

## ***Sleighophrys pustulata* Foissner, 2005**

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

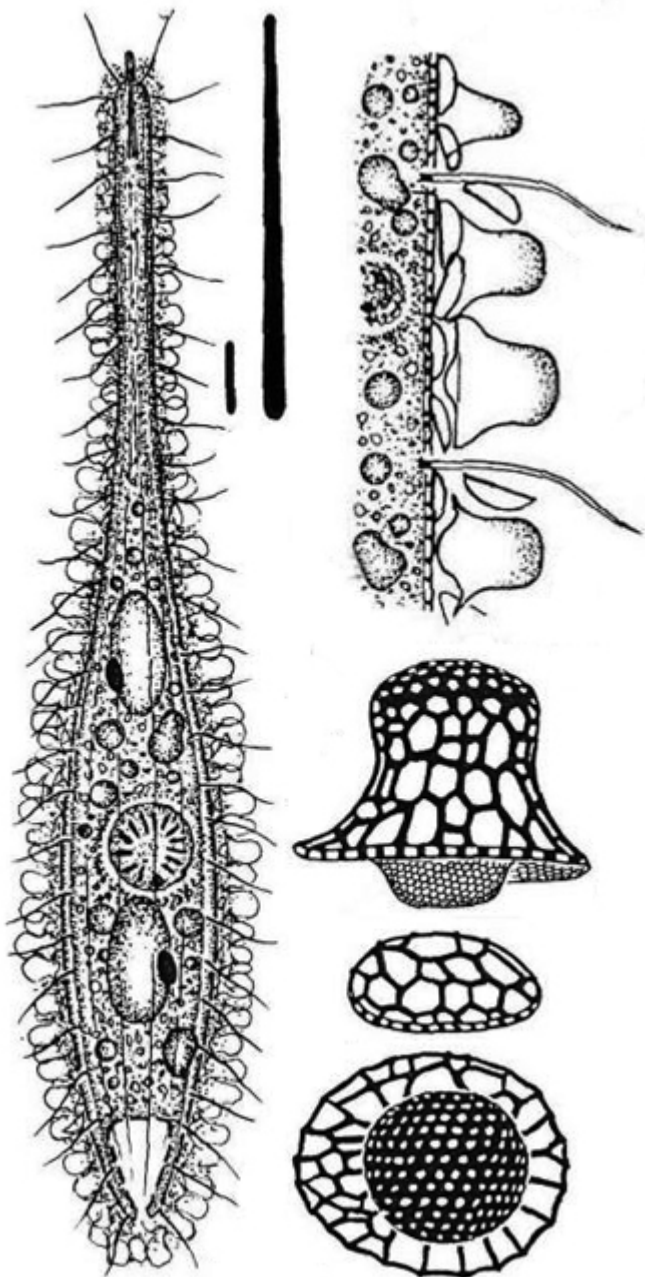
**Synonym:** n.a.

**Sampling location:** Gieringer Weiher (Austria)

**Phylogenetic tree:** [Sleighophrys pustulata](#)

### **Diagnosis:**

- body amphoriform or fusiform, contracted bottle-shaped
- dorso-ventrally flattened
- oral bulge conical or cylindrical, with apical tip
- length 160–230  $\mu\text{m}$ , width 15–40  $\mu\text{m}$
- two widely separated, ellipsoid macronuclei
- each macronucleus with one micronucleus
- about 12 longitudinal rows of cilia
- two types of rod-shaped extrusomes
- extrusomes type 1 acicular, 12–16  $\mu\text{m}$  long
- extrusomes type 2 thin, straight rods, length 2.5  $\mu\text{m}$
- cells covered by epicortical layer with lepidosomes
- two types of complex shaped lepidosomes
- dorsal brush three-rowed
- contractile vacuole terminal
- excretion pore terminal



after Foissner

### Sleighophrys pustulata

*Sleighophrys pustulata* was first described by Foissner from Venezuela in 2005. He found this species in samples from dried-up puddles on a cattle pasture. No other locations for this trachelophyllid ciliate have been known so far.

