Chlamydomyxa labyrinthuloides

W. Archer, 1875

Most likely ID: n.a.

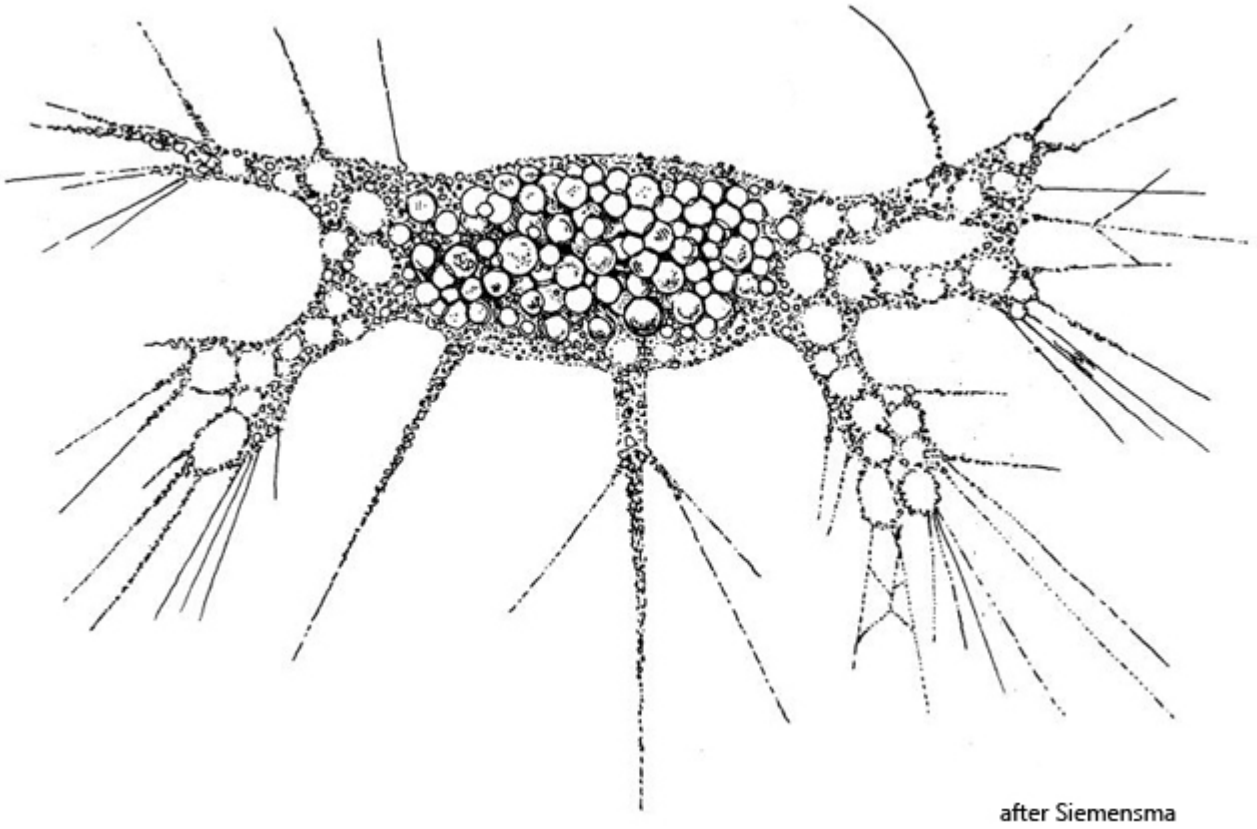
Synonym: *Penardia mutabilis*

Sampling location: Schwemm (Austria), pond of the waste disposal company Constance

Phylogenetic tree: *Chlamydomyxa labyrinthuloides*

Diagnosis:

- body roughly ovoid (when resting)
- filopodia form widely spread network
- filopodia with bacteria-shaped granules
- resting form 90–100 µm
- extended form (including filopodia) 300–400 µm
- cytoplasm colored greenish-yellow
- numerous chloroplasts scattered in cytoplasm
- several small nuclei present (hard to see)
- many small contractile vacuoles



Chlamydomyxa labyrinthuloides

The habitat of *Chlamydomyxa labyrinthuloides* is bogs and the detritus of ponds. I myself have so far only found *Chlamydomyxa labyrinthuloides* in the Schwemm in Austria and once in the pond of the waste disposal company Constance. These locations are completely different, as the Schwemm is a largely untouched raised bog, while the pond of the waste disposal company Constance is a heavily eutrophic, artificially created body of water. The specimen shown below comes from the Schwemm, where I found a few specimens in June 2026.

