

***Heteronema acus***  
**(Ehrenberg) Stein, 1878**

**Most likely ID:** n.a.

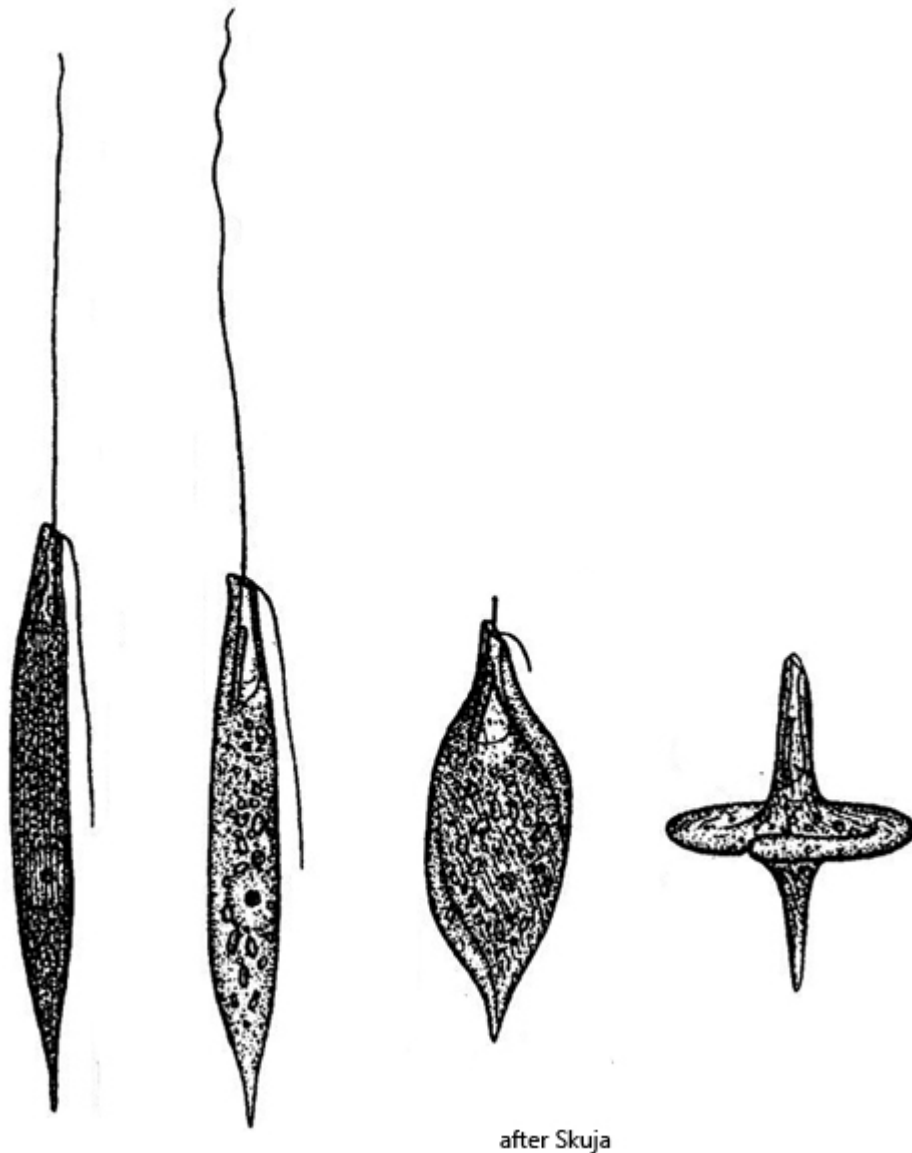
**Synonym:** *Astasia acus*, *Pseudoperanema acus*

**Sampling location:** [Purren pond](#), [Ulmisried](#), [Bussenried](#), [Mainau pond](#), [Simmelried](#)

**Phylogenetic tree:** [Heteronema acus](#)

**Diagnosis:**

- cell spindle-shaped, tapered towards both ends
- length 40–56 µm, width 8–20 µm
- leading flagellum about body length
- trailing flagellum half of body length
- periplast with delicate striation running in counterclockwise direction, sometimes smooth
- one contractile vacuole in anterior end
- nucleus central
- sometimes green and yellow remains of ingested algae



after Skuja

## Heteronema acus

*Heteronema acus* is the most common representative of the genus *Heteronema* in my sampling sites. The species is well recognizable by the spindle-shaped body and the trailing flagellum, which is about half as long as the body. The leading flagellum is usually slightly longer than the body and forms a lasso-shaped loop at the distal end, while the rest of the flagellum remains straight when swimming. *Heteronema acus* likes to settle on the [floating coverslip](#) and is then easy to observe.

