***Mesodinium pulex***

**(Claparède & Lachmann, 1859) Stein, 1867**

**Most likely ID:** n.a.

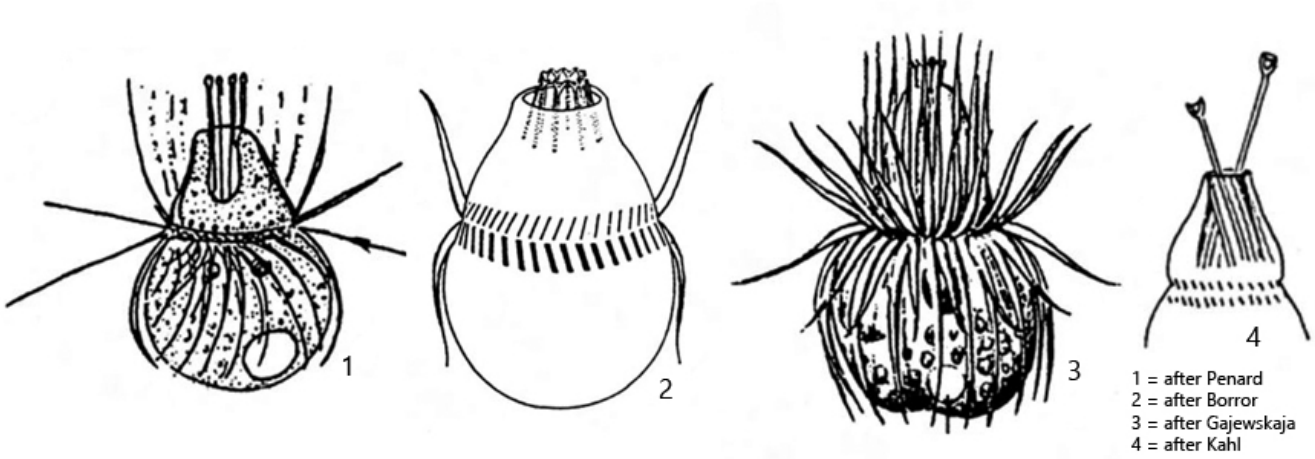
**Synonym:** n.a.

**Sampling location:** Simmelried, Ulmisried, Purren pond, pond of the convent Hegne, Bündtlisried

**Phylogenetic tree:** *Mesodinium pulex*

**Diagnosis:**

- body pyriform, with a furrow in mid-body
- length 15–35 µm
- cytophayrnx apical, surrounded by retractable tentacles
- pre-equatorial wreath cirri, directed anteriorly, distal ends splitted
- equatorial wreath of cilia, directed posteriorly
- two spherical maconuclei in mid-body (not confirmed)
- extrusomes absent
- one terminal contractile vacuole




Mesodinium pulex

*Mesodinium pulex* is a common ciliate that can be found especially in old samples with decomposing plant material. I was able to detect it in almost all of sampling

sites.

*Mesodinium pulex* has a characteristic swimming style. Between very fast jumps, the ciliate rests vertically and starts to spin. This is followed by further jumps at a very high swimming speed.

*Mesodinium pulex* is somewhat similar in shape and size to *Urotricha agilis*, but the ciliation of *Mesodinium pulex* is restricted to the equatorial zone, where there is a pre-equatorial wreath of cirri and an equatorial wreath of cilia (s. fig. 1 a). In addition, *Mesodinium pulex* has no caudal cilia and there are often retractable tentacles around the pharynx. The distal ends of the tentacles were interpreted by Kahl as funnels (s. drawing 4 , above). However, I could clearly see that the ends are finely split (s. fig. 1 a). I have found specimens with outstretched and retracted tentacles (s. figs. 1 a-d and 3 a-c). The function of the tentacles is unknown.

Penard gave the number of macronuclei as two in 1922. However, this observation was never confirmed. I was also unable to determine the number myself. If *Mesodinium pulex* is squashed, the cell bursts and disintegrates very quickly. There is only one contractile vacuole, which is terminal (s. fig. 2 b).

