

Collodictyon triciliatum

H. J. Carter, 1865

Most likely ID: n.a.

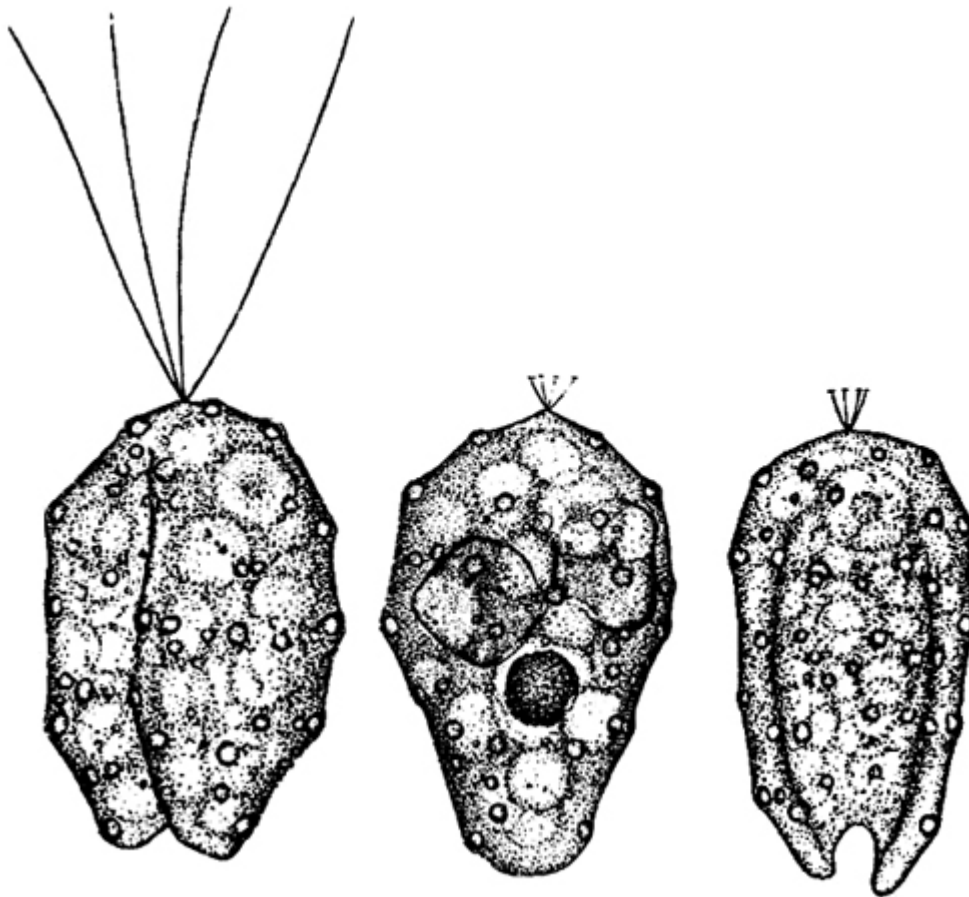
Synonym: n.a.

Sampling location: [Pond of the waste disposal company Constance](#)

Phylogenetic tree: [Collodictyon triciliatum](#)

Diagnosis:

- body obovoid or ellipsoidal
- length 20–40 µm
- 4 apical flagella of equal length
- ventral, longitudinal groove
- cytoplasm hyaline, strongly vacuolated
- nucleus with central nucleolus anterior
- 2 or more contractile vacuoles (hard to see)
- periplast smooth with subpellicular refractive granules
- granules evert periplast in wart-like manner
- sometimes with two terminal lobes



after Skuja

Collodictyon triciliatum

So far I have only found *Collodictyon triciliatum* sporadically in the plankton from the [pond of the waste disposal company Constance](#). One has to examine the fresh plankton samples very carefully, because the slowly swimming specimens are easy to overlook.

The name *Collodictyon triciliatum*, assigned by Carter (1865), is quite misleading, since this flagellate actually has 4 flagella of equal length. It was only Bütschli (1887) who recognized that *Collodictyon triciliatum* has 4 flagella. In 1919 a redescription of *Collodictyon triciliatum* by Rhodes appeared, in which the 4 flagella were confirmed. In lateral view, the number of flagella is difficult to determine. In fact, I was able to document them best in apical view (s. fig. 5).

