Epipyxis ramosa

(Lauterborn) Hilliard & Asmund, 1963

Most likely ID: n.a.

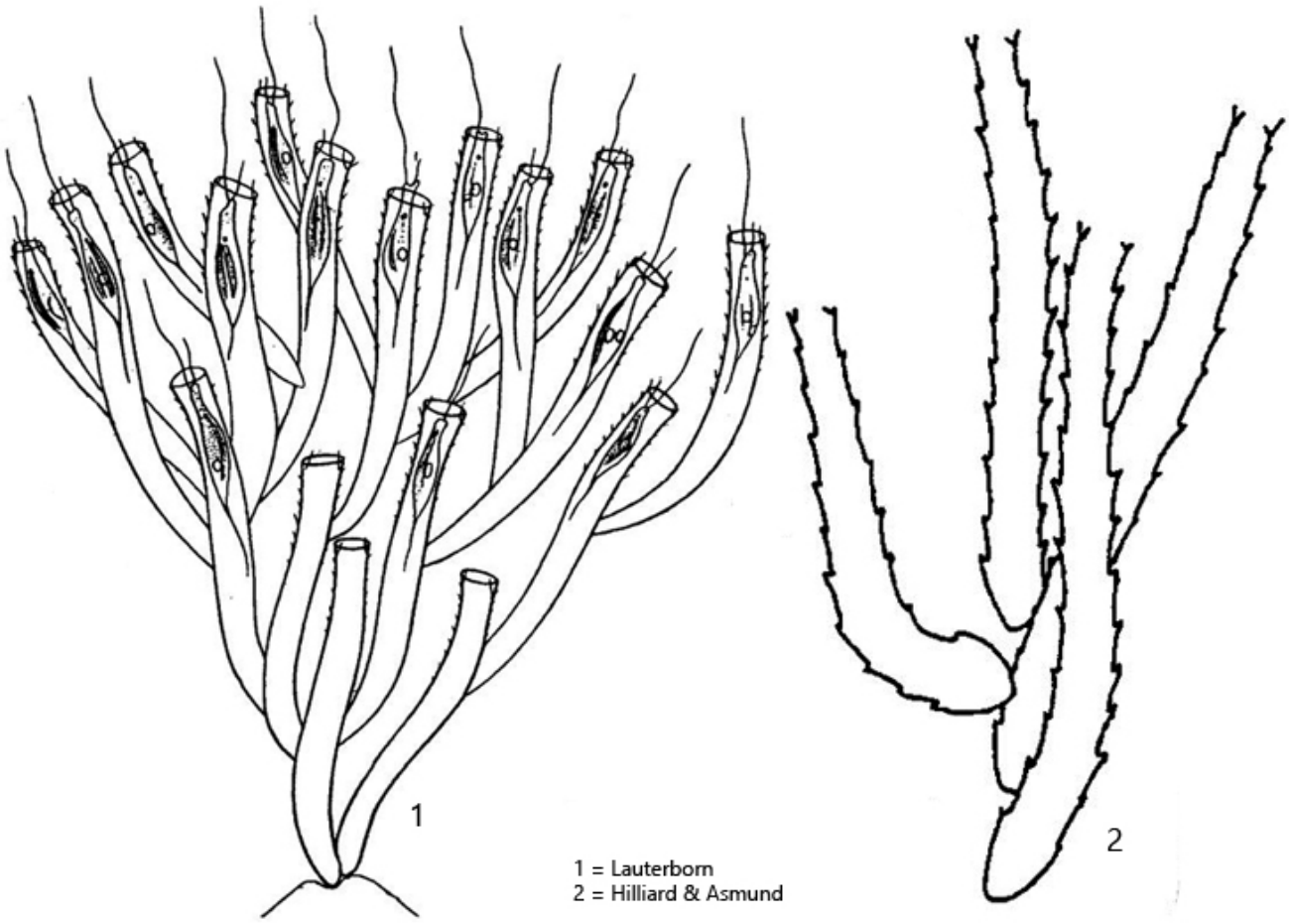
Synonym: *Hyalobryon ramosum*

Sampling location: Pond of the convent Hegne

Phylogenetic tree: *Epipyxis ramosa*

Diagnosis:

- cells spindle-shaped, anterior end obliquely truncated
- cells attached with a tapered end to base or wall of lorica
- lorica 40–70 µm long, cylindrically, straight or slightly curved
- aperture of lorica slightly narrowed, several little protruding growth rings
- daugther cells settle outside of mother lorica
- one chloroplast
- 1–2 contractile vacuoles near mid-body
- one eyespot
- two flagella of different length
- in spherical colonies, epiphytical



Epipyxis ramosa

So far I have only found *Epipyxis ramosa* in the pond of the convent Hegne. In the samples I usually find spherical colonies of 50–200 specimens, which grow epiphytically on filamentous algae. Rarely free-floating colonies are present. I have not found solitary specimens.

