Drepanomonas multidentata

Foissner & Omar, 2014

Most likely ID: n.a.

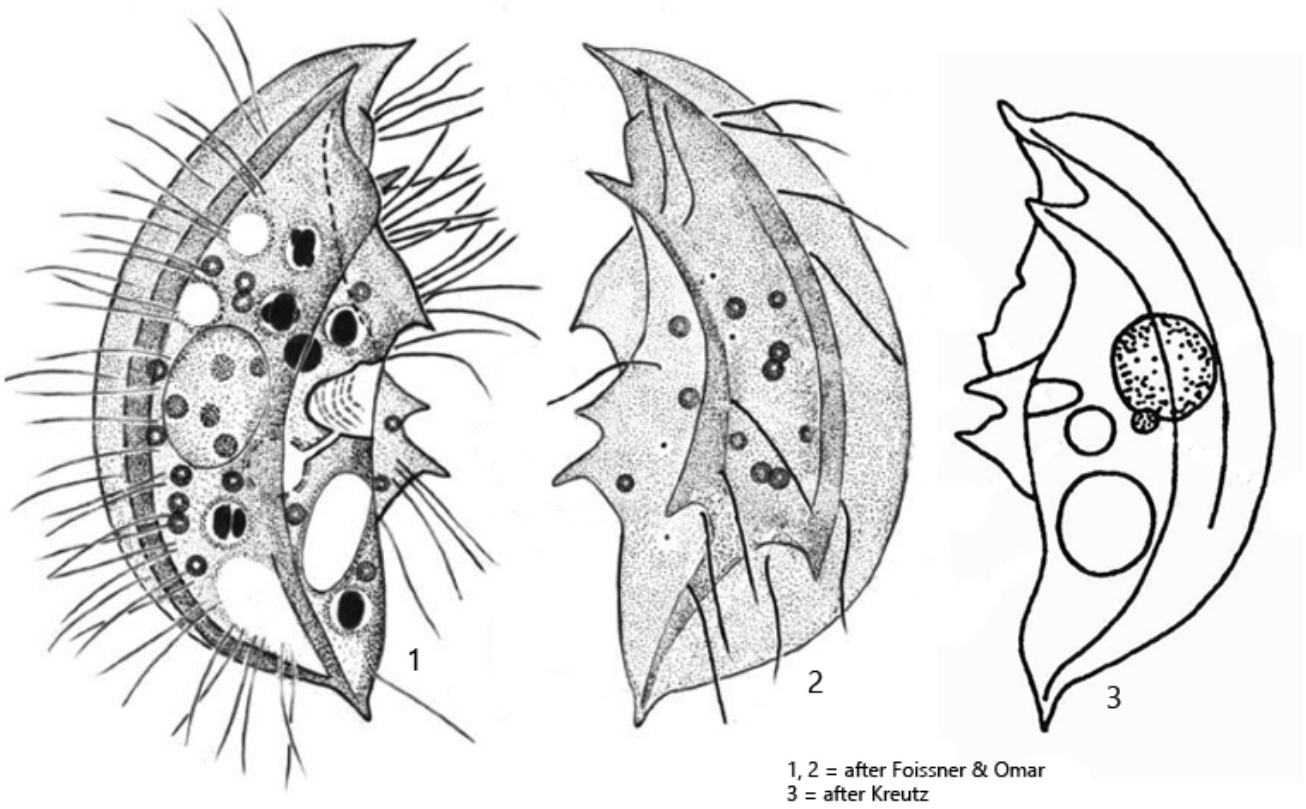
Synonym: n.a.

Sampling location: Simmelried

Phylogenetic tree: n.a.

Diagnosis:

- body crescentic with tapered ends
- laterally flattened with lateral ridges
- one lateral anterior spine and two ventro-lateral spine on left side
- one ventro-lateral spine on right side
- length 30–50 µm
- cytostome in a depression in mid-body
- 3 preoral kineties
- globular macronucleus near mid-body
- one spherical micronucleus, adjacent to macronucleus
- one contractile vacuoles near cytostome
- extrusomes present, hard to see
- exploded extrusomes about 10–20 µm long
- margin of cortex and ridges smooth



Drepanomonas multidentata

In April 1994, I found a *Drepanomonas* species in the uppermost mud layer of the Simmelried, which I was initially unable to identify. Its characteristics clearly differ from those of *Drepanomonas dentata* (Kreutz, 1998). This species was later described as *Drepanomonas multidentata* by Foissner and Omar (2014), who studied a population from Venezuela.

