Willea rectangularis

(Braun) John, Wynne & Tsarenko, 2014

Most likely ID: n.a.

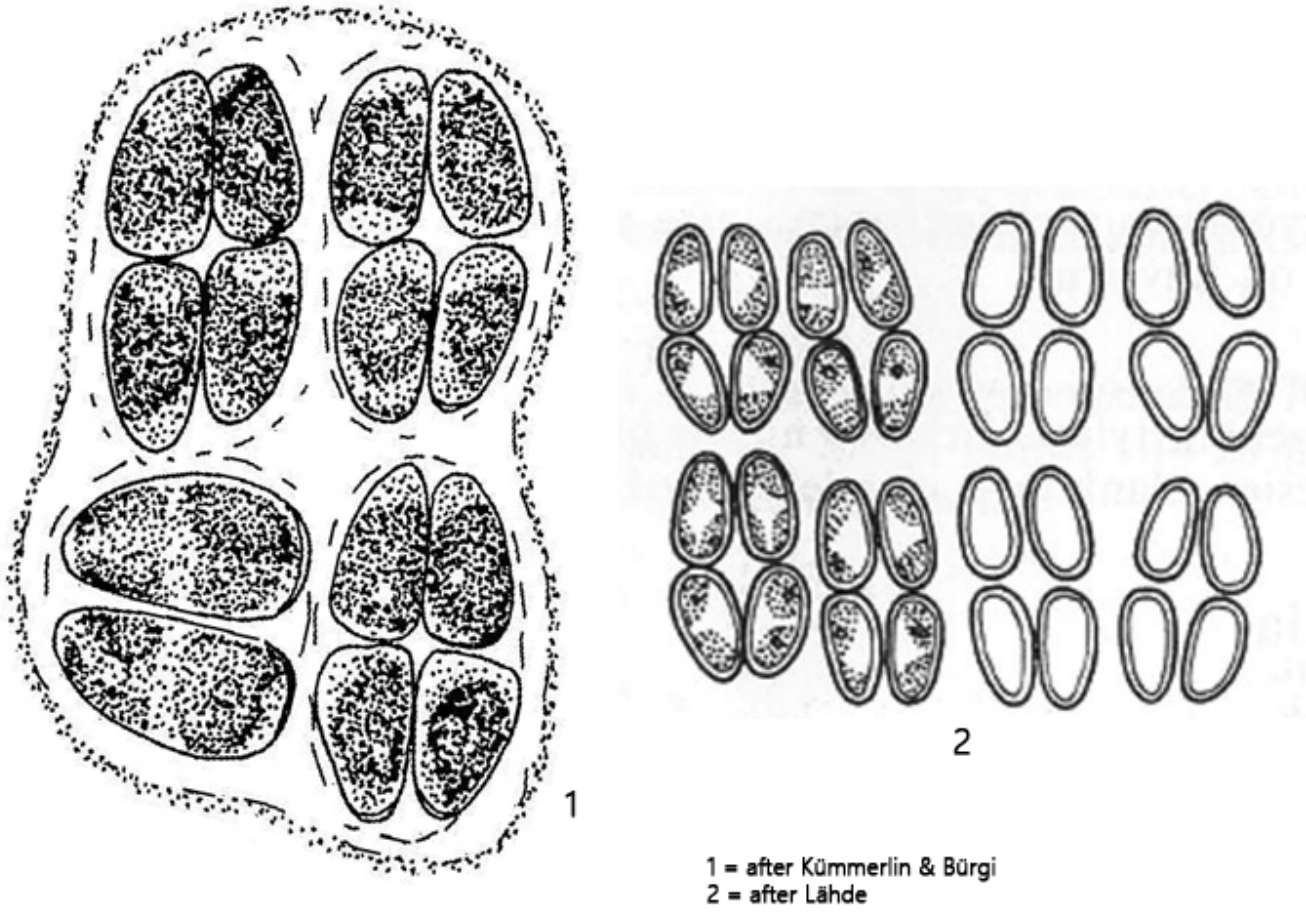
Synonym: *Staurogenia rectangularis*, *Crucigenia rectangularis*, *Crucigeniella rectangularis*

Sampling location: Pond behind parking space St. Ulrich (Austria)

Phylogenetic tree: *Willea rectangularis*

Diagnosis:

- rectangular coenobia of 4–32 cells, flattened, in mucilaginous envelope
- cells arranged in quadrate plates
- between each 4 quadrate plates a rhombic gap
- cells ovoid or almost cylindrical with rounded apices
- length 8–12 µm, widt 3–5 µm
- one parietal chloroplast with each one pyrenoid



Willea rectangularis

Willea rectangularis was found in a heavily eutrophic pond in St. Ulrich am Pillersee (Austria), which is located behind a parking space at the northern end of the village. I found a large population in the samples.

