Monodinium balbianii

Fabre-Domergue, 1888

Most likely ID: n.a.

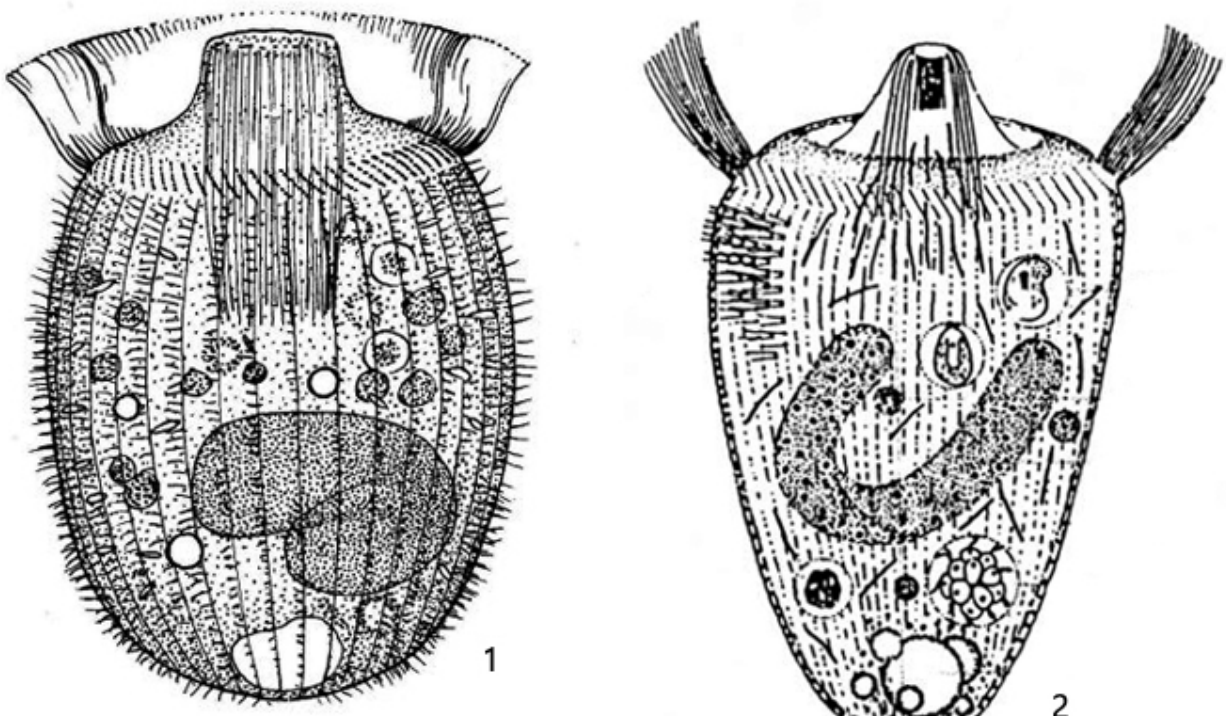
Synonym: n. a.

Sampling locations: Hagstaffel pond, Simmelried, Purren pond, Pond of the waste disposal company Constance, Ulmisried

Phylogenetic tree: ***Monodinium balbianii***

Diagnosis:

- body slender to broadly cup-shaped with short, cone-shaped snout
- length 50–120 µm, width 30–80 µm
- mouth bulge with 5–10 µm long, straight rod-shaped extrusomes
- Macronucleus kidney- to horseshoe-shaped with adjacent spherical micronucleus
- ciliation reduced to single narrow band in anterior third
- below girdle of cilia a dorsal brush of 5 rows
- contractile vacuole terminal



1 = after Faure-Fremiet
2 = after Foissner

Monodinium balbianii

I find *Monodinium balbianii* frequently and regularly. The species occurs among floating plants as well as in plankton. It is easily identified by the conical snout and the single girdle of cilia at the anterior end (s. figs. 1 a-b and 2 a-b). The similar species *Didinium nasutum* has two girdles of cilia. The extrusomes of *Monodinium balbianii* are straight and rod-shaped. They are described to be 5–10 µm long. In my population I could also find extrusomes with 15 µm length (s. fig. 2b), but I cannot exclude that these extrusomes derived from phagocytosed prey. In squashed specimens, the dorsal brush can be seen, which consists of 5 rows arranged below the girdle of cilia (s. fig. 3). The apical girdle of cilia consists of 54–80 obliquely arranged rows of basal bodies (s. fig. 4).



