Epispathidium regium Foissner, 1984

Most likely ID: n.a.

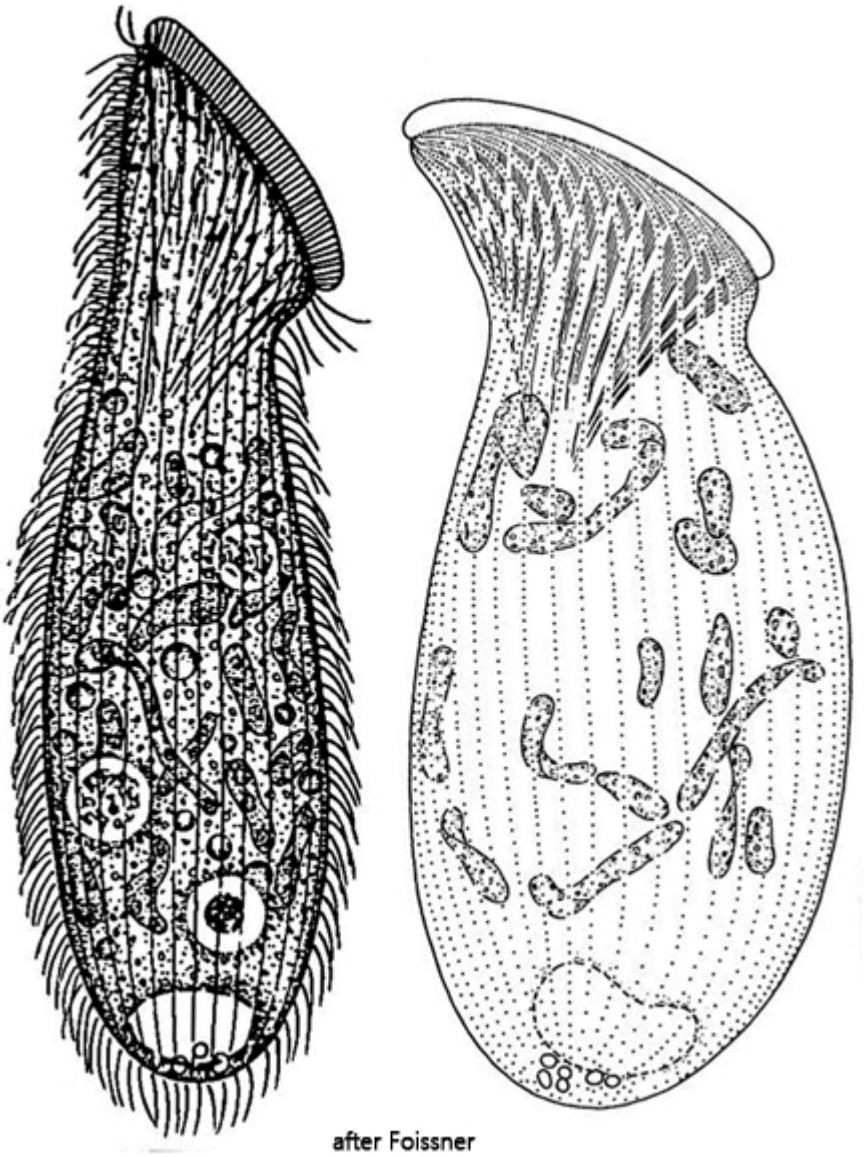
Synonym: n.a.

Sampling location: Moss

Phylogenetic tree: *Epispathidium regium*

Diagnosis:

- body jug-shaped
- oral bulge clearly sloping ventrally
- length 150–300 µm
- dorsal brush shorter than oral bulge
- contractile vacuole terminal with 10–15 excretion pores
- extrusomes 6–8 µm long rods
- fragmented macronucleus
- somatic cilia about 12 µm long



Epispathidium regium

So far I have only found *Epispathidium regium* in moss samples from trees and rocks that have been moistened with a little water. This species was found by Foissner in soil samples near Bad Gastein (Austria) and was first described by him in 1984.

The genus *Epispathidium* was established by Foissner in 1984. It includes spathidiid ciliates whose somatic kineties bend strongly apically towards the ventral side and then run parallel to the circumoral kinety. This characteristic is difficult to recognize on living specimens.

