Synura sphagnicola

(Korshikov) Korshikov, 1929

Most likely ID: n.a.

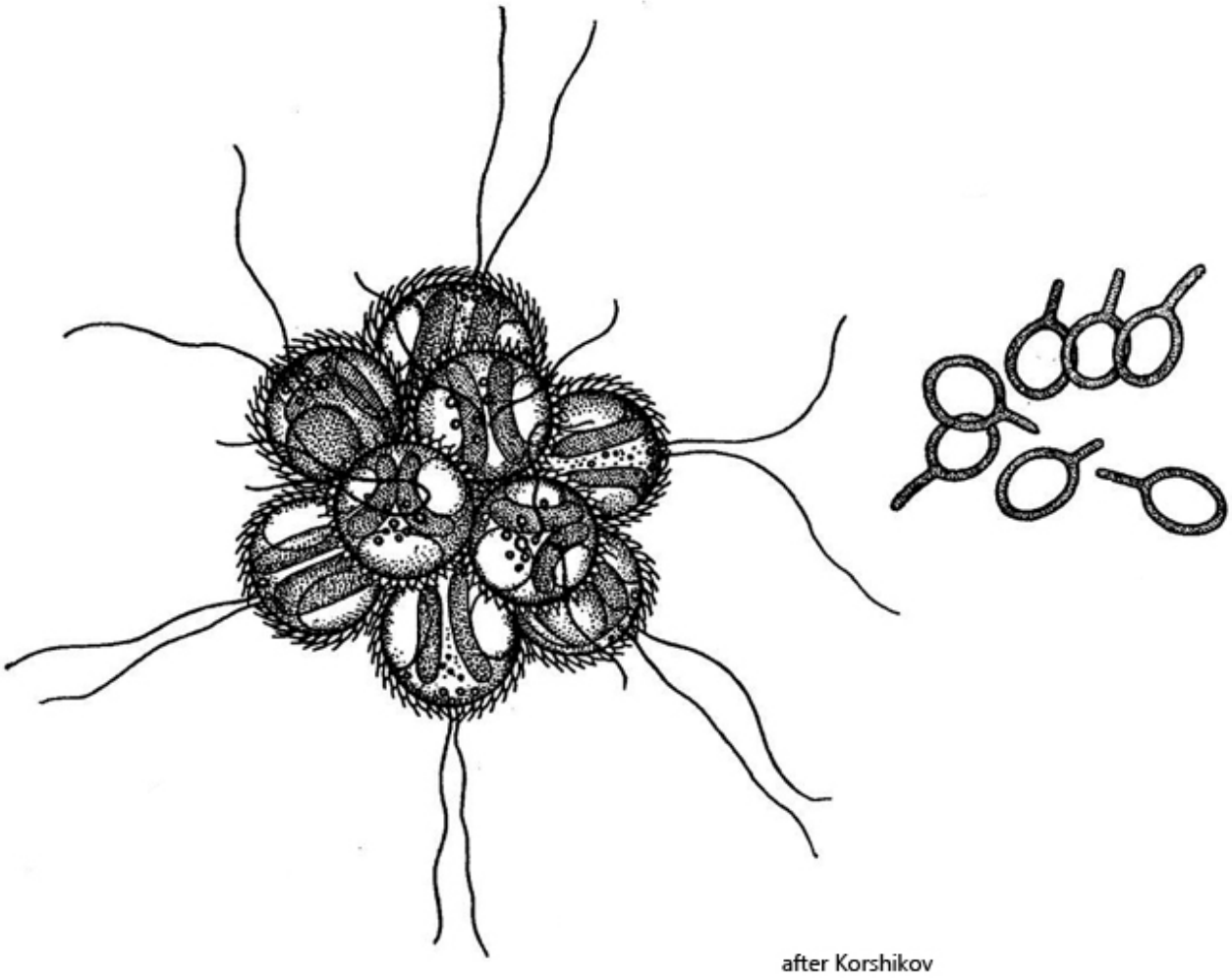
Synonym: n.a.

