Cephalodella gibba Ehrenberg, 1830

Most likely ID: n.a.

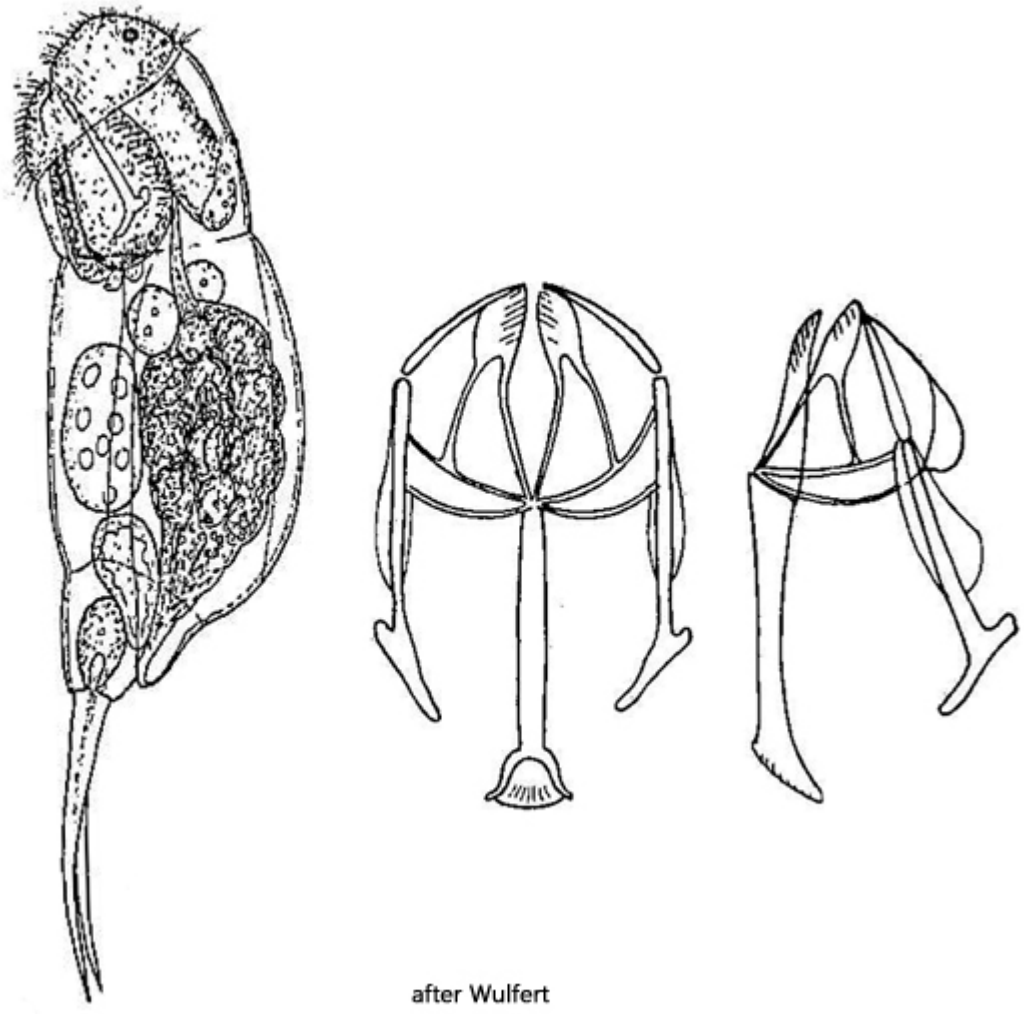
Synonym: n.a.

Sampling locations: Simmelried, Pond of the convent Hegne, Mühlweiher Litzelstetten, Ulmisried

Phylogenetic tree: *Cephalodella gibba*

Diagnosis:

- body moderately long, gibbous dorsally
- length 250–450 µm (with toes)
- head large, corona oblique
- eyespot frontal
- retrocerebral organ absent
- neck is well marked
- lateral clefts widening gradually to posterior end
- foot small, conical
- toes long, slightly recurved with conical tips



Cephalodella gibba

Cephalodella gibba is one of the most common species within the genus. I find the species in various locations, mostly among floating aquatic plants.

