Stylochaeta scirtetica Brunson 1950

Most likely ID: n.a.

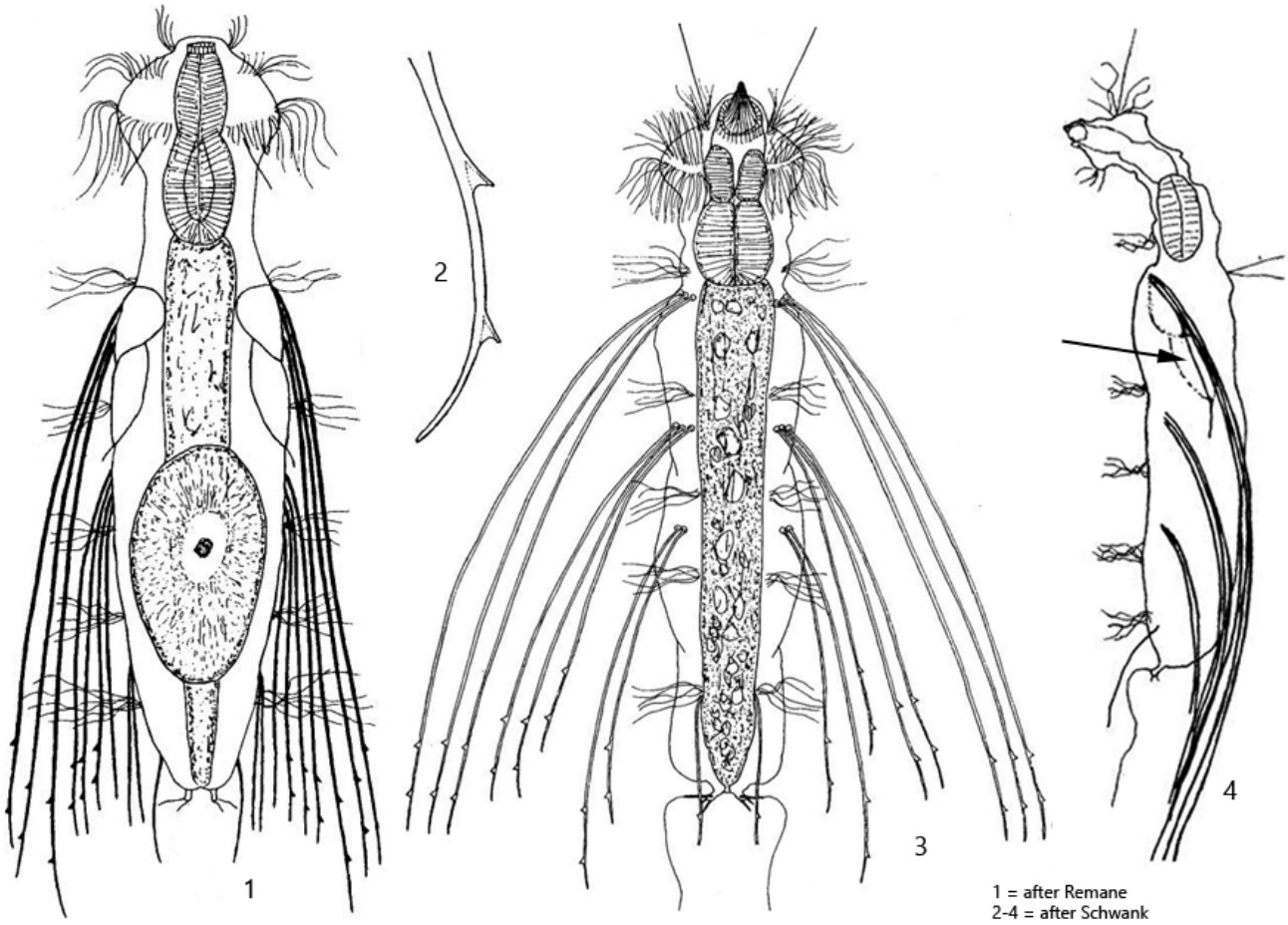
Synonym: *Stylochaeta curviseta*

Sampling location: Purren pond, Simmelried

Phylogenetic tree: *Stylochaeta scirtetica*

Diagnosis:

- body slender and elongated
- length 110–170 µm (without spines)
- head trilobed, with broad, lateral lobes
- pharynx bipartite, 32–40 µm long, with strong bulb
- rudimentary cephalion present
- head with 6 ciliary half-rings
- neck distinctly narrowed
- 1–2 pairs dorsal setolae on head, partly directed anteriorly
- 1 or 2 pairs setolae on anterior trunk, narrowly set
- posterior end with 2 short styli with 2–3 short bristles
- ventrolateral 4 bundles of 1–4 large spines (max. length 40 µm)
- large spines with 2 secondary spines except the posterior one (1 secondary spine)
- beside the anterior bundle of 3 large spines a special spine
- special spine connected via shield shaped extensions with muscles



Stylochaeta scirtetica

Stylochaeta scirtetica is one of the most common gastrotriches in my sampling sites Purren pond and Simmelried. There it is regularly found in the uppermost mud layer and between rotting plant masses.

The specimens in my population often have pink-colored intestinal contents due to ingested rhodobacteria, which are obviously part of their preferred diet. The long main spines are carried close to the lateral sides of the body. They are arranged ventro-laterally in 4 groups of 3, 4, 2 and 1 spines. The main spines each have two secondary spines, except for the single spine which arises posteriorly. This has only one secondary spine and is split distally.

Stylochaeta scirtetica is easily confused with the similar species *Stylochaeta fusiformis*. However, in addition to the first group of 3 main spines, *Stylochaeta scirtetica* also has a special spine which is fused with the cuticle with shield-shaped enlargements (s. fig. 6). These shield-shaped widenings in turn serve as an attachment point for muscles, which can already be seen in the unsquashed specimens (s. fig. 4). This strange construction serves as a counter bearing for the muscles, which are responsible for the rapid spreading of the main spines in case of danger. It allows more force to be exerted on the joint of the main spines.

This immobile special spine is smaller than the main spines and is difficult in ventral or dorsal view. The specimens have to turn on their side for a lateral view, then the construction with the shield-shaped widenings can easily be recognize (s. figs. 6 and 7). In my opinion, this special spine was only rudimentarily depicted in Schwank's drawing (s. drawing 4, above), although it is very important for the clear identification of *Stylochaeta scirtetica*.