The cytoplasm of *Collodictyon triciliatum* is always strongly vacuolated and often also filled with many food vacuoles (s. fig. 3 a-b). As a result, the contractile vacuoles are difficult to detect. According to Skuja (1956) there are usually 1-2 contractile vacuoles. Rhodes (1919), on the other hand, was unable to reliably

identify a contractile vacuole, and I too could not detect any actively functioning contractile vacuole.

The nucleus is always located in the anterior third and has a large, central nucleolus (s. fig. 4 d). According to Skuja and Rhodes, *Collodictyon triciliatum* is supposed to possess a ventral groove that serves for food intake. Cytoplasmic pseudopodia can emerge from it, which enclose the prey organisms and lead them to phagocytosis. I was unable to observe this ventral groove in any of my specimens.

Beneath the periplast there are numerous highly refractive bodies (s. figs. 3 a and 4 a). These form wart-like elevations on the periplast, which gives the flagellates a characteristic appearance. Nothing is known about the nature of these granules. Based on my observations, they appear to have an oily character (s. fig. 6).

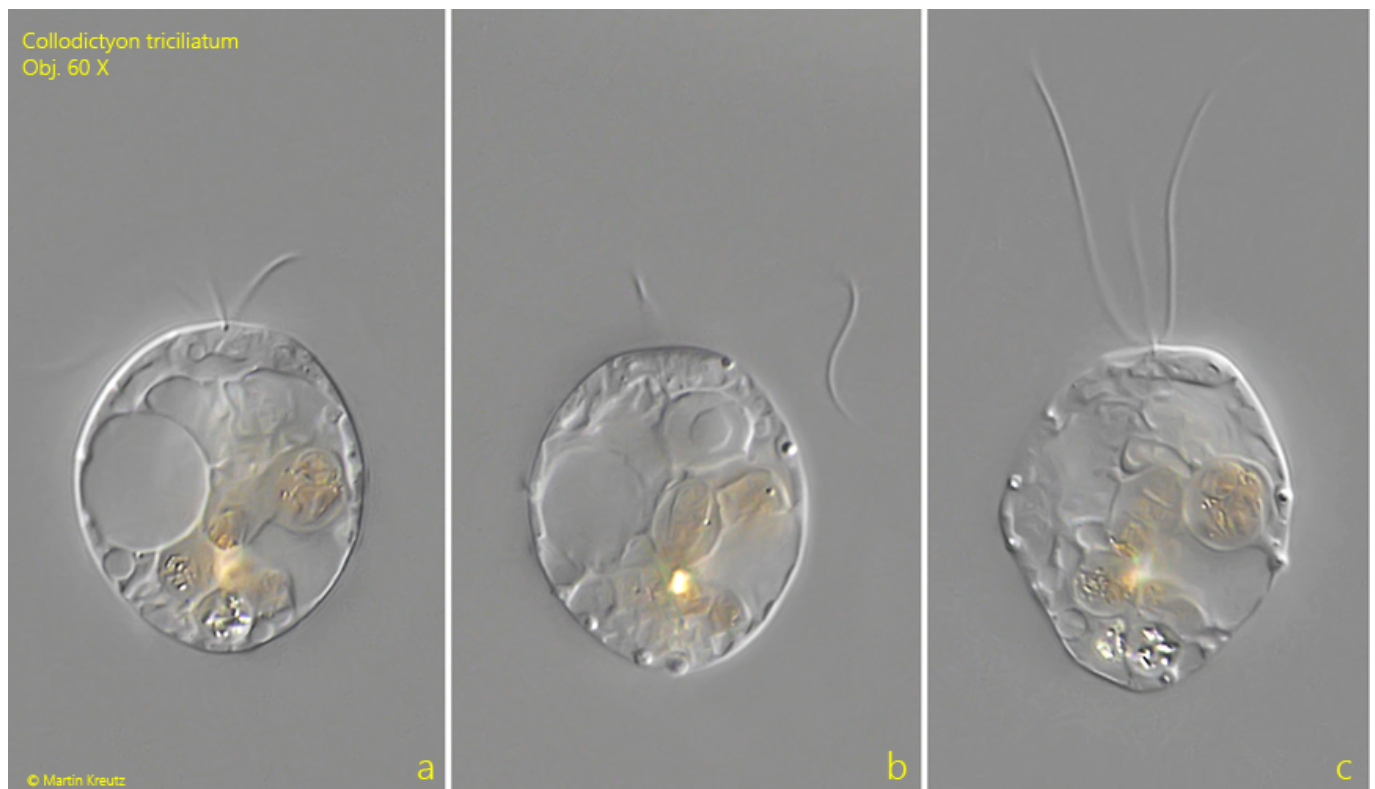


Fig. 1 a-c: *Collodictyon triciliatum*. L = 36 μ m. An almost spherical freely swimming specimen. Obj. 60 X.