The specimens of my population were about 250–350 µm long, sometimes a bit smaller. According to Koste (1978), however, there are also giant forms with a length of up to 450 µm. The most striking features of *Cephalodella gibba* are the distinct and large frontal eyespot and the long, slightly backward-curved toes, which end in a small point (s. fig. 4). The specimens are often yellowish or orange in color. *Cephalodella gibba* is an omnivore and lives predatory on flagellates, ciliates, and other rotifers, but also feeds on unicellular algae.

More images and information on *Cephalodella gibba*: Michael Plewka-Freshwater life-*Cephalodella gibba*

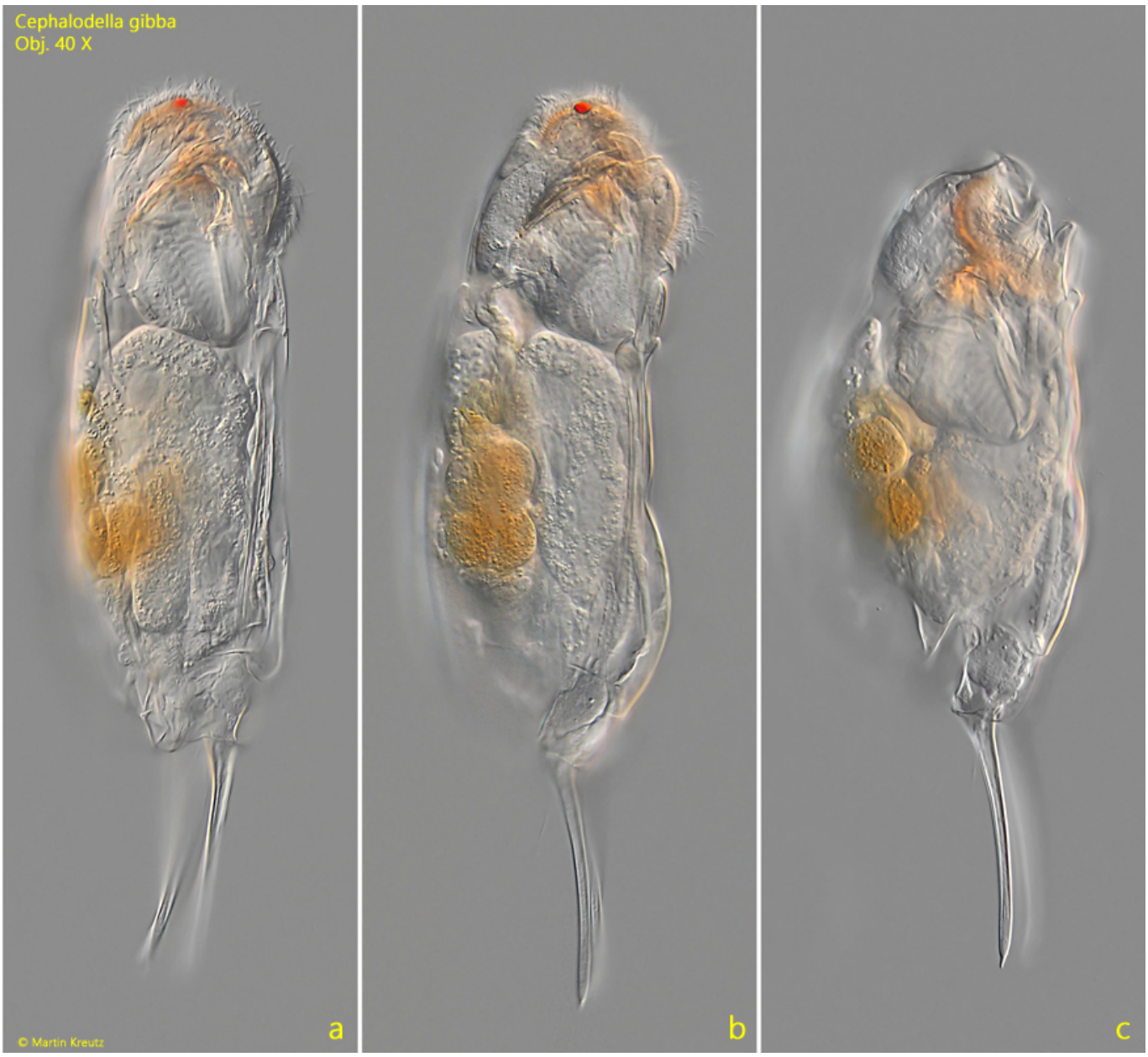


Fig. 1 a-c: *Cephalodella gibba*. L = 240 µm (with toes). A freely swimming specimen from right. Obj. 40 X.