Willea rectangularis can be easily recognized by the regular arrangement of the cells in the coenobia and that the coenobia do not contain more than 32 cells. In the similar species *Willea irregularis* the cells are often mutually displaced. In addition, the coenobia of *Willea irregularis* can contain up to several hundred cells.

In my population, the chloroplast in the cells of *Willea rectangularis* contained a distinct pyrenoid (s fig. 1 a). However, this can also be small and inconspicuous. In some cells two chloroplasts appear to be present, but this is caused by the preparation for cell division.

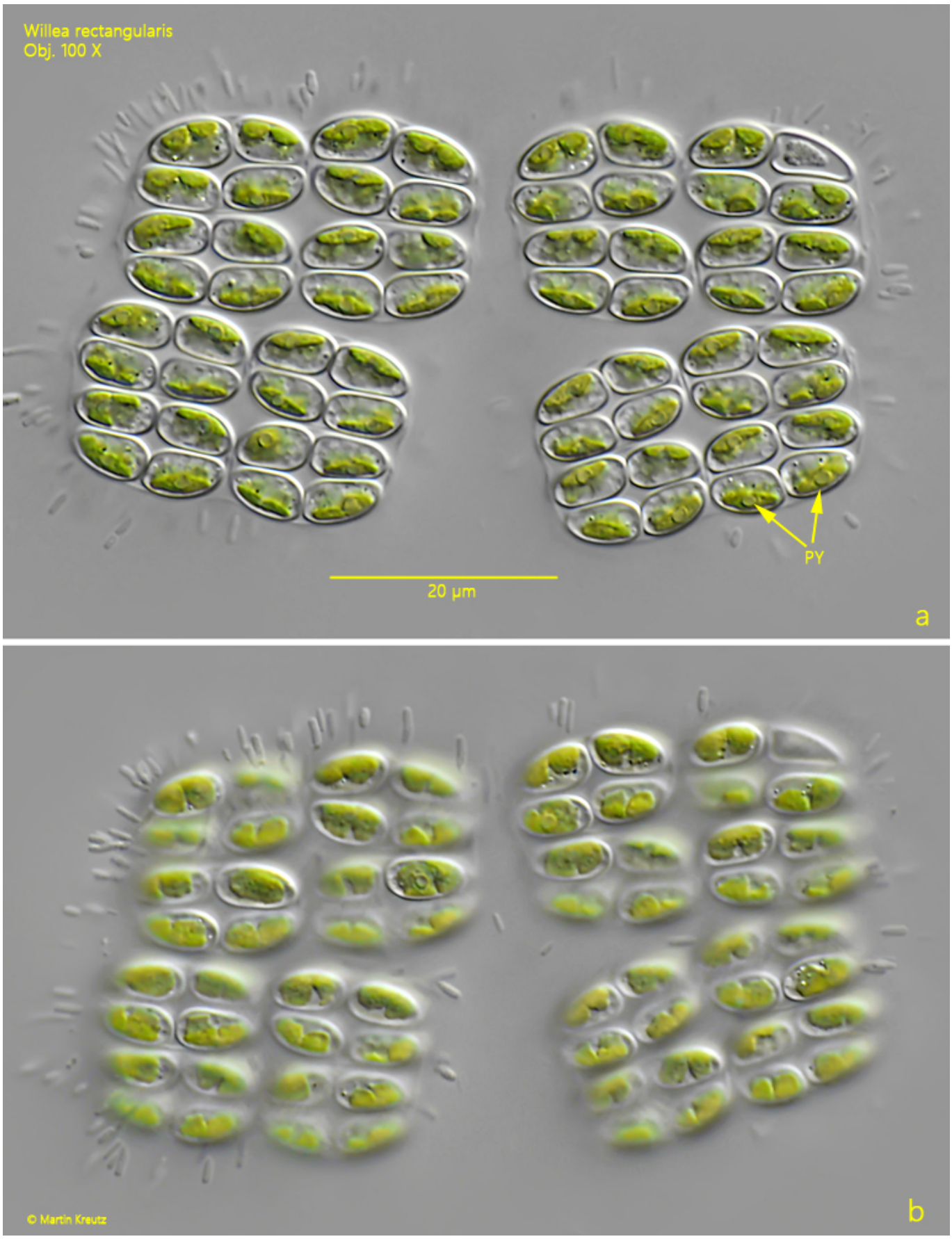


Fig. 1 a-b: *Willea rectangularis*. L = 32 µm (of 16-celled coenobia). Two focal planes of four coenobia of each 16 cells. PY = pyrenoids. Obj. 100 X.

