Thiospira winogradskyi

(Omelianski, 1905) Visloukh, 1914

Most likely ID: n.a.

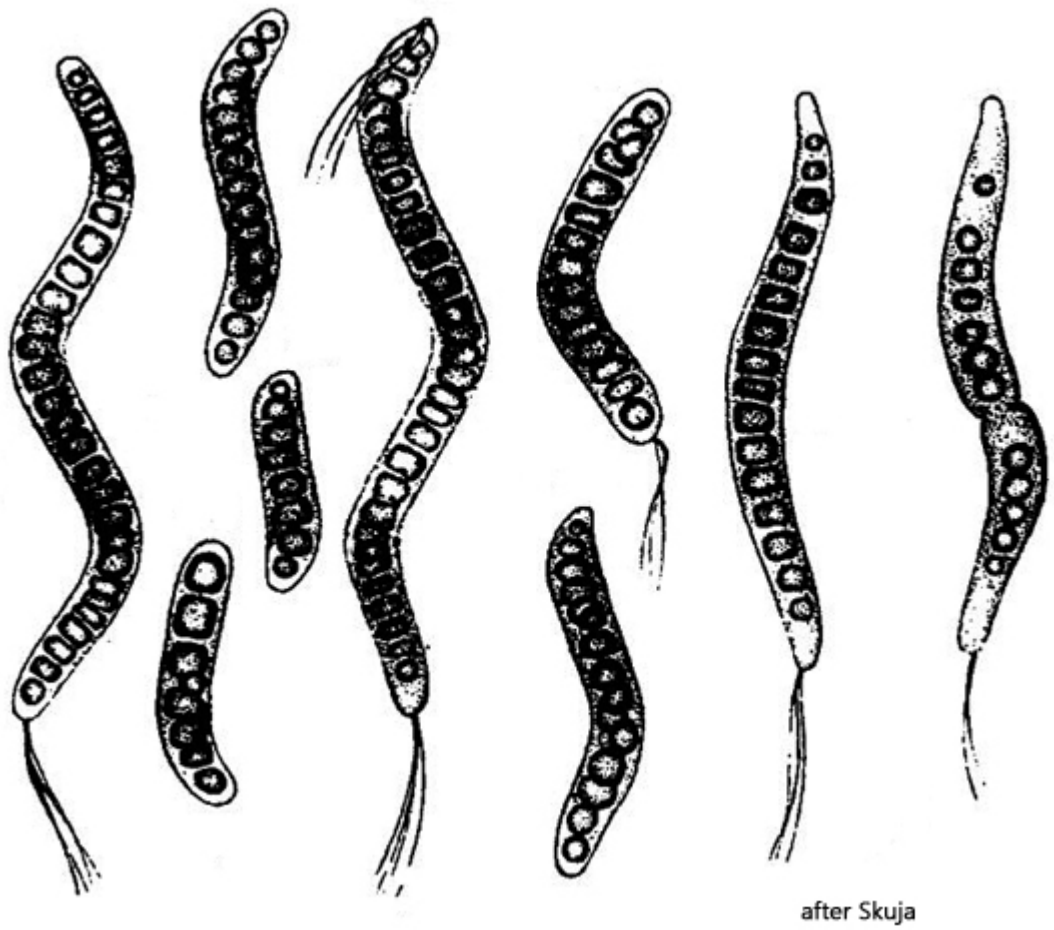
Synonym: n.a.

Sampling location: Schwemm Moor Austria

Phylogenetic tree: *Thiospira winogradskyi*

Diagnosis:

- cells rod-shaped, counterclockwise coiled
- length 20–60 µm, width 1.5–3.5 µm
- large sulphure globules in a row
- polar flagella at one or both cell ends



Thiospira winogradskyi

I found large numbers of *Thiospira winogradskyi* in samples from the Schwemm Moor (Austria). The only accurate description of this sulfur bacterium appears to be that provided by Skuja (1956).

The species within the genus *Thiospira* are characterized by a spiral-shaped body and sulfur globules, which are always arranged in a row within the cells. In addition, the cells have flagella at one or both ends, which are often twisted into bundles.

