Atopospira galeata

(Kahl, 1927) Bourland & Wendell, 2014

Most likely ID: n.a.

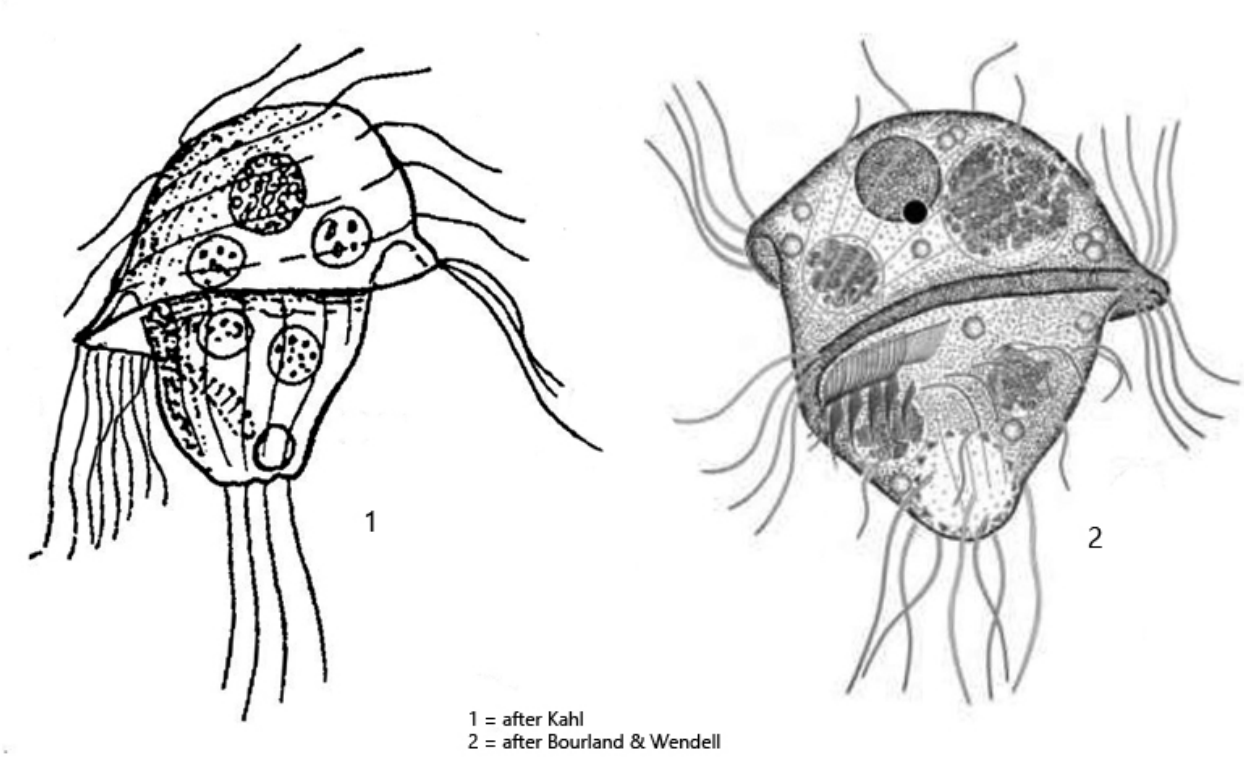
Synonym: *Metopus galeatus*

Sampling location: Simmelried

Phylogenetic tree: ***Metopus galeatus***

Diagnosis:

- body pyriformed, apical dome helmet-shaped
- length 45–80 µm
- margin of the helmet-shaped dome with long cilia
- adoral zone encirles the body completely
- perizonal stripe of 5 ciliary rows, long as adoral zone
- macronucleus globular or broadly oval, located in apical dome
- spherical micronucleus adjacent to the macronucleus
- cytoplasm filled with ingested sulfur- and rhodobacteria
- contractile vacuole terminal
- posterior end with long caudal cilia



Atopospira galeata

Atopospira galeata was first described in 1927 by Kahl as *Metopus galeatus*. In 2014 the species was redescribed by Bourland & Wendell who transferred the species to the genus *Atopospira* and renamed in *Atopospira galeata*. The genus *Atopospira* was erected by Jankowski in 1964.

So far I could find *Atopospira galeata* only in the Simmelried, where the species occurs very rarely. The specimens shown below were found in January 2008, February 2019 and August 2021.

Even at low magnification *Atopospira galeata* is easily recognized by its helmet-shaped apical dome, which is slightly upturned at the margins (s. fig. 1 a). The species is coverslip sensitive, which is why I could only take images of freely swimming specimens. Most specimens are filled with food vacuoles full of sulfur and rhodobacteria, making them appear yellowish-green or pink in color. The margin of the apical dome bears a wreath of very long cilia, which perform a ruderate movement (s fig. 4 a). The long caudal cilia are delicate and are quickly shed.