Sampling location: Jackl Moor (Austria), Ulmisried, Mühlhalden pond

Phylogenetic tree: *Synura sphagnicola*

Diagnosis:

- colonies spherical or irregularly oval
- cells almost spherical, older cells pyriform
- length about 12 µm (of cells)
- two flagella of different length
- apically red colored oil droplets
- covered with tennis racket-shaped scales
- two chloroplasts, plate-shaped
- one contractile near posterior end



Synura sphagnicola

I rarely find *Synura sphagnicola*. This Chrysophyceae usually occurs in acidic and nutrient-poor *Sphagnum* ponds. In May 2024, however, I was able to observe a mass development of *Synura sphagnicola* in the plankton of the Mühlhalden pond, which is unusual and suggests a possibly broader spectrum of potential habitats.

Synura sphagnicola can be easily recognized by the characteristic red oil globules in the apical area of the cells (s. fig. 2 a, 3 and 4). These were present in all the populations I observed. In older literature these are referred to as “haematochrome grains”. However, they are definitely oil droplets, as they behave like a liquid under strong coverslip pressure. The cells are covered by delicate scales, which have the shape of a tennis racket (s. fig. 5). Under the electron microscope, these scales have a complicated pore structure that cannot be resolved under the light microscope.

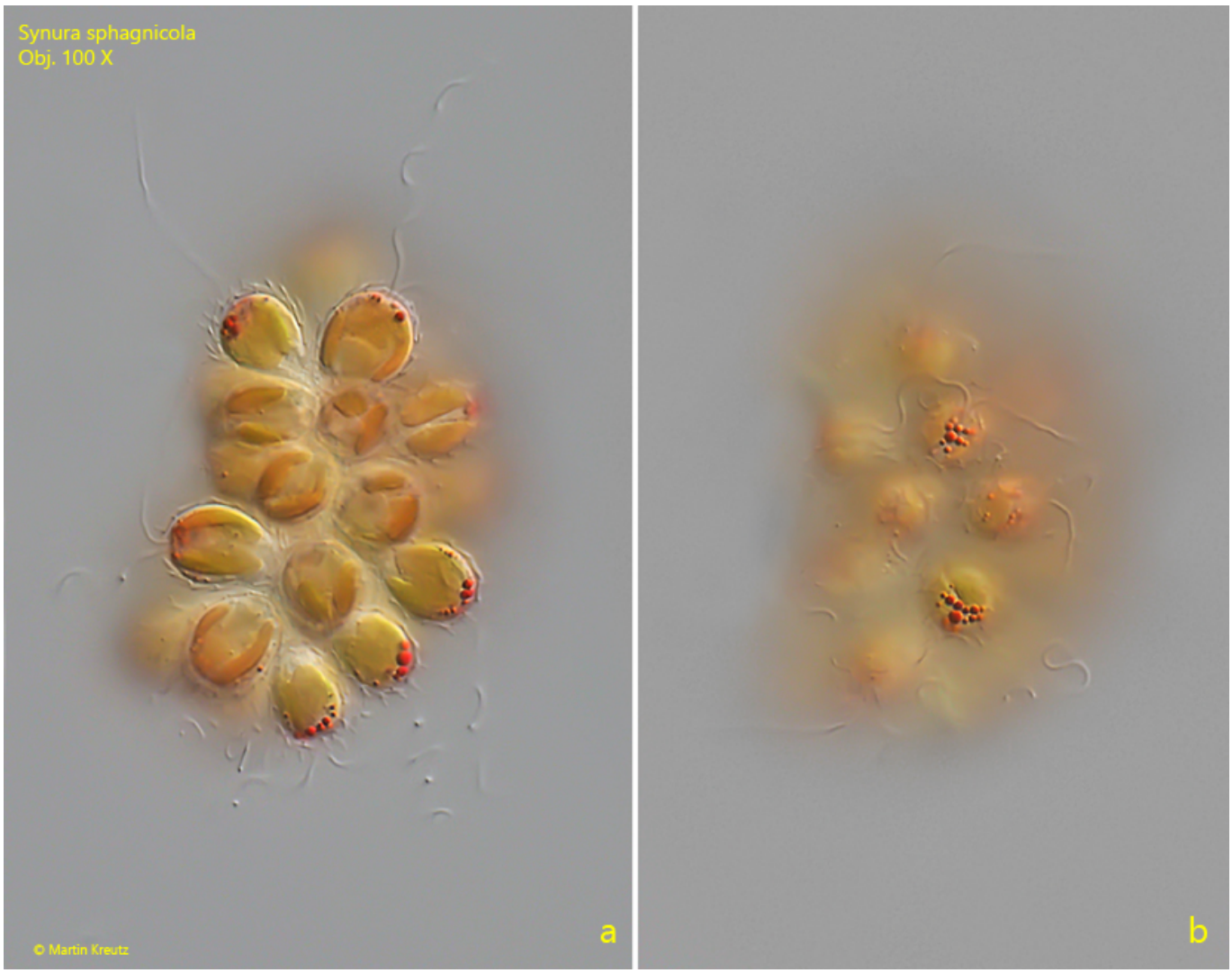
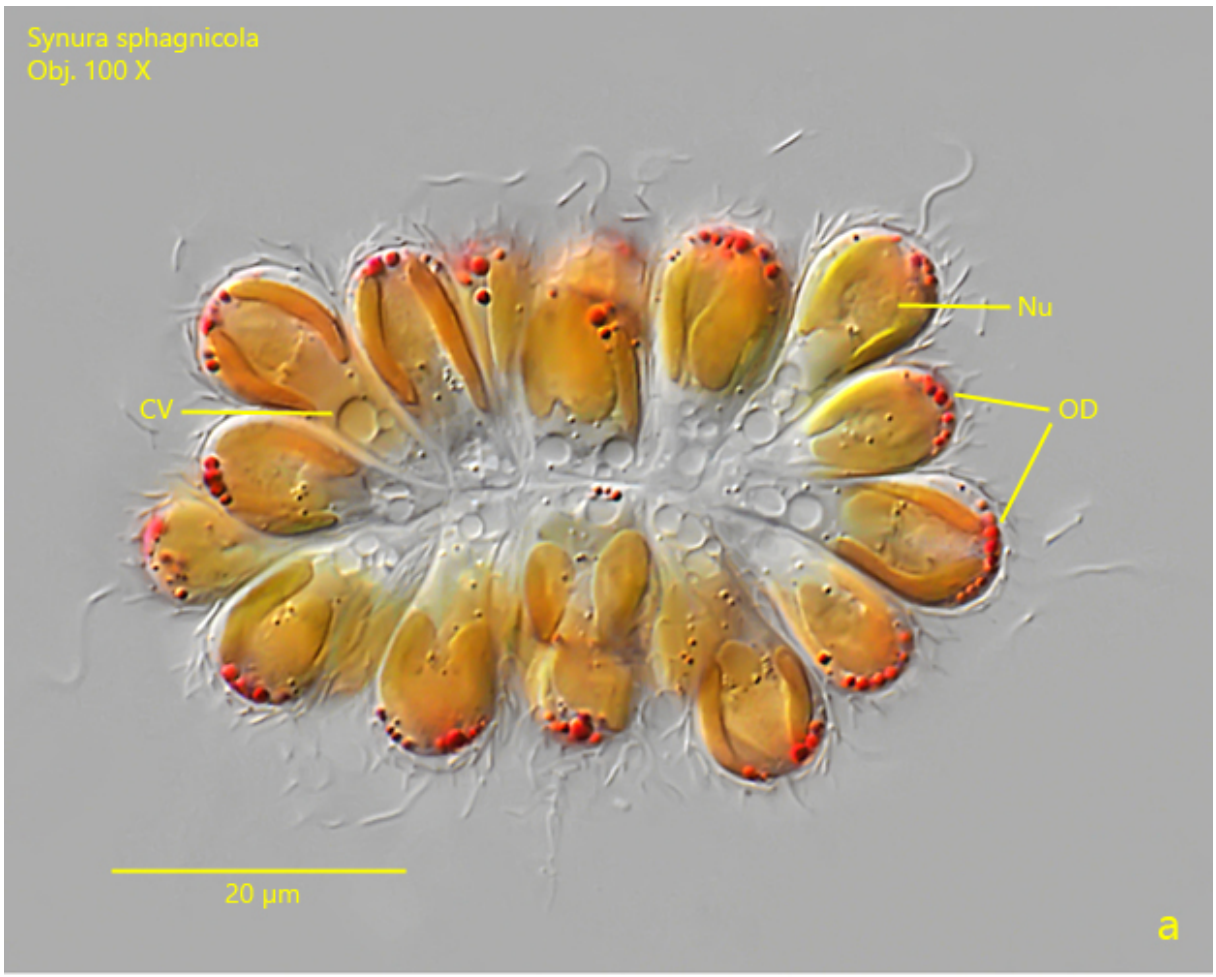


Fig. 1 a-b: *Synura sphagnicola*. L = 55 µm (of colony). Two focal planes of a freely swimming colony. Obj. 100 X.


