Chaetonotus simrothi Voigt, 1909

Most likely ID: n.a.

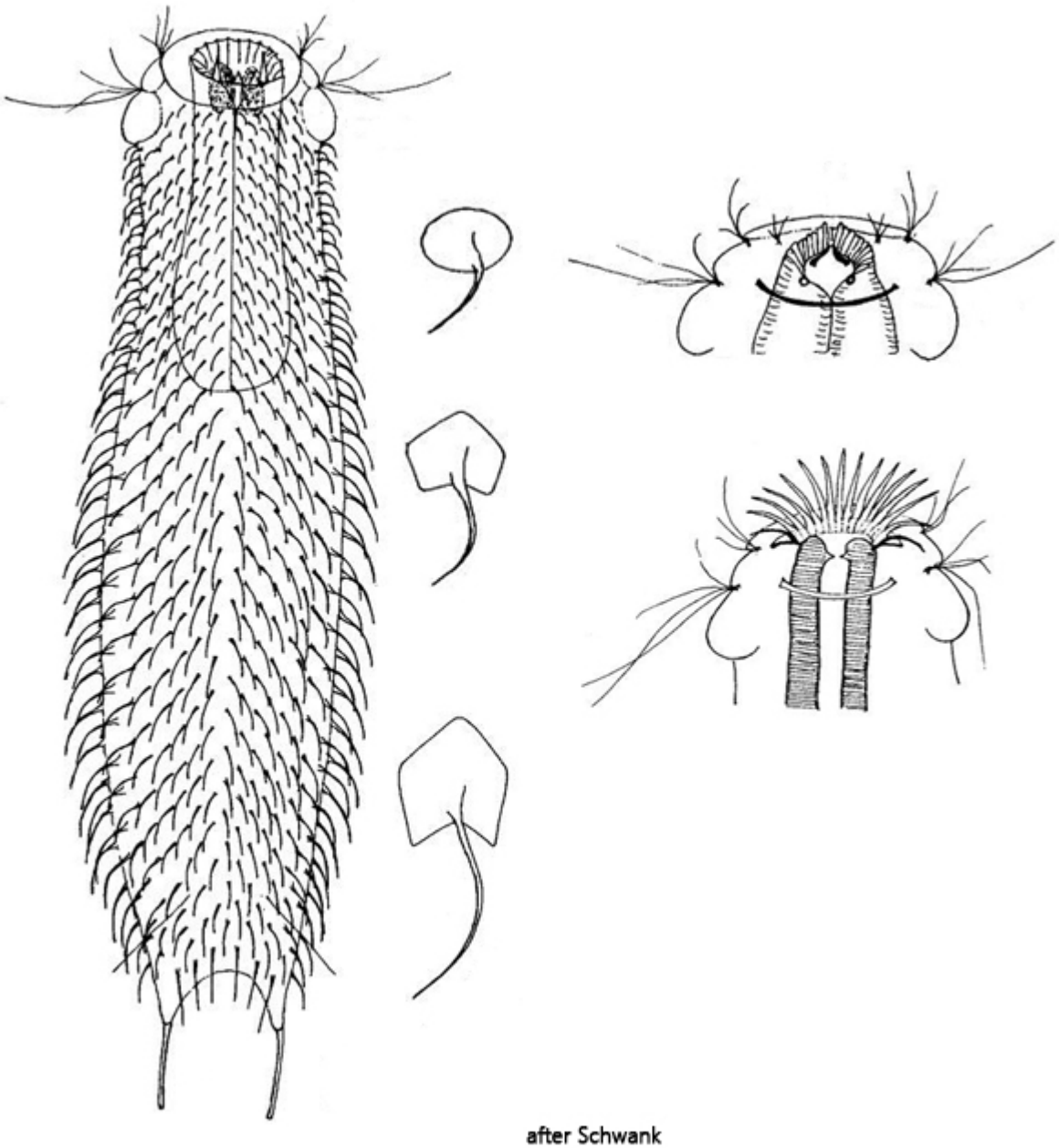
Synonym: n.a.