Drepanomonas multidentata is about 30 % smaller than *Drepanonomas dentata* and has 2 spines on the left ventral margin in the middle of the body and one at the anterior end (s. figs. 3 a and 3 b). There is one spine on the right ventral margin, slightly above the mouth opening, which is located in the middle of the body. In addition, the body shape appears squat from a lateral view and the edges of the lateral ribs and also the dorsal margin are smooth and not finely dentated, as in *Drepanomonas dentata*.

In the population of *Drepanomonas multidentata* from Venezuela examined by Foissner & Omar they found no extrusomes in the investigated specimens. In my population from the Simmelried, however, I was able to detect spindle-shaped extrusomes with a length of 3–4 µm. They can only be recognized in strongly squashed specimens (s. fig. 5). The exploded extrusomes are about 10–20 µm long and have a highly refractive cap with 4 rib-shaped ridges underneath (s. fig. 6). They differ clearly from the exploded extrusomes of *Drepanomonas dentata*, which

are anchor-shaped at the distal end.

I was only able to find *Drepanonomas multidentata* in the Simmelried between 1994 and 2012. After that I did not find any more specimens. I have not yet been able to find this species in my other sampling sites.

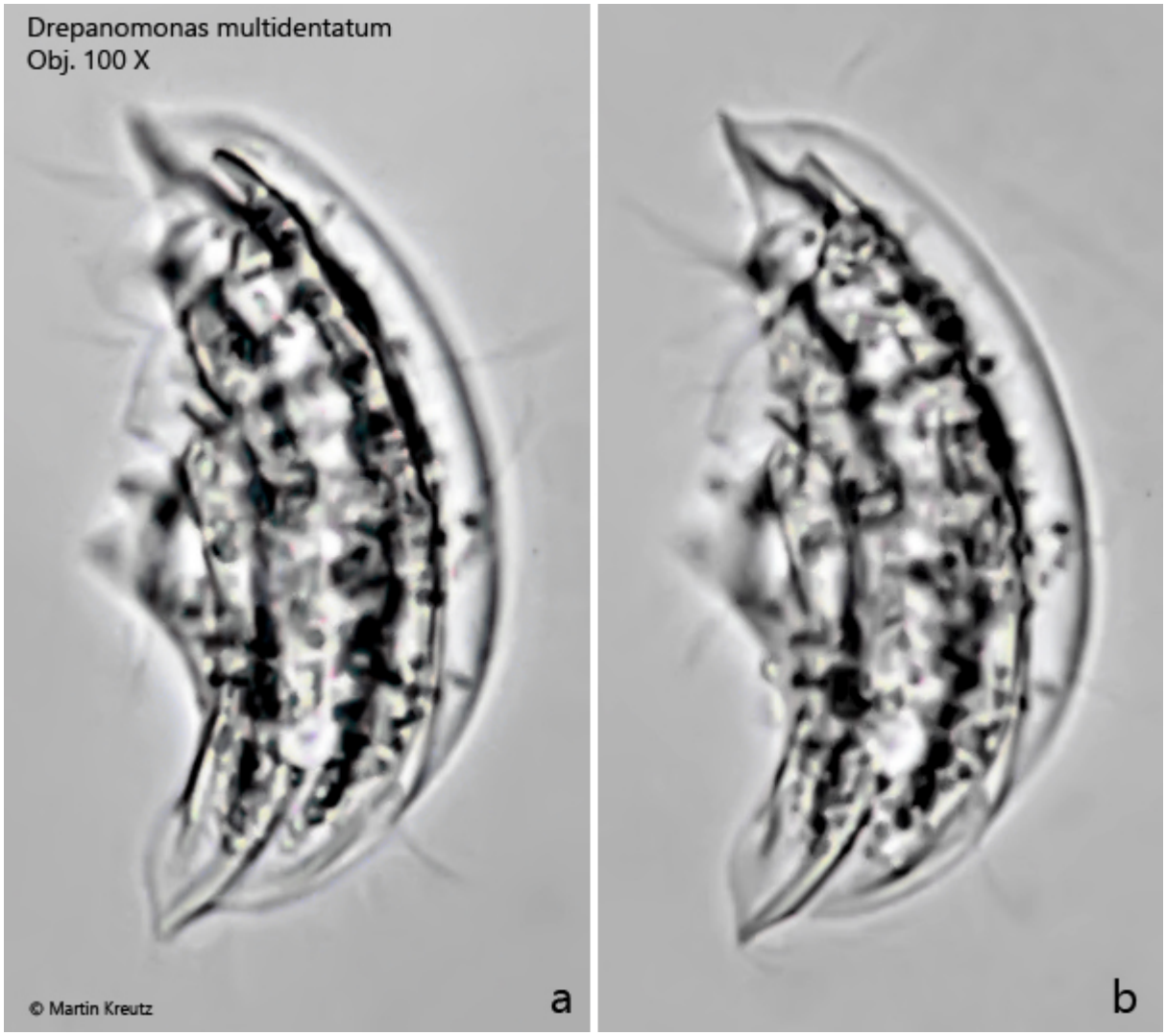


Fig. 1 a-b: *Drepanomonas multidentata*. L = 51 µm. Two focal planes from left of a specimen found in April 1994 in the upper mud layer of the Simmelried. The images were taken with an achromatic objective in brightfield illumination. Obj. 100 X.