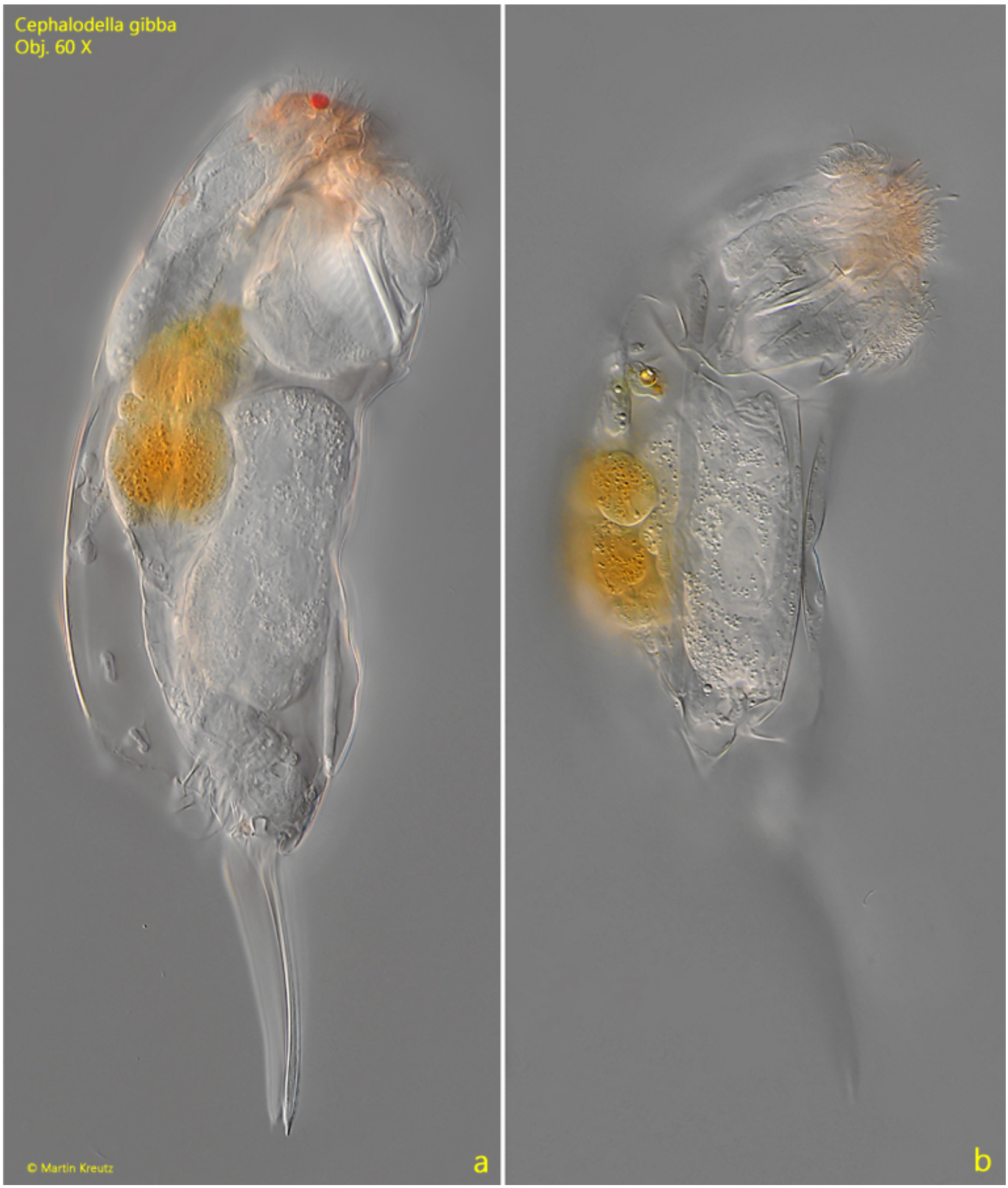


Fig. 2 a-b: *Cephalodella gibba*. L = 240 µm (with toes). The slightly squashed specimen as shown in fig. 1 a-b. Obj. 60 X.