Epispathidium regium is immediately noticeable in the moss samples due to its considerable size. The specimens in my population were 170–210 µm long. The dorsal brush is short and, according to Foissner, should not be longer than the oral bulge is wide. This was the same with my specimens. The oral bulge is separated from the body by a slight tapering of the

body and falls off clearly towards the ventral side (s. fig. 1 a-c). An essential feature is the strongly fragmented macronucleus (s. fig. 4), which is already clearly recognizable in unsquashed specimens. The extrusomes in my population were straight or very slightly curved rods with a length of 7–10 µm (s. fig. 5). This differs somewhat from Foissner's data (6–8 µm). As he only measured 8 specimens in his population, this may still be within the range of variation of the species.

The similar species *Epispathidium amphoriforme* (syn. *Spathidium amphoriforme*) is somewhat smaller (90–150 µm) and has a macronucleus that is either strand-shaped or strand-shaped with constrictions, but not fragmented. The slightly curved extrusomes are about 7 µm long and somewhat shorter than in *Epispathidium regium*. In addition, the number of somatic kinetes is lower in *Epispathidium amphoriforme* (24–38) than in *Epispathidium regium* (36–36). However, the two species are difficult to distinguish without close examination of these characteristics.

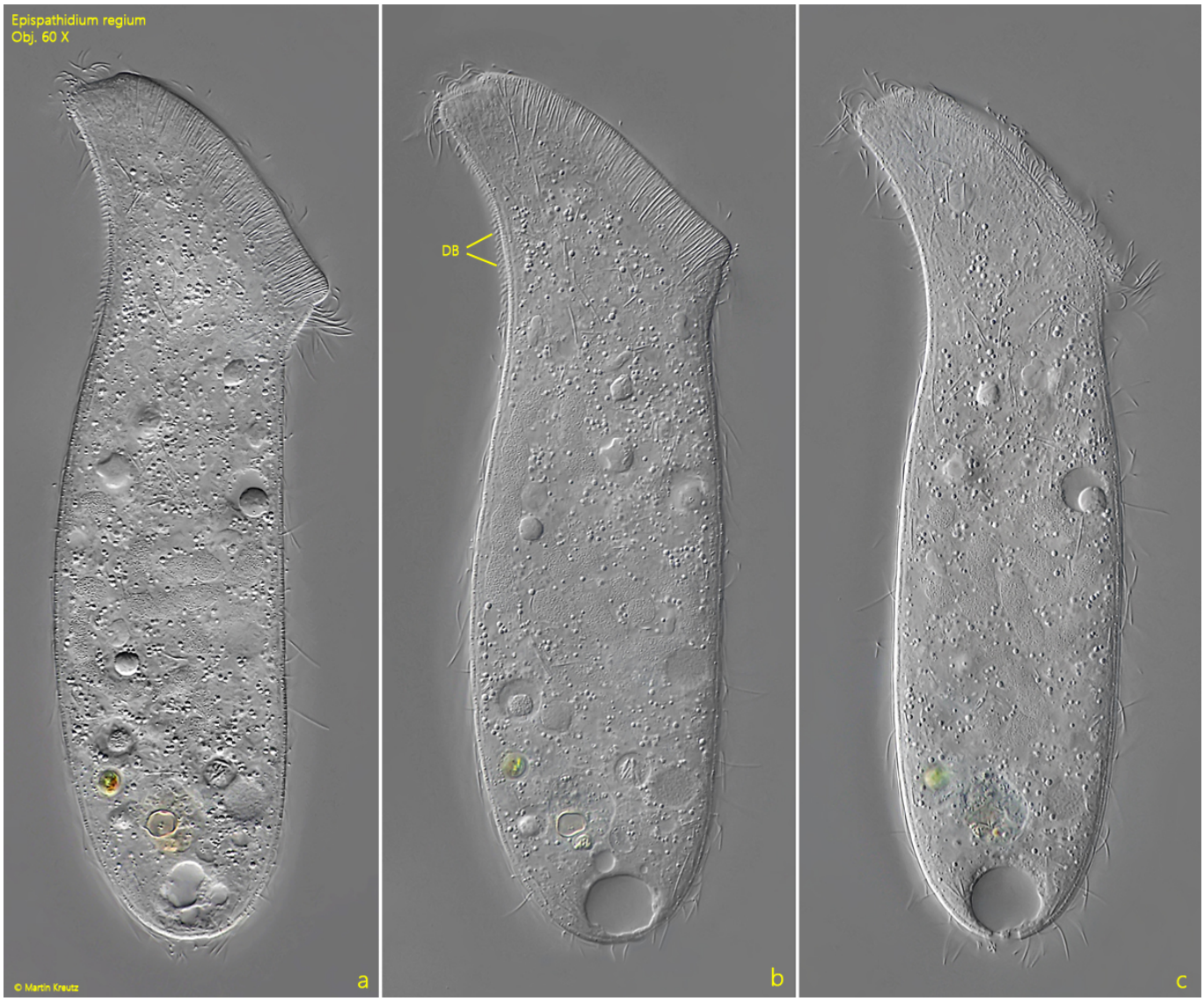


Fig. 1 a-c: *Epispathidium regium*. L = 200 µm. A freely swimming specimen from right.