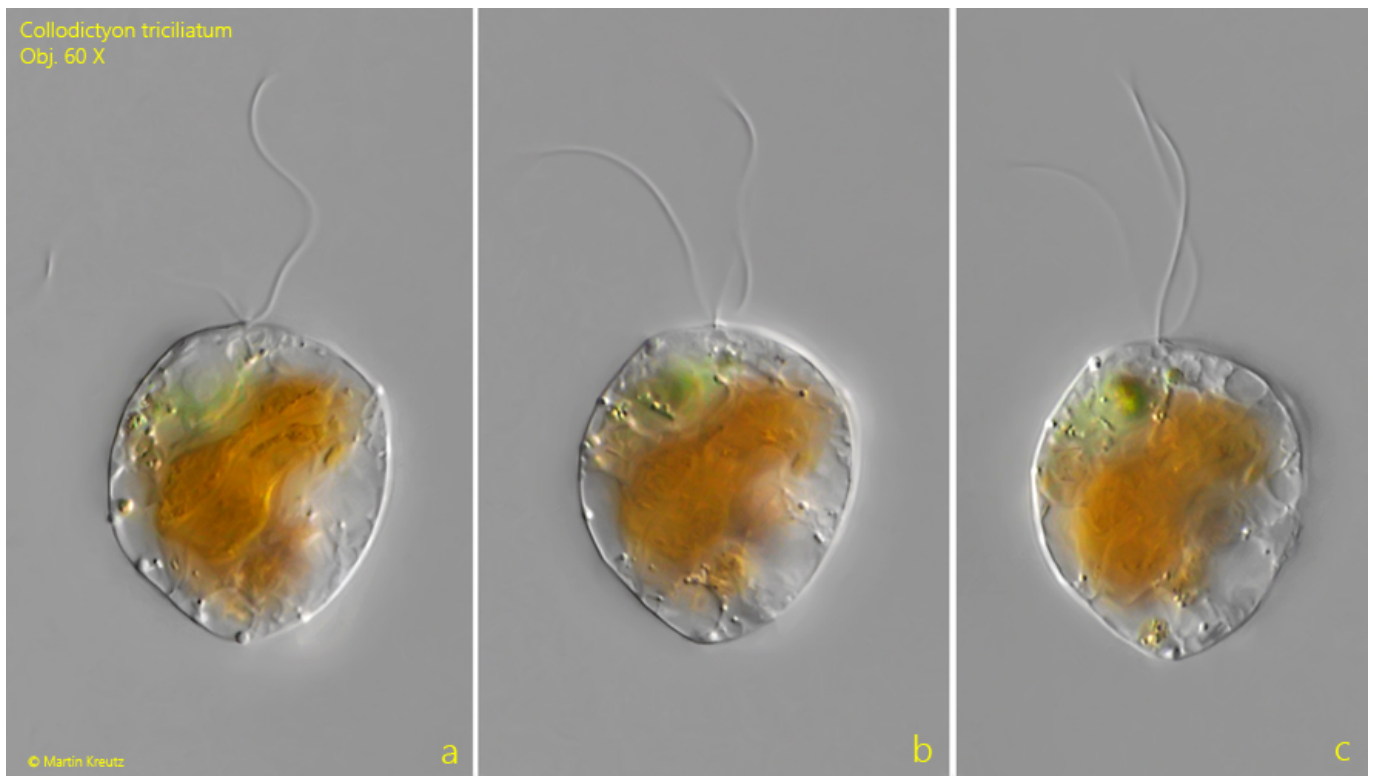


Fig. 2 a-c: *Collodictyon triciliatum*. L = 43 μ m. A larger specimen with large phagocytosed prey. Obj. 60 X.