Fig. 1 a-b: *Monodinium balbianii.* L = 105 µm. Two focal planes of a freely swimming specimen. Obj. 60 X.

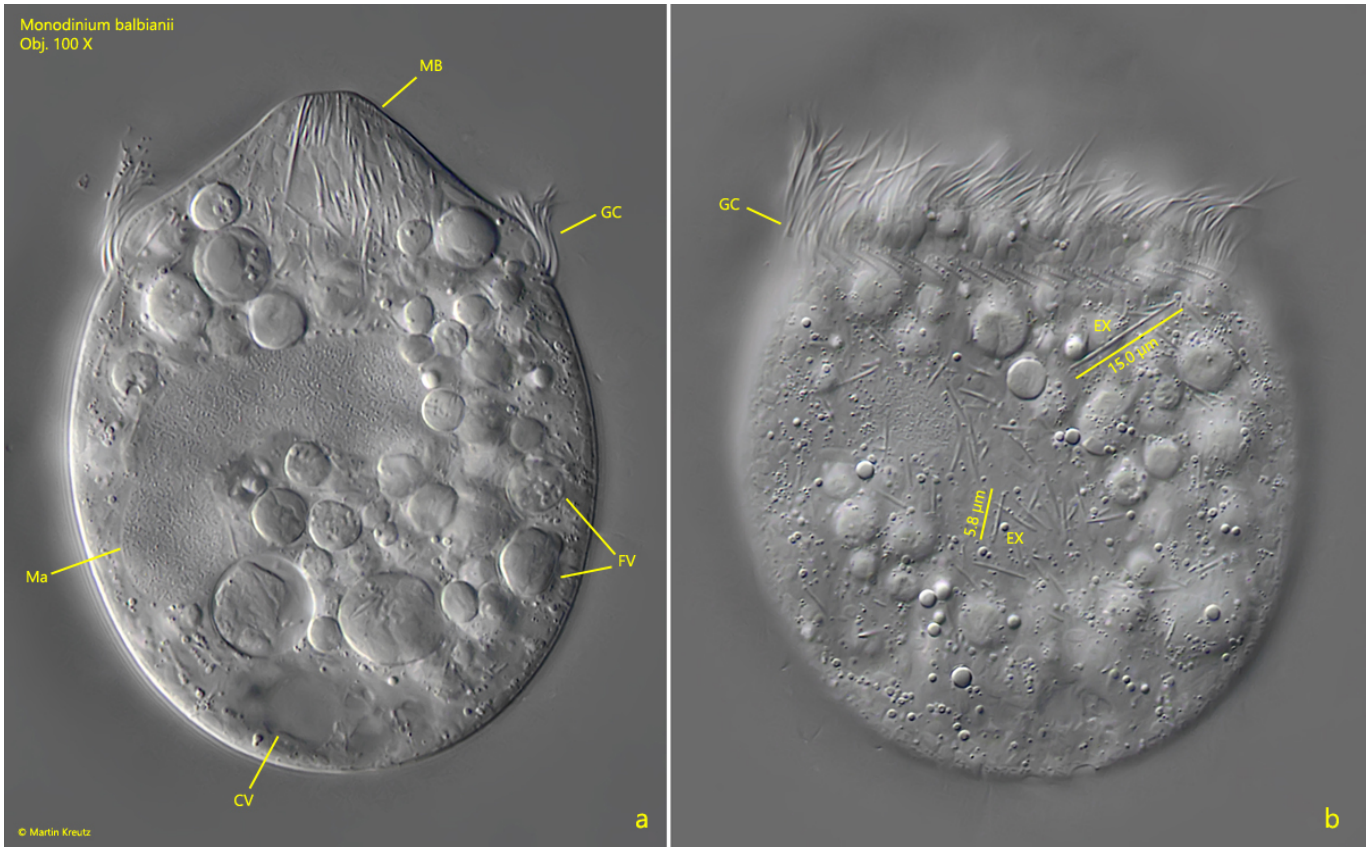


Fig. 2 a-b: *Monodinium balbianii.* L = 80 µm. Two focal planes of a second, slightly squashed specimen. CV = contractile vacuole, EX = extrusomes, FV = food

vacuoles, GC = girdle of cilia, Ma = macronucleus, MB = mouth bulge. Obj. 100 X.