The individual species within the genus *Thiospira* differ mainly in terms of cell diameter and length. The cells in my population had a diameter of 2.5–3.0 µm. This rules out the species *Thiospira tenuis*, which has a diameter of 0.8–1.0 µm, and *Thiospira dextrogyra*, which has a diameter of 1.0–1.3 µm. The species *Thiospira bipunctata* has two conspicuously large sulfur globules and no globules arranged in a row. This leaves the species *Thiospira winogradskyi*, which is said to have a diameter of 1.5–3.5 µm. This corresponds to the diameter of the cells in my population. However, Skuja specifies a cell length of 20–60 µm for *Thiospira winogradskyi*, while the cells in my population were 12-22 µm long. However, since there

are no alternatives to *Thiospira winogradskyi* and the cells in my population correspond to Skuja's drawings (s. above), I am sticking with this species.

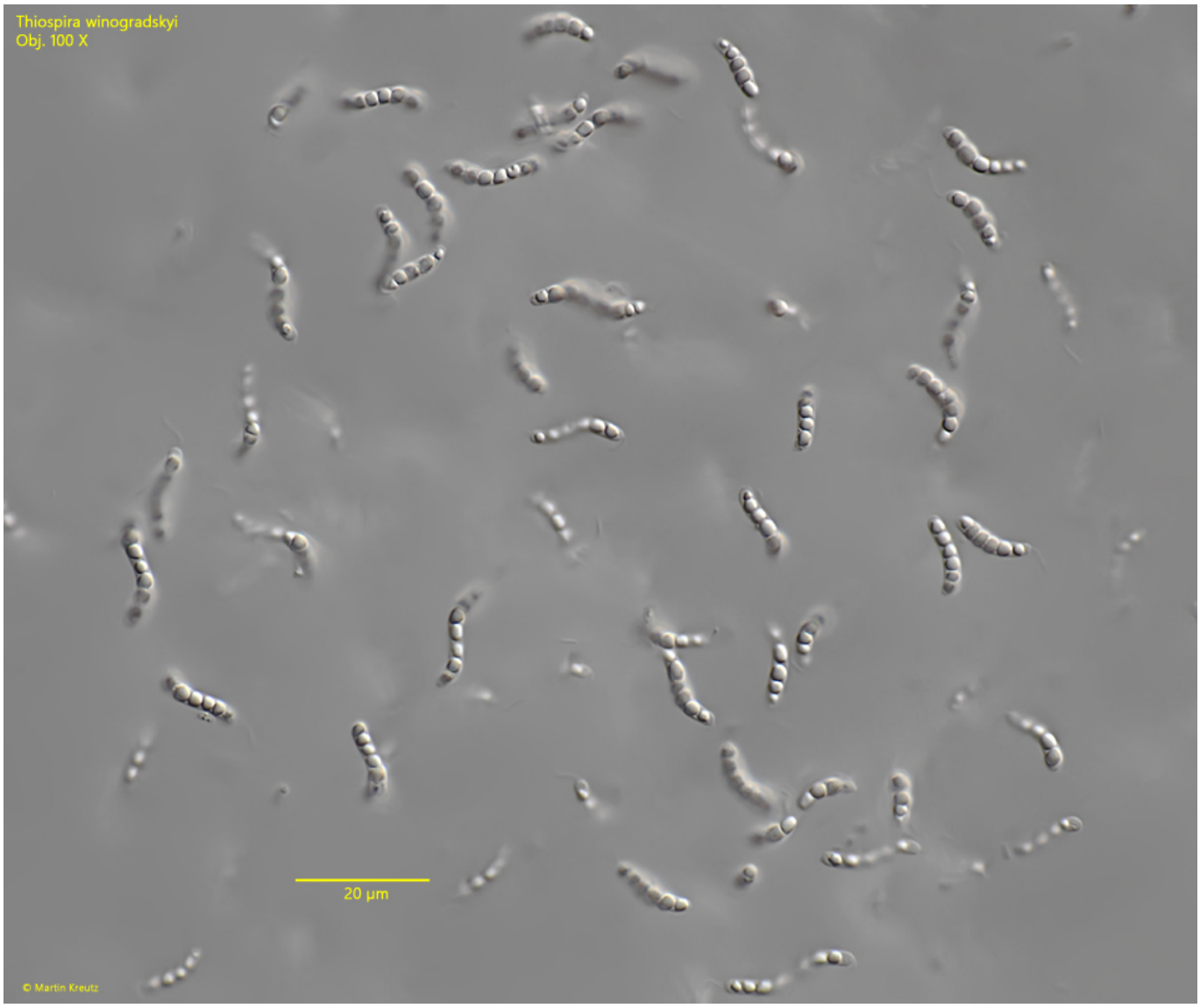


Fig. 1: *Thiospira winogradskyi*. L = 13–21 µm. An accumulation of freely swimming specimens. Obj. 100 X.