Sampling location: Simmelried

Phylogenetic tree: *Chaetonotus simrothi*

Diagnosis:

- body strap-like with almost parallel sides (if no egg is present)
- length 360–430 µm
- head five-lobed, hammer-shaped
- mouth opening with teeth (flap-shaped)
- cephalion strongly developed, angular pleural lobes prominent
- 4 ciliary tufts, anterior reltively small
- neck with transversely oval scales with weak incision, spines absent
- mid-body with pentagonal scales with distal V-shaped incision, 14–18 µm long
- dorsal scales bear strongly curved, simple spines
- ventral scales roundish, bearing short spines
- ventral two heart-shaped terminal scales
- dorsal one pair of posterior setolae
- three pairs of spines between furcae
- furca 40–60 µm long, adhesive tubes thin



Chaetonotus simrothi

So far I have only found *Chaetonotus simrothi* in the Simmelried, where it is usually found in the uppermost mud layer. In older samples, the specimens are found at the bottom of the vessels, under the mud layer.

Chaetonotus simrothi is one of the largest gastrotrichs and therefore stands out in the samples. In my population I have found specimens up to 480 µm in length, which is about 10 % larger than indicated by Schwank (1992). A characteristic feature, which is noticeable even at small magnifications, are the strongly backward curved, strong spines. They are simple, without a secondary tip and hollow on the inside.

The mouth of *Chaetonotus simrothi* is equipped with flap-shaped teeth (s. figs. 4 and 5). These thin and transparent flaps are arranged in a circle and can fold together to close the mouth openings.

The dorsal scales are almost pentagonal in shape in the middle of the body and have a broad, V-shaped distal incision (s. figs. 6 and 7). The scales become smaller towards the posterior end, whereby the lateral scales at the posterior end are only keeled and the central scales in this region bear a spine (s. fig. 8). These keeled lateral scales at the posterior end are not mentioned by Schwank (1992).

According to Schwank (1992), the scales in the neck region should be broadly oval without a distal incision. According to my observations, they are smaller and broader than the scales in the mid-body, but in principle have a similar shape. They also have a V-shaped notch, but it is not deep. These scales also have a strong spine (s. fig. 5).

I was able to examine the ventral side on a second specimen (s. figs. 9 and 10). The ventral scales in the middle of the body are roundish (s. fig. 9) and have a V-shaped distal incision and bear only a short spine. The ventral scales at the posterior end are more elongated, but have the same shapes as in mid-body (s. fig. 10).

The similar species *Chaetonotus insigniformis* has semicircular dorsal scales and only short spines at the lower end. *Chaetonotus pratensis* has similarly shaped dorsal scales, but is smaller (150-190 µm) and has no flap-shaped mouth teeth.

More images and information on *Chaetonotus simrothi*: Dr. Michael Müller-Mikroskopie Forum-*Chaetonotus simrothi*

Fig. 1 a-c: *Chaetonotus simrothi*. L = 452 µm. Different focal planes of a freely swimming specimen from dorsal. Obj. 20 X.

Fig. 2 a-b: *Chaetonotus simrothi*. L = 420 µm. Two focal planes of a slightly squashed specimen. Obj. 40 X.