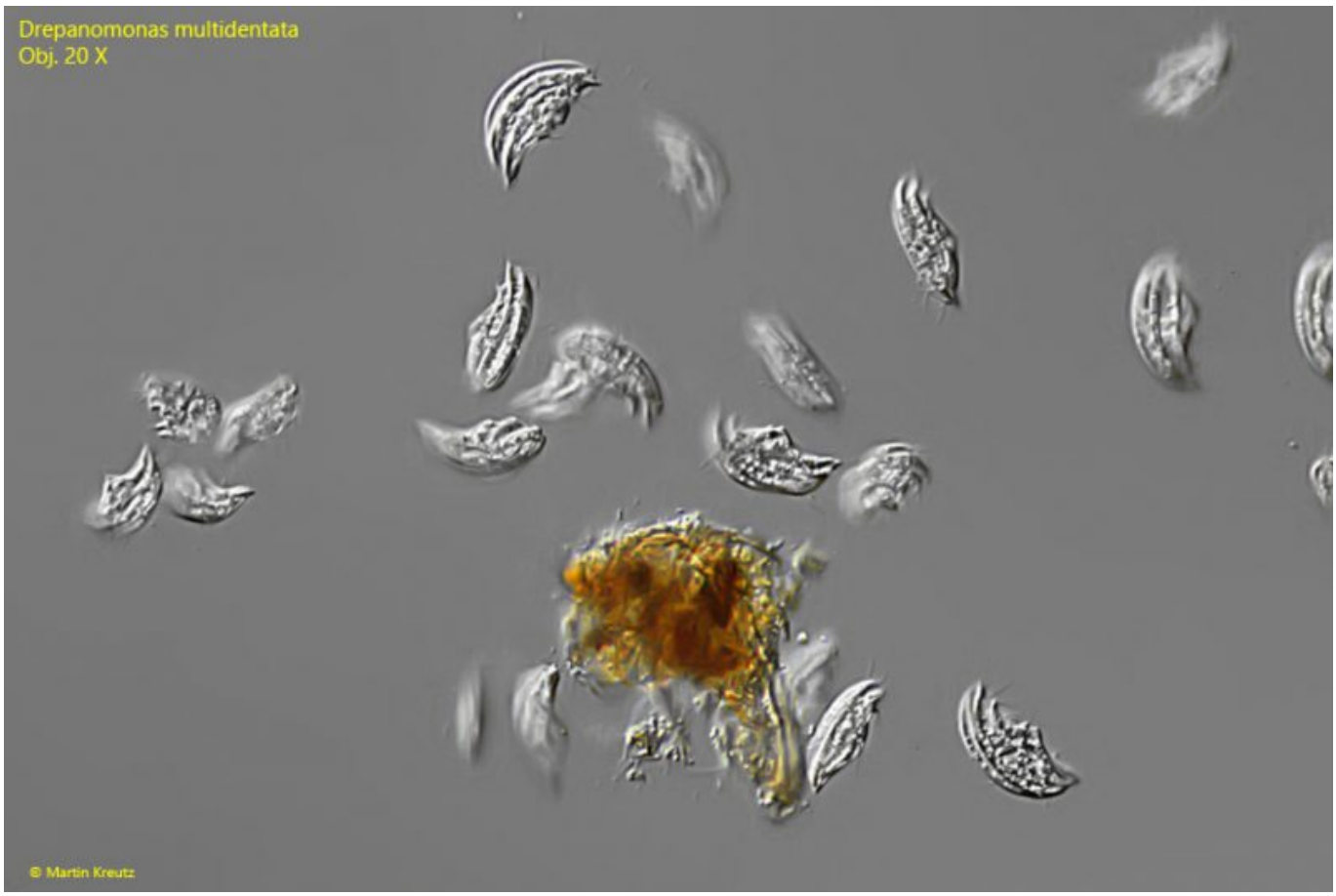


Fig. 2: *Drepanomonas multidentata*. A mass development in May 2005 in the Simmelried. Obj. 20 X.

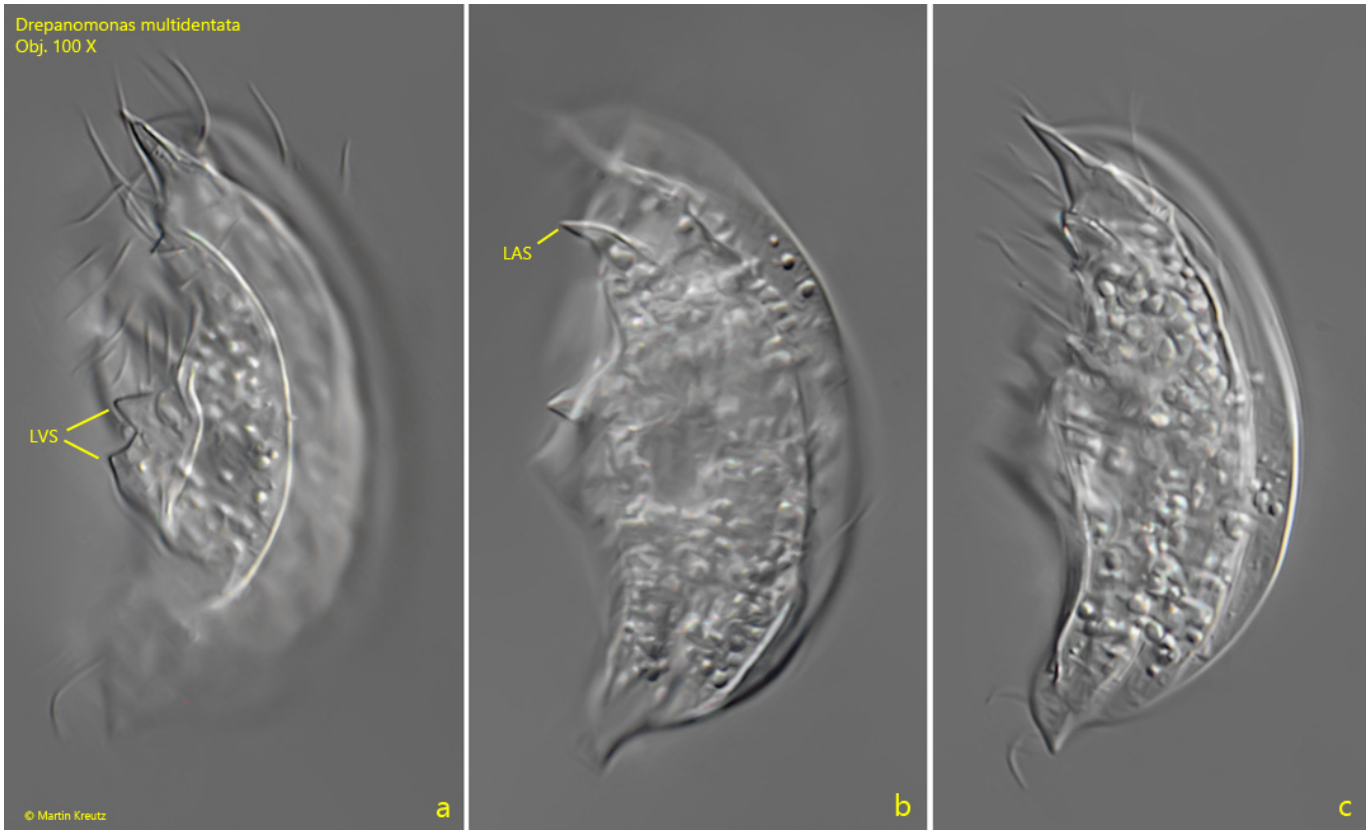


Fig. 3 a-c: *Drepanomonas multidentata*. L = 54 µm. Different focal planes from left of a specimen found in June 2012. Note the two ventro-lateral spines (LVS) and the anterior spine (LAS). Obj. 100 X.