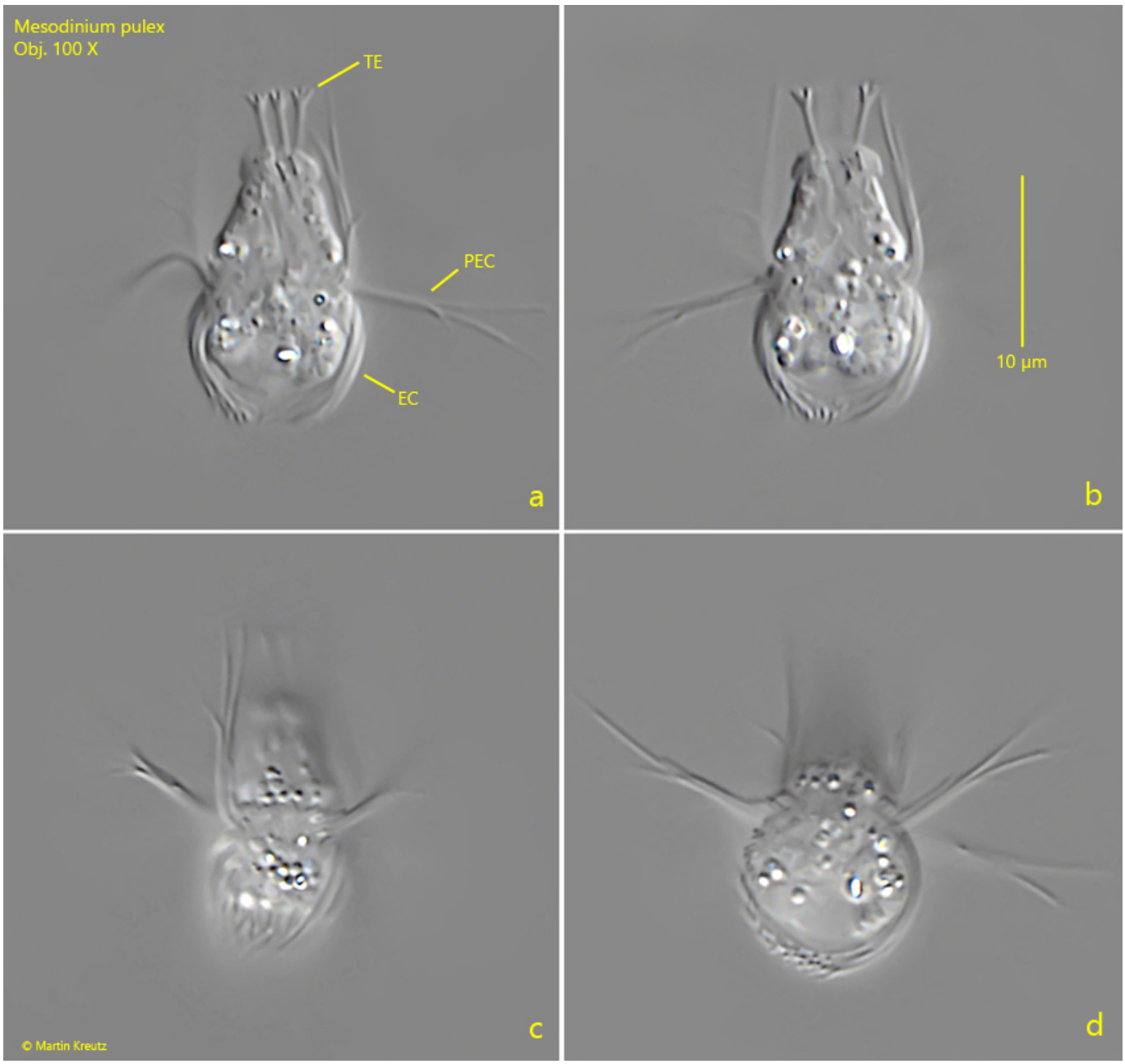



**Fig. 1 a-d:** *Mesodinium pulex*. L = 15 µm. Lateral view (a-c) and view from posterior (d) of a feely swimming specimen. Note the tentacled (TE) with splitted ends. EC = equatorial wreath of cilia, PEC = pre-equatorial wreath of cirri. Obj. 100 X.

