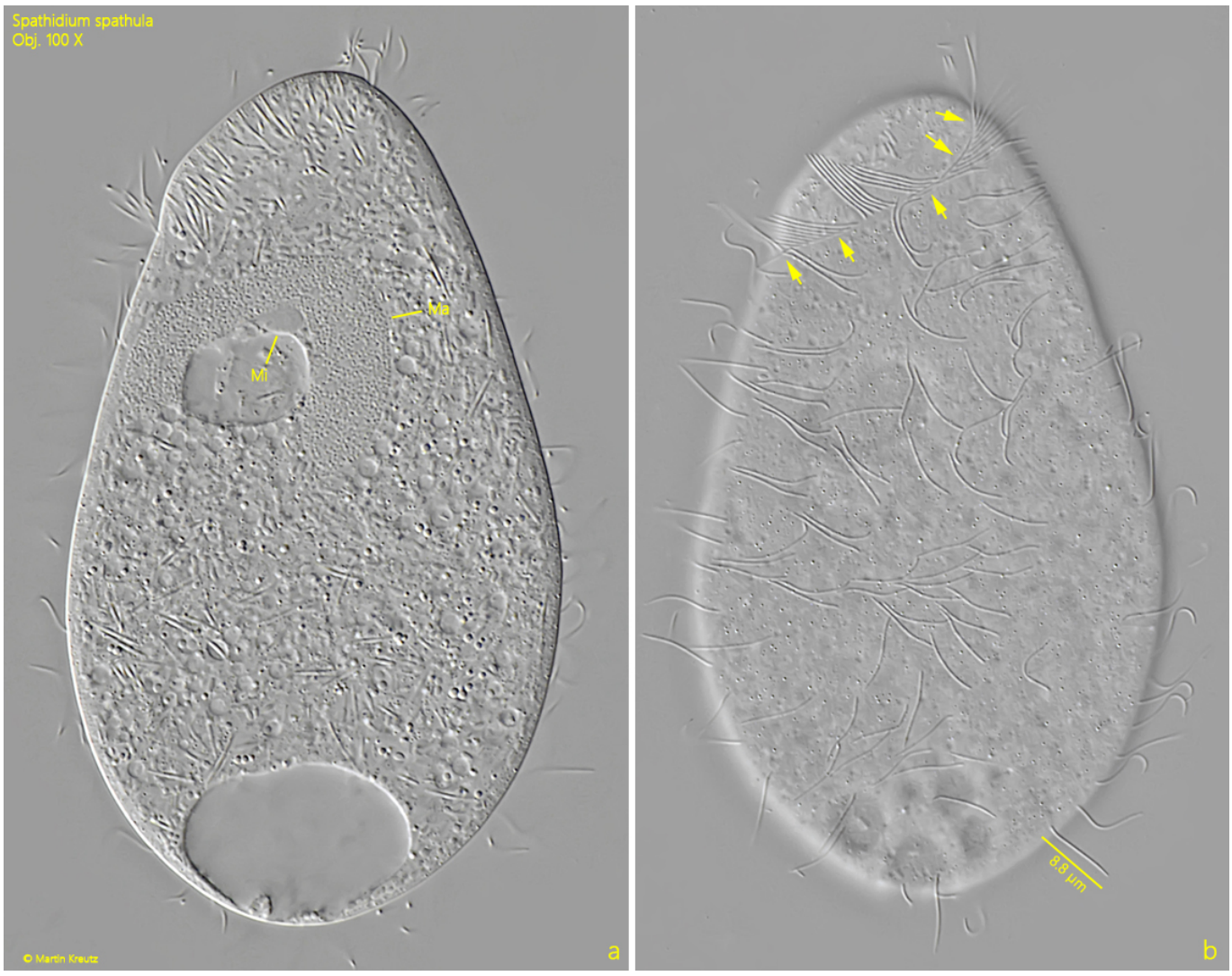


Fig. 3 a-b: *Spathidium spathula*. Two focal planes of a squashed specimen. Note the cilia of the circumoral kinety (arrows). Ma = macronucleus, Mi = micronucleus. Obj. 100 X.