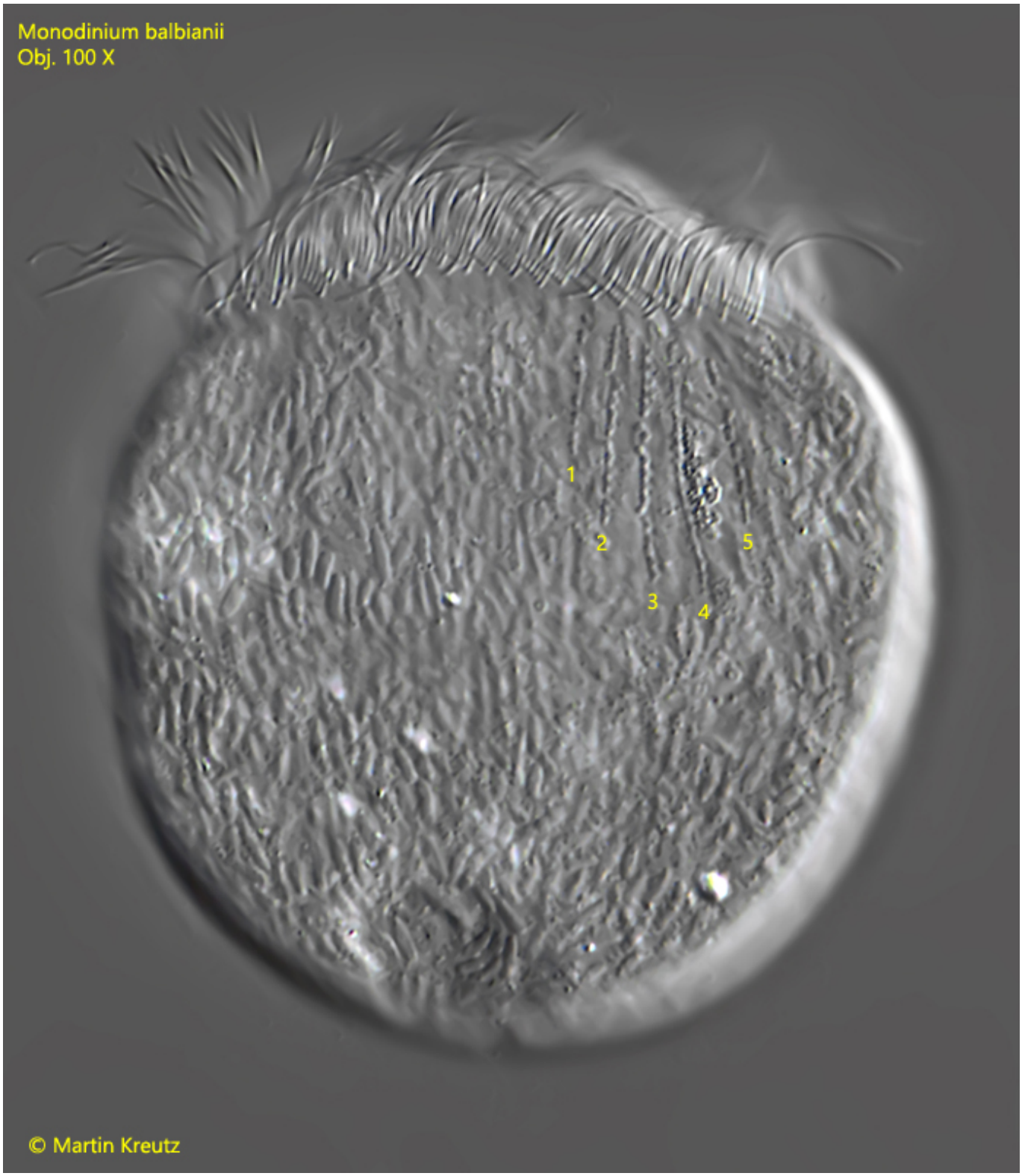


Fig. 3: *Monodinium balbianii.* In a strongly squashed specimen the 5 rows (1-5) of the dorsal brush are visible. Obj. 100 X.