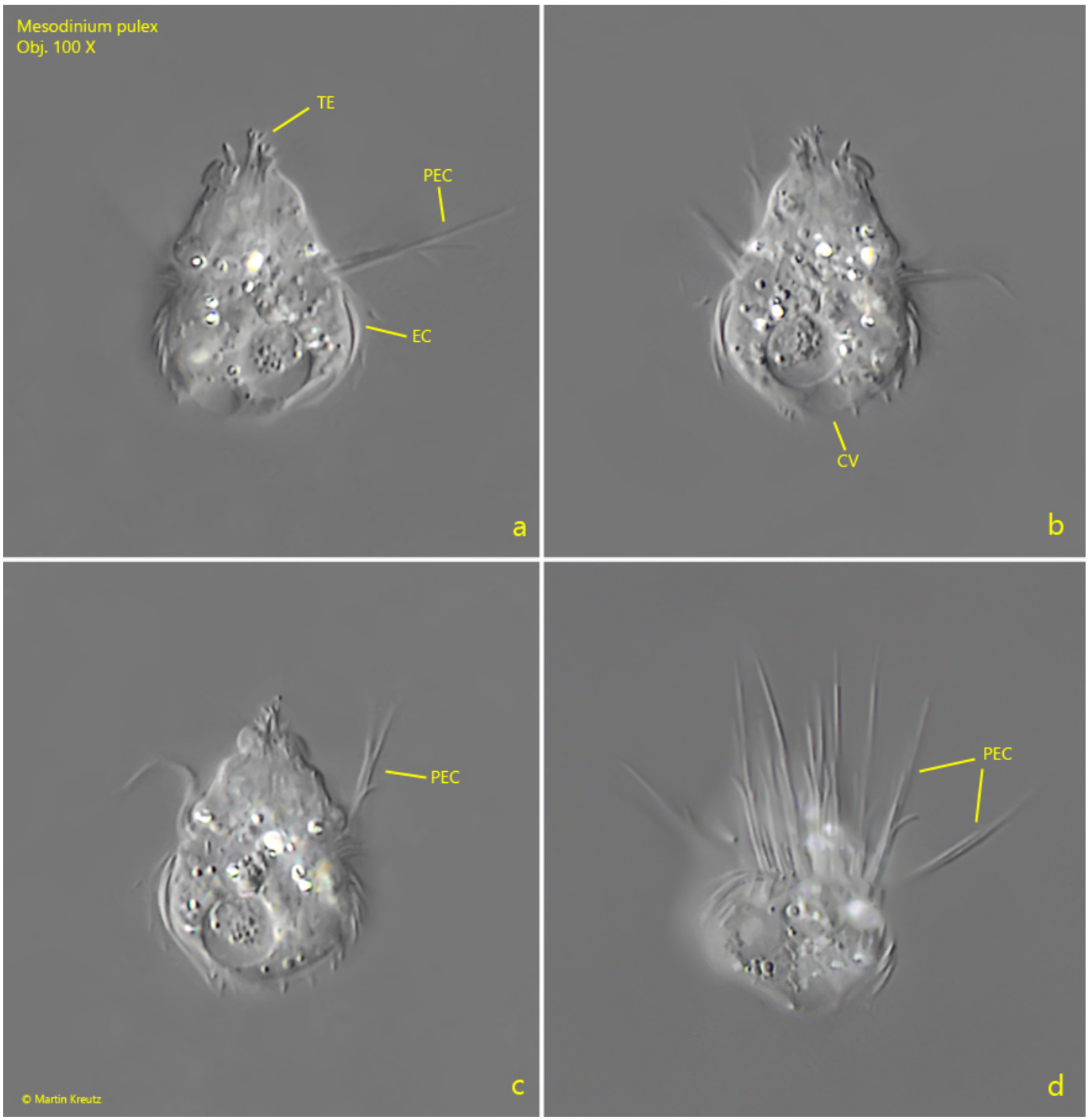



**Fig. 2 a-d:** *Mesodinium pulex*. L = 20 µm. A second, freely swimmung specimen (a-c) and with pre-equatorial cirri (PEC) directed anteriorly (d). ends. CV = contractile vacuole, EC = equatorial wreath of cilia. Obj. 100 X.

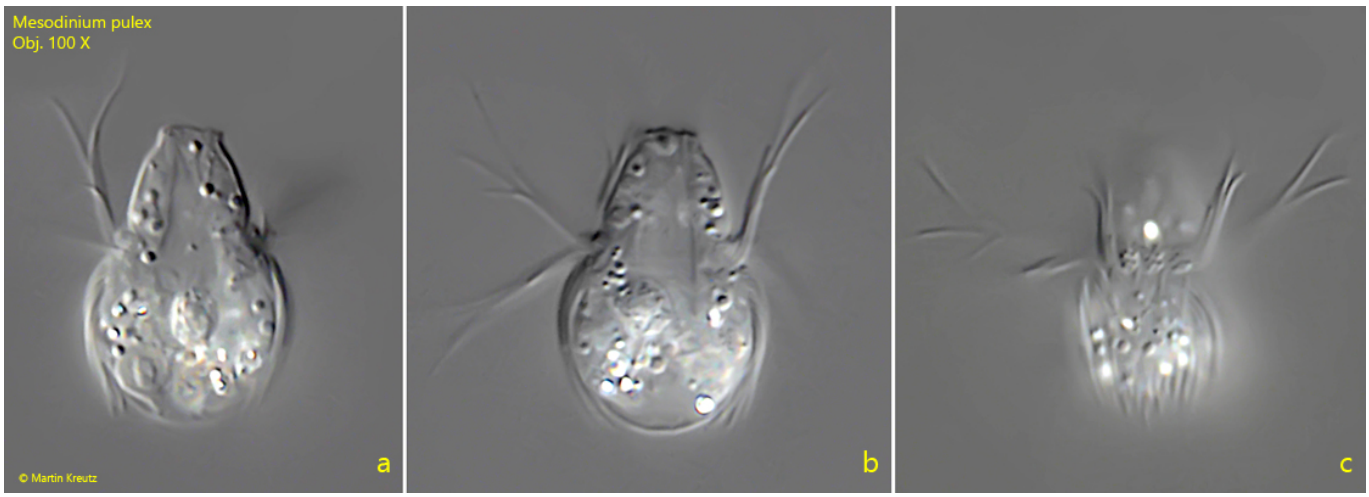



**Fig. 3 a-c:** *Mesodinium pulex*. L = 19 µm. A third, freely swimmung specimen with retracted tentacles. Obj. 100 X.