Mallomonas matvienkoae

B.Asmund & Kristiansen, 1986

Most likely ID: n.a.

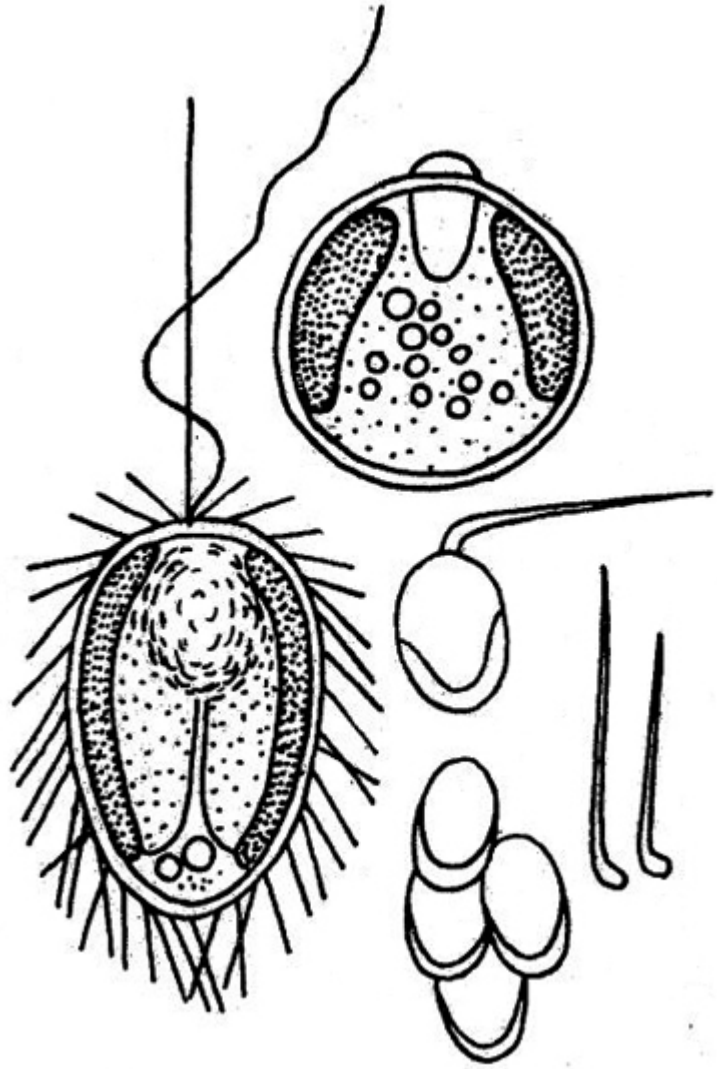
Synonyms: *Mallomonopsis elliptica*, *Mallomonas elliptica*

Sampling location: Drainage ditch Radolfzell industrial area

Phylogenetic tree: *Mallomonas matvienkoae*

Diagnosis:

- cell ellipsoidal
- length 20–56 µm, width 14–17 µm
- scales egg-shaped, about 7.5 µm long, thickened rim at tapered end
- scales concave in lateral view
- spines smooth, up to 13 µm long, base L-shaped
- 2 flagella of diffeent length
- 2 chloroplasts
- some contractile vacuoles posterior
- nucleus in anterior half



Mallomonas matvienkoae

So far I have found *Mallomonas matvienkoae* for the first time in a drainage ditch in the industrial area of Radolfzell. I have not been able to find the species in my other localities.

The species was originally described by Matvienko (1941) as *Mallomonopsis elliptica* on the basis of the two flagella and oval scales. Belcher (1969) proposed to treat species with two flagella as subspecies of the genus *Mallomonas* and Asmund & Kristiansen finally renamed the species in *Mallomonas matvienkoae* on the basis of electron microscopic studies.

My specimens were all less than 30 µm long. The free-swimming specimens were somewhat more elongated than the specimen shown in fig. 1 a-d, which is already slightly squashed. The two flagella (s. fig. 1 a) are difficult to recognize even at high magnification. The scales and the L-shaped spines attached to them correspond to Matvienko's descriptions (s. fig. 3).