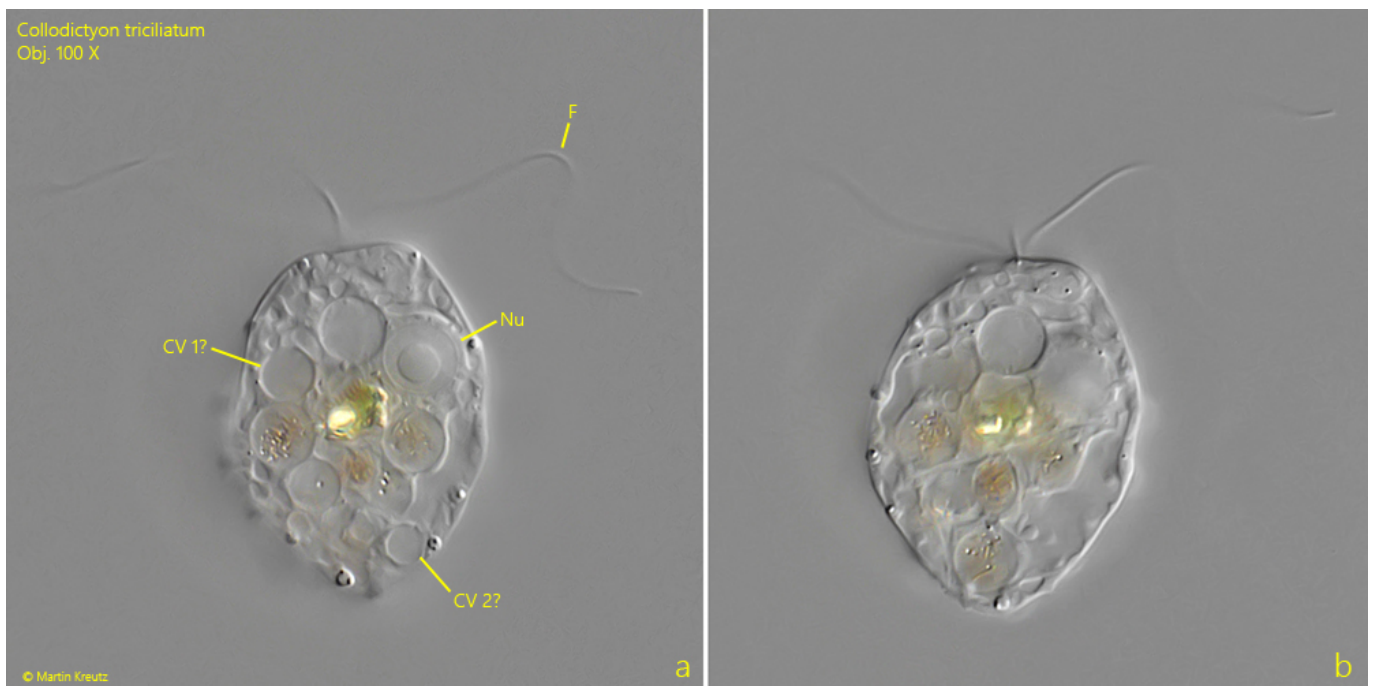


Fig. 3 a-b: *Collodictyon triciliatum*. L = 40 μ m. An obovoid specimen. The nucleus (Nu) is located in the anterior third. Probably two contractile vacuoles are visible (CV 1, CV 2). F = flagella. Obj. 100 X.