In 1904, Cash described an amoeba which he called *Penardia mutabilis*. In 1991, the species was thoroughly examined by Page and Siemensma, and they found very strong similarities with *Chlamydomyxa labyrinthuloides*, an amoeba described by Archer in 1875. Therefore, *Penardia mutabilis* is now considered a junior synonym of *Chlamydomyxa labyrinthuloides*. The name given to a species first has priority.

Based on morphological and genetic studies, *Chlamydomyxa labyrinthuloides* is now classified among the heterokonts and is closely related to the chrysophytes. This classification is based, among other things, on the composition of the chlorophylls and pigments, which are responsible for the brownish-yellow coloration of the chloroplasts.

Characteristic of *Chlamydomyxa labyrinthuloides* is the yellowish-green color of the cytoplasm and the strongly granulated filopodia. At high magnification, it can be seen that these granules are ellipsoid in shape, with a length of 0.8–1.2 µm (s. fig. 2). Because of this shape, they resemble bacteria. The chloroplasts can be clearly seen in the cytoplasm as yellow-brown discs with a diameter of 1.9–2.3, as they are also located in the periphery (s. fig. 3). The numerous contractile vacuoles near the cell surface are also visible (s. fig. 4). I was unable to examine the cell nuclei, as the layer thickness could not be further reduced due to foreign bodies under the coverslip.

More images and information on *Chlamydomyxa labyrinthuloides*: Ferry Siemensma-Microworld-*Chlamydomyxa labyrinthuloides*