Fig. 4: *Spathidium spathula*. L = 74 µm. The macronucleus (Ma) and the micronucleus (Mi) in a second specimen. Obj. 100 X.

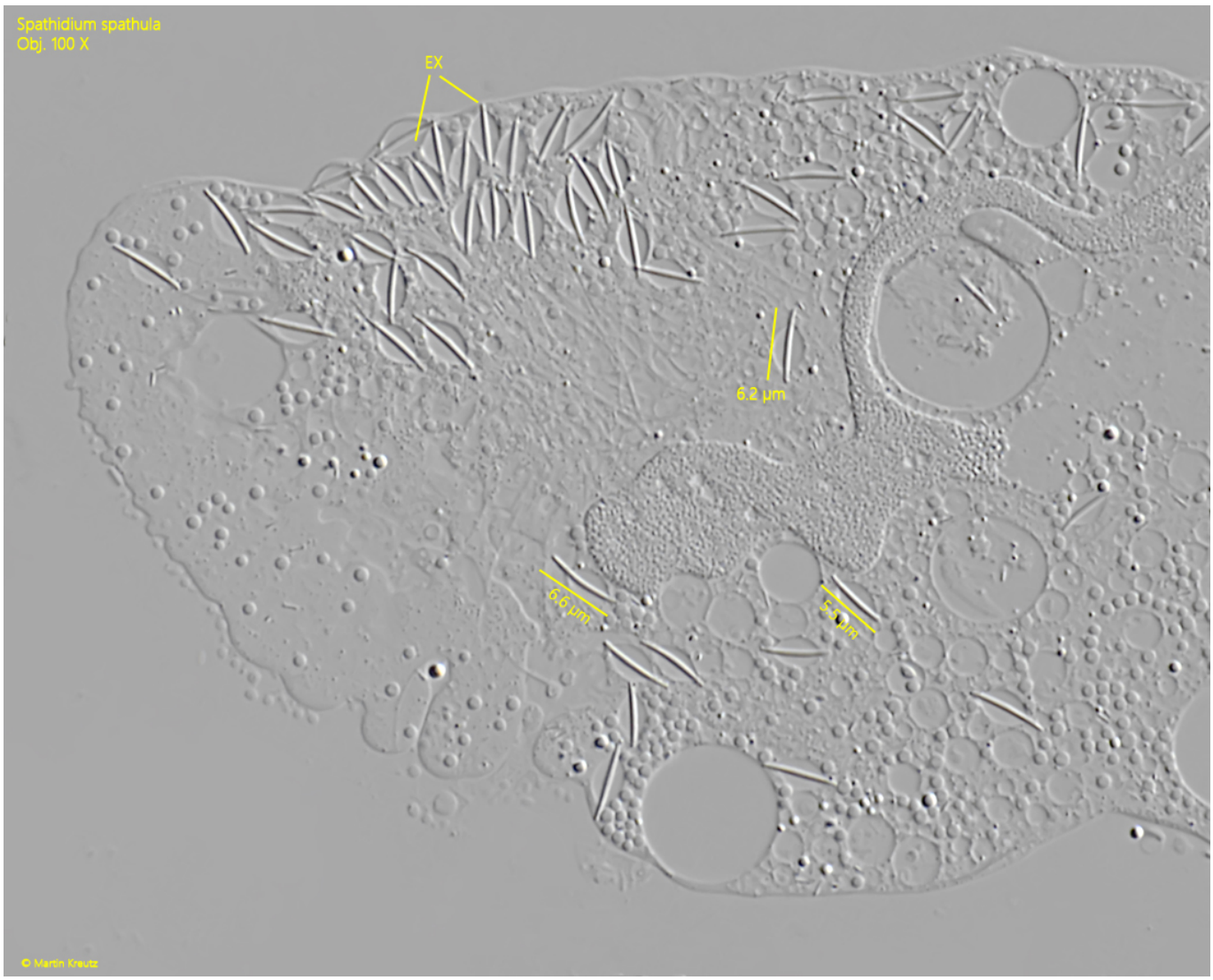


Fig. 5: *Spathidium spathula*. The slightly curved extrusomes (EX) with a length of 5.5–6.6 µm in a strongly squashed specimen. Obj. 100 X.