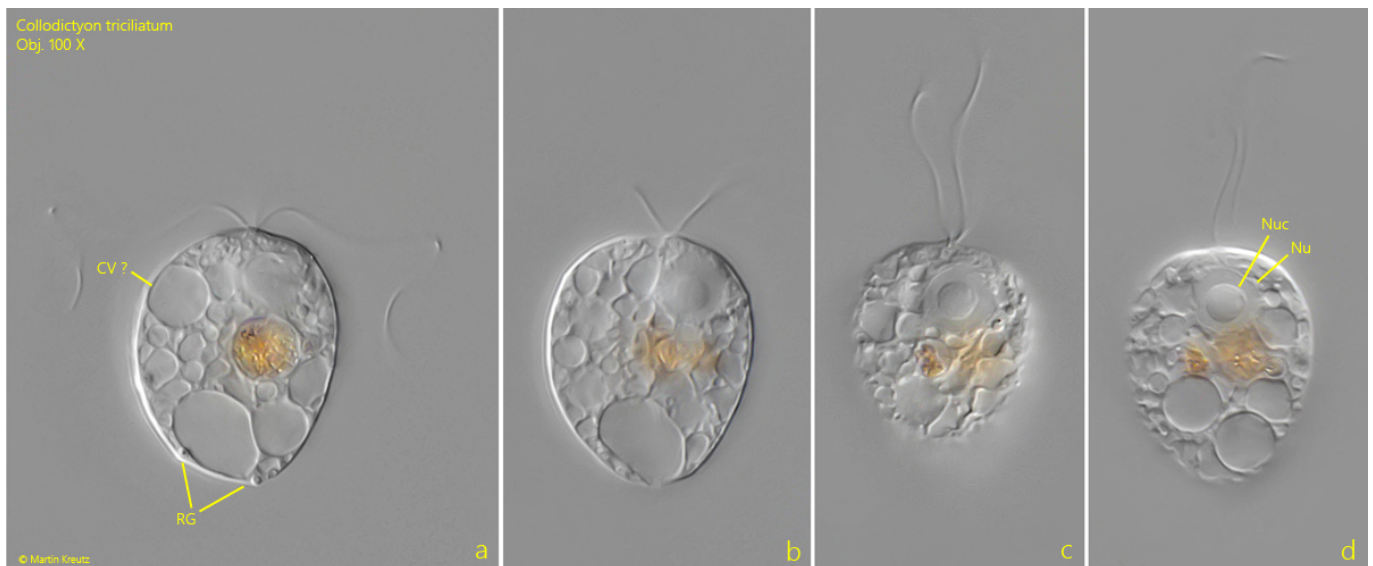


Fig. 4 a-d: *Collodictyon triciliatum*. L = 34 μ m. Different focal planes of a fourth freely swimming specimen. Note the spherical nucleolus (Nuc) in the nucleus (Nu). CV ? = probably one of the contractile vacuoles, RG = refractive granules. Obj. 100 X.