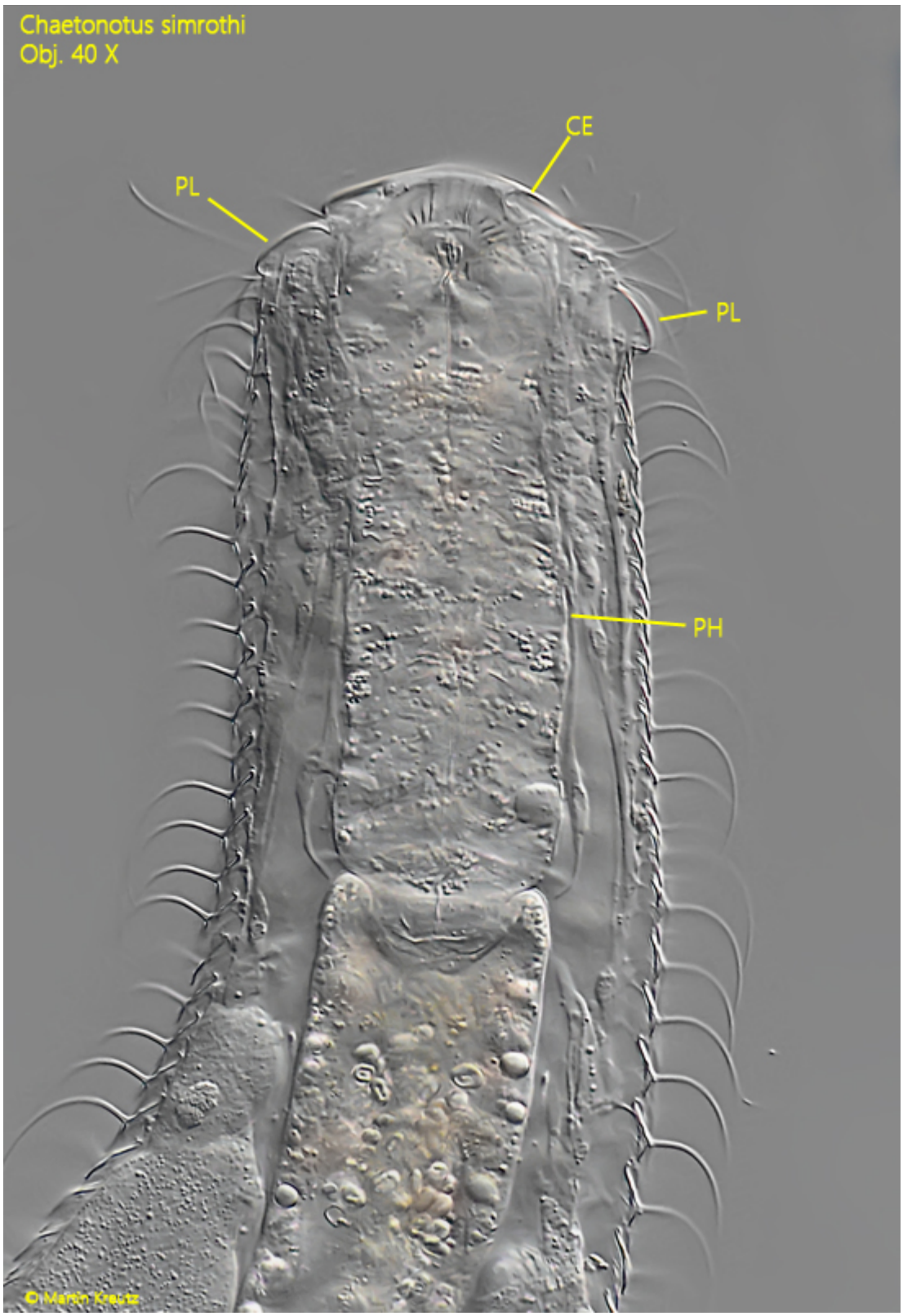


Fig. 3: *Chaetonotus simrothi*. The head- and neck-region with focal plane on the pharynx (PH). Note the prominent lateral pleurae (PL) and the large cephalion (CE). Obj. 40 X.

