

Protocyclidium citrullus

(Cohn, 1866) Foissner, Agatha & Berger, 2002

Most likely ID: n.a.

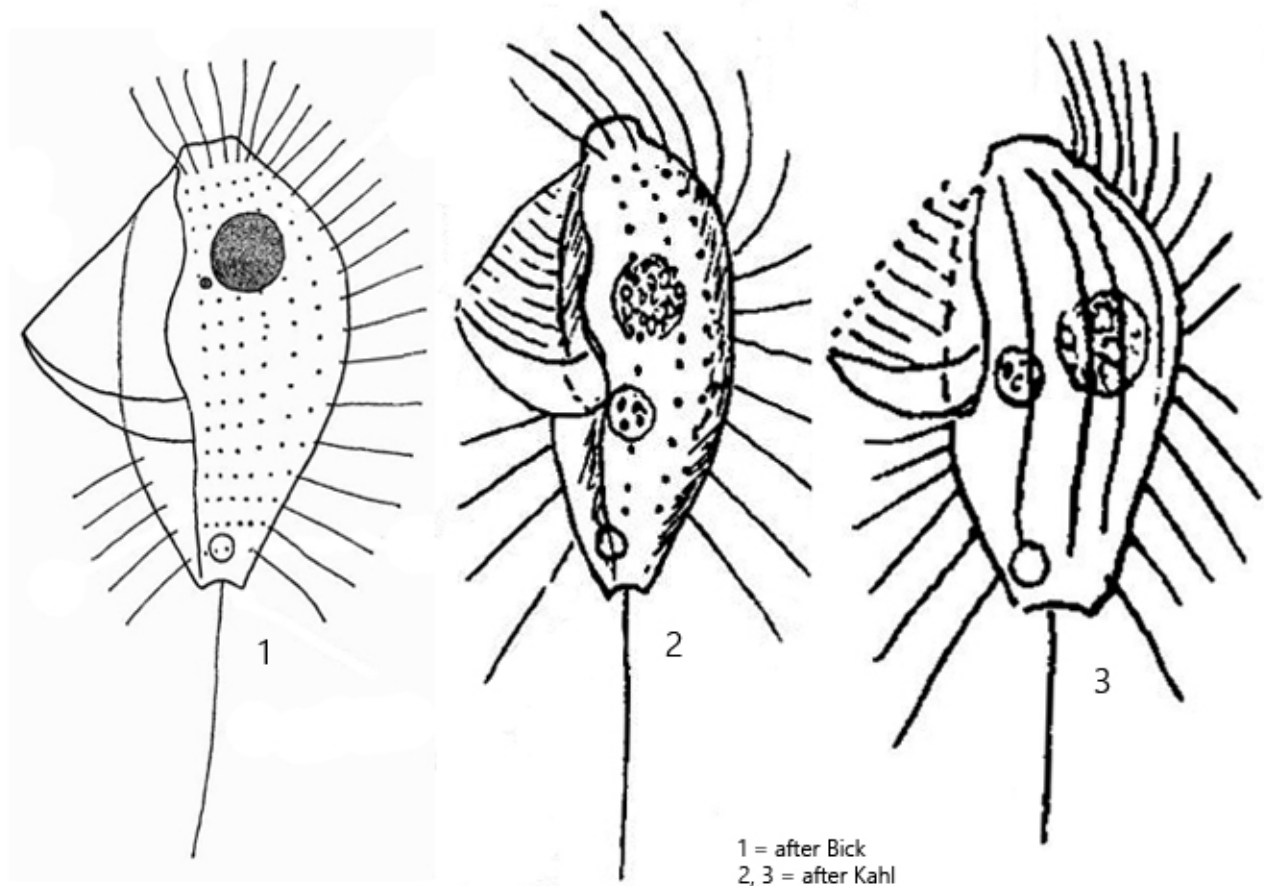
Synonym: *Cyclidium citrullus*

Sampling location: [Simmelried](#)

Phylogenetic tree: [Protocyclidium citrullus](#)

Diagnosis:

- body elongated ovoid, body-shape variable
- anterior end snout-shaped
- distinct frontal plate
- ventral cytostomal groove
- length 15–40 µm (commonly about 30 µm)
- undulating membrane about two-thirds of body length
- somatic cilia are paired in anterior half
- posterior end truncated with a depression
- one spherical macronucleus in anterior half
- one spherical micronucleus in anterior end
- contractile vacuole terminal
- one caudal cilium



Protocyclidium citrullus

Protocyclidium citrullus was originally described by Cohn (1866) as *Cyclidium citrullus*. In 2002, *Cyclidium citrullus* was redescribed by Foissner, Agatha, and Berger. Based on morphological features of the oral apparatus (silver impregnation), the species was transferred to the genus *Protocyclidium*. However, a later genetic study of species within the genera *Cyclidium* and *Protocyclidium* by Gao et al. in 2014 showed that the division into the two genera is not justified. It was, however, not reversed for the time being.