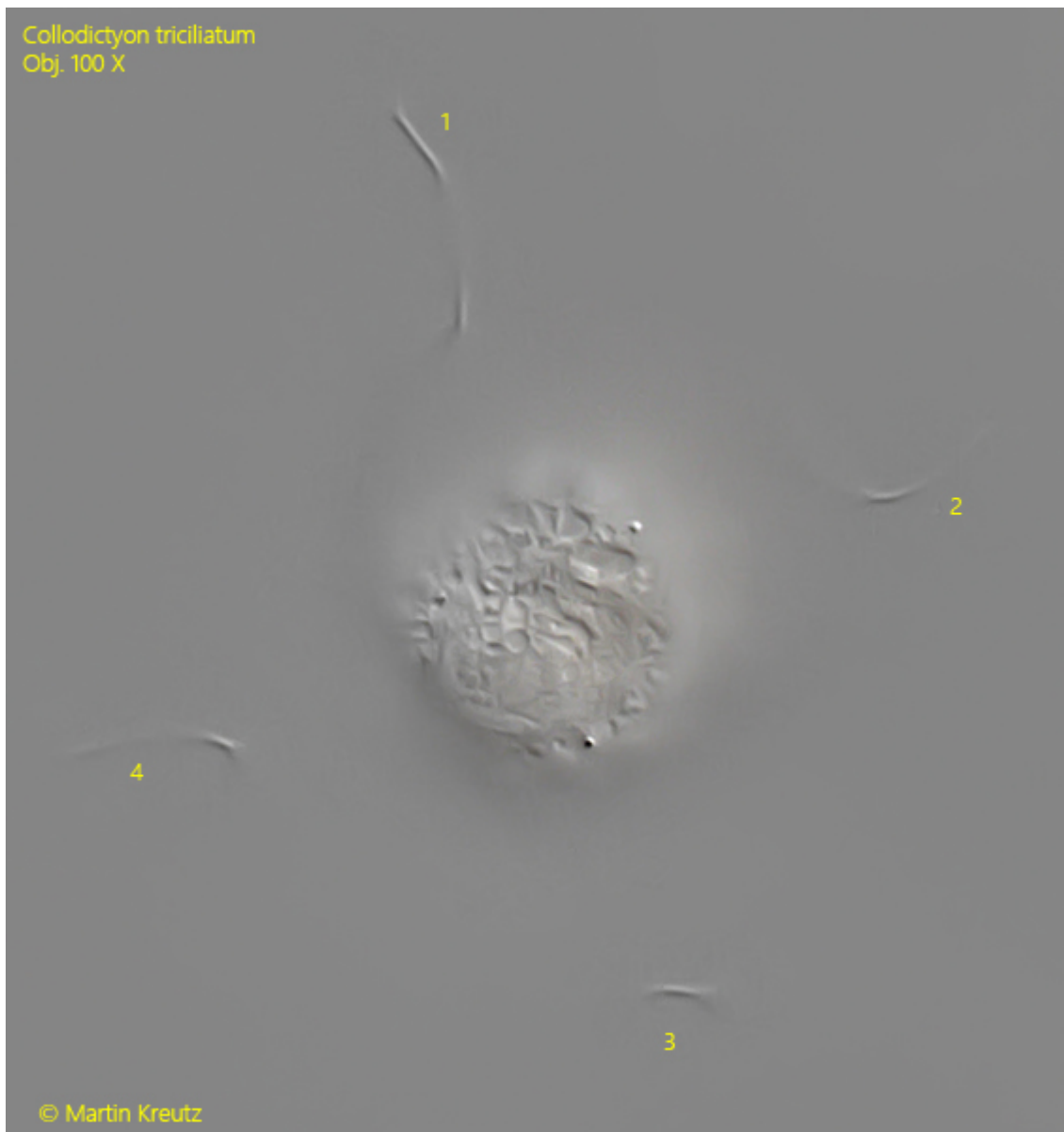


Fig. 5: *Collodictyon triciliatum*. A specimen in apikal view for visualization of the 4 flagella (1-4). Obj. 100 X.

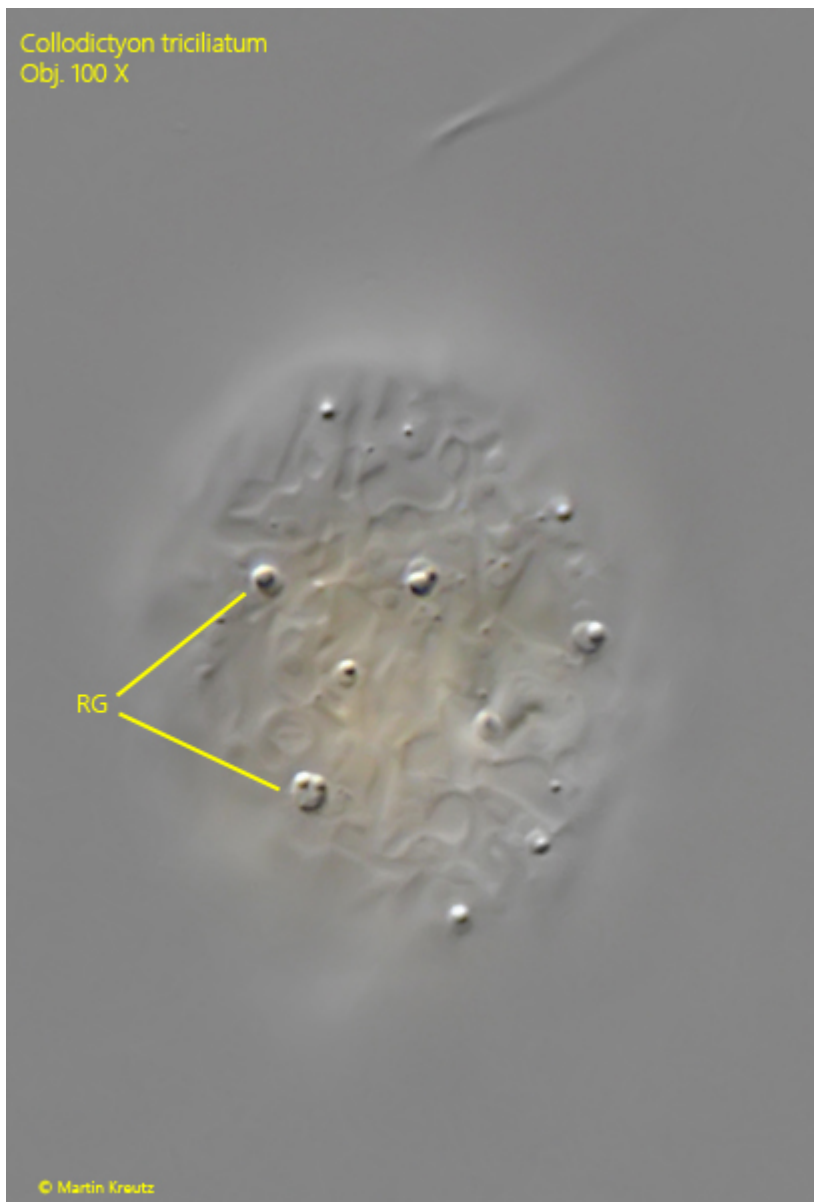


Fig. 6: *Collodictyon triciliatum*. Focal plane on the subpellicular refractive granules. They appear to be similar to oil droplets. Obj. 100 X.