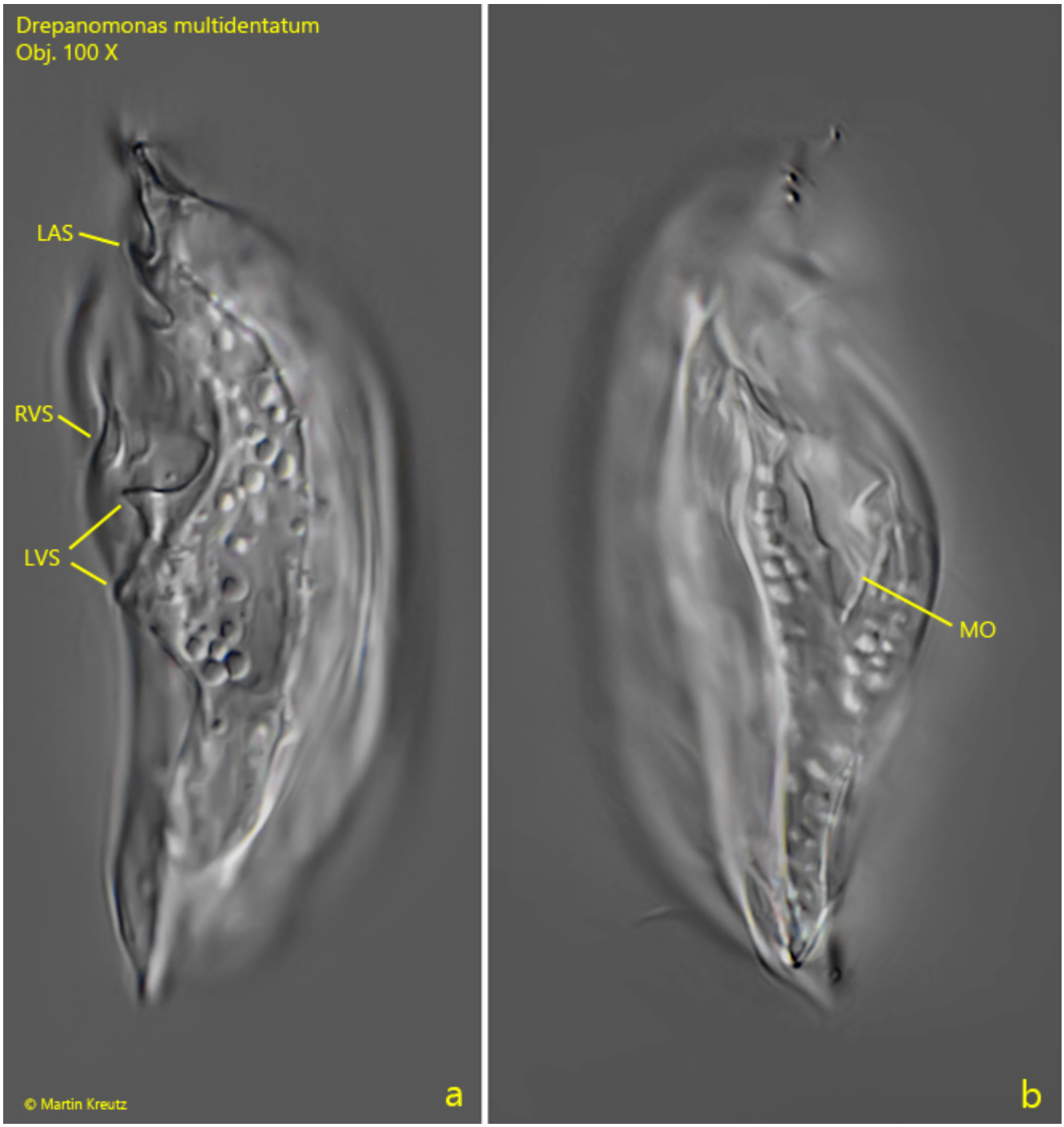


Fig. 4 a-c: *Drepanomonas multidentata*. L = 50 µm. A specimen in ventral view. The V-shaped mouth opening (MO) is bordered on the right side by a ventro-lateral spine (RVS) and on the left side by two spines (LVS). The left anterior spine (LAS) can be seen at the anterior end. Obj. 100 X.