In the colonies, the loricae aree very close together because the daughter cells settle on the outer walls of the loricae of the mother cells. This results in a branched structure (s. drawing 1 above and fig. 4). In my population I was able to observe that the colonies are slightly birefringent, which can be clearly seen in the DIC (s. figs. 1 and 2). I could not see whether this is caused by a structured layer of mucus in which the colony could be embedded or whether the birefringence is caused by the loricae themselves.

In contrast to the genus Dinobryon, the loricae of the genus *Epipyxis* are composed of individual growth rings. In *Epipyxis ramosa*, these growth rings are short and protrude only slightly to the side. In addition, they narrow slightly towards the opening of the lorica, which is a typical characteristic of *Epipyxis ramosa* (s. also

drawing 2 above and figs. 3 and 5).

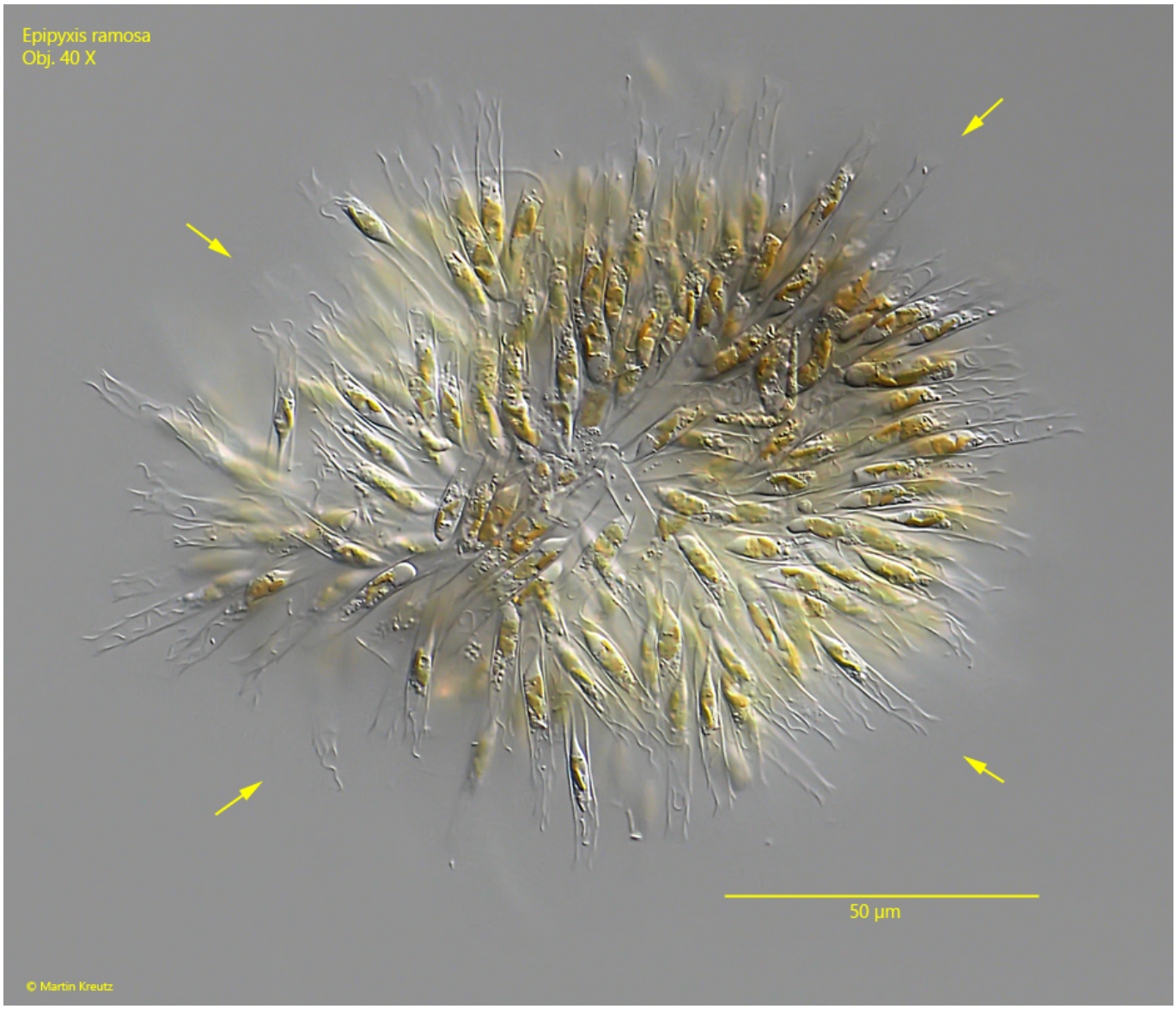


Fig. 1: *Epipyxis ramosa*. D = 165 µm (of colony). A spherical colony growing on a detritus flake. Note the light and dark quadrants in the colony (arrows). This is the so-called “Maltese cross”, which is visible in the DIC of birefringent, spherical objects. Obj. 40 X.



Fig. 2: *Epipyxis ramosa*. L = 30–50 µm (of loricae). A section of the colony as shown in fig. 1. Note the horizontal brightness gradient in the image, caused by the birefringent properties of the colony. Obj. 100 X.