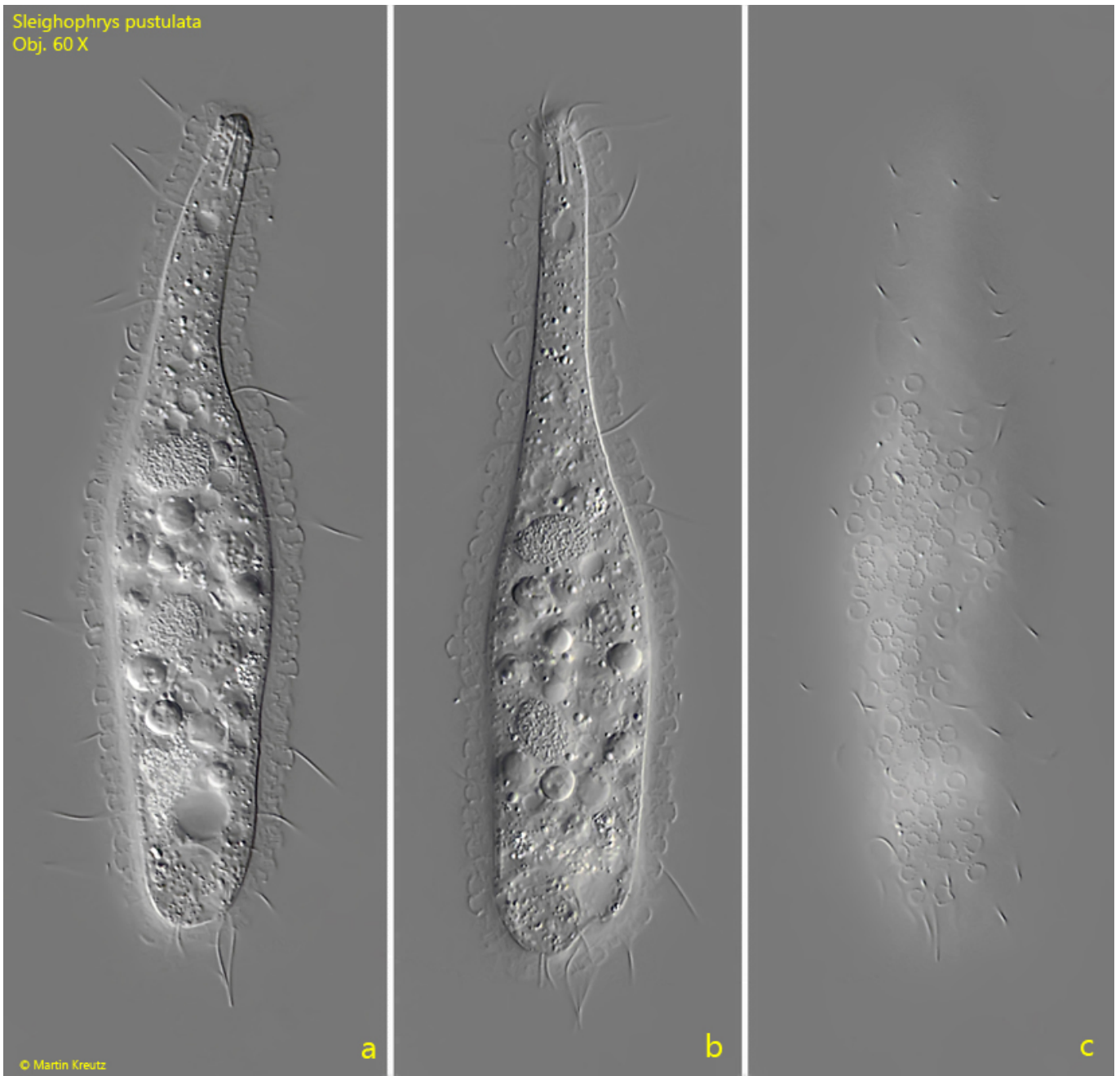
I found *Sleighophrys pustulata* in June 2026 in the Gieringer Weiher near Kitzbühel in Austria. This is a largely untouched raised bog. The samples were taken in shallow pools around the pond. In the samples, the specimens accumulated at the surface of the samples.

The most striking feature of *Sleighophrys pustulata* is an approximately 6–8  $\mu\text{m}$  thick epicortical layer that covers the entire body of the ciliate, except for the apical mouth opening. The epicortical layer is a mucous layer into which intricately shaped scales, called lepidosomes, are embedded. In *Sleighophrys pustulata*, two different types of lepidosomes are present. Their exact shape can only be seen under an electron microscope. The larger form of these lepidosomes is roughly bell-shaped and can also be easily recognized under a light microscope (s. figs. 3, 4 and 5). In top view, they appear as dotted rings, similar to a bracelet (s. fig. 4). This corresponds exactly to the form as described by Foissner.