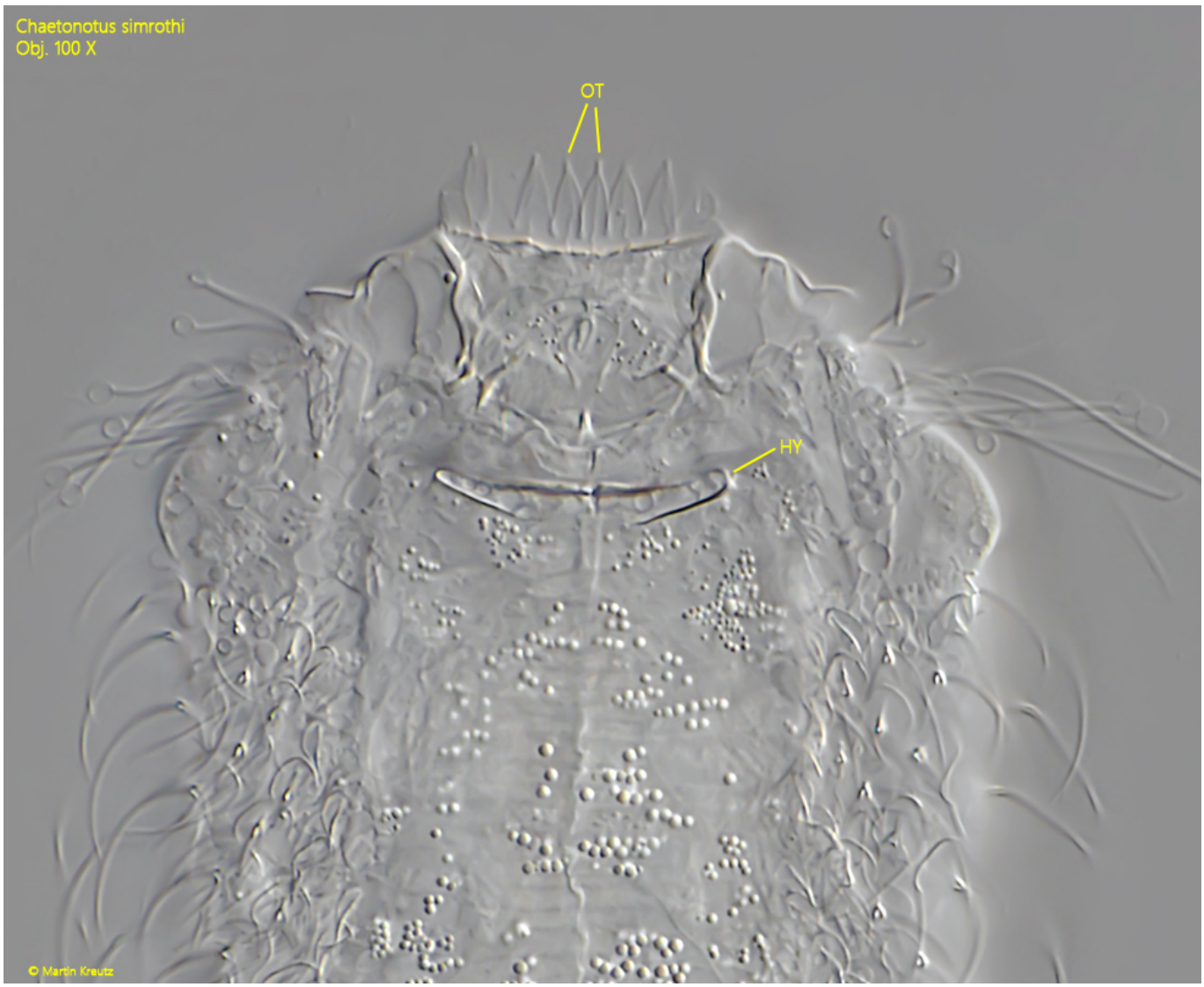


Fig. 4: *Chaetonotus simrothi*. The head from ventral with focal plane on the clasp-shaped hypostomium (HY). Note the flap-shaped oral teeth (OT). Obj. 100 X.

