

Carchesium polypinum

(Linnaeus, 1758) Ehrenberg, 1830

Most likely ID: n.a.

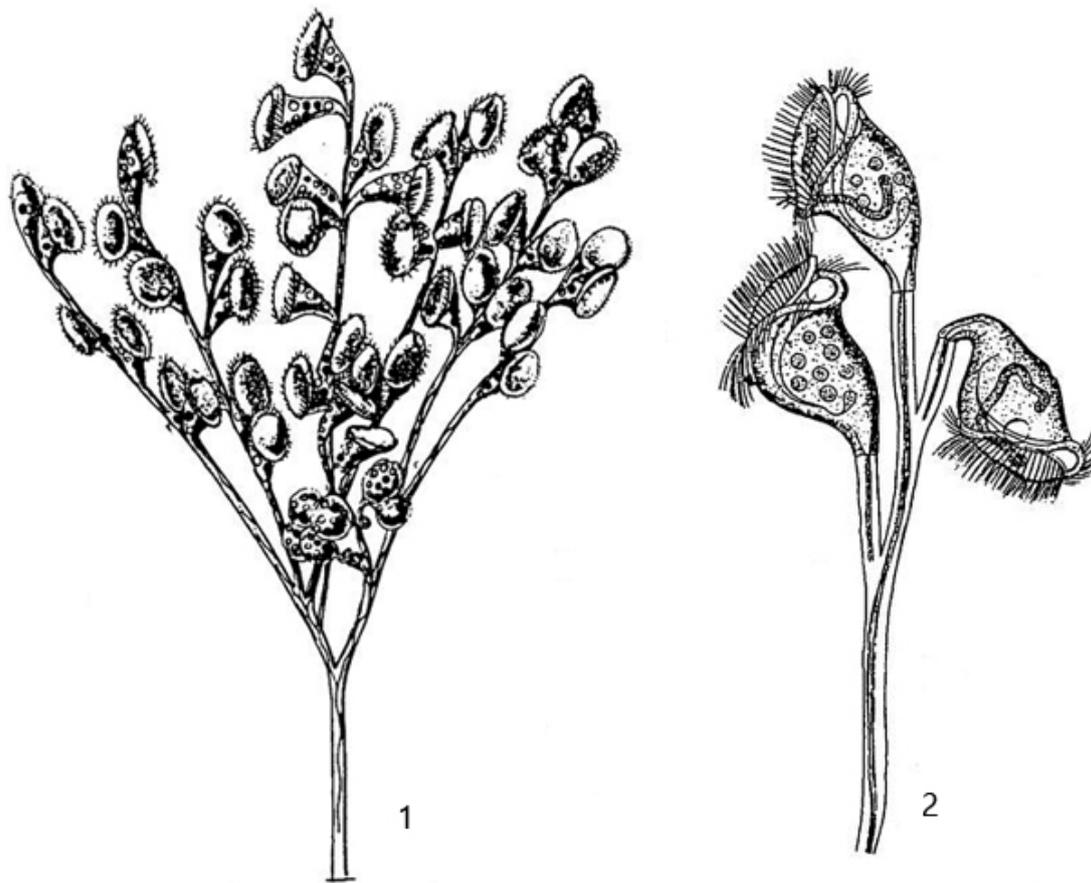
Synonym: n.a.

Sampling location: [Simmelried](#)

Phylogenetic tree: [Carchesium polypinum](#)

Diagnosis:

- zooids elongated bell-shaped, often tilted to the side
- length of zooids 80–140 μm
- zooids contract almost spherically
- macronucleus J-shaped in the longitudinal axis
- one micronucleus
- one contractile vacuole
- peristome collar 60–135 μm in diameter
- pellicle finely striated
- colonies tree-shaped with branched stalks, up to 2 mm high
- lower part of the colonies is an unbranched main stem
- stalks contract in tight helix
- myonemes in the branches are interrupted



1 = after Ehrenberg
2 = after Stein

Carchesium polypinum

I find *Carchesium polypinum* mainly in old samples from the [Simmelried](#). The colonies of this peritrich ciliate are easy to recognize by the tree-like structure and the non-branched stalk. *Carchesium polypinum* can be easily distinguished from other colony-forming peritrich ciliates, whose peduncles also contract helically, by the interrupted myonemes at the branching points (s. figs. 3, 4 and 5). This interruption of myonemes causes zooids and also individual branches of colonies to contract independently. In the similar genus *Zoothamnium*, the myonemes are not interrupted, causing the entire colony to always contract synchronously. A distinguishing feature from *Vorticella* species is the stalk thickness. In *Vorticella*, the stalk is always $< 10 \mu\text{m}$ thick, whereas in *Carchesium polypinum* it is thicker than $10 \mu\text{m}$ (s. fig. 6). Comparable *Epistylis* species (e.g. [Epistylis procumbens](#)) do not have a central myoneme in the stalk and therefore cannot contract.

