

Protocyclidium muscicola

(Kahl, 1931) Foissner, Agatha & Berger, 2002

Most likely ID: n.a.

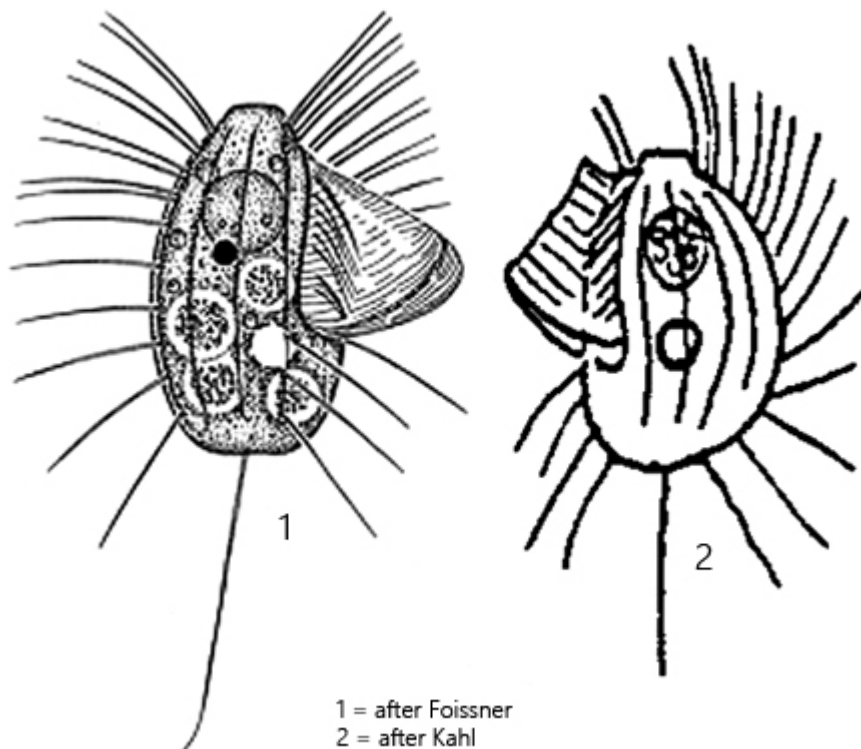
Synonym: *Cyclidium muscicola*

Sampling location: Diebelsee (near Johannisthal)

Phylogenetic tree: [Protocyclidium muscicola](#)

Diagnosis:

- body slenderly or broadly ellipsoid
- distinct frontal plate
- length 14–20 µm, width 9–13 µm
- undulating membrane reach anterior third
- very small adoral membrane (hard to see)
- somatic cilia are paired in anterior half
- 9–10 longitudinal rows of cilia (= kineties)
- one spherical macronucleus in anterior half
- one spherical micronucleus (often near anterior end)
- contractile vacuole distinctly subterminal
- one caudal cilium o f body length



Protocyclidium muscicola

I found a few specimens of *Protocyclidium muscicola* in May 2026 in samples from the Diebelsee near Johannisthal. The Diebelsee has a bog-like character. The samples were taken from stands of *Sphagnum* moss and mixed with *Utricularia* spec.

Protocyclidium muscicola was originally described by Kahl (1931) as *Cyclidium muscicola*. In 1995, *Cyclidium muscicola* was redescribed by Foissner from soil samples taken near Salzburg and on Hawaii. Finally, based on morphological characteristics (silver impregnation), the species was transferred to the genus *Protocyclidium* by Foissner, Agatha and Berger in 2002.

The essential characteristics for identifying *Protocyclidium muscicola* are the position of the contractile vacuole just below the middle of the body and the length of the specimens of about 20 μm or less. Within the genera *Cyclidium* and *Protocyclidium*, there are only the species [*Cyclidium centrale*](#) and *Protocyclidium terricola*, which likewise possess a clearly subterminal contractile vacuole. Both species, however, are clearly larger than 30 μm .