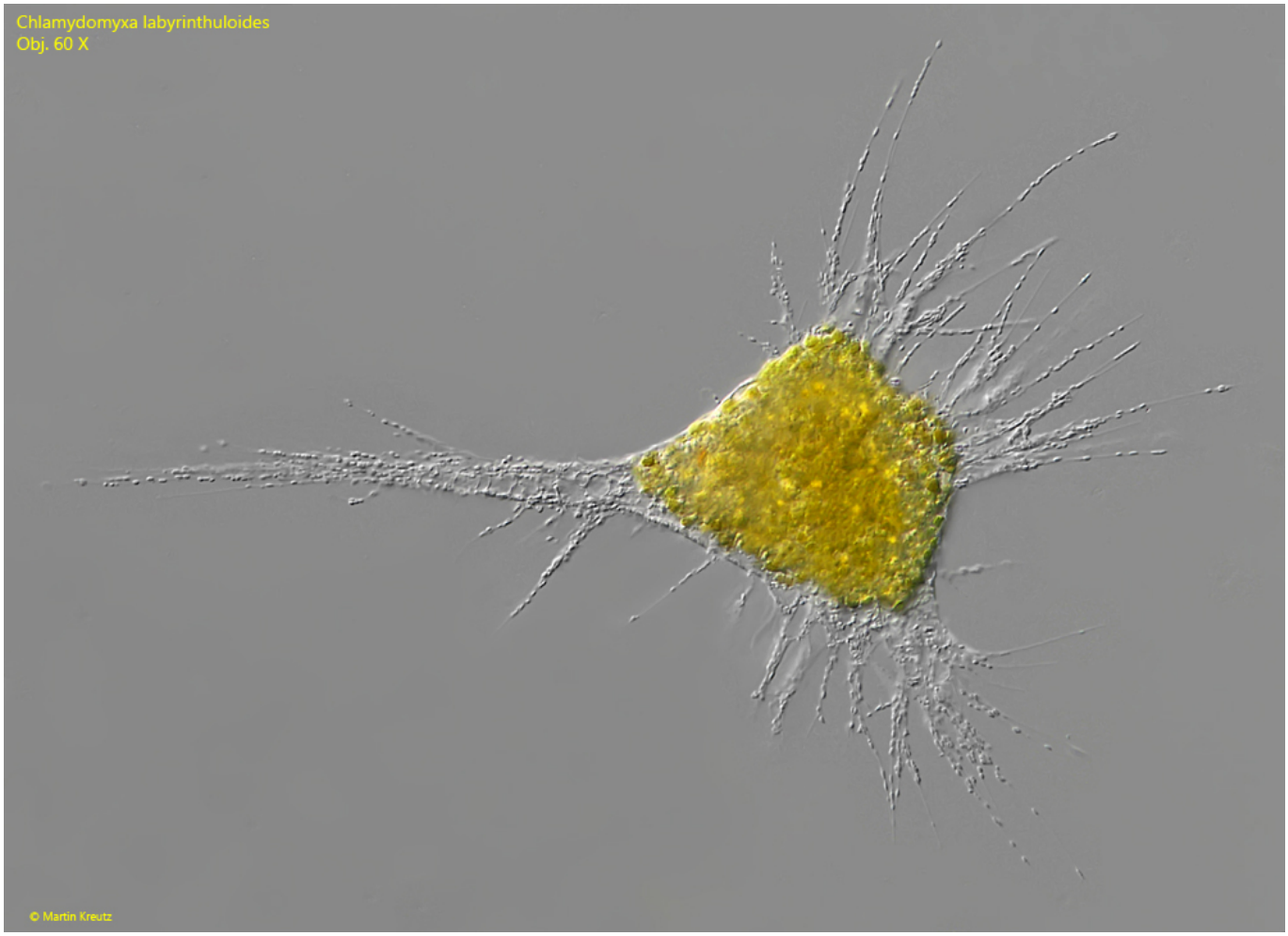


Fig. 1: *Chlamydomyxa labyrinthuloides.* L = 250 µm. A fully extended and moving specimen. Obj. 60 X.