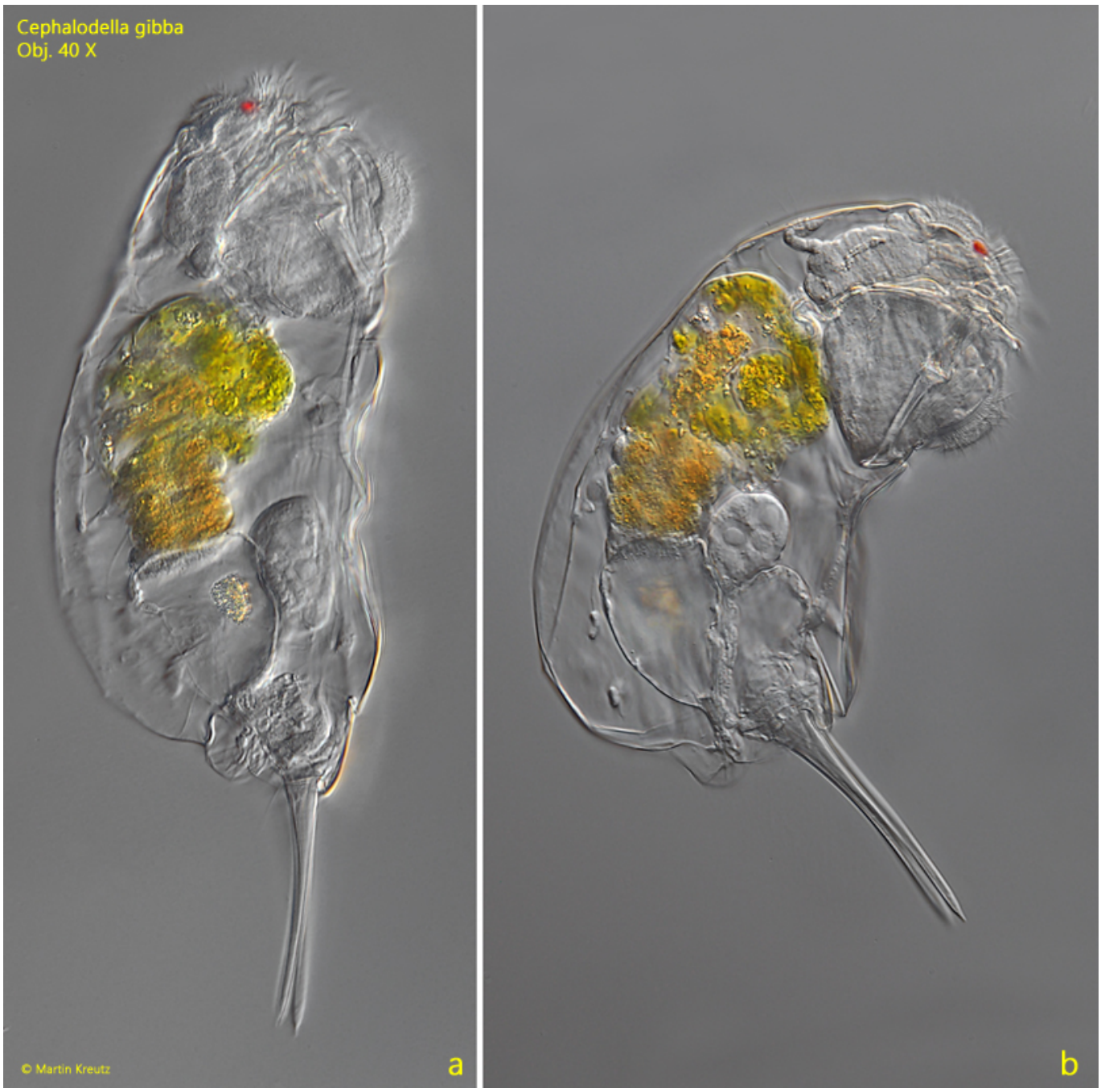


Fig. 3 a-b: *Cephalodella gibba*. L = 336 µm (with toes). A second specimen found in November 2016 in the Ulmisried. Obj. 40 X.