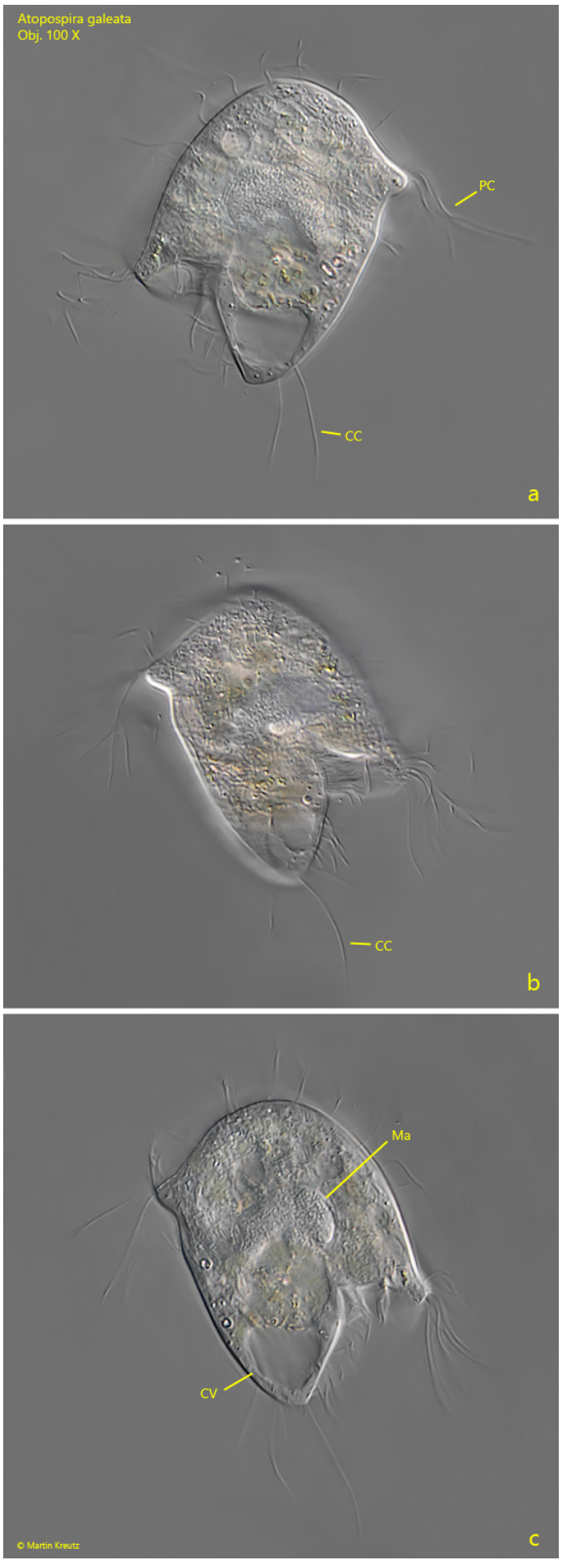

Atopospira galeata
Obj. 100 X
PC
CC
a
CC
b
Ma
CV
© Martin Kreutz
c

Fig. 1 a-c: *Atopospira galeata.* L = 54 µm. A freely swimming specimen from ventral (a) and from dorsal (b, c). CC = caudal cilia, CV = contractile vacuole, Ma = macronucleus, PC = perizonal cilia. Obj. 100 X.