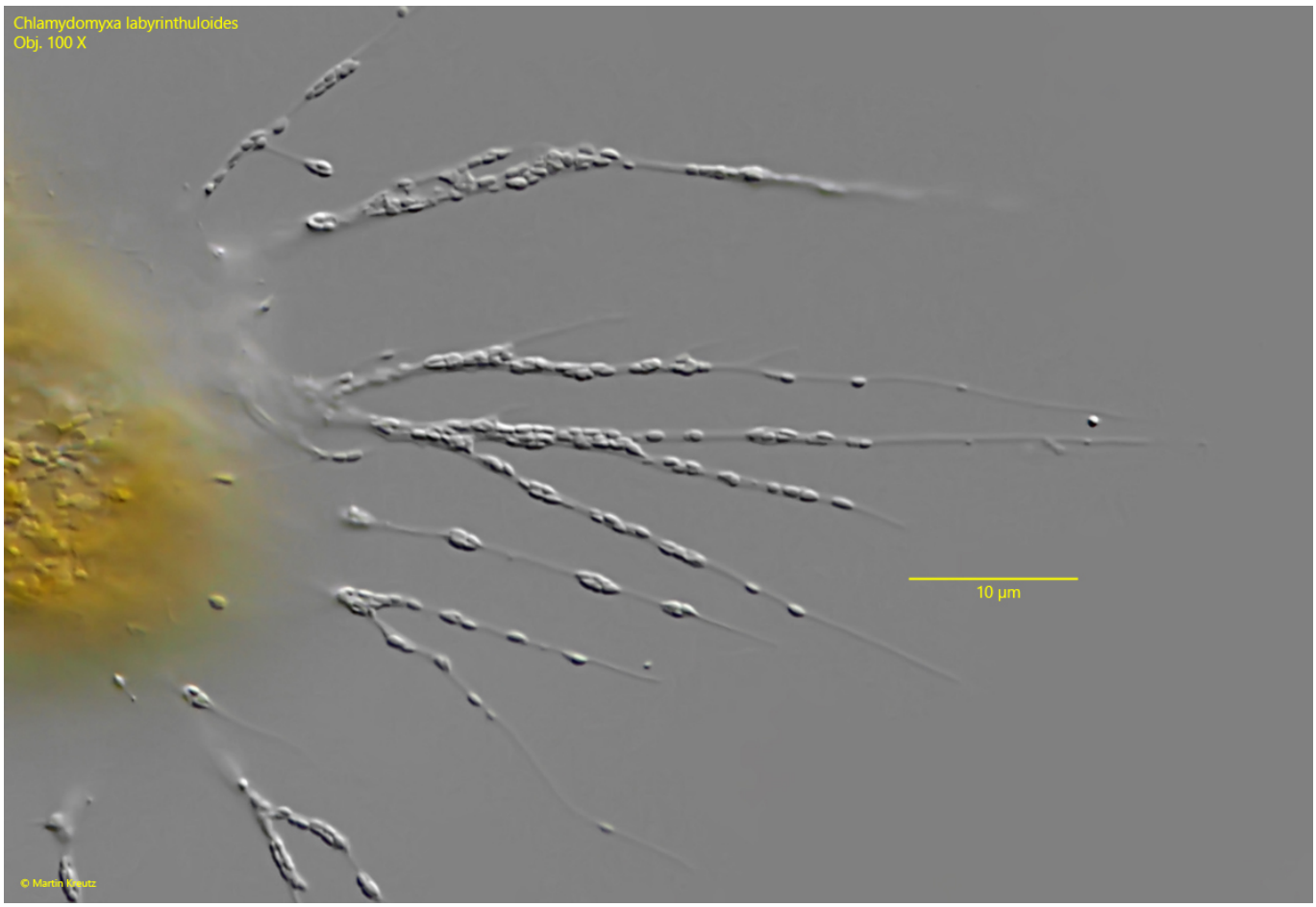


Fig. 2: *Chlamydomyxa labyrinthuloides.* The filopodia in detail with the elliptically shaped granules. The granules have a length of 0.8–1.2 µm. Obj. 100 X.

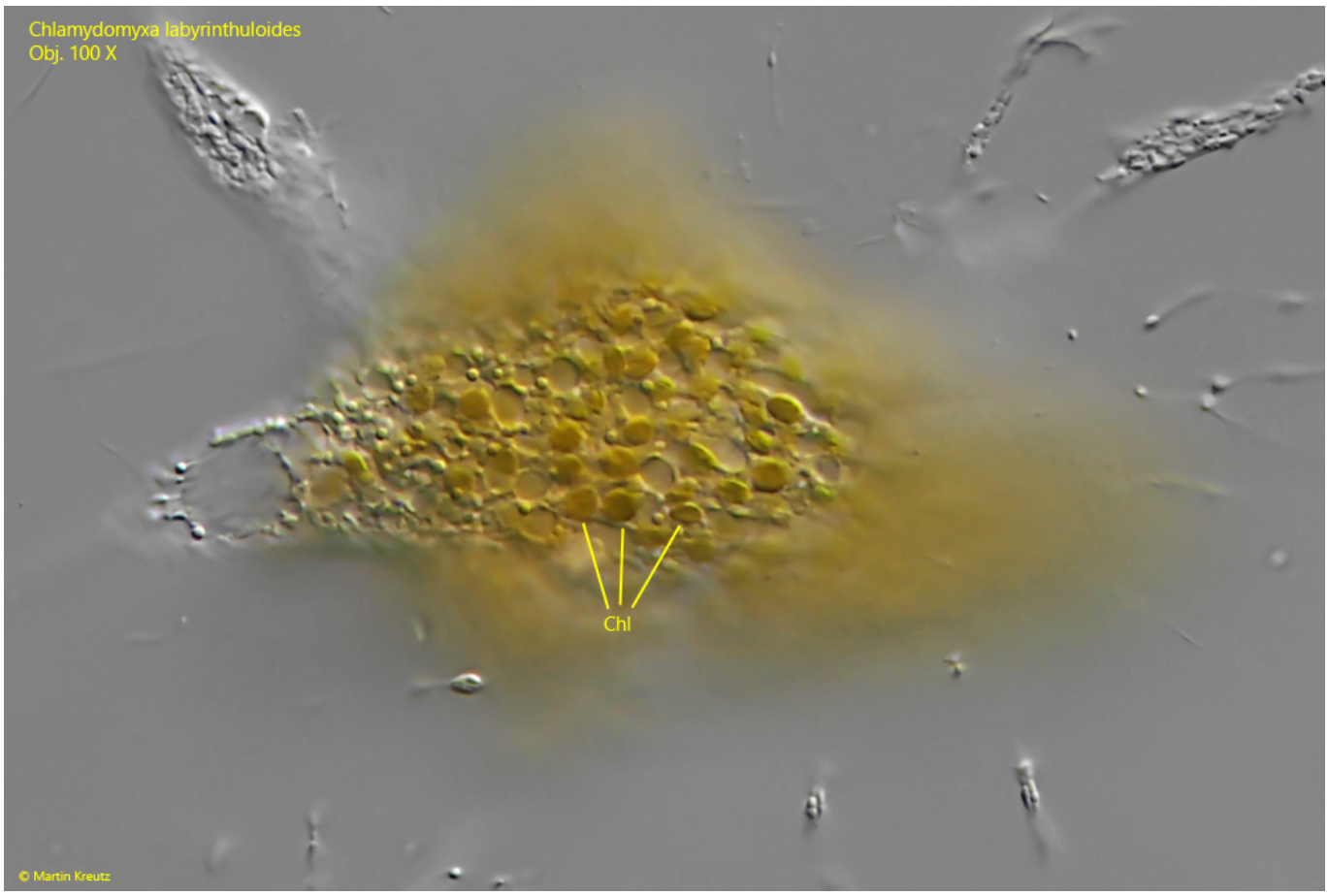


Fig. 3: *Chlamydomyxa labyrinthuloides.* Focal plane on the disc-shaped chloroplasts (Chl) scattered in the cytoplasm. They have a diameter of 1.9–2.3 µm. Obj. 100 X.