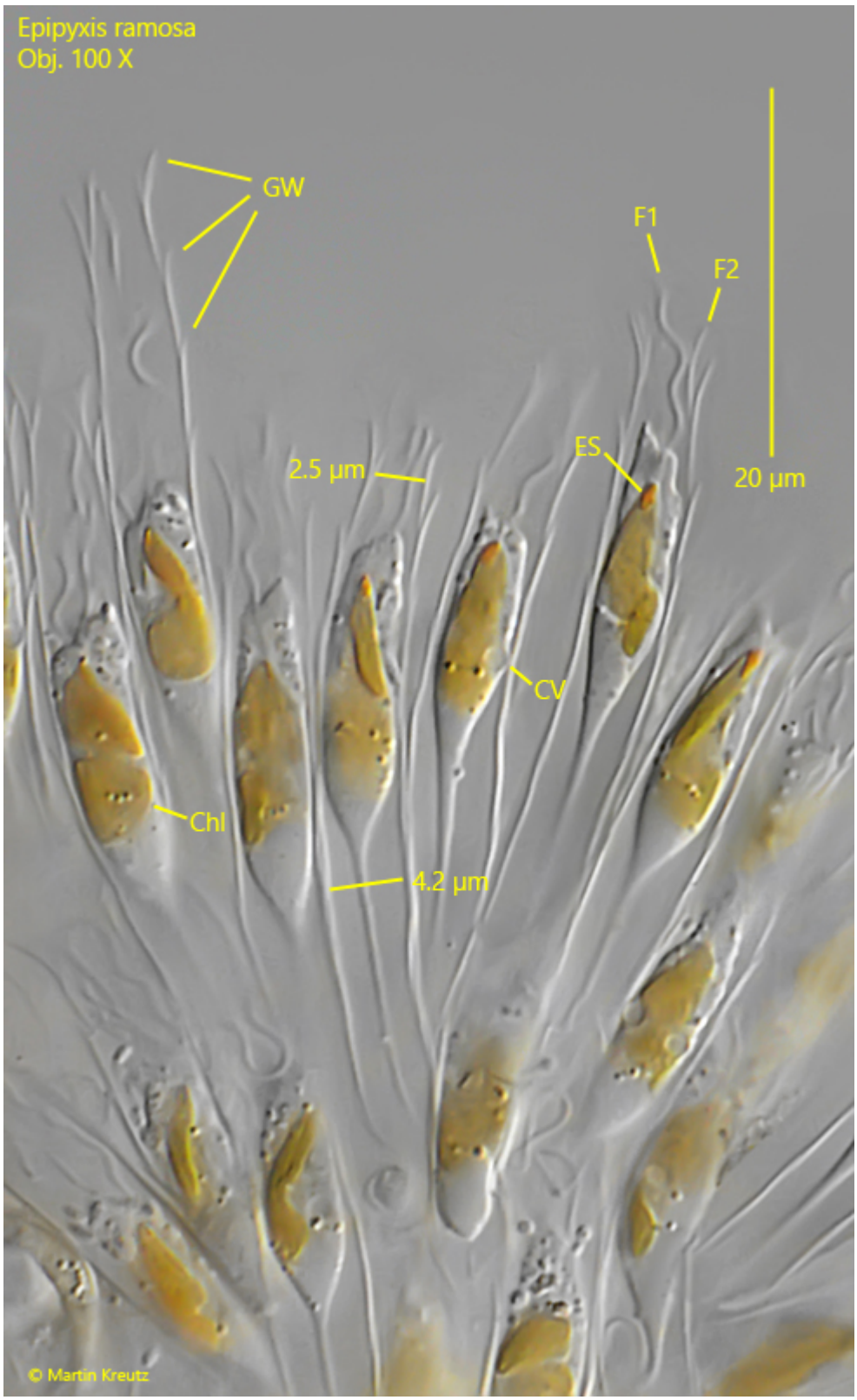


Fig. 3: *Epipyxis ramosa*. L = 40–50 µm (of loricae). The loricae and spindle-shaped cells in detail. Note that the loricae narrows slightly from the center to the aperture, e.g. from 4.2 µm to 2.5 µm. Chl = chloroplast, CV = contractile vacuole, ES = eyespot, F1 + F 2 = flagella