Another important feature is the size and shape of the extrusomes. Foissner observed larger, acicular shaped extrusomes with a length of 12–16  $\mu\text{m}$  and a second form that is rod-shaped and only 2.5  $\mu\text{m}$  long. In my populations, I was also able to observe these forms of extrusomes, but with slightly different lengths. The acicular extrusomes of type 1 were 10–11  $\mu\text{m}$  long (s. fig. 3), while the rod-shaped extrusomes of type 2 were consistently 4.3  $\mu\text{m}$  long (s. fig. 6). Since only one population from Venezuela has been studied so far, I consider these deviations to be the usual variability within the species.

The remaining features also corresponded to the description of *Sleighophrys pustulata* by Foissner. There are two widely separated macronuclei with an ellipsoidal shape, each with an attached micronucleus (s. fig. 3). The contractile vacuole is terminal (s. fig. 2 a). All the specimens I observed contracted under the coverslip, which caused them to take on a bottle shape and have a correspondingly shortened body length. However, this behavior was also observed by Foissner.

Sleighophrys pustulata  
Obj. 60 X



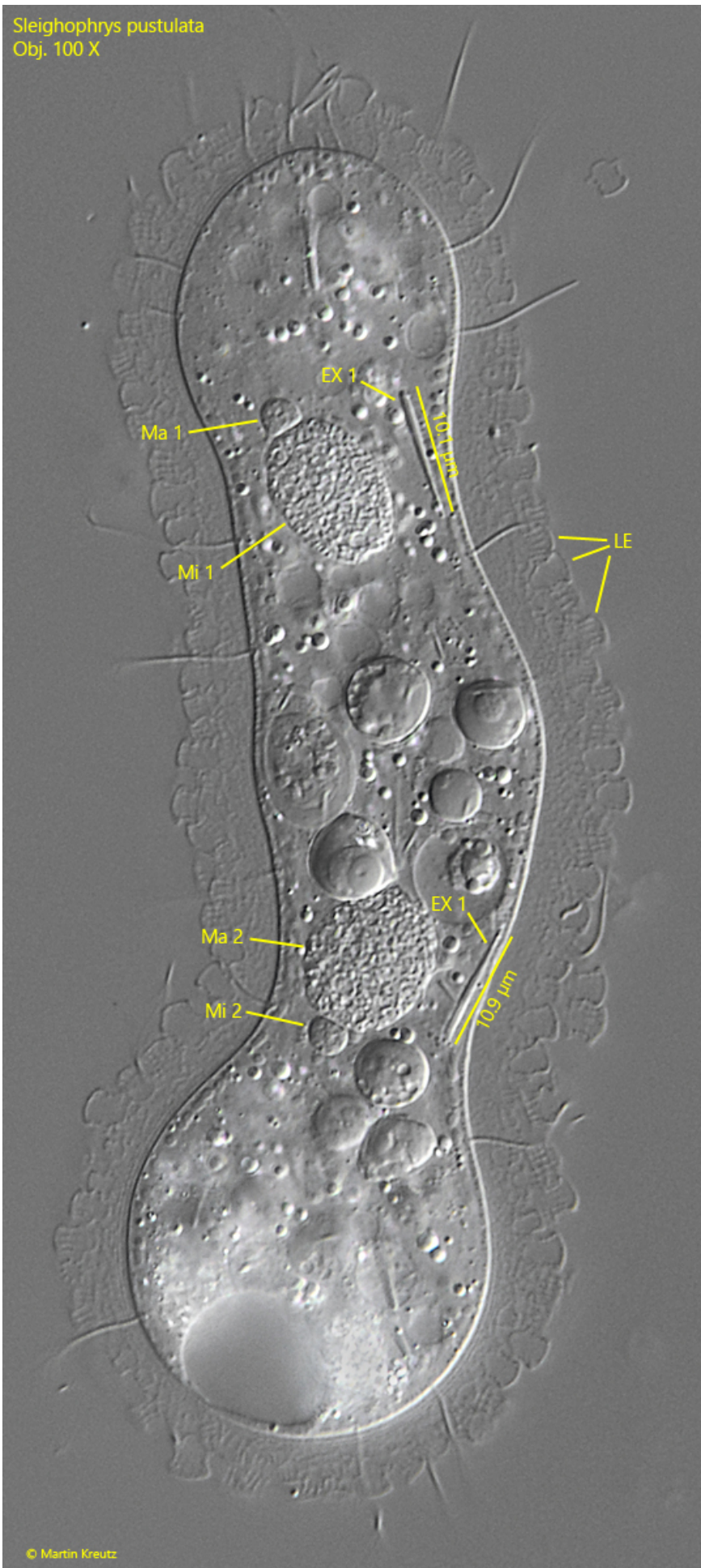
**Fig. 1 a-c:** *Sleighophrys pustulata*. L = 130  $\mu$ m. A slightly contracted, freely swimming specimen. The lepidosomes scattered in the mucilaginous sheath covering the body appear as dotted circles in top view (c). Obj. 60 X.