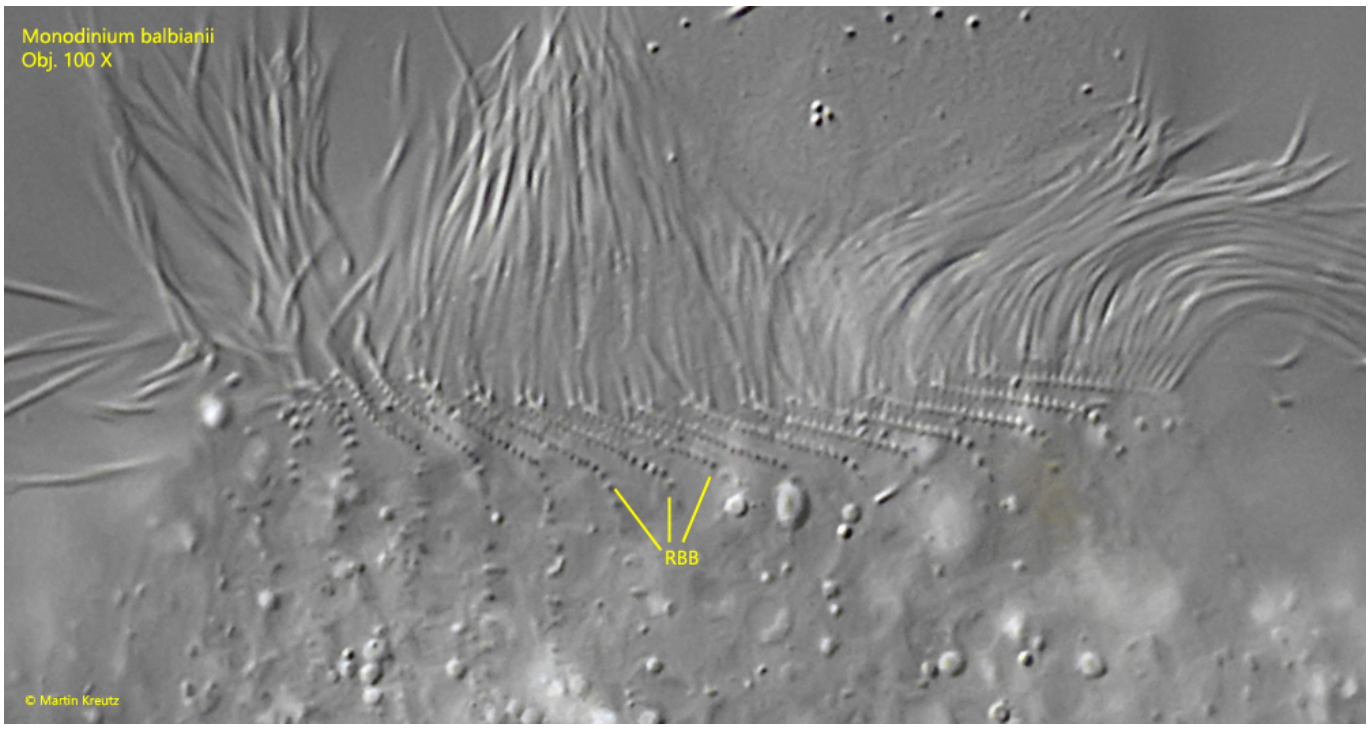


Fig. 4: *Monodinium balbianii.* The obliquely arranged rows of basal bodies (RBB) of the ciliary girdle. Obj. 100 X.