Cephalodella gibba
Obj. 60 X
ES
CG
GG
Vit
St
BL
TO
© Martin Kreutz

Fig. 4: *Cephalodella gibba*. L = 275 µm (with toes). The second, slightly squashed specimen. BL = bladder, CG = cerebral ganglion, ES = exespot, GG = gastric glands, St = stomach, TO = toes, Vit = vitellarium. Obj. 60 X.

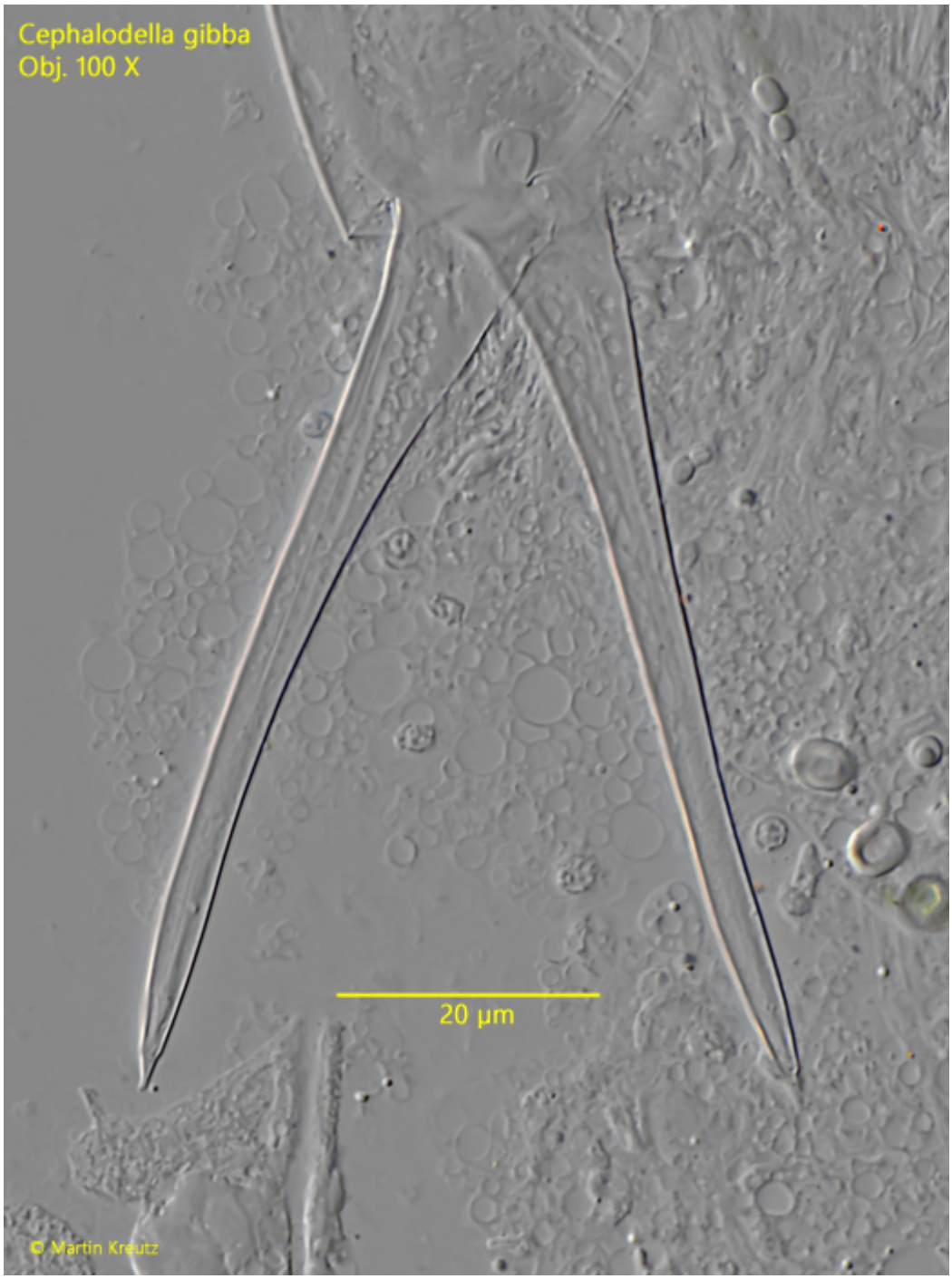


Fig. 5: *Cephalodella gibba*. The toes with a length of 68 µm in a squashed specimen. Obj. 100 X.