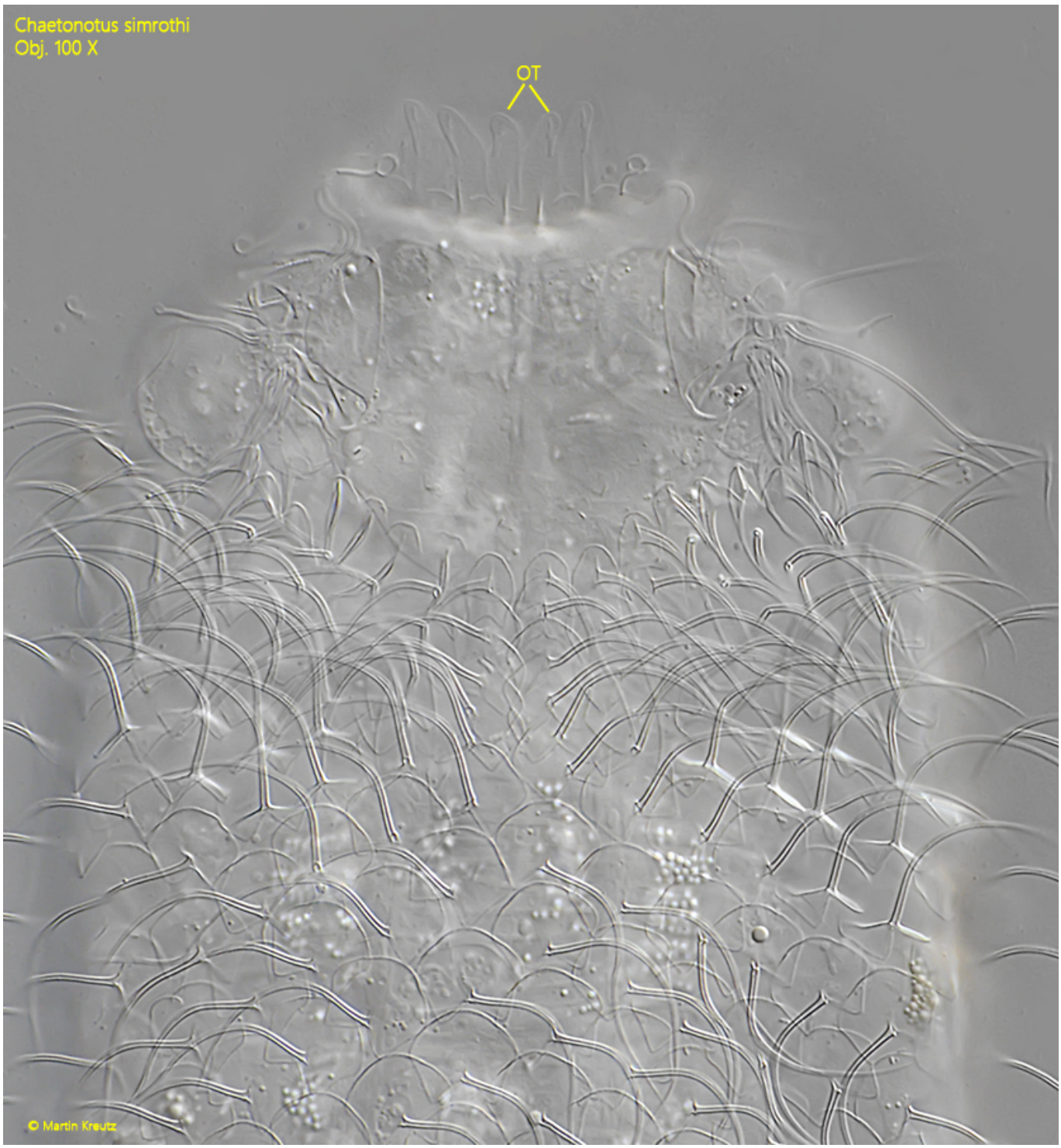


Fig. 5: *Chaetonotus simrothi*. The dorsal scales of the neck in detail. The scales have a V-shaped incision and and bear a strongly curved, hollow spine. OT = flap-shaped oral teeth. Obj. 100 X.