The few specimens of my population were all smaller than 20 μm . The contractile vacuole was located above the posterior third (s. figs. 1 c and 2 b). The number of

kineties on the right side is 5 (s. fig. 3) what corresponds to the number of kineties found by Foissner (1995). In his redescription of *Cyclidium muscicola* Foissner mentions that the micronucleus is often found at the anterior end, which I was also able to recognize with high probability in one specimen (s. fig. 1b).

Deviating from the descriptions by Kahl and Foissner, I was able to observe very short, rod-shaped extrusomes in some specimens (not in all), with a length of about 2 μm (s. figs. 2 c and 2 d). The habitat also differs from the information provided by Foissner and Kahl. Foissner found populations in soil samples and Kahl in moss samples. The fact that my population was present in a moor lake may indicate a high adaptability of this species.

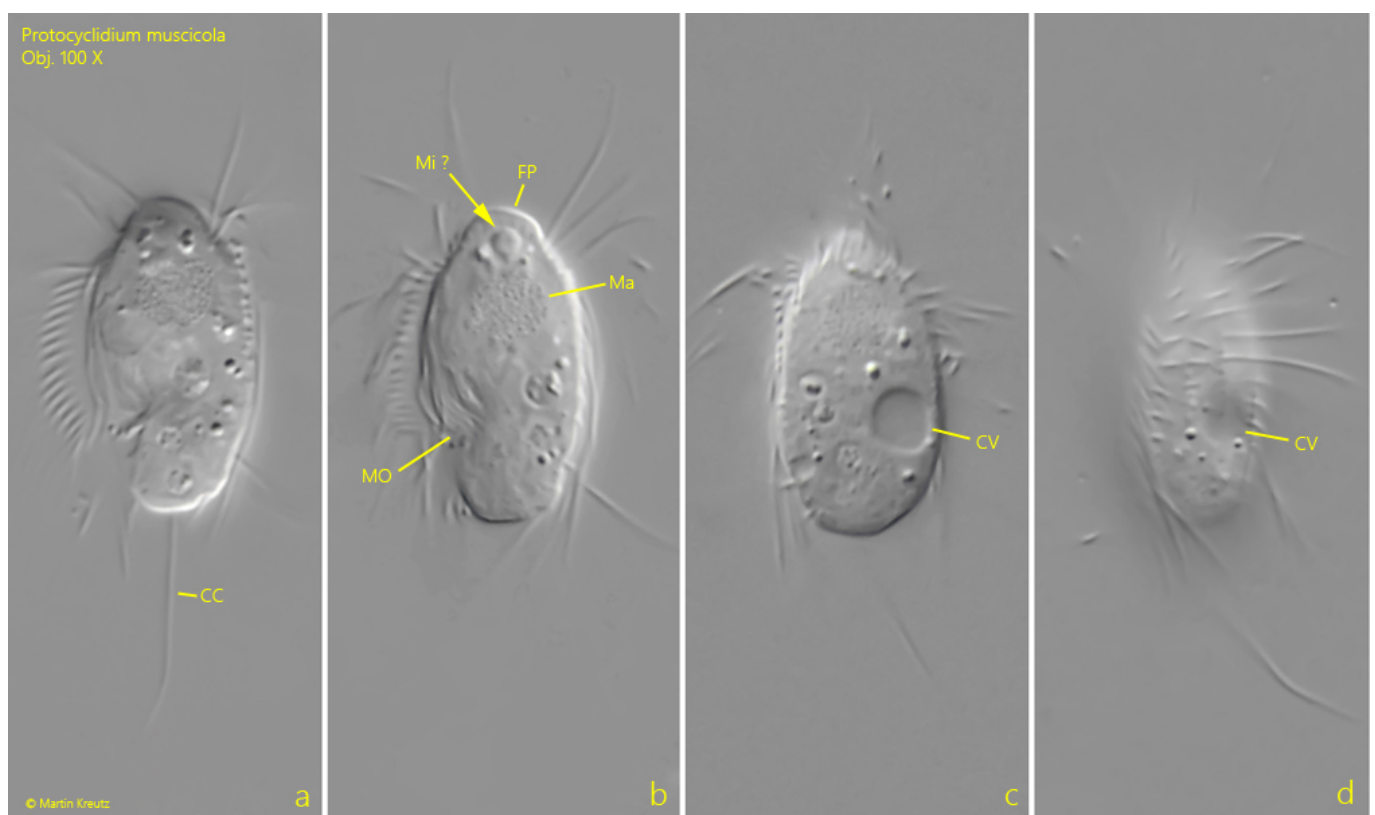


Fig. 1 a-d: *Protocyclidium muscicola*. L = 18.5 μm . Different focal planes of a freely swimming specimen from left (a, b) and from right (c, d). Note the contractile vacuole (CV) below the cell equator. CC = caudal cilium, FP = frontal plate, Ma macronucleus, Mi ? = probably the micronucleus, MO = mouth opening. Obj. 100 X.

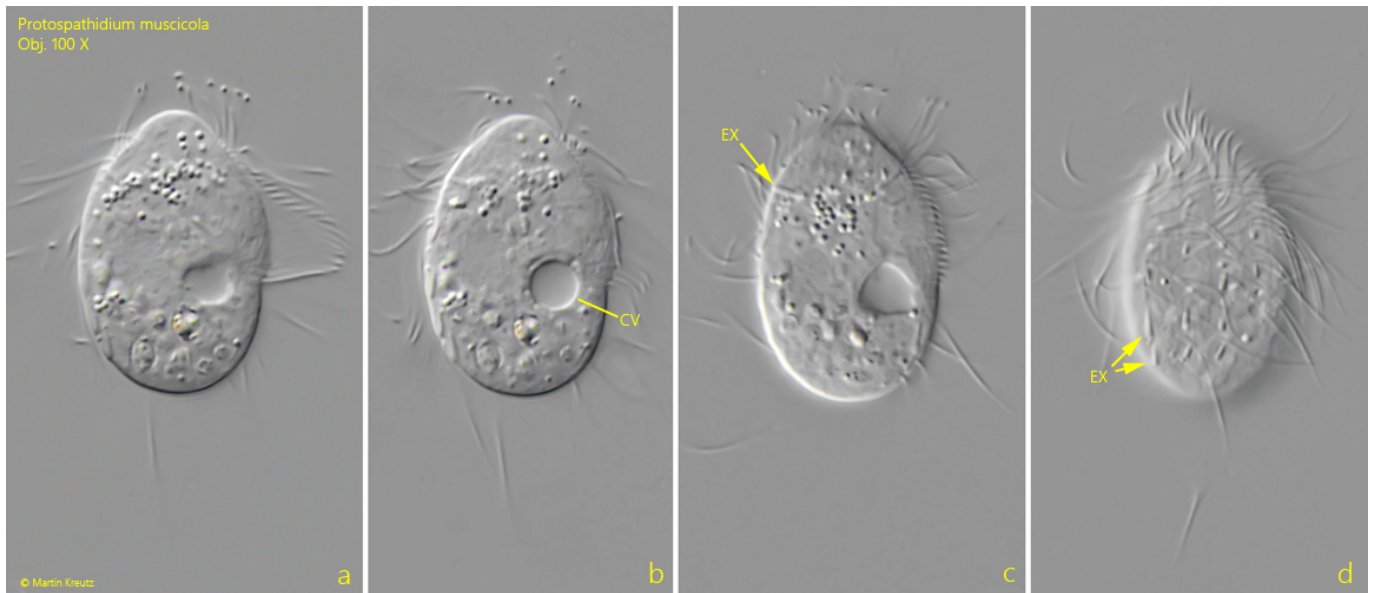


Fig. 2 a-d: *Protocyclidium muscicola*. L = 23 μm . A second, slightly squashed specimen from right. In this specimen some extrusomes (EX) with a length of 2.3 μm are visible. CV = contractile vacuole. Obj. 100 X.