Carchesium polypinum
Obj. 10 X



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Fig. 1: *Carchesium polypinum*. Overview of a colony with a length of 1600 µm. Obj. 10 X.

Carchesium polypinum
Obj. 20 X



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Fig. 2: *Carchesium polypinum*. Detail of the colony shown in fig. 1. Obj. 20 X.

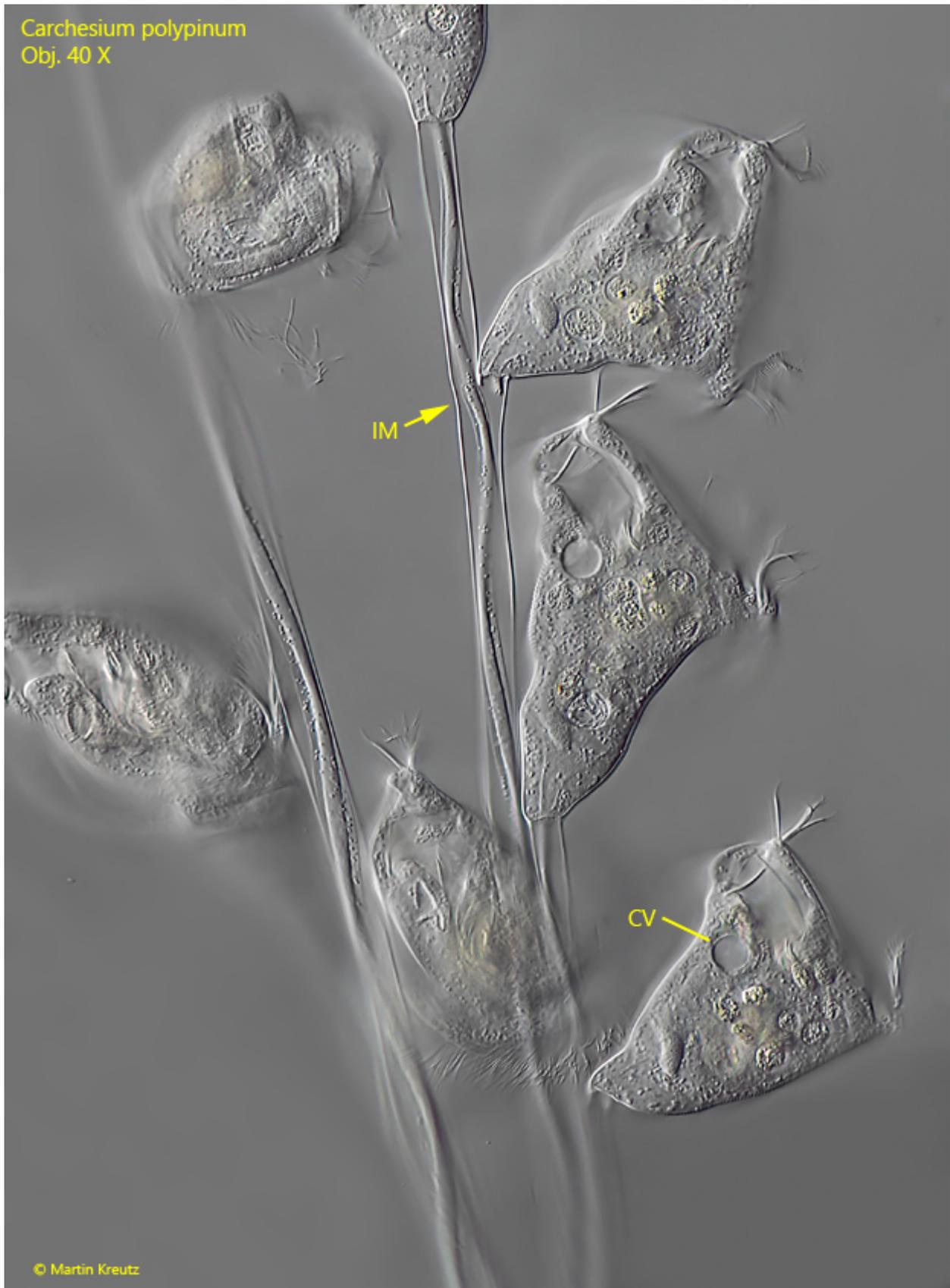