Synura sphagnicola
Obj. 100 X
Nu
CV
OD
20 µm
a

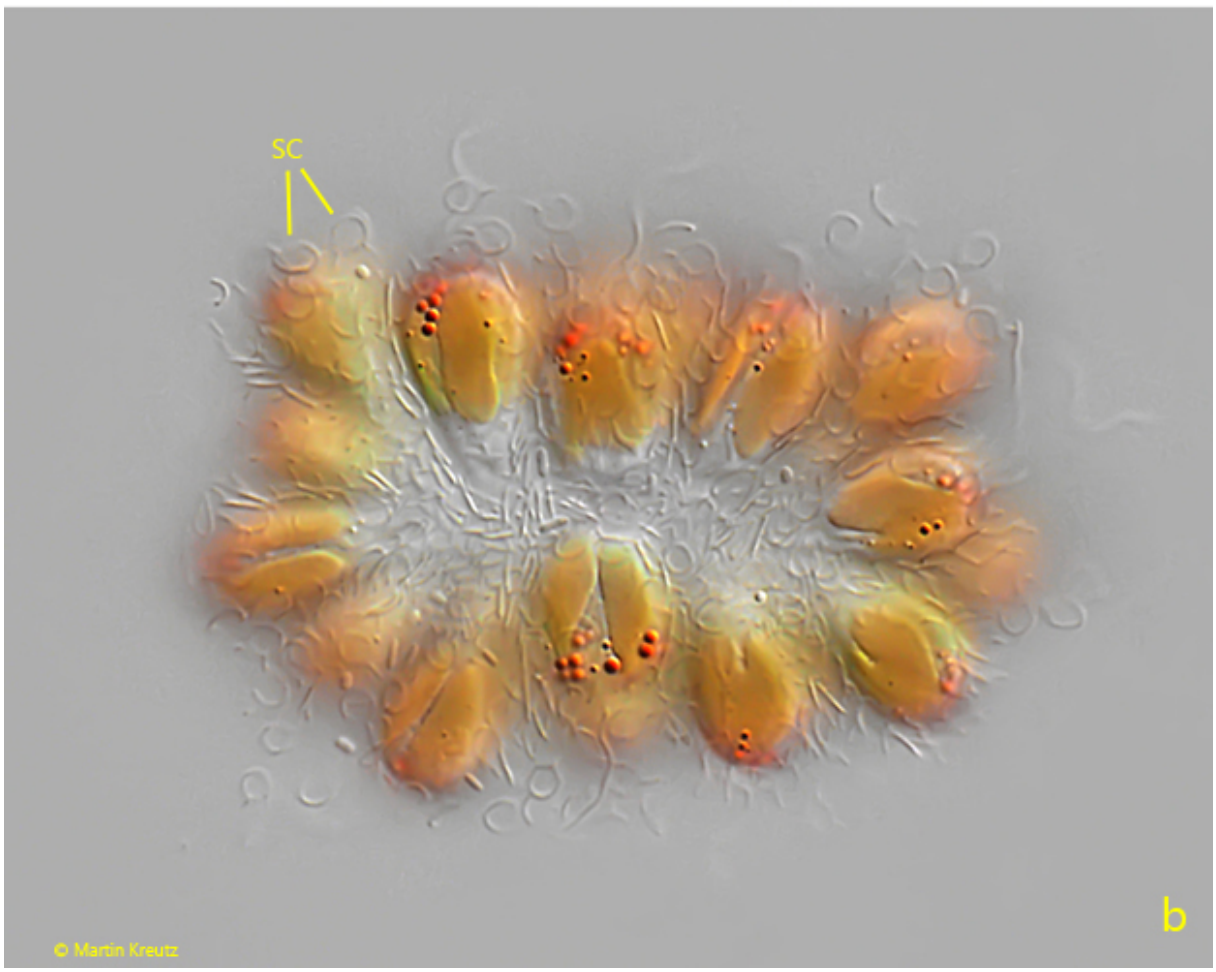

SC
b
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Fig. 2 a-b: *Synura sphagnicola*. L = 55 µm (of colony). Two focal planes of the squashed colony as shown in fig. 1 a-b. Note the red colored oil droplets (OD) at the apical end of the cells and the contractile vacuole (CV) located posterior. The cells are covered with delicate scales (SC). Nu = nucleus. Obj. 100 X.