*Sleighophrys pustulata*  
Obj. 100 X



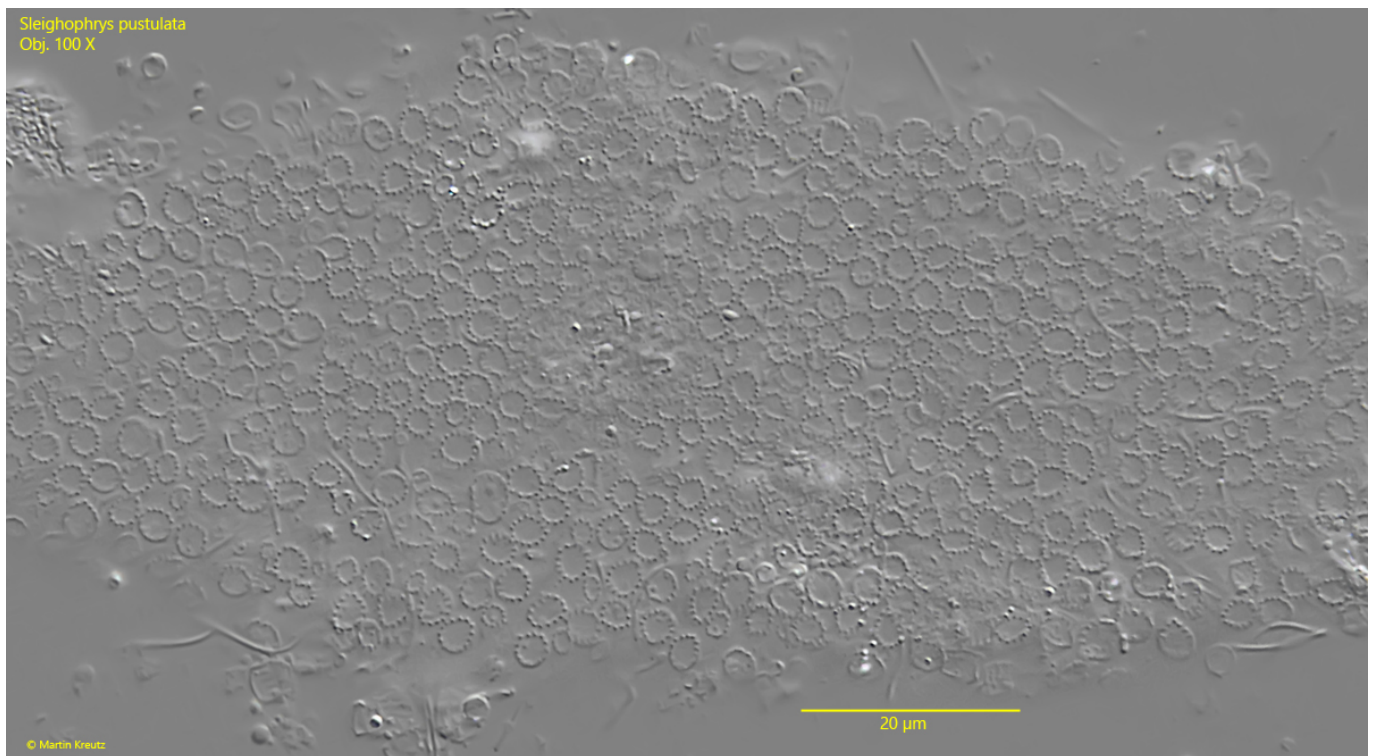
**Fig. 2 a-b:** *Sleighophrys pustulata*. L = 130  $\mu$ m. Two focal planes of the specimen as shown in fig. 1 a-c. Obj. 100 X.