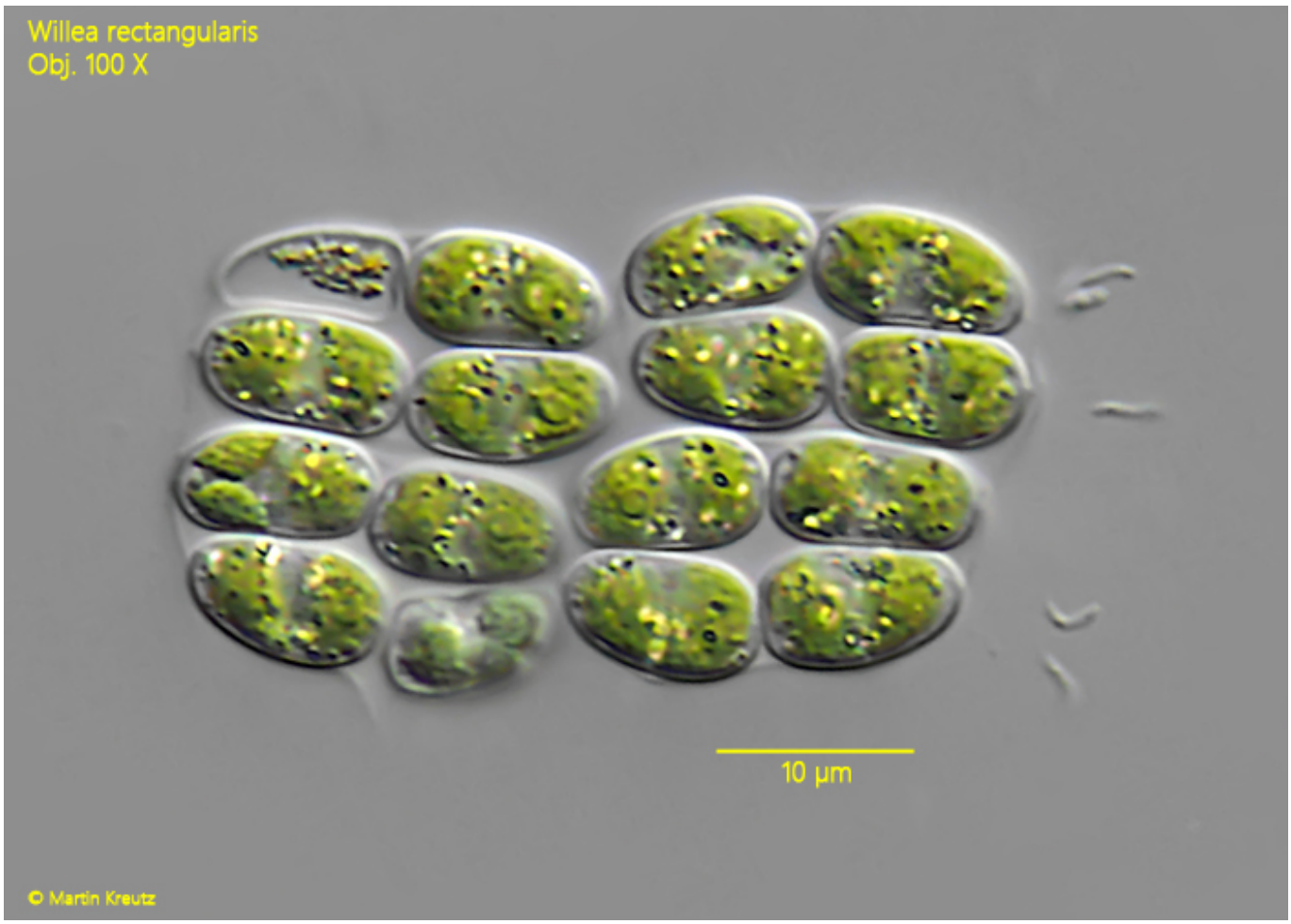


Fig. 2 a: *Willea rectangularis*. L = 42 µm (of coenobium). A second coenobium of 16 cells. Obj. 100 X.