Heteronema acus  
Obj. 100 X

LF

TF

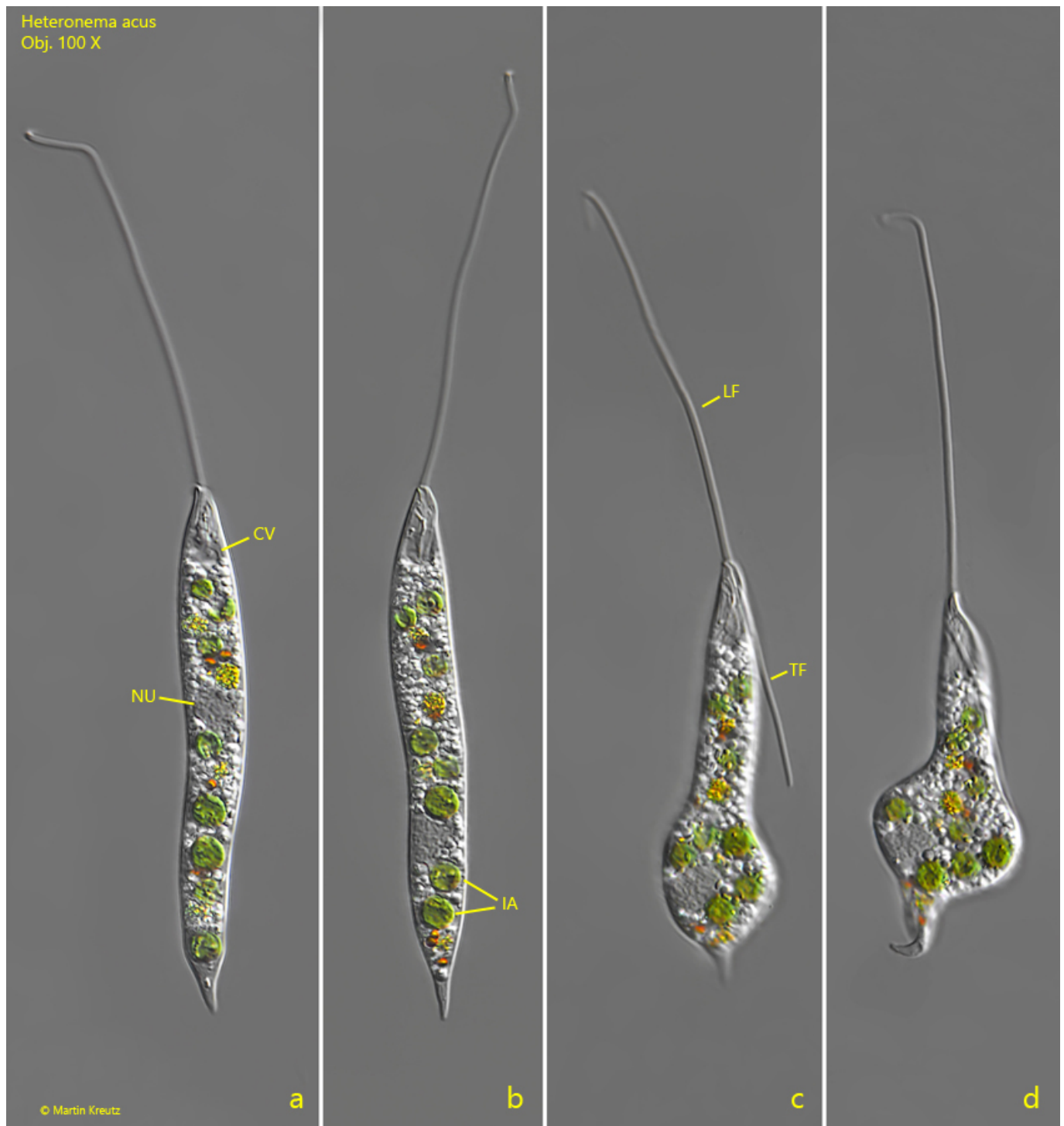
a

b

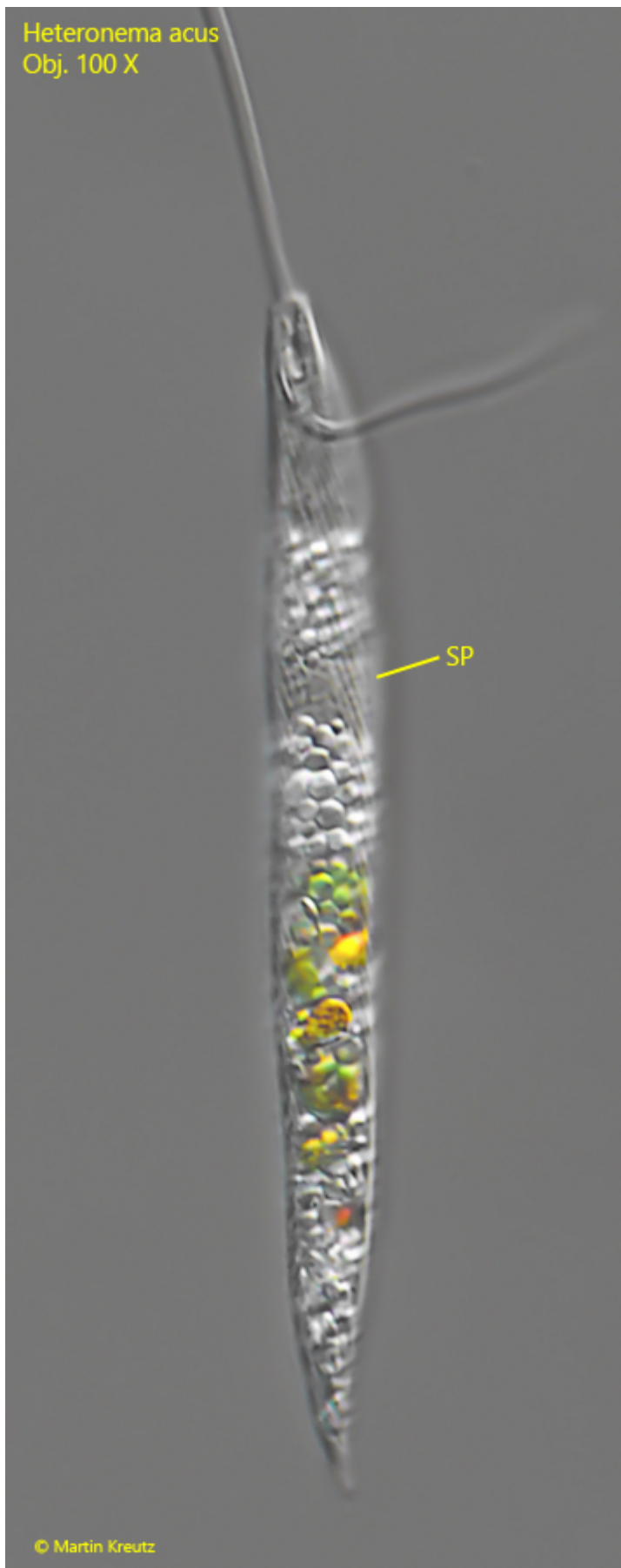
c

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**Fig. 1 a-c:** *Heteronema acus*. L = 59  $\mu\text{m}$ . Three focal planes of a freely swimming specimen. Note the trailing flagellum (TF) projecting posteriorly end parallel to the body. LF = leading flagellum. Obj. 100 X.



**Fig. 2 a-d:** *Heteronema acus*. L = 78  $\mu\text{m}$ . A second, slightly squashed specimen. CV = contractile vacuole, IA = ingested algae, LF = leading flagellum, Nu = nucleus, TF = trailing flagellum. Obj. 100 X.



**Fig. 3:** *Heteronema acus*. L = 68  $\mu$ m. Focal plane on the delicate striation of the pellicle (SP) of a third specimen. The striation runs in counterclockwise direction to

the posterior end. Obj. 100 X.