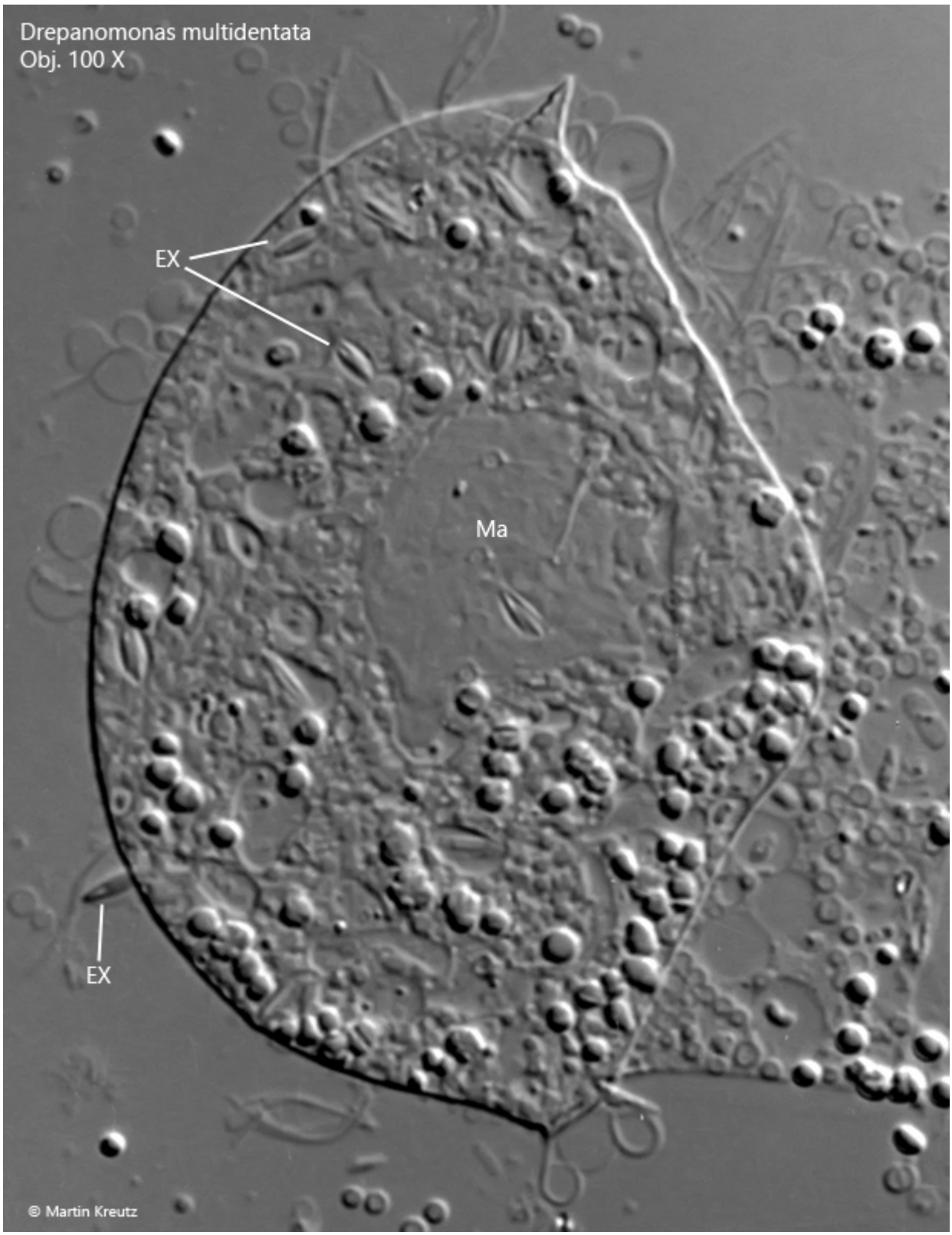


Fig. 5: *Drepanomonas multidentata*. In a strongly squashed specimen the spindle-shaped extrusomes (EX) are visible with a length of 3–4 µm. Ma = macronucleus. Obj. 100 X.