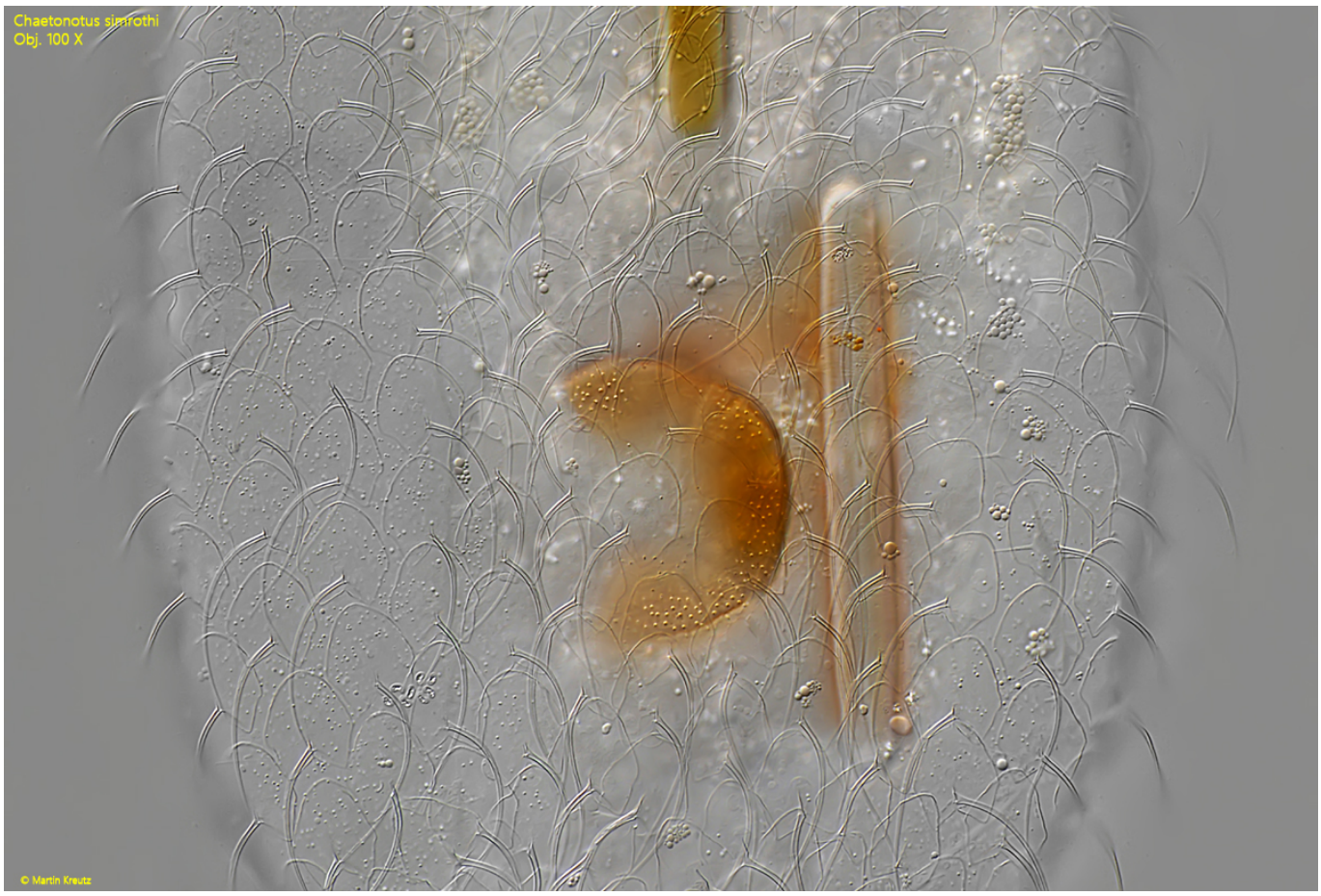


Fig. 6: *Chaetonotus simrothi*. Total view of the dorsal scales of the mid-body. Obj. 100 X.

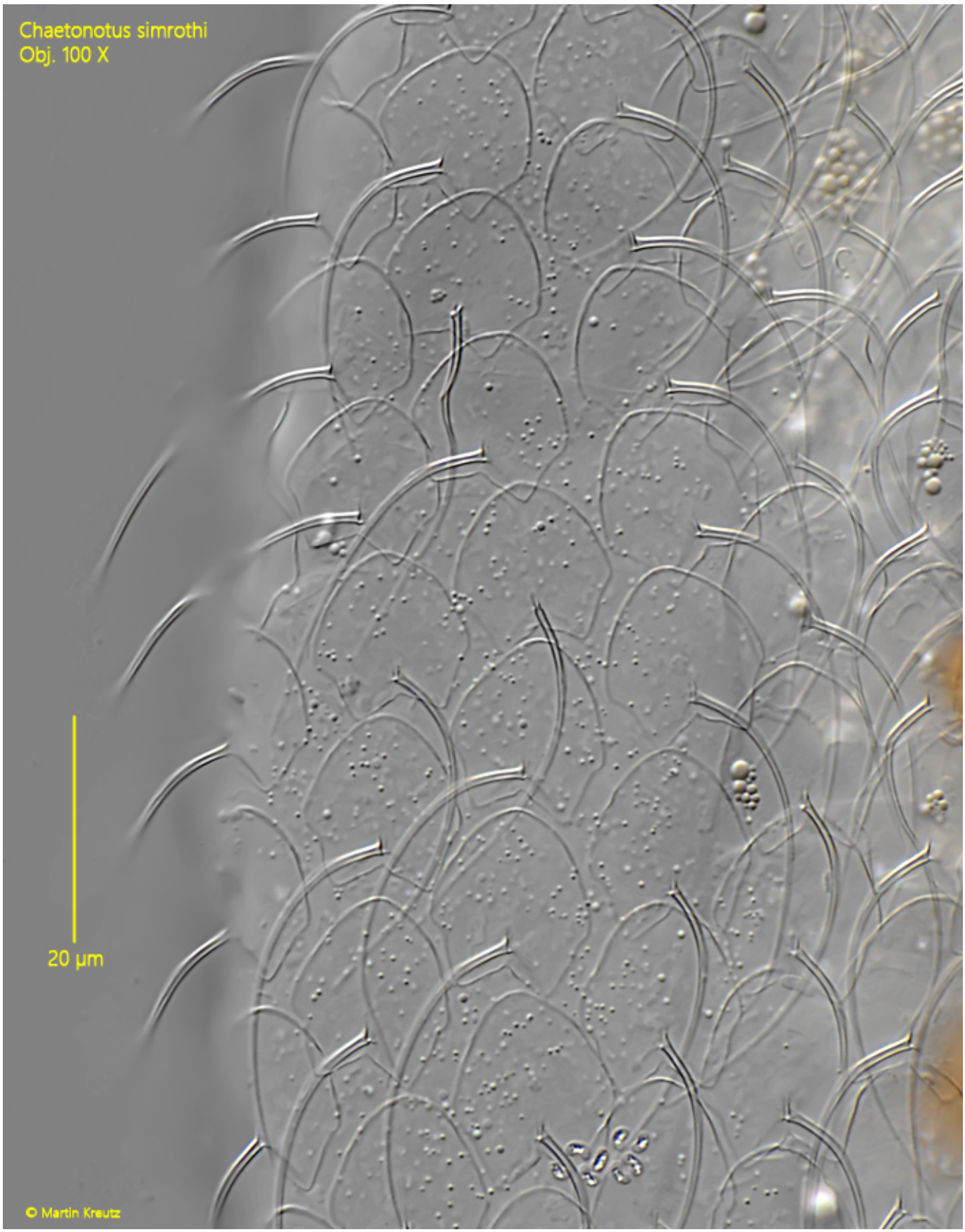


Fig. 7: *Chaetonotus simrothi*. The dorsal scales of the mid-body in detail. The have a length of 14–17 µm. The curved simple spine have a length of 25–32 µm. Obj. 100 X.