The egg-shaped scales have a thickened edge at the tapered end. This is also where the spines are attached, which are very easily detached by the pressure of the coverslip (s. fig. 3). In contrast to Matvienko's description, I could recognize only one contractile vacuole at the posterior end (s. fig. 1 c) and the nucleus was located in the anterior third (s. fig. 1 b). The center of the cell was filled by a large leucosin body.

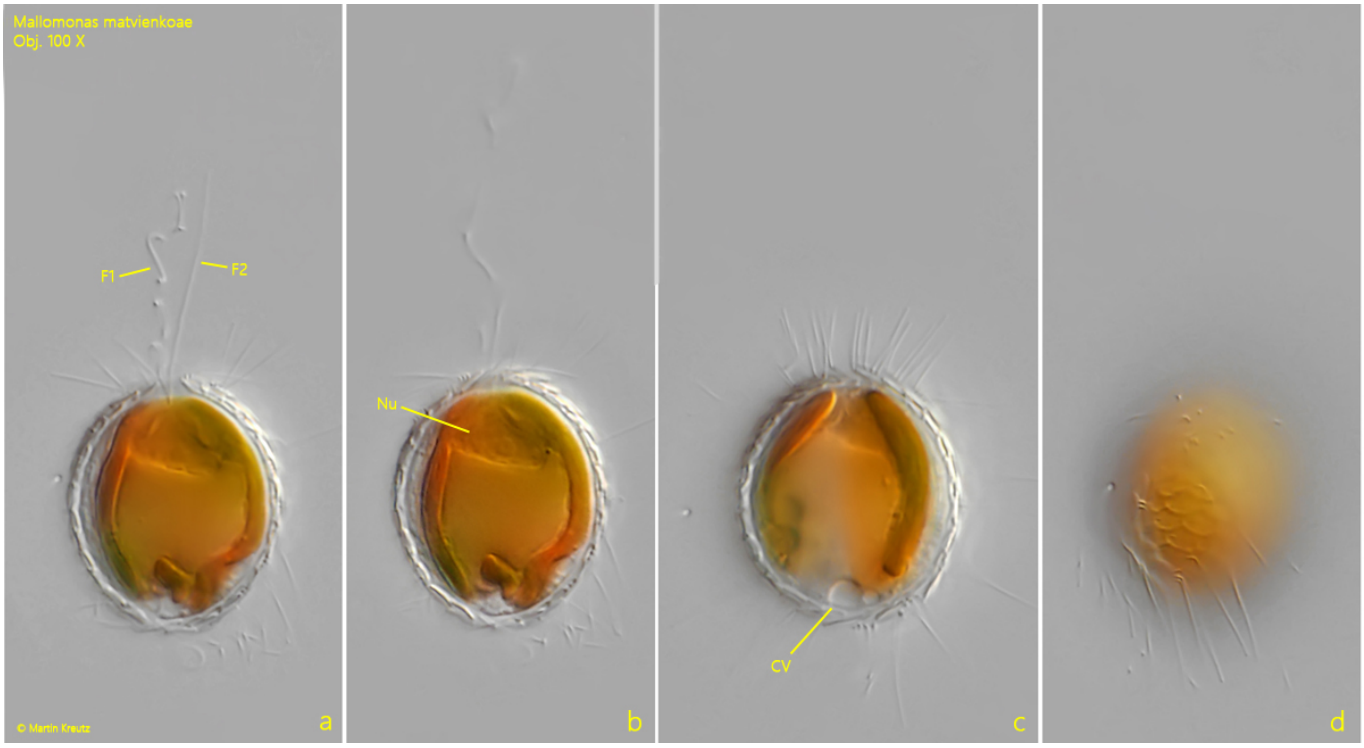


Fig. 1 a-d: *Mallomonas matvienkoae.* L = 28 µm. Different focal planes of a slightly squashed specimen. Note the two flagella (F 1, F 2) of different length. CV = contractile vacuole, Nu = nucleus. Obj. 100 X.