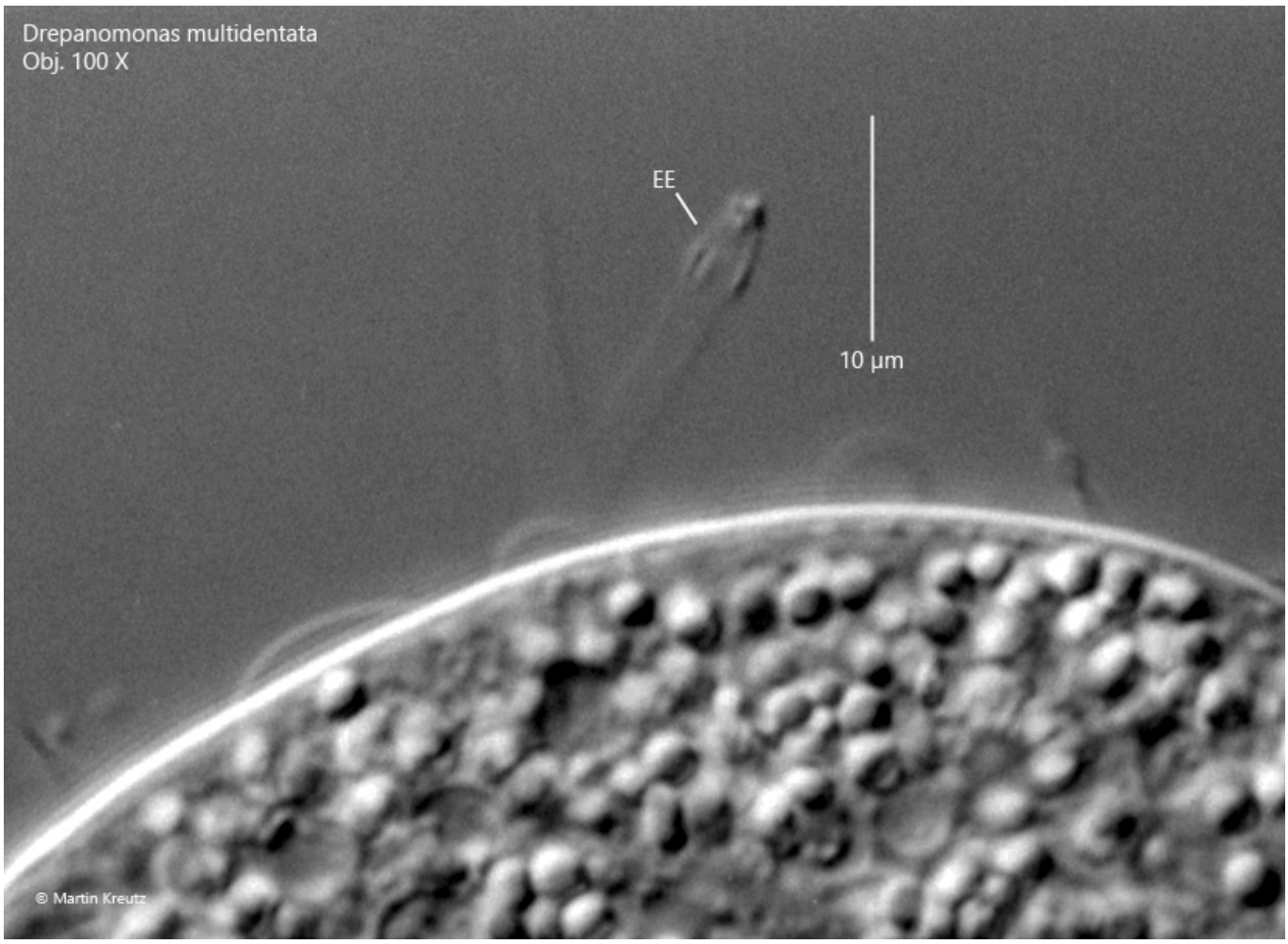


Fig. 6: *Drepanomonas multidentata*. An ejected extrusome (EE) in a stongly squashed specimen with a length of 12 µm. Obj. 100 X.