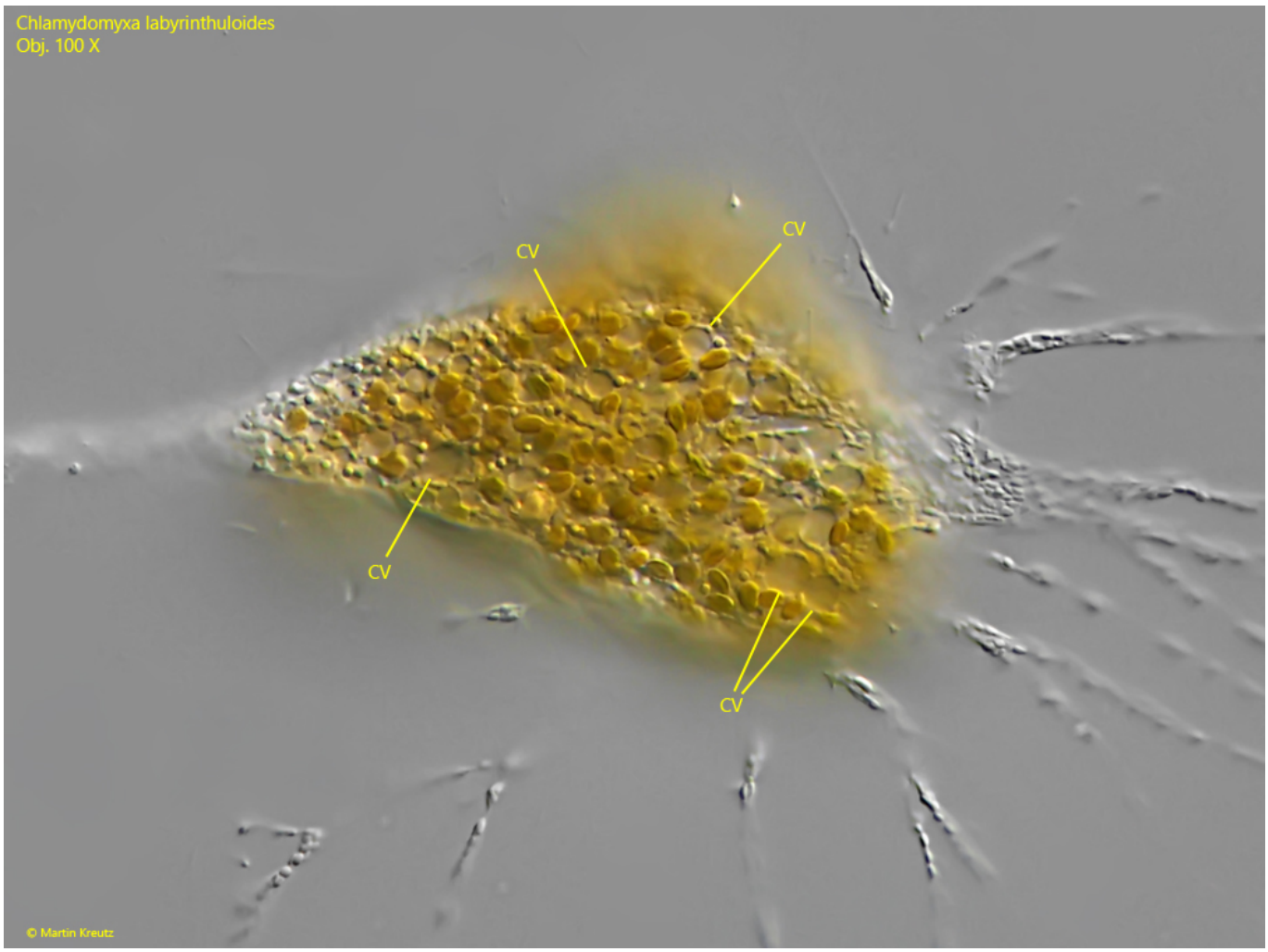


Fig. 4: *Chlamydomyxa labyrinthuloides.* The small contractile vacuoles (CV) near the cell surface. Obj. 100 X.