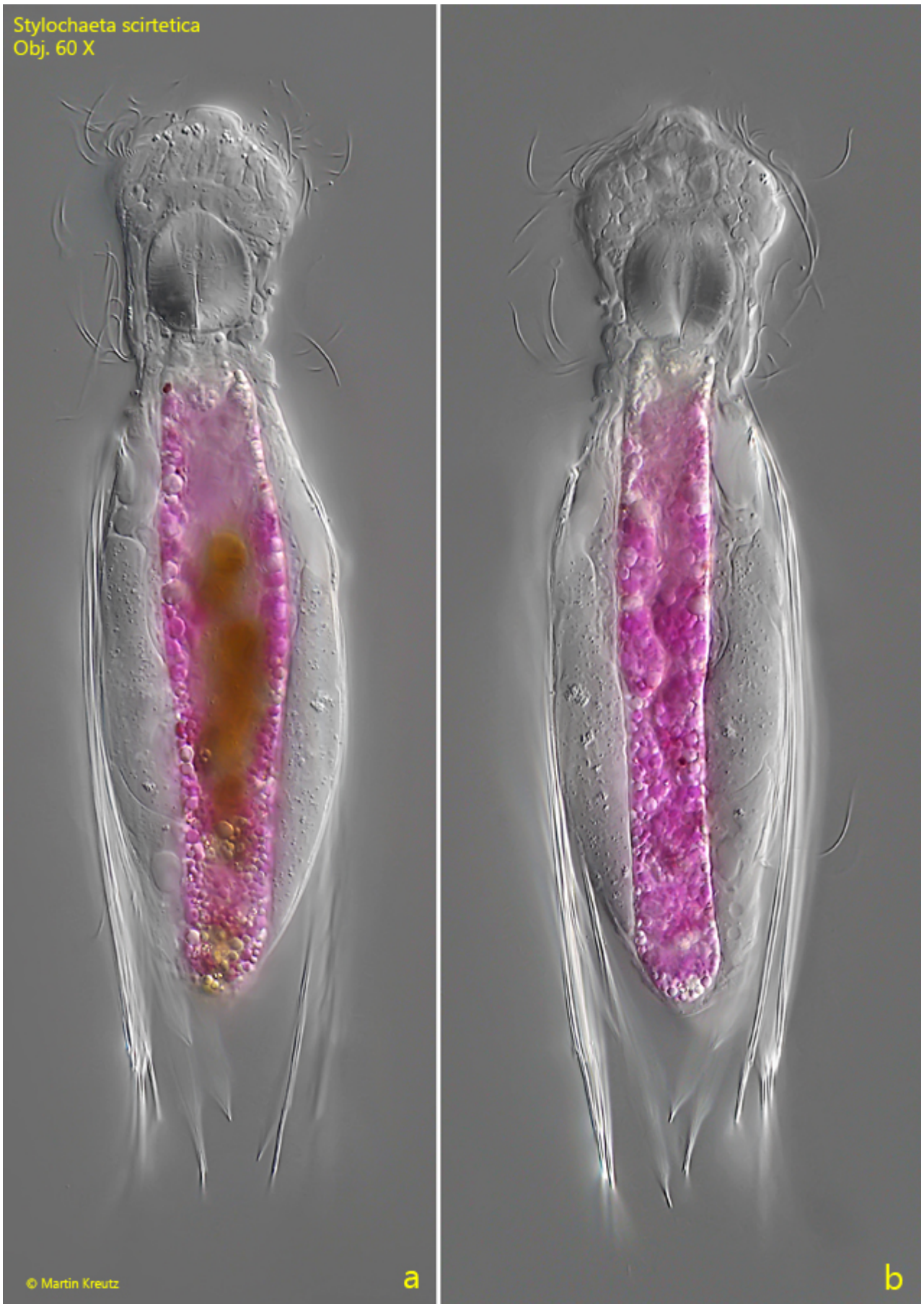


Fig. 1 a-b: *Stylochaeta scirtetica*. L = 176 µm (without spines). A freely swimming specimen from dorsal with an intense pink colored intestine due to ingested rhodobacteria.

Obj. 60 X.

Fig. 2 a-b: *Stylochaeta scirtetica*. L = 176 µm (without spines). Dorsal view of the same

specimen as shown in fig. 1 a-b on the setolae (SE) in the neck and the surface of the intestine (Int). Obj. 60 X.

Fig. 3 a-b: *Stylochaeta scirtetica*. L = 174 µm (without spines). A second freely swimming specimen. Obj. 60 X.


Stylochaeta scirtetica
Obj. 60 X
Mu
Mu
© Martin Kreutz

Fig. 4: *Stylochaeta scirtetica*. L = 174 µm (without spines). The same specimen as shown in fig. 3 from ventral with focal plane on the lateral muscles (Mu) for the spreading movement of the ventrol-lateral main spines. Obj. 60 X.


Stylochaeta scirtetica
Obj. 60 X
SE
SSp
SSp
MSp
MSp
© Martin Kreutz

Fig. 5: *Stylochaeta scirtetica*. L = 174 µm (without spines). The same specimen as shown in fig. 3 from ventral with focal plane on the apical setolae (SE) and the lateral special spines (SSp). MSp = main spines. Obj. 60 X.