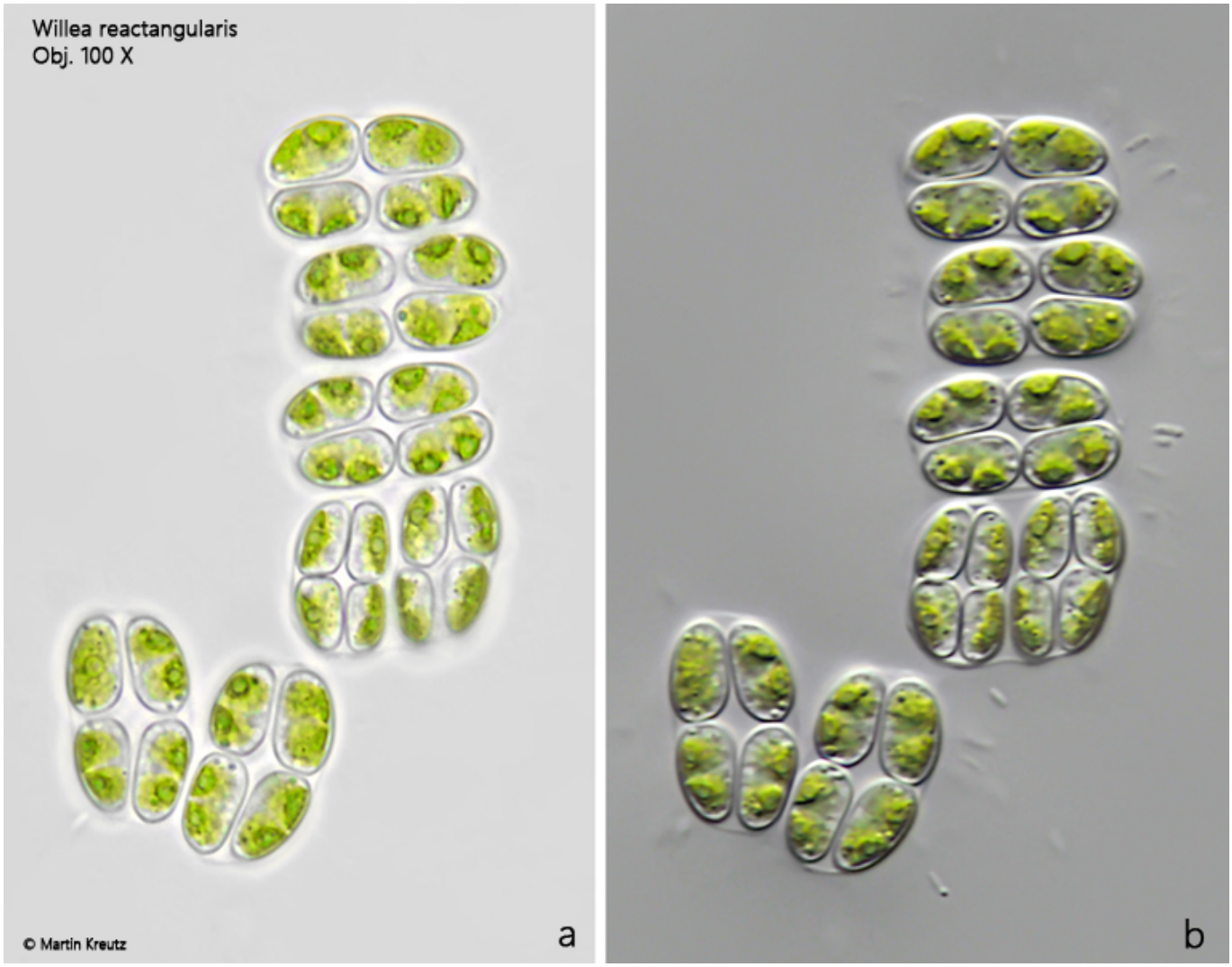


Fig. 3: *Willea rectangularis*. Three 8-celled coenobia in brightfield illumination (a) and DIC (b). Obj. 100 X.