of different length, GW = growth rings of lorica. Obj. 100 X.

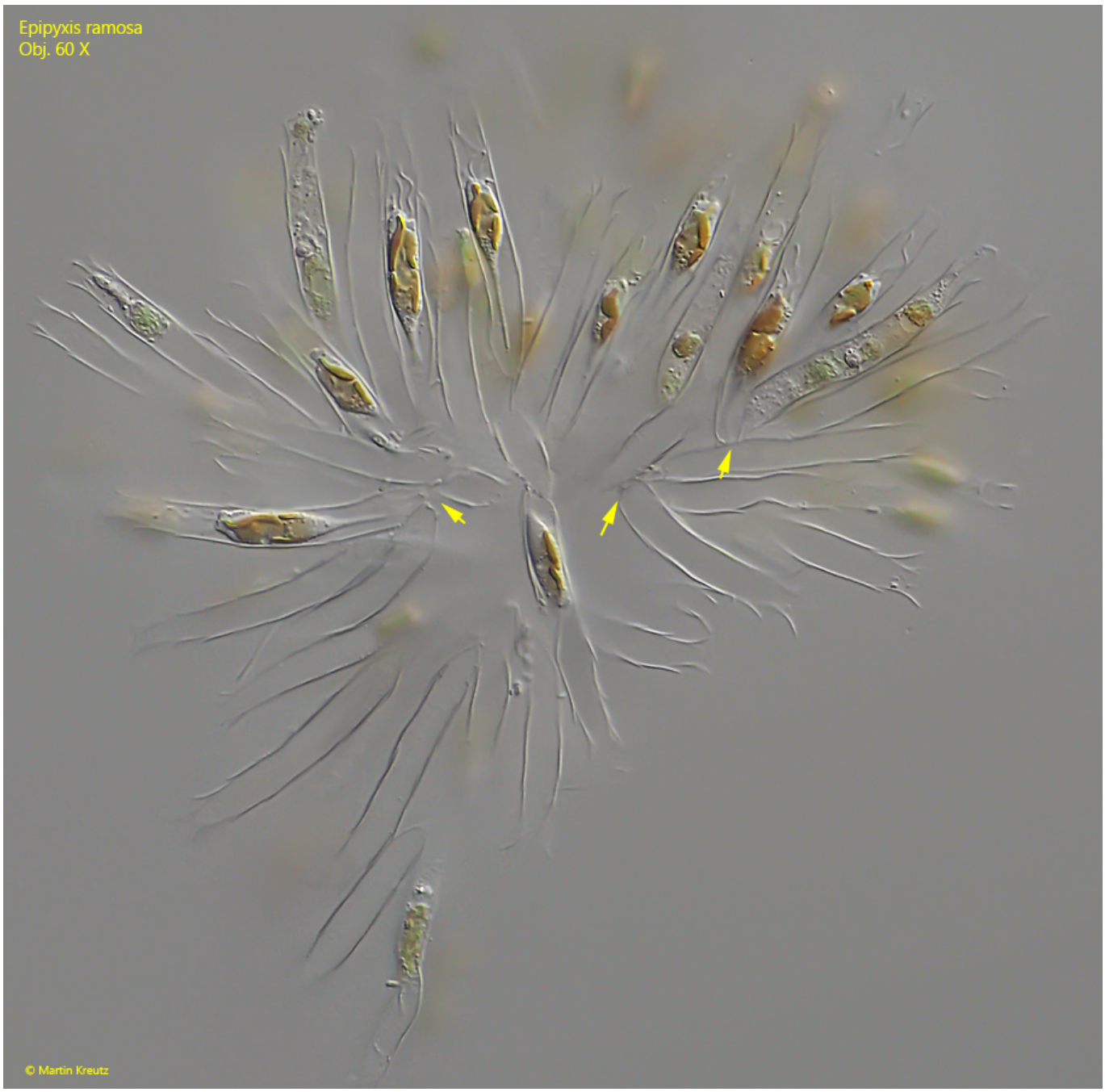


Fig. 4: *Epipyxis ramosa*. D = 135 µm (of colony). A second colony with a high proportion of empty loricae. The loricae of the daughter cells are partially grown on the loricae of the mother cells (arrows). Obj. 60 X.