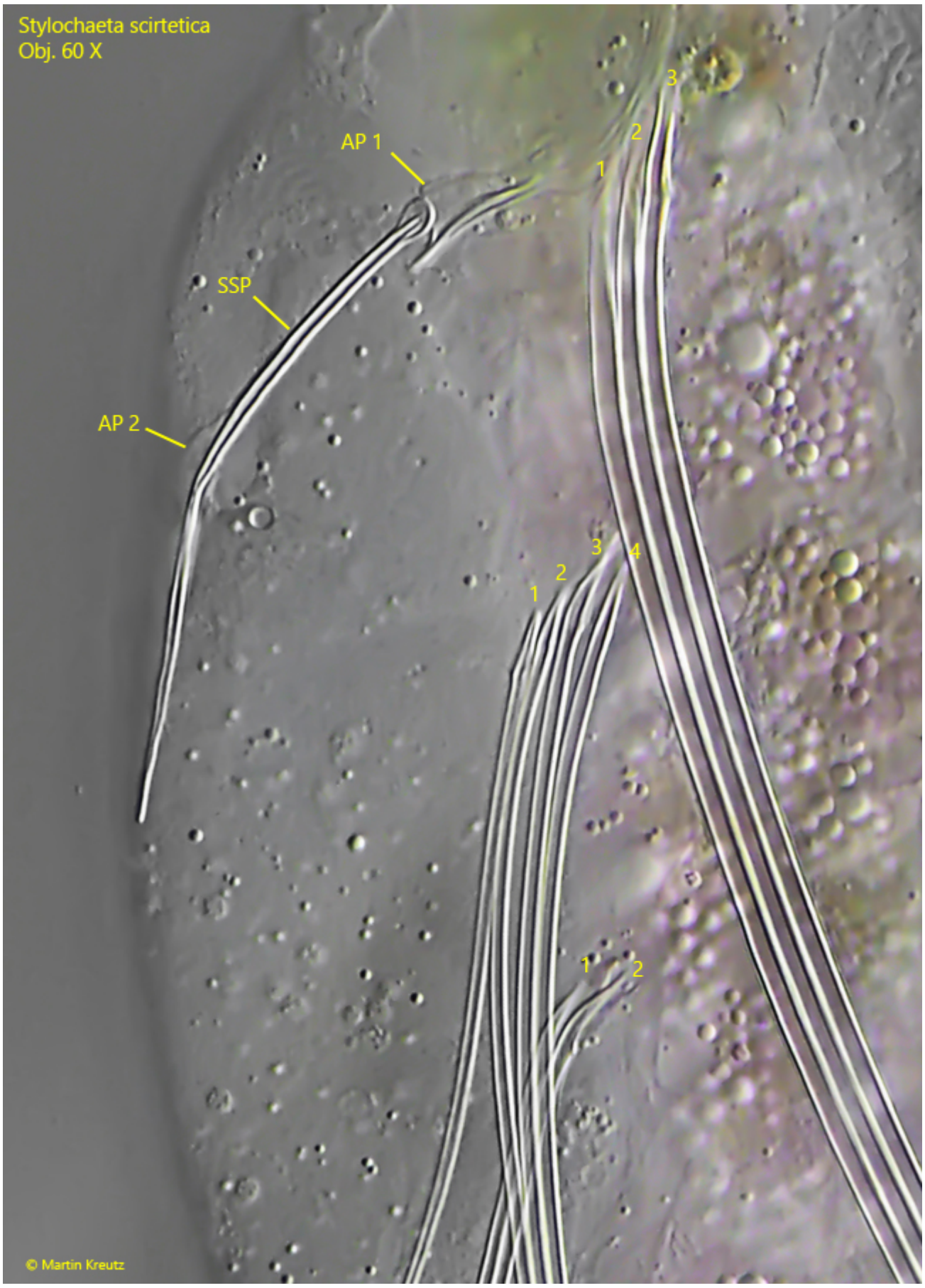


Fig. 6: *Stylochaeta scirtetica*. A squashed specimen in lateral view from left. The special spine (SSp) is fused to the cuticle and has two shield-shaped anchor points (AP 1, AP 2)

where the muscles for spreading the main spines are attached. Note the groups of 3, 4 and 2 main spine. Obj. 100 X.