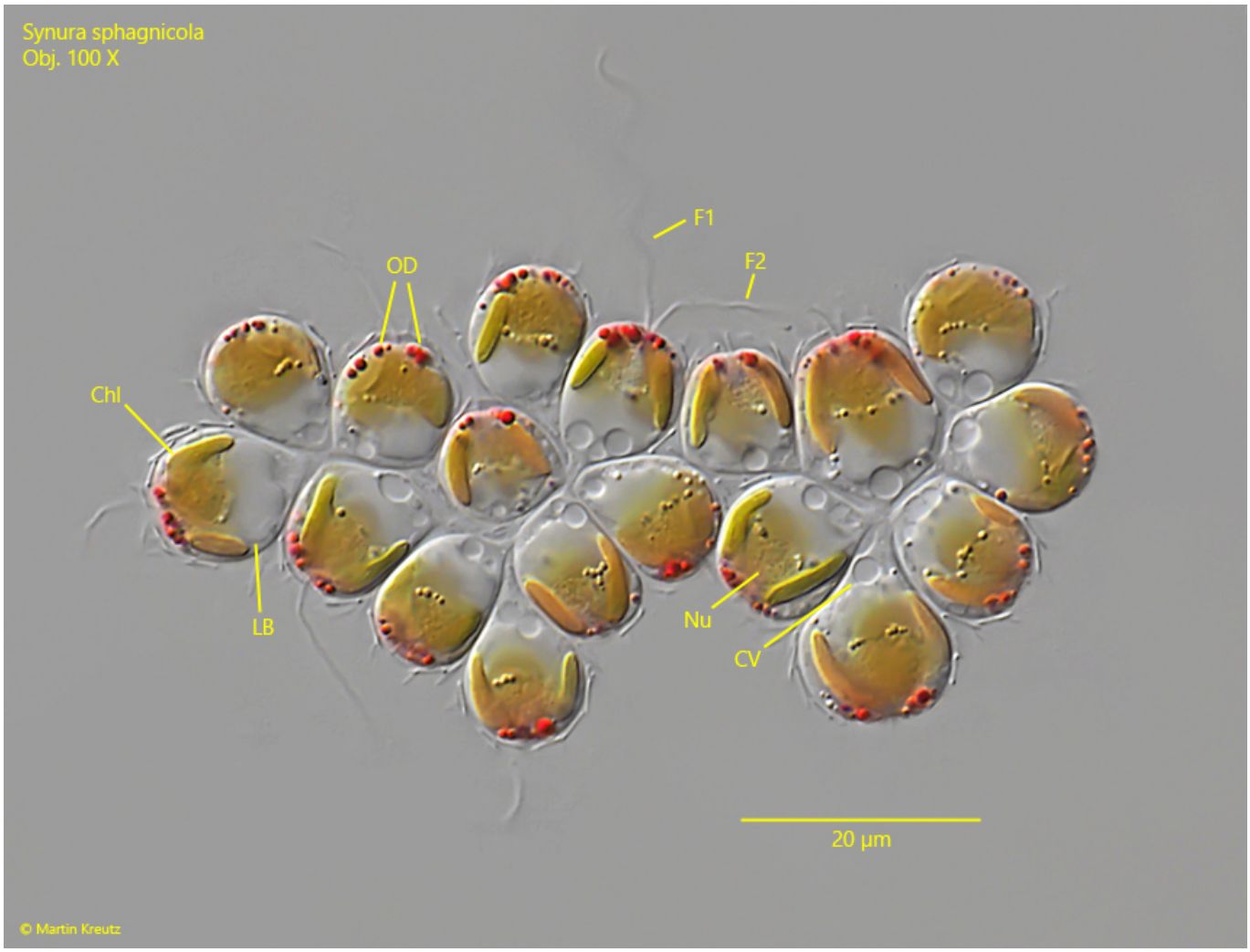


Fig. 3: *Synura sphagnicola*. L = 55 µm (of colony). The strongly squashed colony as shown in fig. 1 a-b. Chl = chloroplasts, CV = contractile vacuole, F1 + F 2 = flagella of different length, LB = leukosine body, Nu = nucleus, OD = red colored oil droplets. Obj. 100 X.