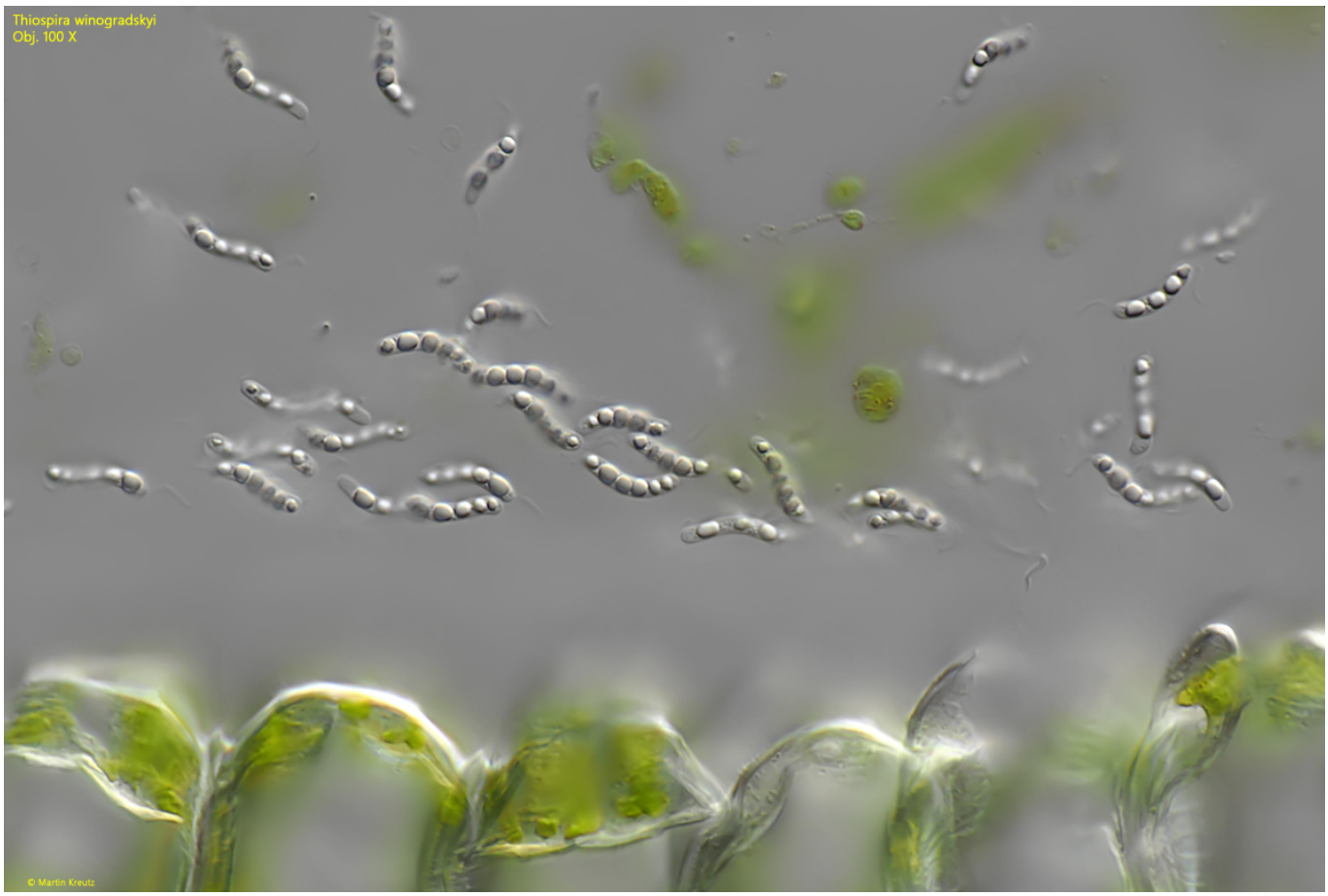


Fig. 2: *Thiospira winogradskyi*. L = 11–21 µm. A second accumulation of freely swimming specimens. Obj. 100 X.