Fig. 6: *Cephalodella gibba*. The trophi in a strongly squashed specimen. Obj. 100 X.

In February 2025, I found a specimen of *Cephalodella gibba* in the Simmelried with a noticeably enlarged vitellarium, which occupied about two-thirds of the body volume (s. fig. 7). In this vitellarium, conspicuously enlarged cell nuclei were visible. At higher magnification, thread-like structures around these cell nuclei could be seen (s. fig. 8). This might possibly be a phase shortly after fertilization by a male. I have not found any description in the literature about the processes that occur in the vitellarium of monogonont rotifers after sexual fertilization. Therefore, this interpretation is only a hypothesis. However, sperm cells are clearly visible in the strongly compressed specimen, which supports this interpretation (s. fig. 9).

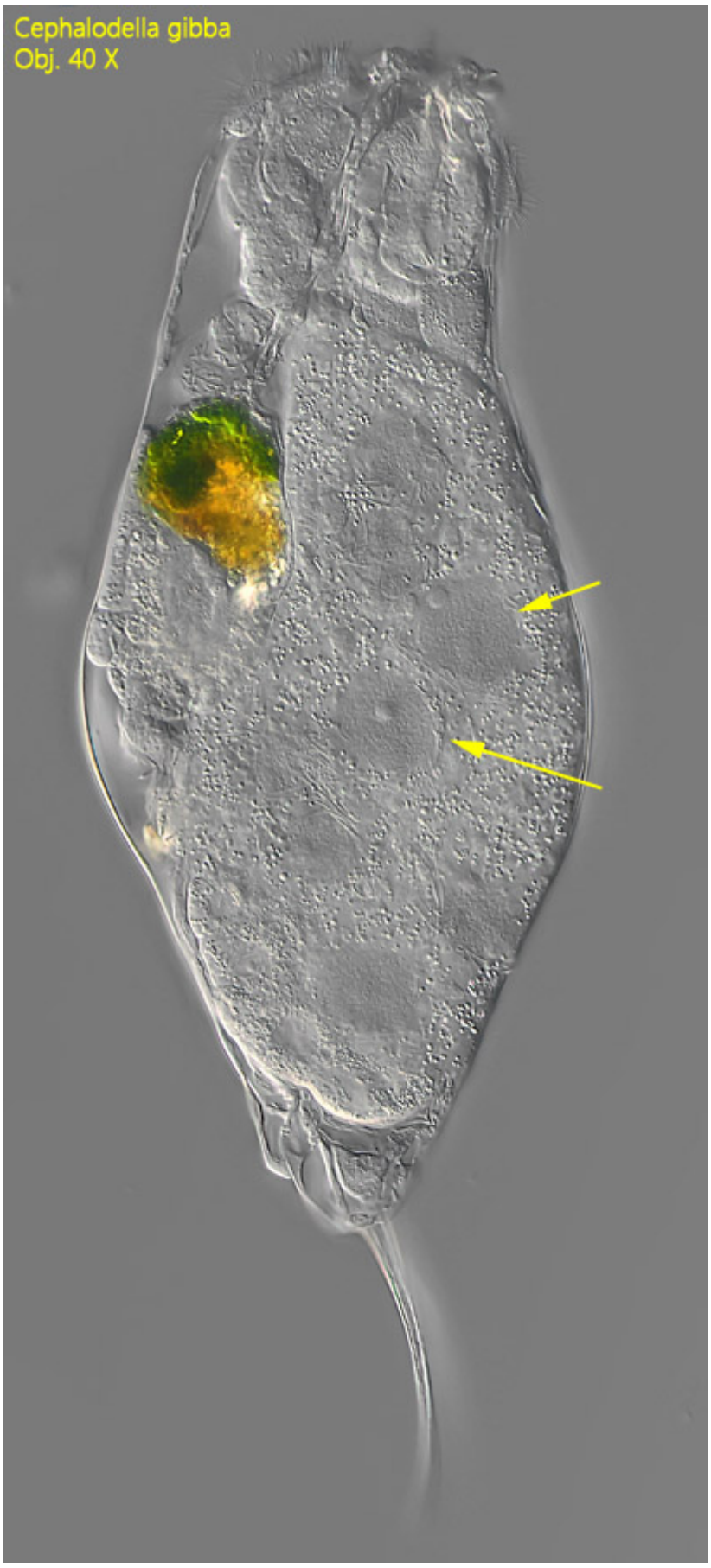


Fig. 7: *Cephalodella gibba*. A slightly squashed specimen with an enlarged vitellarium and enlarged nuclei (arrows). Obj. 40 X.