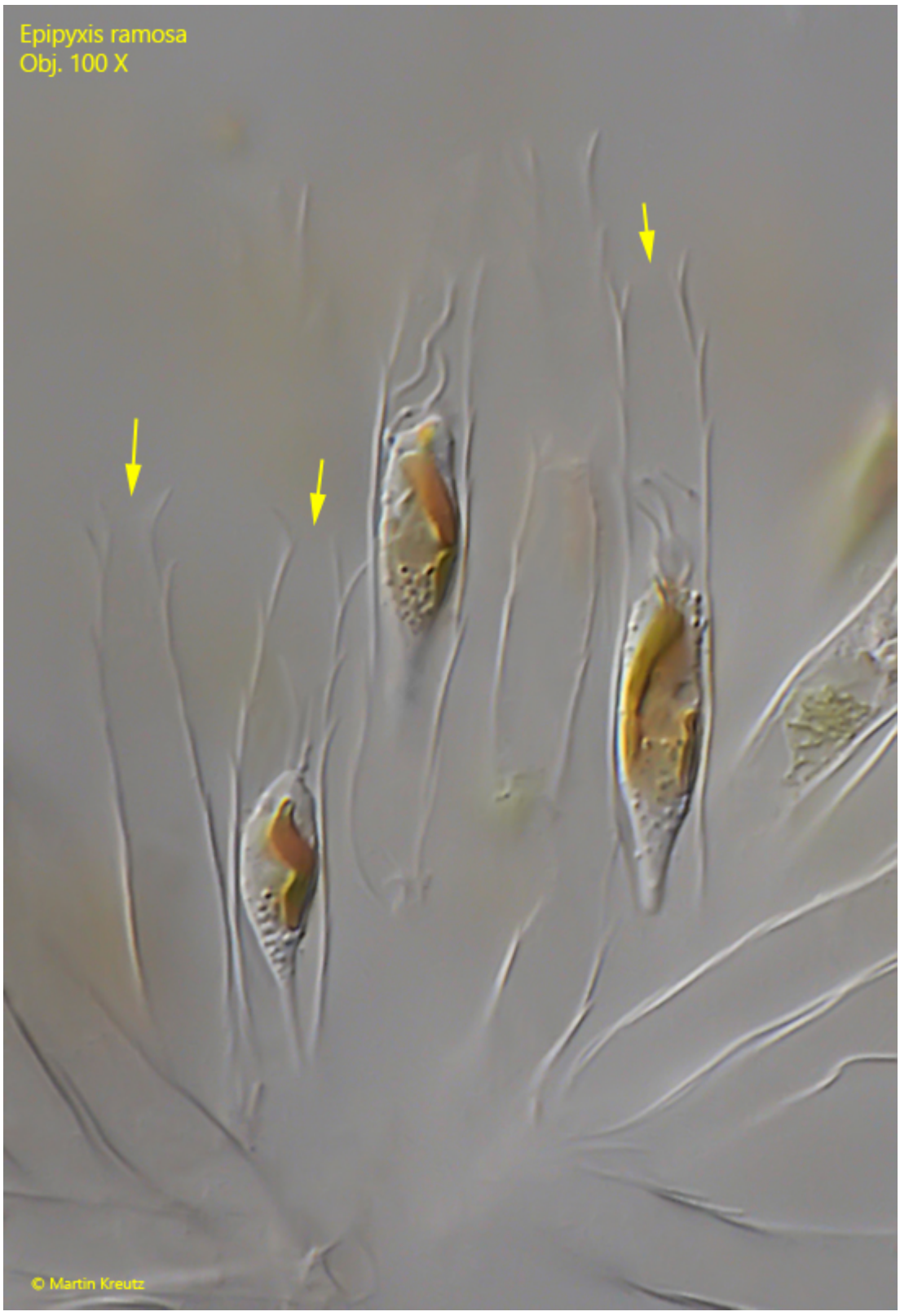


Fig. 5: *Epipyxis ramosa*. L = 30–35 µm (of loricae). A section of the colony as shown in fig. 4. Note the narrowed apertures of the loricae (arrows). Obj. 100 X.