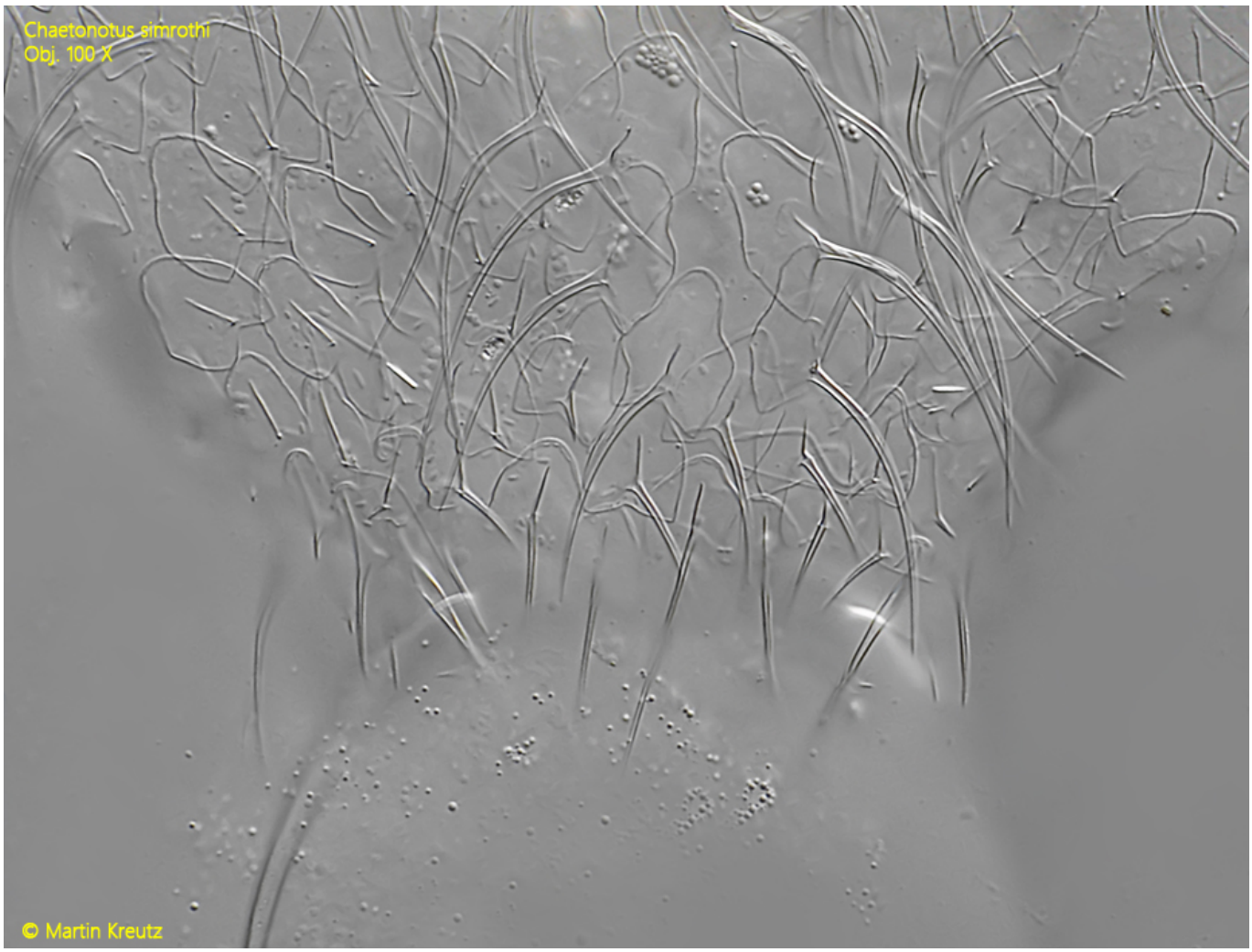


Fig. 8: *Chaetonotus simrothi*. The dorsal scales of the posterior end in detail. The lateral scales are keeled, while he scales in the center bear a spine. Obj. 100 X.