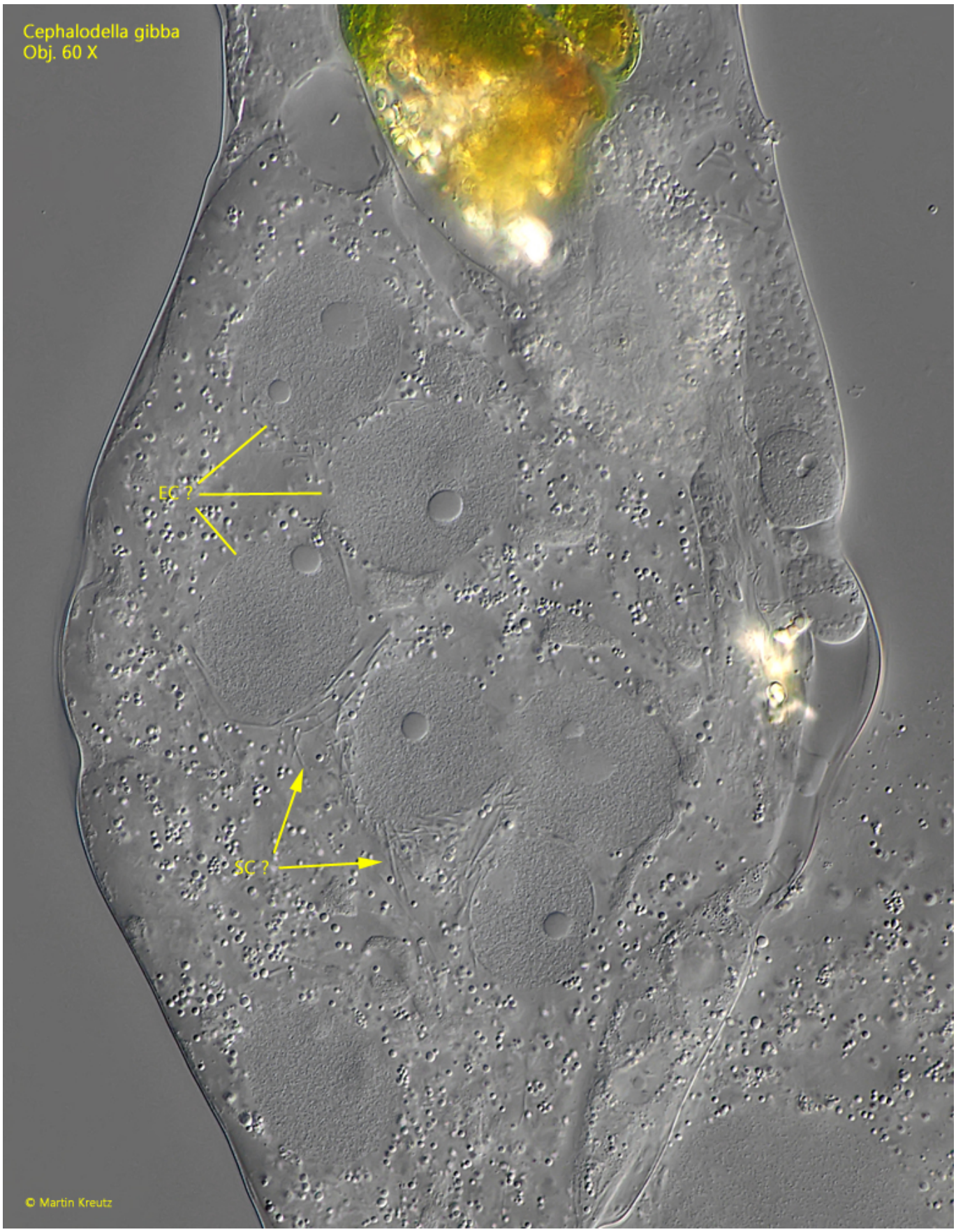


Fig. 8: *Cephalodella gibba*. Possibly this is the vitellarium shortly after fertilization by a male. In that case, the enlarged cell nuclei could be egg cells (EC ?) surrounded by sperm cells (SC ?). Obj. 60 X.