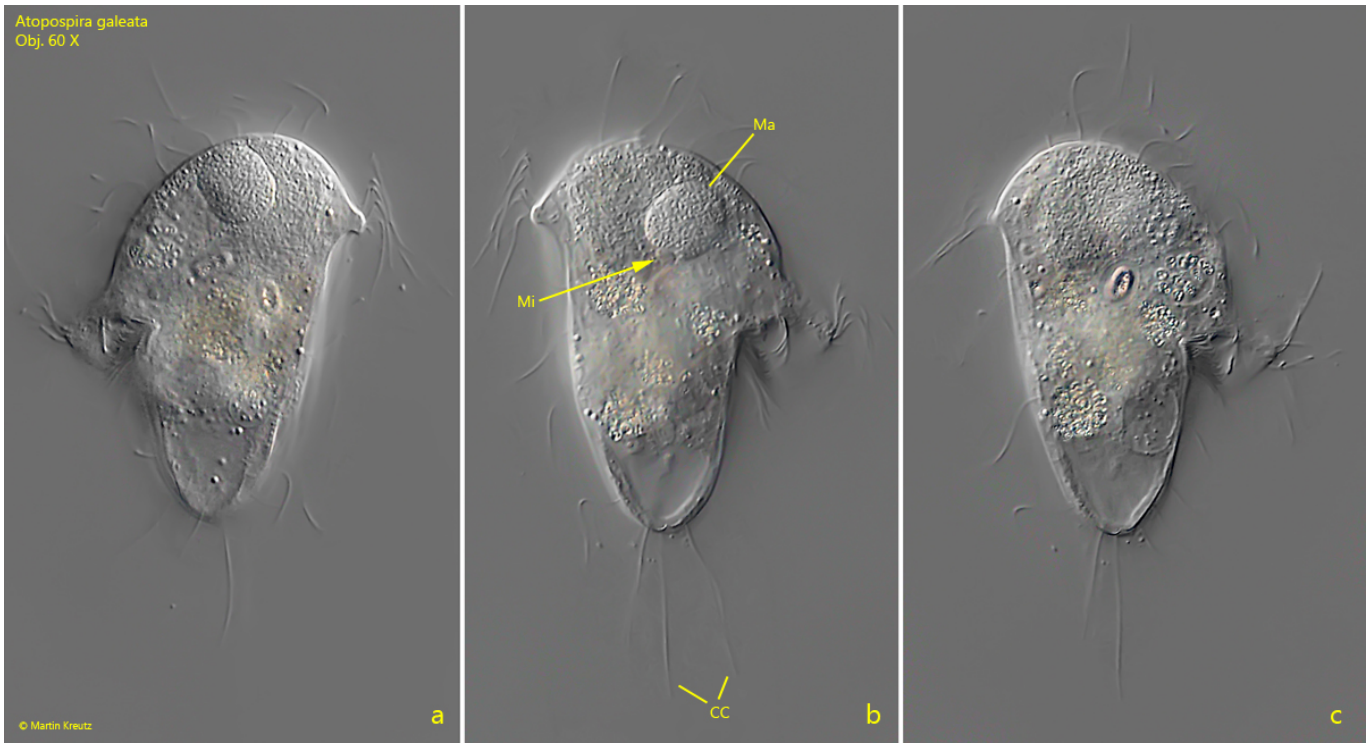


Fig. 2 a-c: *Atopospira galeata.* L = 66 µm. A second freely swimming specimen from ventral (a) and from dorsal (b, c). CC = caudal cilia, Ma = macronucleus, Mi = micronucleus. Obj. 60 X.