Fig. 3: *Thiospira winogradskyi*. L = 12–19 µm. Some slightly squashed specimens. Obj. 100 X.

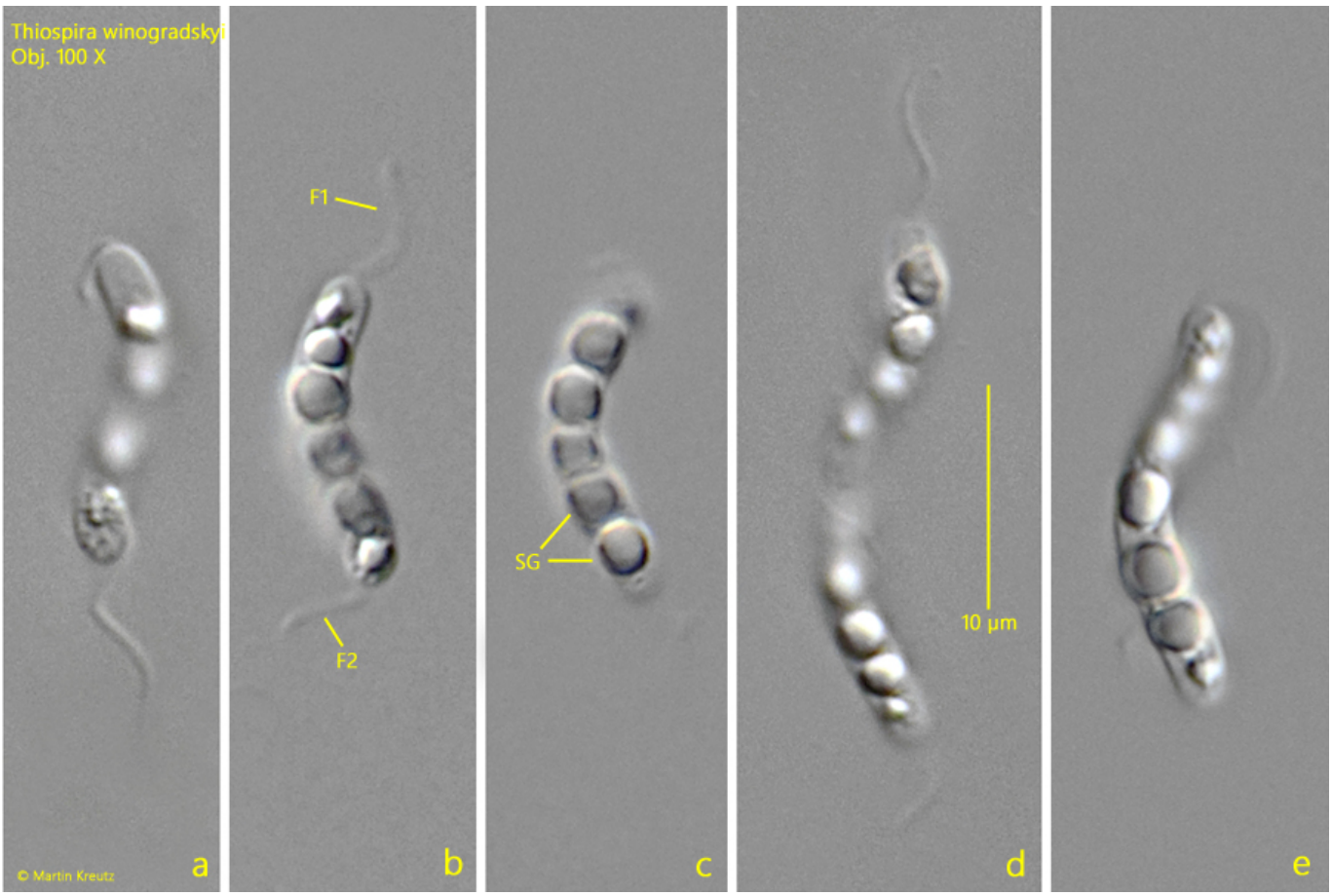


Fig. 4 a-e: *Thiospira winogradskyi*. L = 13–22 µm. Some specimens in detail. Each cell has a polar bundle of flagella at both ends (F1, F2). In the cells large sulphur globules (SG) are arranged in a row. Obj. 100 X.