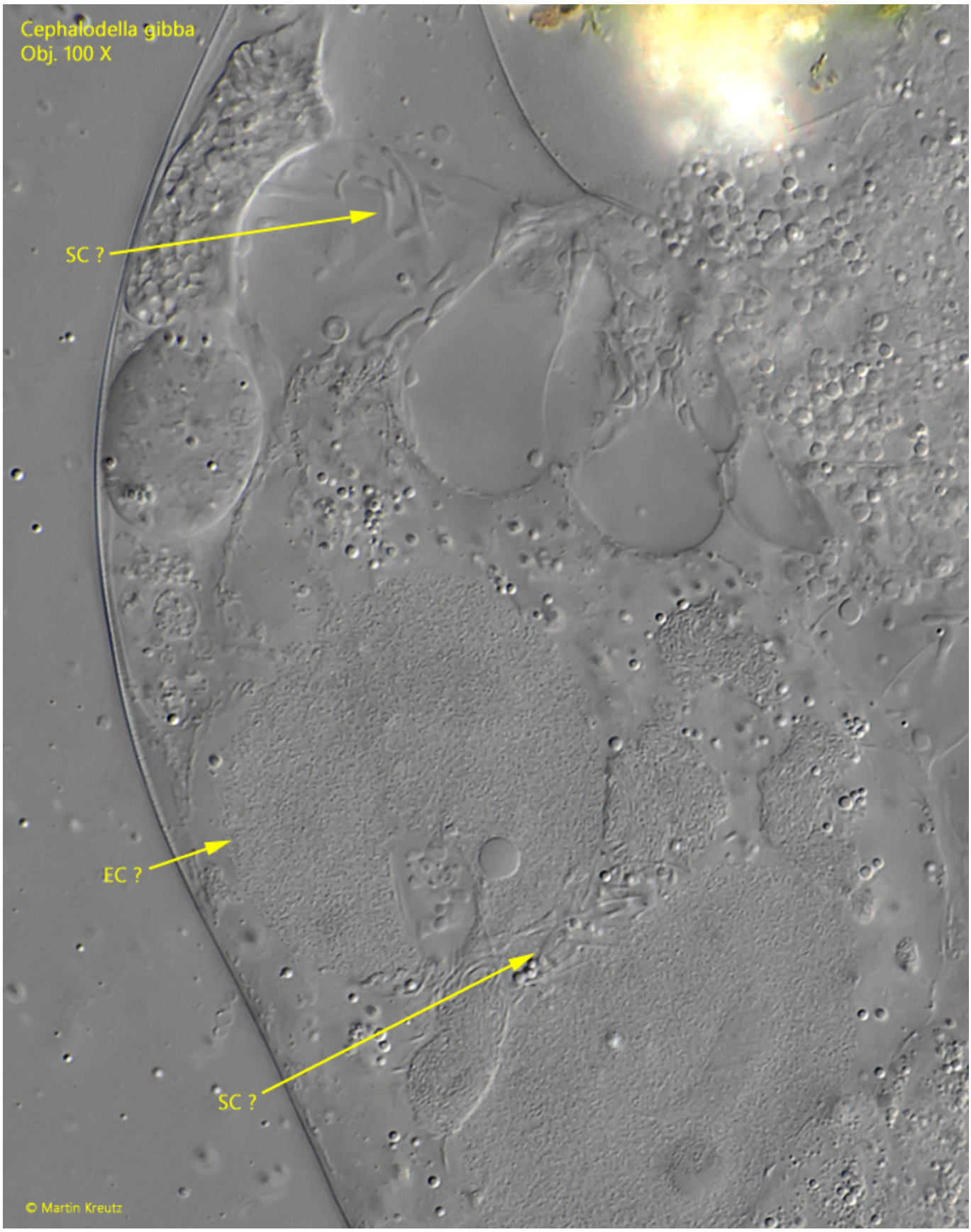


Fig. 9: *Cephalodella gibba*. In the strongly squasged specimen thread-like structures can be seen very similar to sperm cells (SC ?). EC ? = probably an egg cell. Obj. 100 X.