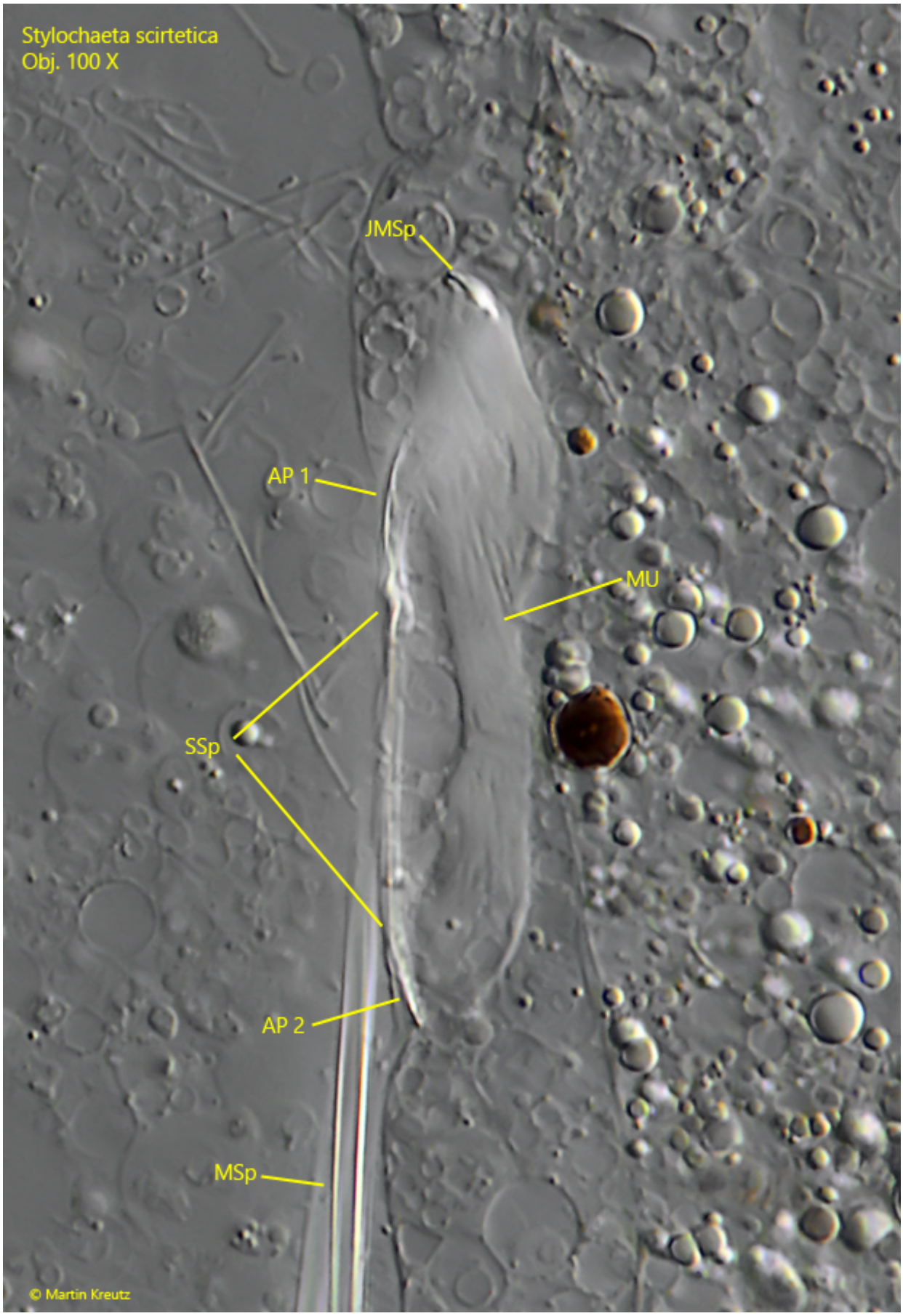


Fig. 7: *Stylochaeta scirtetica*. The arrangement of the special spine (SSp) in lateral view. The both shield-shaped anchor points (AP 1, AP 2) for the muscle (Mu) which is connected with the joint of the main spines (JMSp). MSp = main spine. Obj. 100 X.

Fig. 8: *Stylochaeta scirtetica*. The arrangement of the ventro-lateral main spines (MSp) in groups of 3 (neck), 4 (mid-body), 2 (mid-body) and 1 (posterior). The posterior main spine is

much smaller and almost straight. Obj. 60 X.

