Metopus laminarius Kahl, 1927

Most likely ID: n.a.

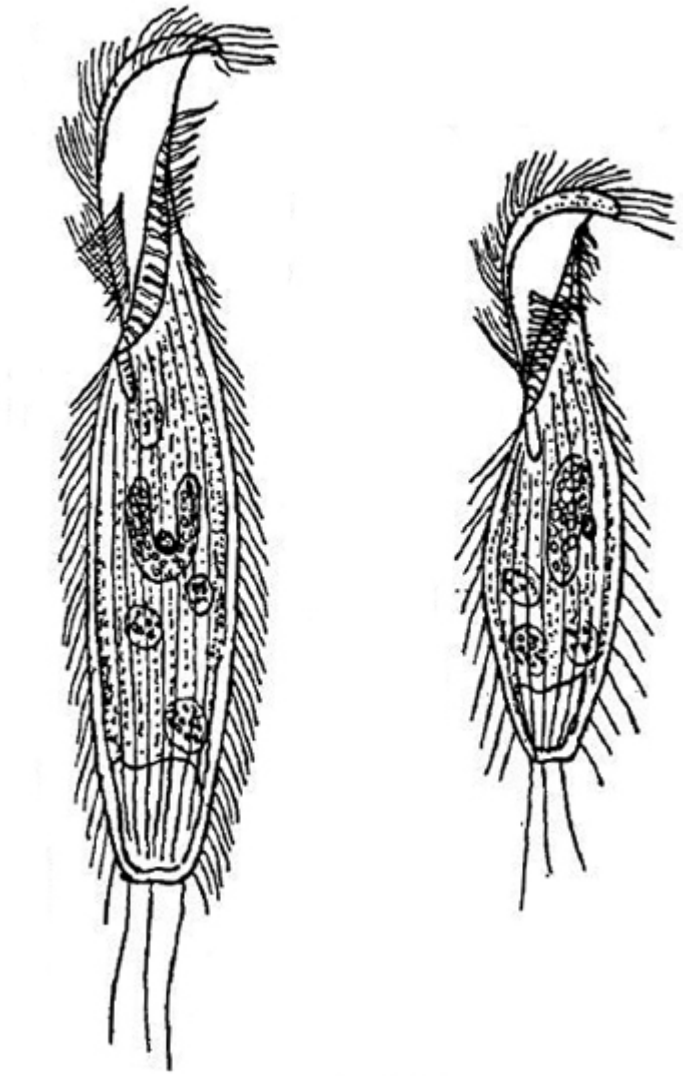
Synonym: n. a.

Sampling location: Purren pond, Simmelried

Phylogenetic tree: *Metopus laminarius*

Diagnosis:

- body cylindrical, sometimes irregular due to food content
- posterior end transversely truncated
- length 200–260 µm
- always with pink rhodobacteria in food vacuoles
- cytoplasm sometimes yellowish
- anterior end flattened and spirally elongated
- adoral zone runs along the spiral extension to mouth opening
- mouth opening in anterior third
- contractile vacuole terminal, often dilated towards anterior end
- macronucleus sausage-shaped in anterior end, often curved into a horseshoe shape
- micronucleus spherical, adjacent to the macronucleus or enclosed by it in a U-shape
- very fine, long caudal cilia (hard to see)



Metopus laminarius

In my sampling sites Purren pond and Simmelried I find *Metopus laminarius* frequently and regularly. It is one of the largest species of the genus *Metopus*. Kahl gives a range of 200–260 µm for the body length and distinguishes a variety “minor” (s. right drawing above) with a length of about 150 µm. In my population I could find specimens with lengths between 170 – 320 µm. The body size seems to depend strongly on the number of food vacuoles in the body. Well fed specimens were larger. Therefore, in my opinion, the variety “minor” is not justified, since it is only a sign of nutritional status. As described by Kahl, the food vacuoles of *Metopus laminarius* are mainly filled with pink rhodobacteria (s. fig. 2b). The cytoplasm often appeared faintly yellowish. The anterior end is flattened and twisted in a spiral running in clockwise direction. The adoral zone follows this spiral and lowers ventrally into the mouth opening (s. fig. 3a). The long caudal cilia, described and drawn by Kahl, are hard to see. Only in one specimen I could document them (s. figs. 2 a and 2 c). In other specimens I sometimes could not see them at all. Possibly they are shed quickly. *Metopus laminarius* lacks a fringe of extrusomes under the

pellicle, but it appears finely granulated (s. fig. 5).

Fig. 1 a-c: *Metopus laminarius.* L = 312 µm. A freely swimming specimen from ventral (a, b) and from left (c). Note the spirally twisted anterior end. Ma = macronucleus. Obj. 40 X.

Fig. 2 a-c: *Metopus laminarius.* L = 180 µm. A freely swimming specimen from ventral. Note the long caudal cilia (CC). RB = food vacuoles filled with ingested rhodobacteria. Obj. 60 X.