Fig. 3: *Carchesium polypinum*. L = 90–106 μm (of zoids). The zoids of the colony shown in fig. 1. Note the interrupted myoneme (IM) at the branch of the stalk. Obj. 40 X.

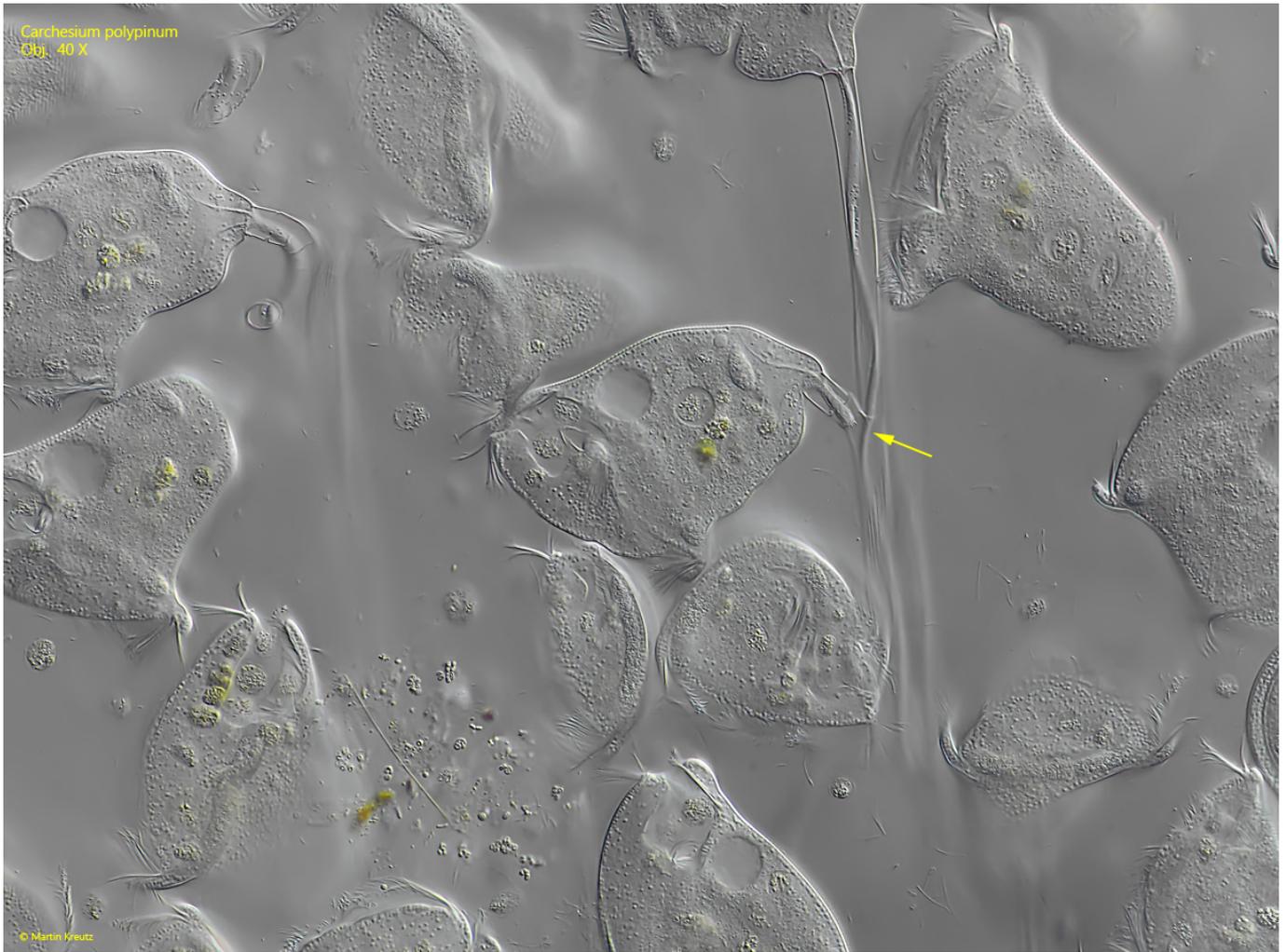


Fig. 4: *Carchesium polypinum*. The interrupted myoneme (arrow) at the branch of the stalk in a slightly squashed colony. Obj. 40 X.