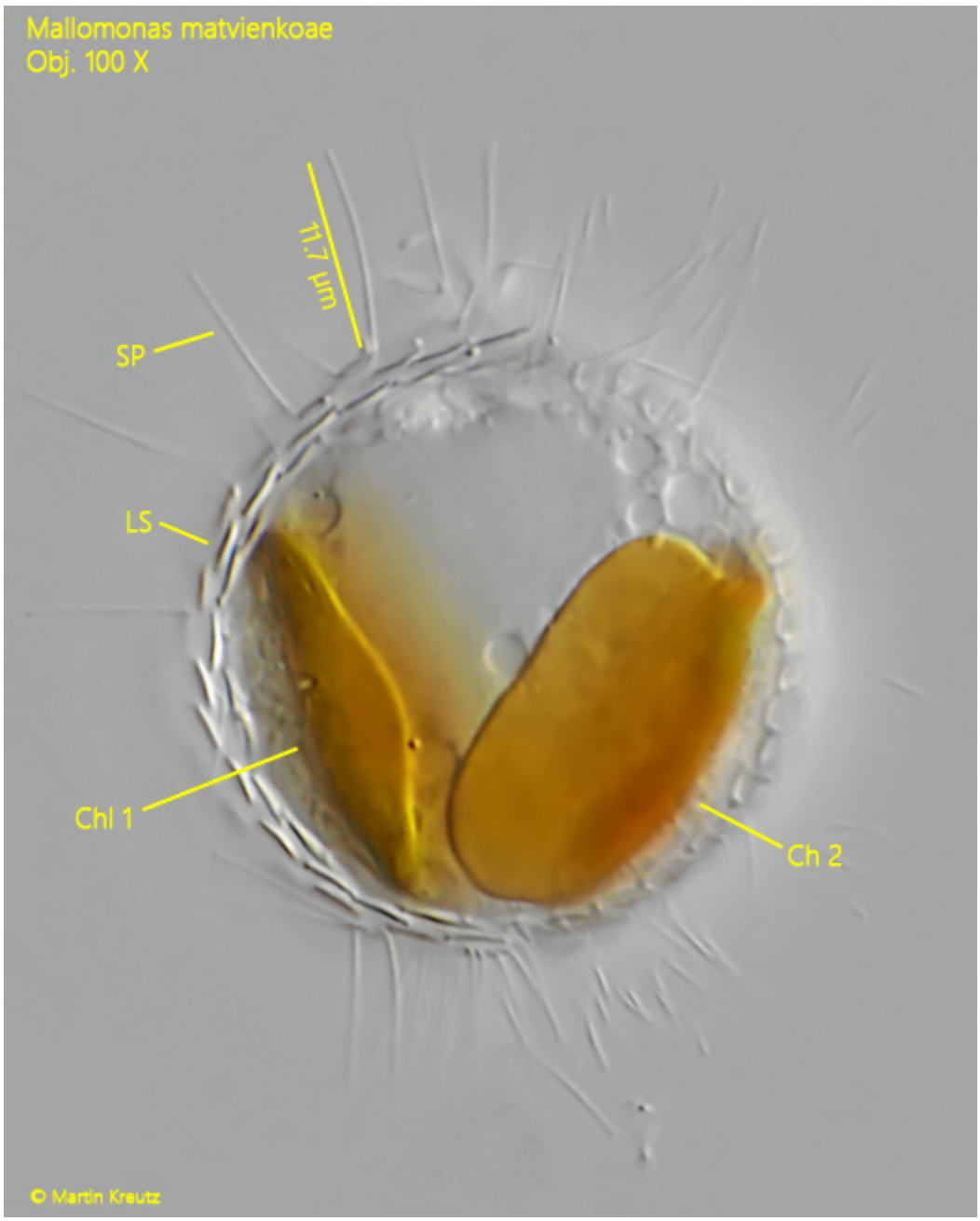


Fig. 2: *Mallomonas matvienkoae.* Focal plane on the two chloroplasts (Chl 1, Chl 2) in a squashed specimen. The spines (SP) are 10–13 µm long. LS = layer of scales. Obj. 100 X.

Fig. 3: *Mallomonas matvienkoae*. Focal plane on the egg-shaped scales. The tapered end of the scales have a thickened rim (TR). On some scales (arrows), the L-shaped spines were not detached from the tapered end of the scales. The scales have a length of 5–6 µm. Obj. 100 X.