Metopus laminarius
Obj. 60 X
AZM
Ma
Mi
© Martin Kreutz
a
b

Fig. 3 a-b: *Metopus laminarius*. L = 280 µm. The slightly squashed specimen from ventral (a) and from right (b). AZM = adoral zone of membranelles, Ma = macronucleus, Mi = micronucleus. Obj. 60 X.

Fig. 4 a-b: *Metopus laminarius*. A specimen with a horseshoe shaped macronucleus (Ma) during continuous reduction of the layer thickness. The macronucleus encloses the spherical micronucleus (Mi). Obj. 60 X.

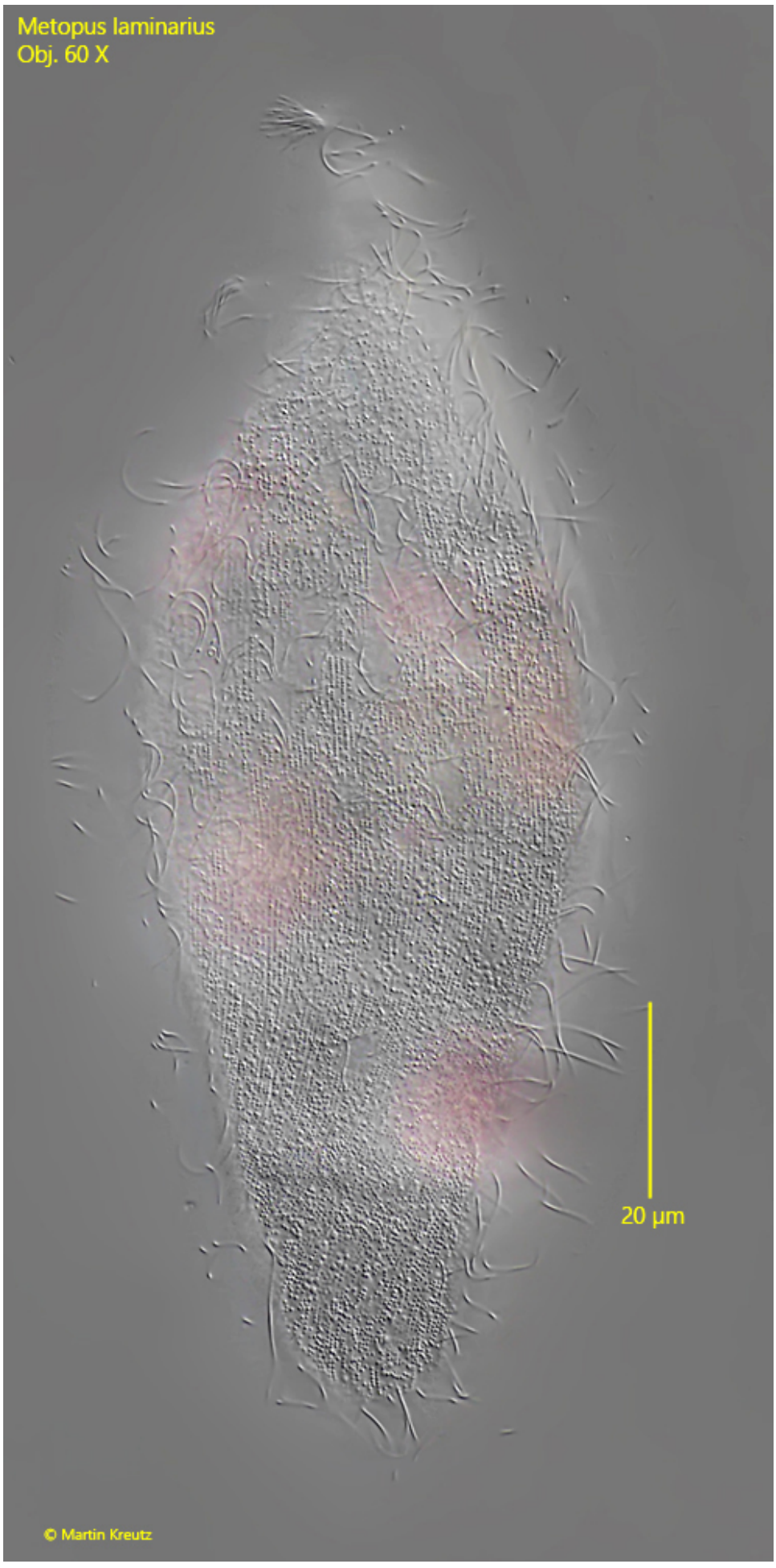

Metopus laminarius
Obj. 60 X
20 µm
© Martin Kreutz

Fig. 5: *Metopus laminarius*. Focal plane on the granulated pellicle in a squashed specimen. Obj. 60 X.