Sleighophrys pustulata  
Obj. 100 X

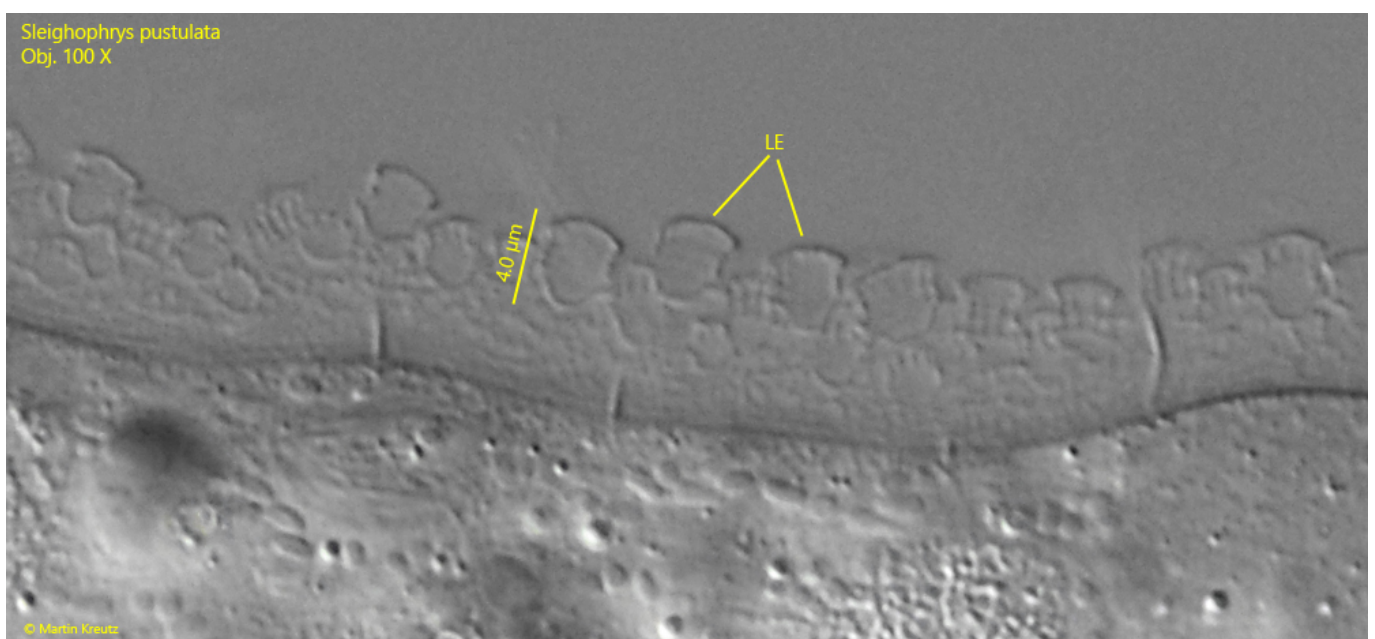


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**Fig. 3:** *Sleighophrys pustulata*. A squashed second specimen. Two of the acicular shaped extrusomes type 1 (EX 1) are visible with a length of 10.1  $\mu\text{m}$  and 10.9  $\mu\text{m}$ . The nuclear apparatus consists of two separated macronuclei (Ma 1, Ma 2) each with one adjacent micronucleus (Mi 1, Mi 2). LE = lepidosomes. Obj. 100 X.



**Fig. 4:** *Sleighophrys pustulata*. A strongly squashed specimen with focal plane on the ring-shaped lepidosomes scattered in the mucilainous layer covering the cell. Obj. 100 X.



**Fig. 5:** *Sleighophrys pustulata*. The lepidosomes (LE) with a length of about 4  $\mu\text{m}$  in a strongly squashed specimen. Obj. 100 X.



**Fig. 6:** *Sleighophrys pustulata*. The extrusomes of type 2 (EX 2) in a strongly squashed specimen are rod-shaped with a length of 4.3  $\mu\text{m}$ . Obj. 100 X.