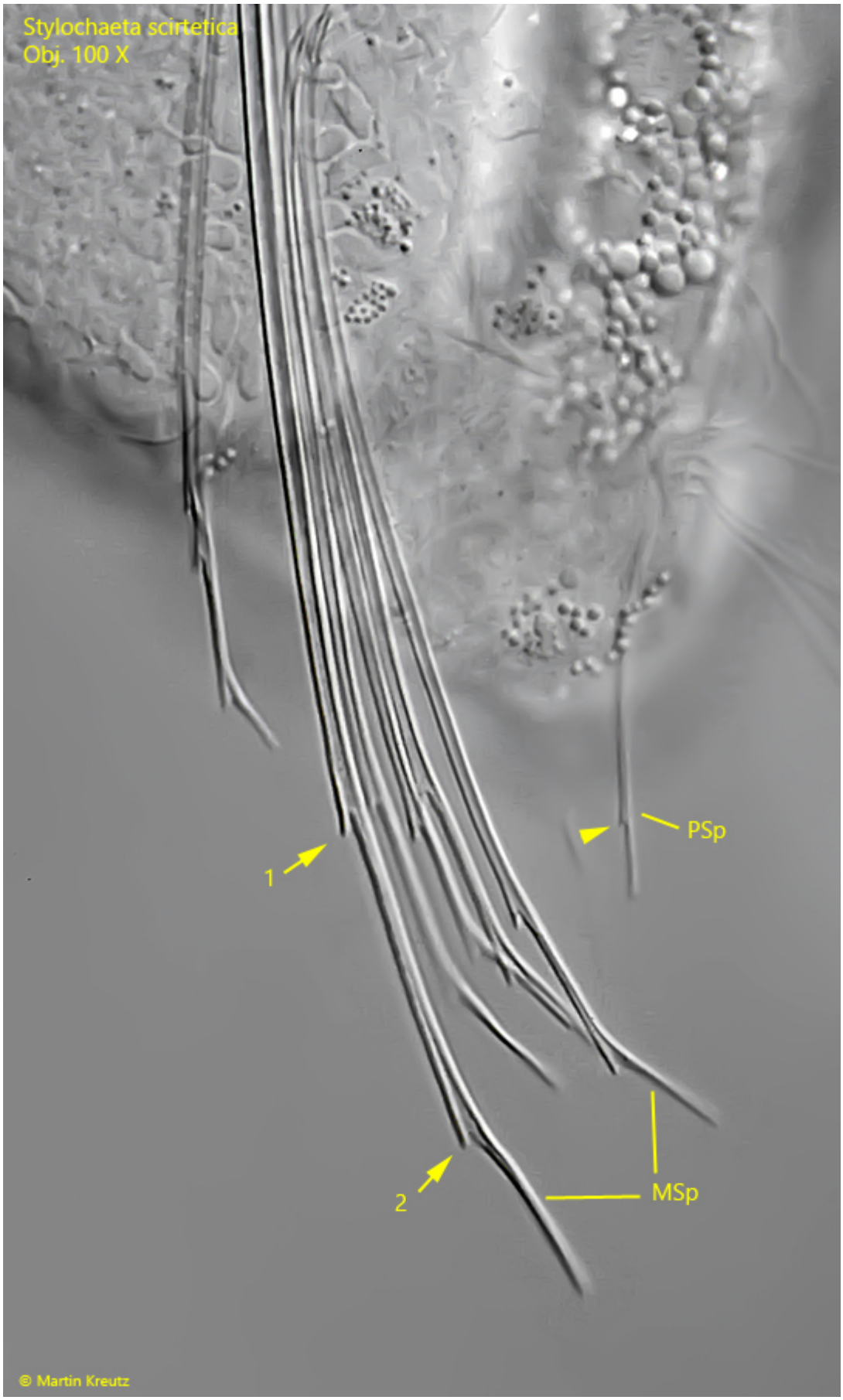


Fig. 9: *Stylochaeta scirtetica*. The main spines (MSp) arise from the neck and from mid-body have two secondary spines (1, 2) while the posterior main spine (PSp) has only one secondary spine (arrowhead). Obj. 100 X.