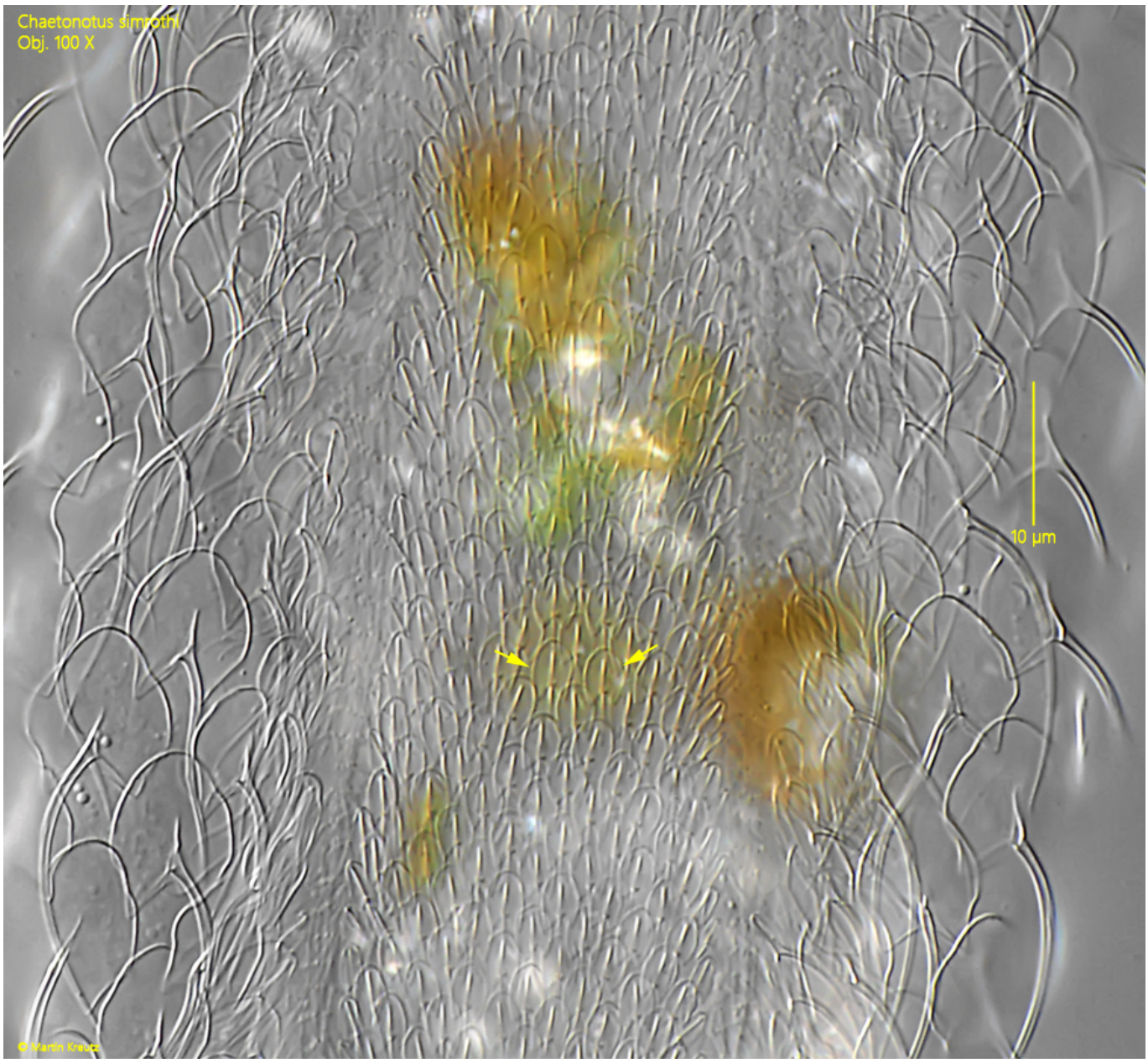


Fig. 9: *Chaetonotus simrothi*. The roundish scales of the ventral side in mid-body. The scales are about 4 µm long with an incision, a keel and a short spine (arrows). Obj. 100 X.

Fig. 10: *Chaetonotus simrothi*. The slightly elongated scales of the ventral side at the posterior end. The scales are about 5 µm long with an incision, a keel and a short spine (arrows). Obj. 100 X.