Fig. 4: *Synura sphagnicola*. A squashed, small colony with focal plane on the two chloroplasts (Chl 1, Chl 2). OD = red colored oil droplets. Obj. 100 X.

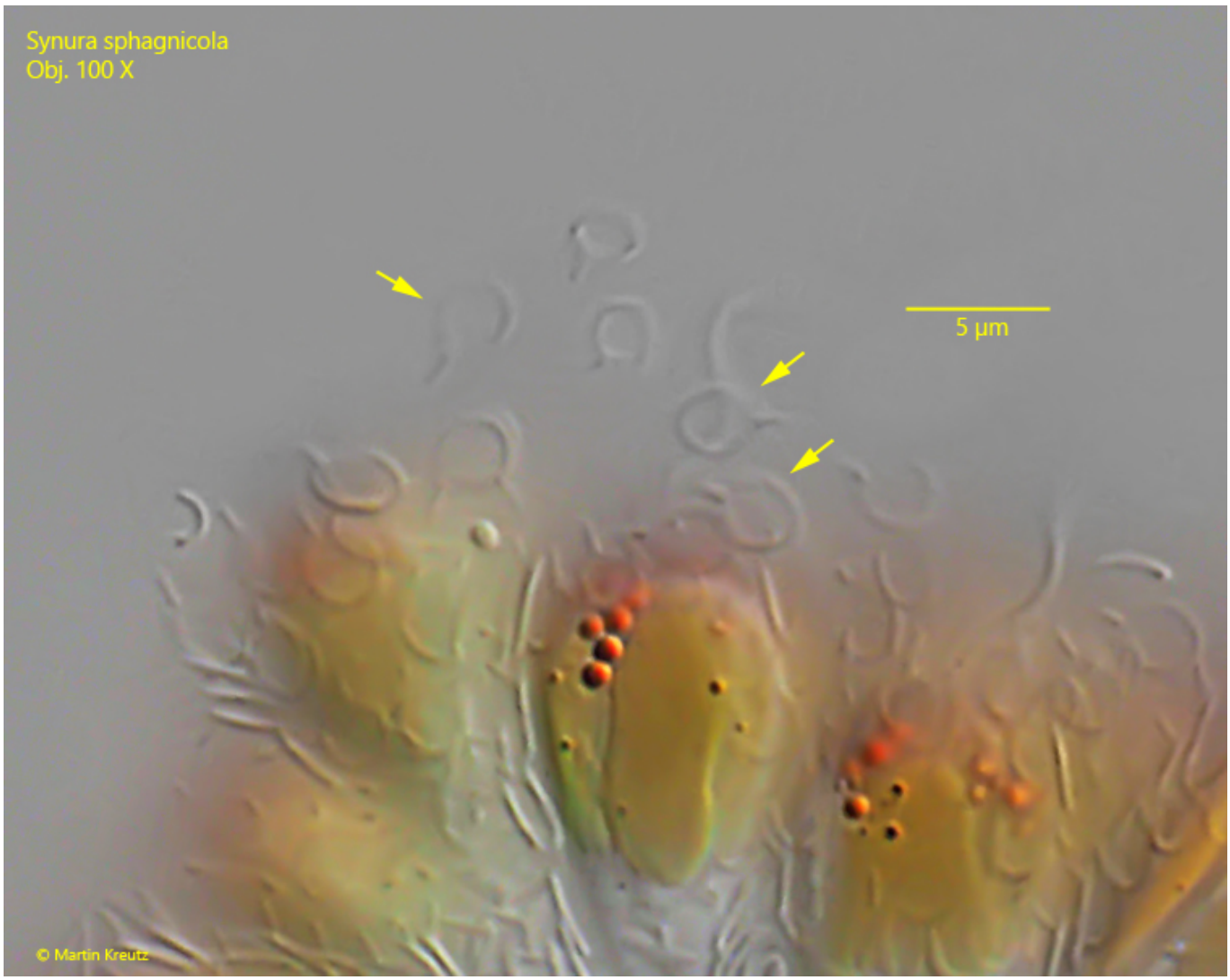


Fig. 5: *Synura sphagnicola*. The scales are about 2.5 µm long and with the shape of a tennis racket (arrows). Obj. 100 X.