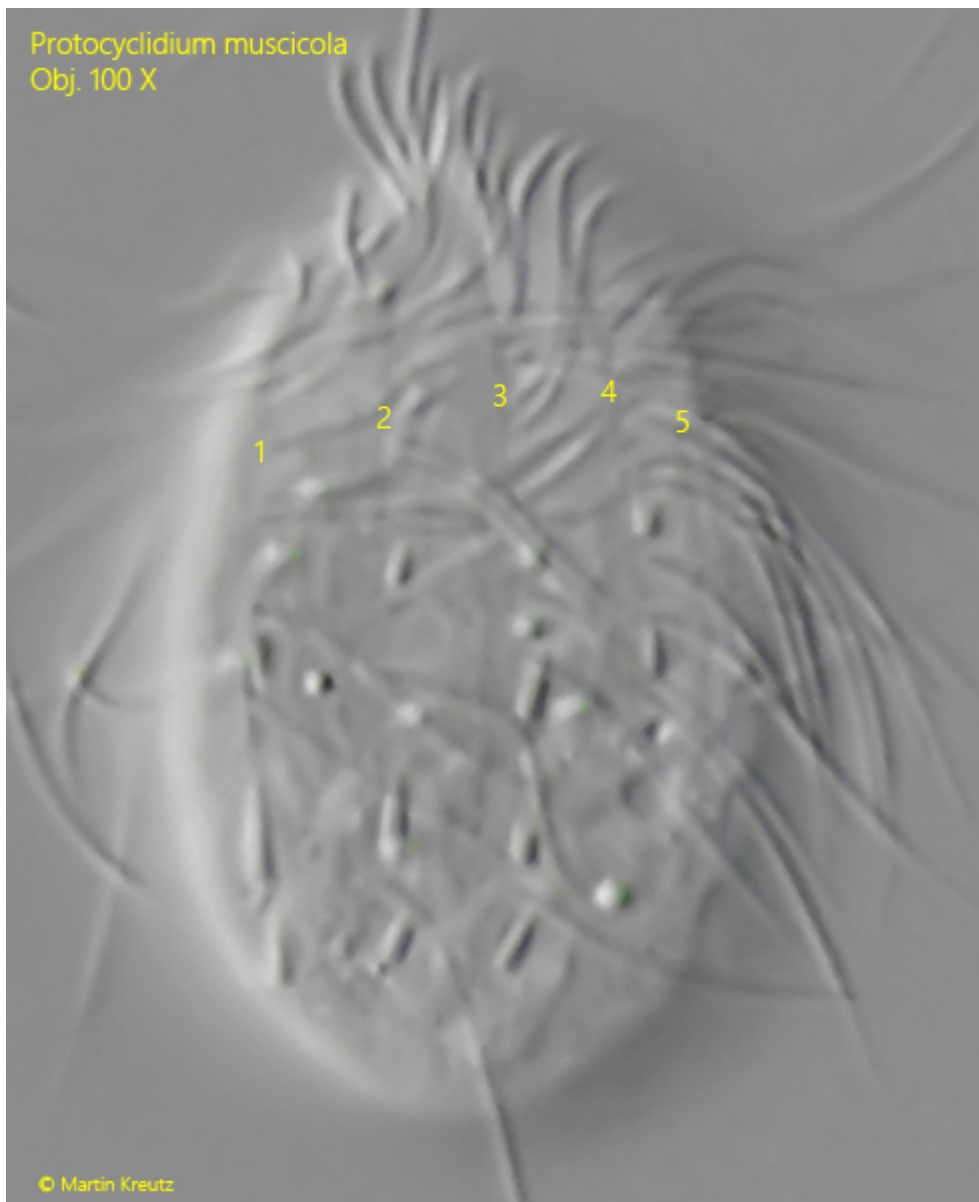


Fig. 3: *Protocyclidium muscicola*. The enlarged fig. 2 d for vizualisation of the somatic kineties. On the right side 5 kineties are visible (1-5). Obj. 100 X.