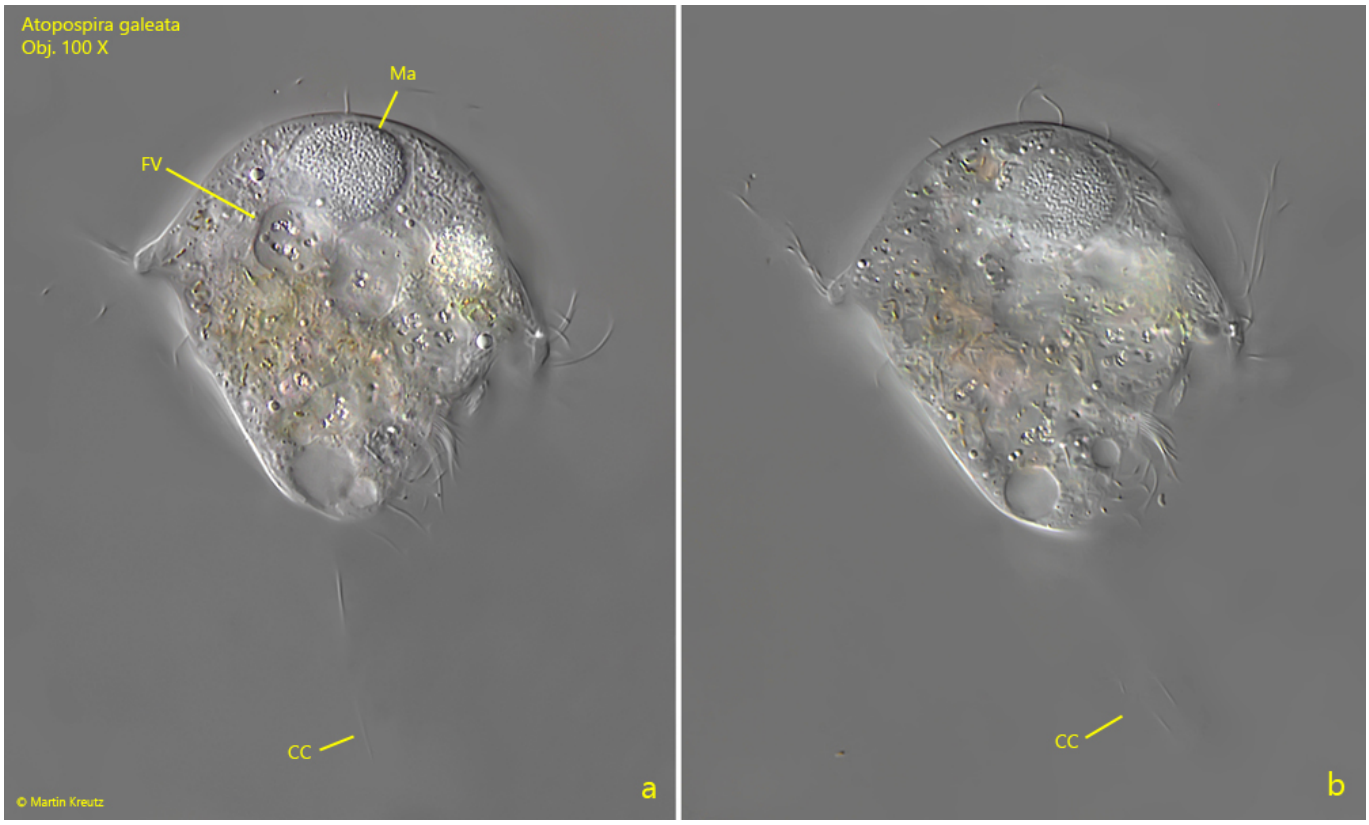


Fig. 3 a-b: *Atopospira galeata.* L = 61 µm. A third freely swimming specimen from dorsal. CC = caudal cilia, FV = food vacuoles with ingested sulfur- and rhodobacteria, Ma = macronucleus. Obj. 100 X.

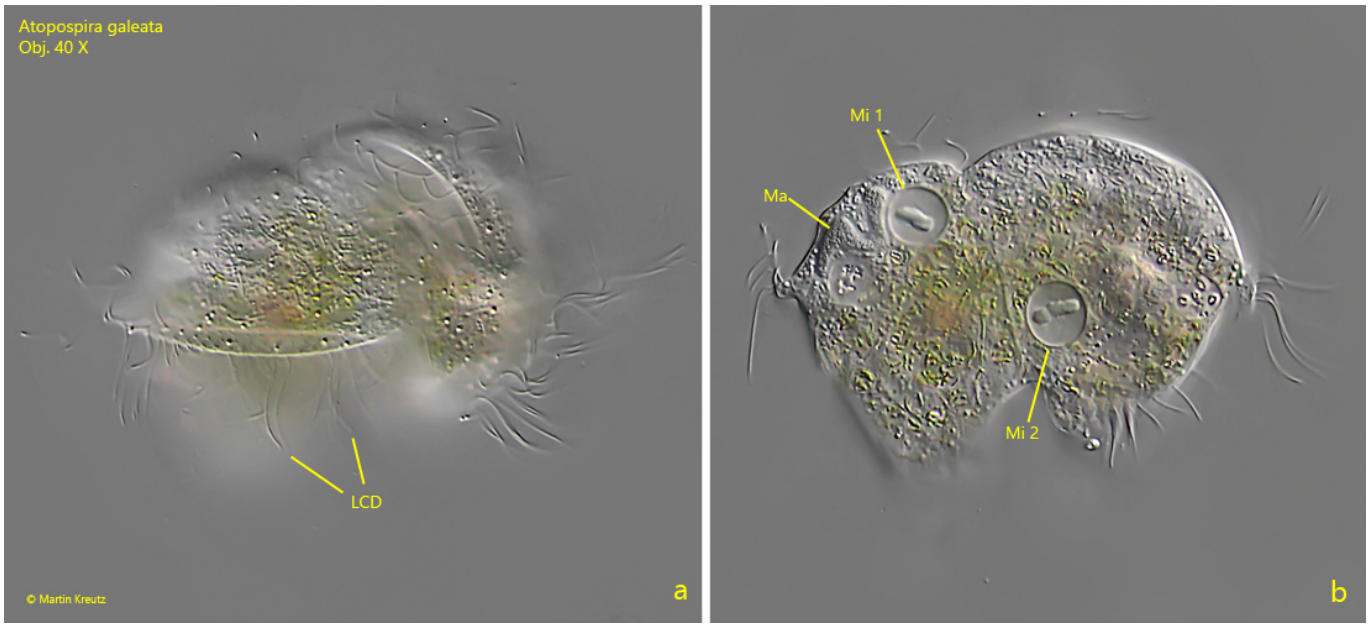


Fig. 4 a-b: *Atopospira galeata.* Two specimens in conjugation. Note the long cilia on the edge of the helmet-shaped dome (LCD) and the condensed chromosomes in the micronuclei of both specimens (Mi 1, Mi 2). Both specimens are 65 µm long. Obj. 40 X.