I find *Protocyclidium citrullus* only very rarely in my samples. Most of the time it is [Cyclidium glaucoma](#). *Protocyclidium citrullus* is conspicuous because of its size (about 30% larger than [Cyclidium glaucoma](#)) and because of a ventral groove that extends to the posterior end (s. fig. 1 a). The undulating membrane is laid into it when the ciliate is at rest. This groove makes the ventral side flat, which, however, is only occasionally noticeable, depending on how the specimen is positioned in the preparation. The caudal cilium at the posterior end arises from a small depression (s. fig. 1 c). The anterior end is drawn out in a snout-like manner with a frontal plate. In my specimens the macronucleus and the micronucleus were always located in the anterior end (s, fig. 1 b) and not shifted so far towards the middle as Bick and Kahl have drawn them (see drawings above).

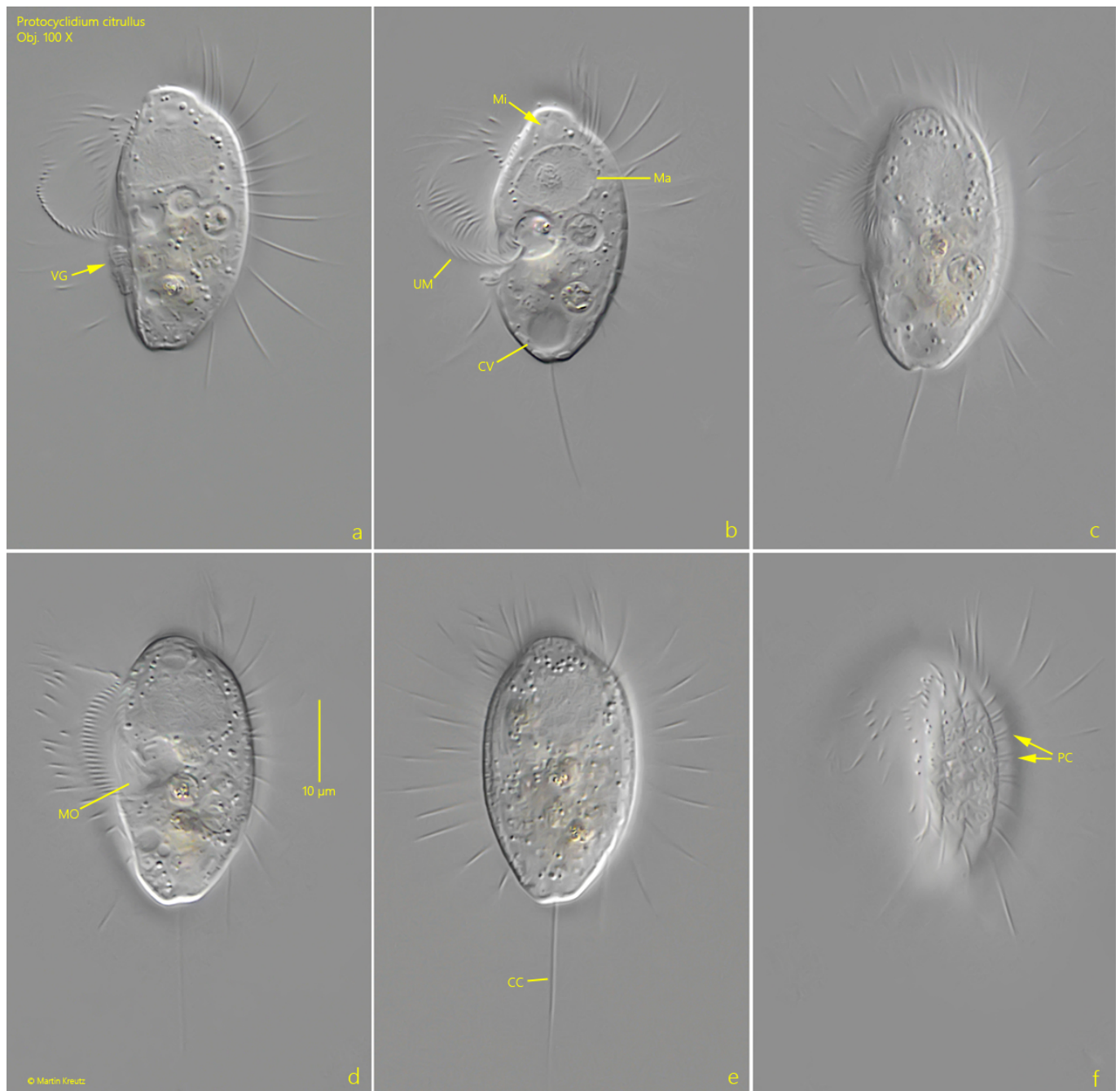


Fig. 1 a-f: *Protocyclidium citrullus*. L = 33 µm. Different focal planes of a freely swimming specimen. Note the ventral groove (VG, with adhering bacteria) into which the undulating membrane is placed when at rest. CC = caudal cilium, CV = contractile vacuole, Ma = macronucleus, Mi = micronucleus, MO = mouth opening, PC = paired cilia in anterior half, UM = undulating membrane. Obj. 100 X.