Note the dorsal brush (DB) of short bristles. Obj. 60 X.

Fig. 2 a-b: *Epispathidium regium*. L = 176 µm. A second, slightly squashed specimen from right. Note the cilia of the circumoral kinety (CK). CV = contractile vacuole, EP = excretion pore, DB = dorsal brush, Ma = fragmented macronucleus, OB = oral bulge. Obj. 100 X

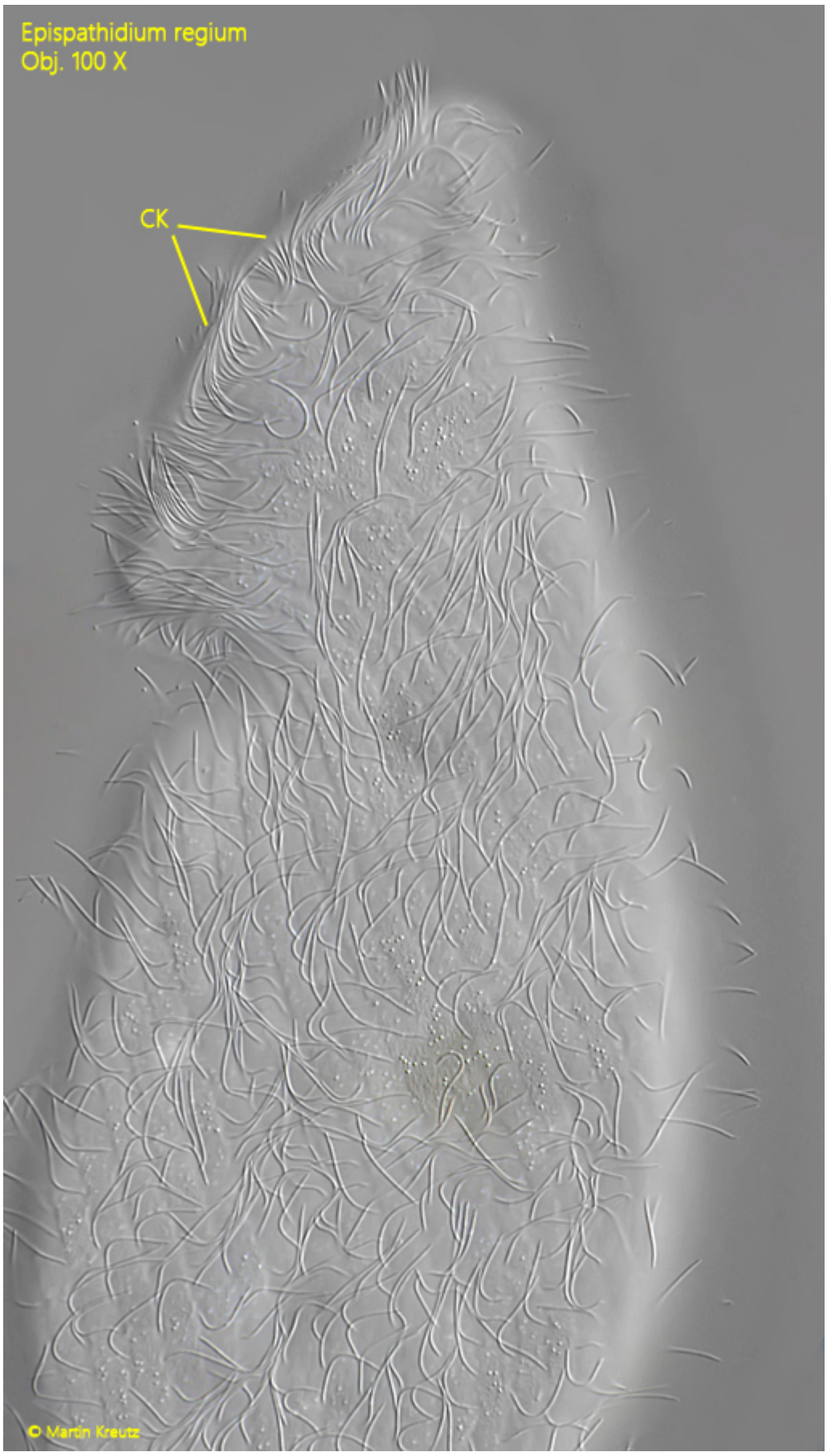


Fig. 3: *Epispathidium regium*. Focal plane on the somatic ciliation and the circumoral kinety (CK). Obj. 100 X