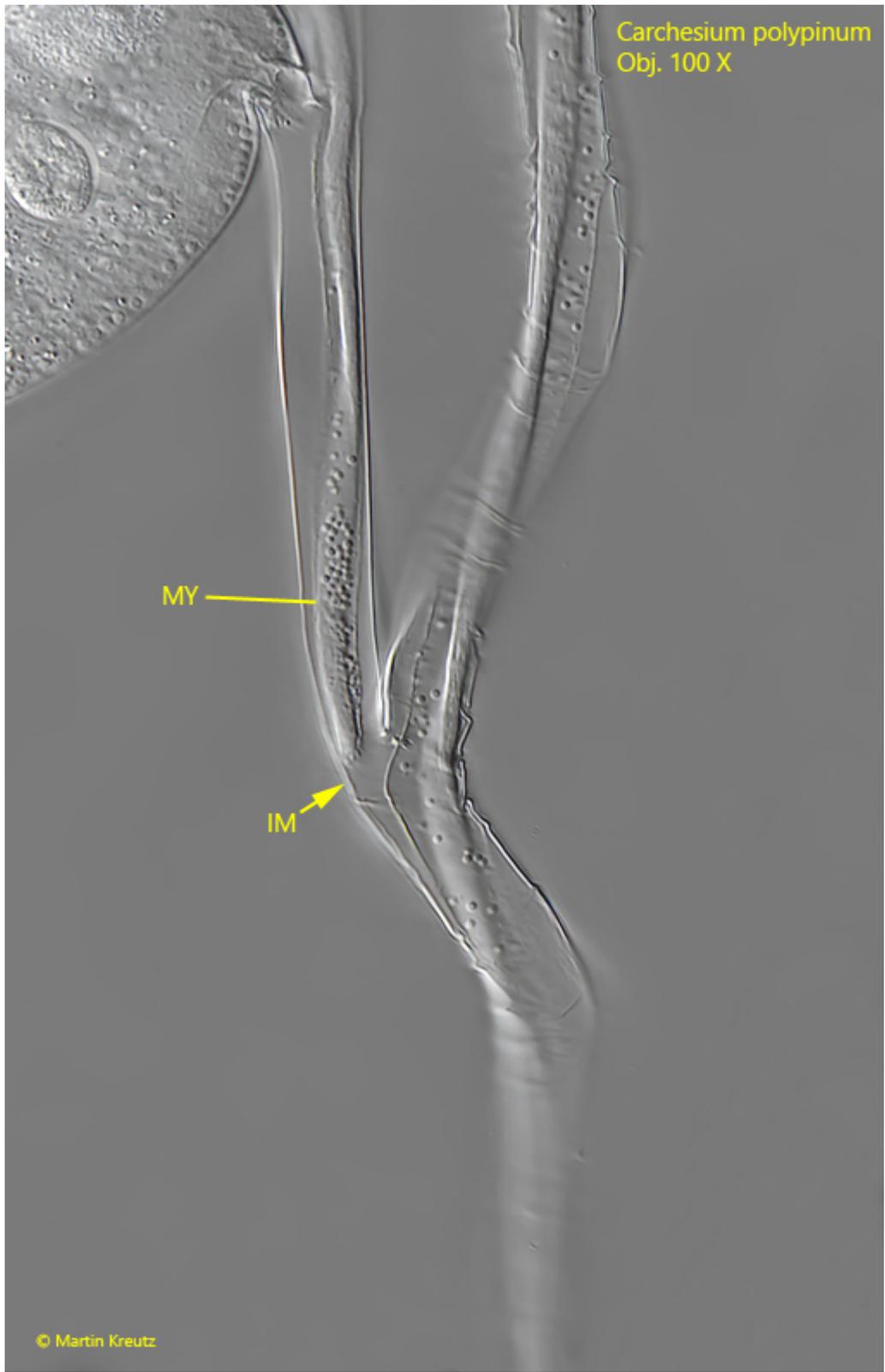


Fig. 5: *Carchesium polypinum*. The interruption of the myoneme (IM) in detail. My = myoneme of the stalk. Obj. 40 X.