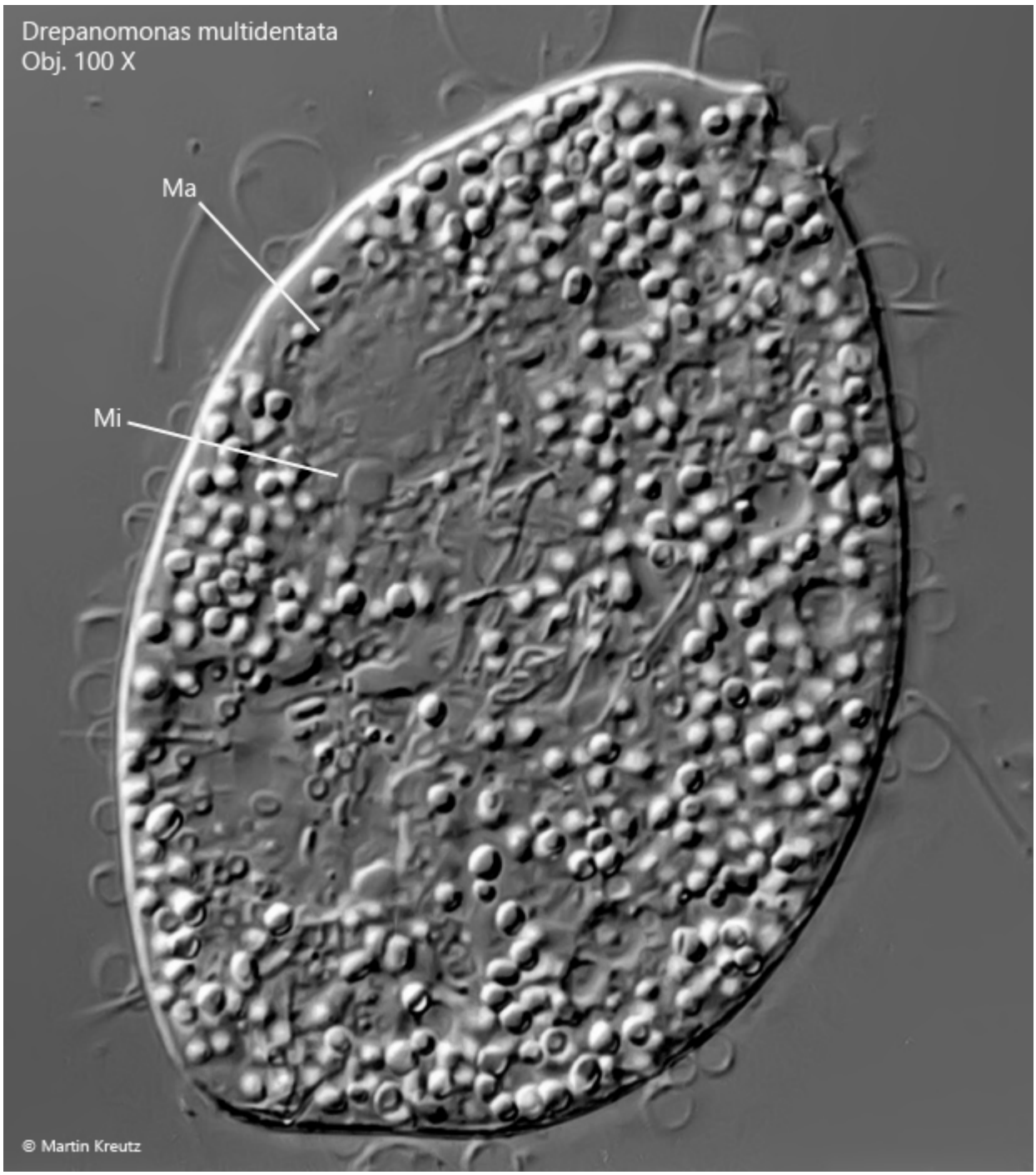


Fig. 7: *Drepanomonas multidentata*. The macronucleus (Ma) and micronucleus (Mi) in a squashed specimen. Obj. 100 X.



Fig. 8: *Drepanomonas multidentata*. A second squashed specimen with visible macronucleus (Ma) and probably the adjacent micronucleus (Mi?). Obj. 100 X.