Fig. 4: *Epispathidium regium*. The fragmented macronucleus (arrows) in a squashed specimen. Obj. 100 X

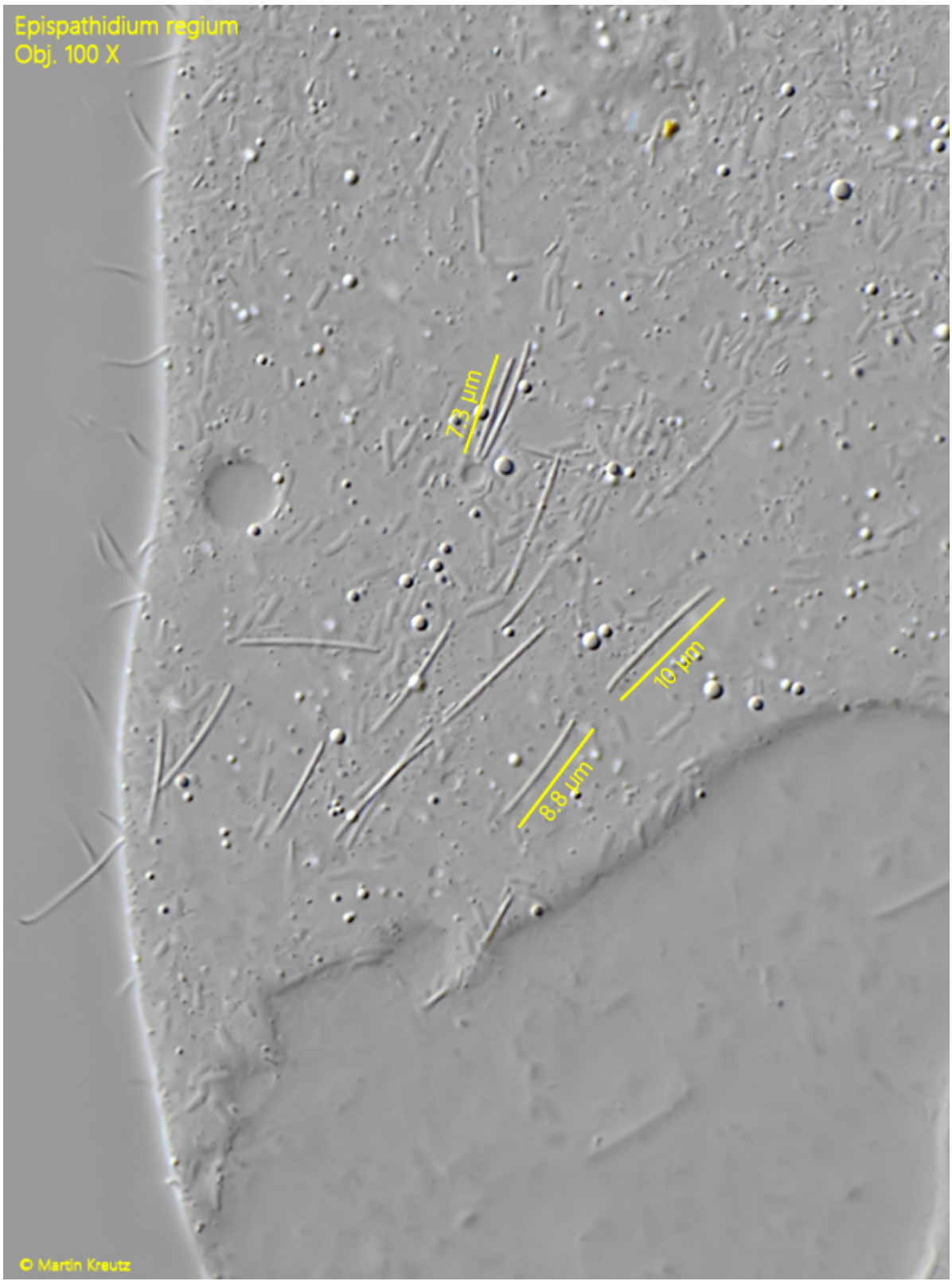


Fig. 5: *Epispathidium regium*. The extrusomes in a strongly squashed specimen are straight and slightly curved rods with a length of 7–10 µm. Obj. 100 X