Carchesium polypinum
Obj. 100 X

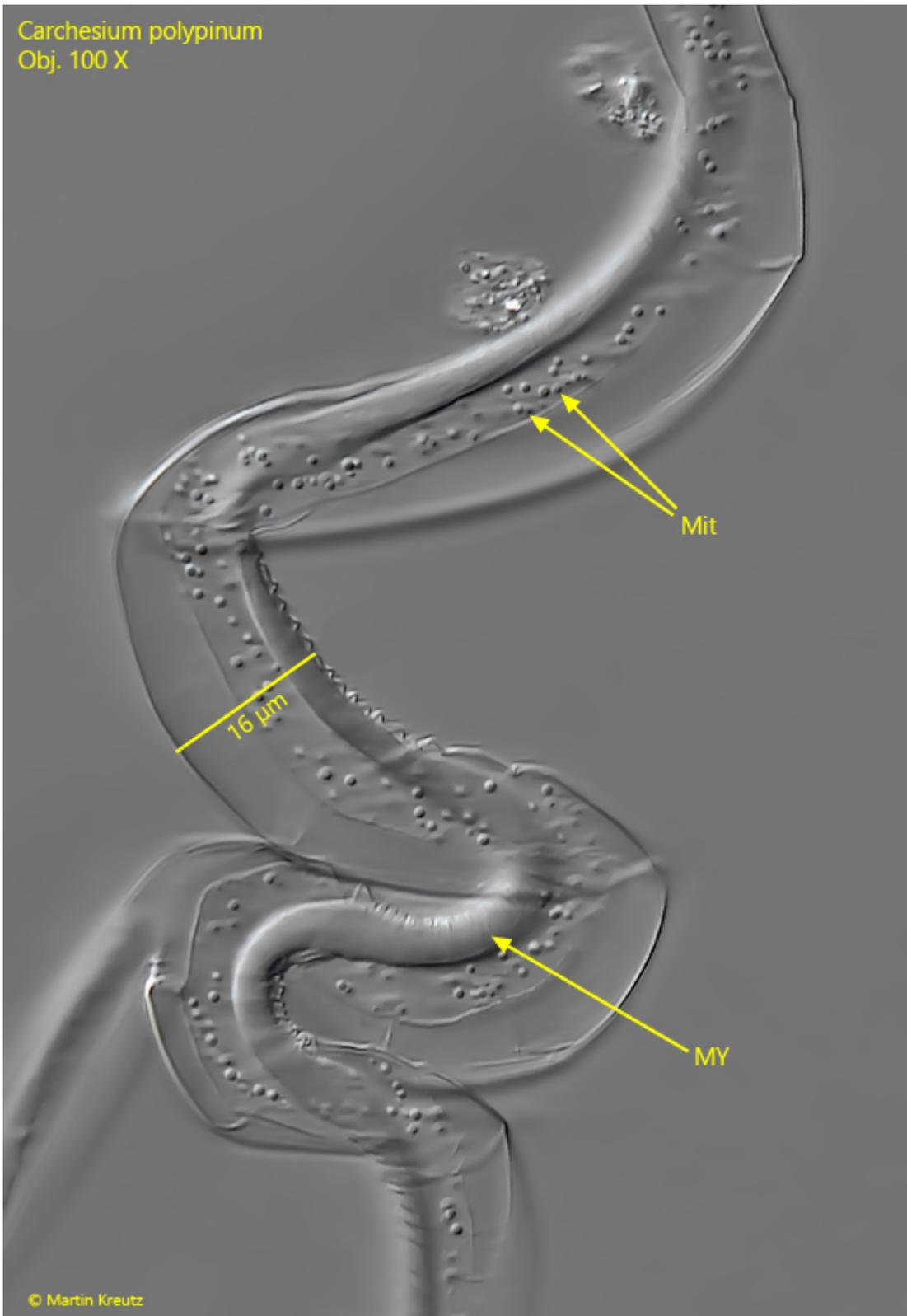
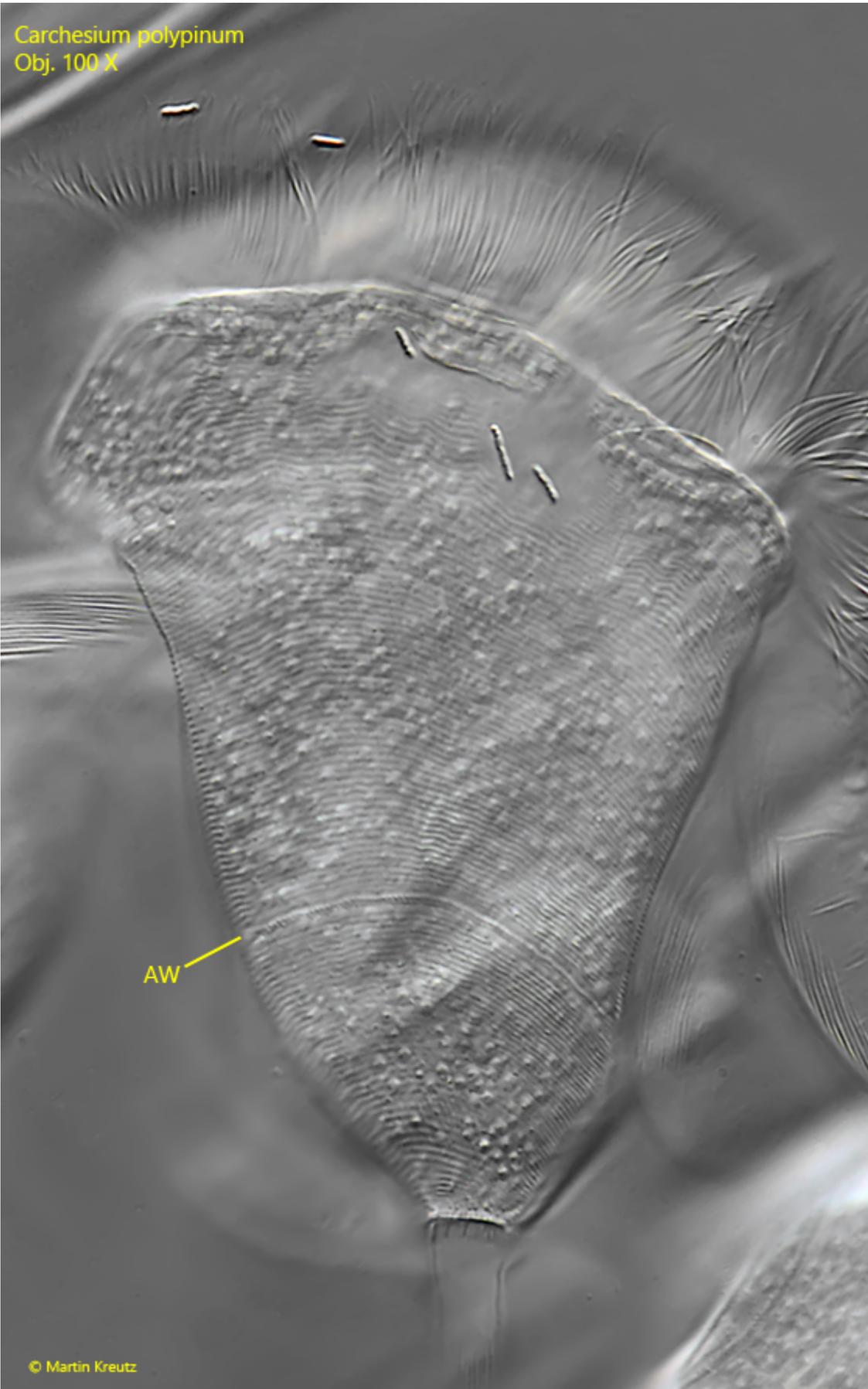


Fig. 6: *Carchesium polypinum*. The spiralized stalk with the central myoneme (MY). The myoneme is surrounded by numerous mitochondria (Mit). Obj. 100 X.

Carchesium polypinum
Obj. 100 X



AW

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Fig. 7: *Carchesium polypinum*. The fine striation of the pellicle. In this specimen, there are 15 lines per 10 μm . AW = aboral ciliary wreath. Obj. 100 X.

Carchesium polypinum
Obj. 100 X



Fig. 8: *Carchesium polypinum*. The J-shaped macronucleus (Ma) and the micronucleus (Mi) in a strongly squashed specimen. CV = contractile vacuole. Obj. 100 X.