Polychaos annulatum

(Penard, 1902) Smirnov & Goodkov, 1997

Most likely ID: n.a.

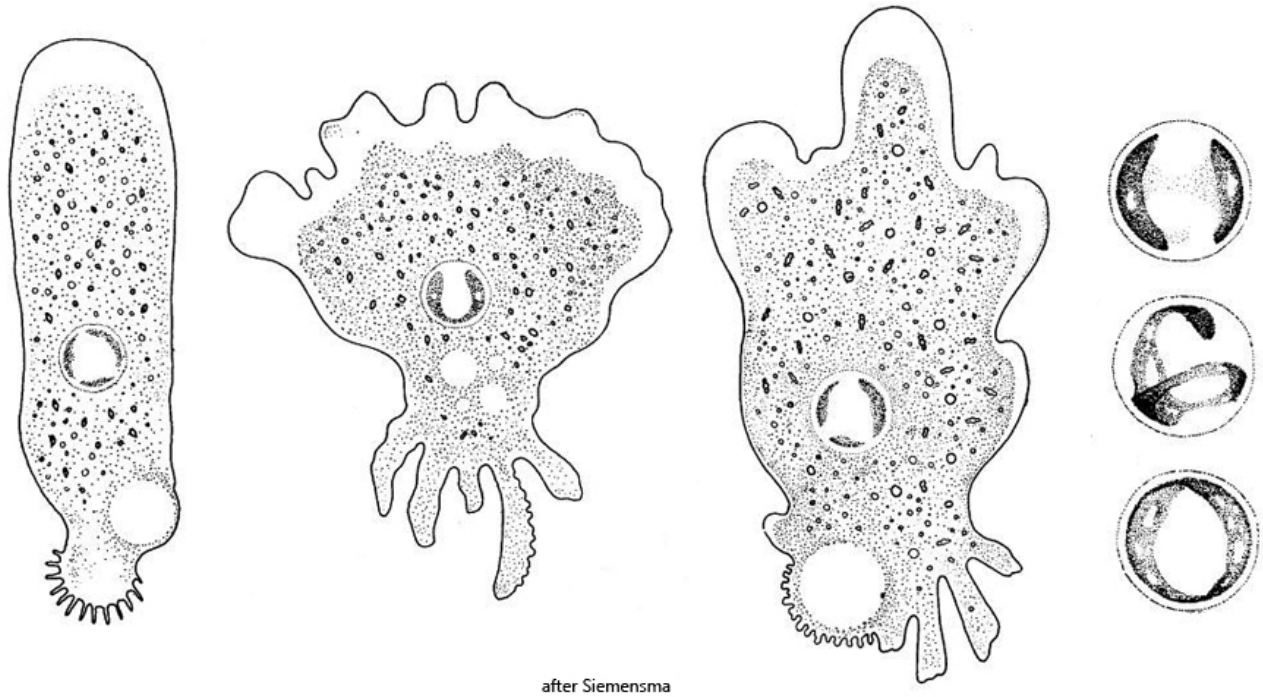
Synonym: n.a.

Sampling location: Simmelried

Phylogenetic tree: *Polychaos annulatum*

Diagnosis:

- body polypodial, sometimes monopodial
- pseudopodia broad with hyaline cap
- slow locomotion of polypodial form, fast locomotion of monopodial form
- length 60–325 µm (monopodial), usually 60–190 µm
- globular nucleus (12–25 µm), nucleolus forming a hollow, perforated sphere (appears ring-shaped)
- one contractile vacuole, often near uroid
- uroid bulbous in monopodial form, faciculate in palmate form
- cytoplasm with crystals up to 5 µm (bi-pyramidal, polyhedral or rectangular)



Polychaos annulatum

I have found *Polychaos annulatum* in the Simmelried, where the species is much more common than the larger representative of the genus *Polychaos dubium*. The two species can be distinguished not only by their size, but mainly by the shape of the nucleus. In *Polychaos annulatum*, the nucleolus, i.e. the condensed nuclear material, is concentrated on the wall of the nucleus and thus forms a perforated hollow sphere. In the microscope, this hollow sphere then appears like an interrupted ring, which is clearly different from the granular nucleus of *Polychaos dubium*.

So far I have only been able to observe the monopodial form of *Polychaos annulatum* (s. figs. 1 a-f and 2 a-d). However, this may be due to an insufficient layer thickness under the coverslip, so that the monopodial form is preferred. As described by Siemensma, the monopodial form has a bulbous uroid (s. fig. 1 a-f).

More information on *Polychaos annulatum*: Ferry Siemensma-Microworld-*Polychaos annulatum*.

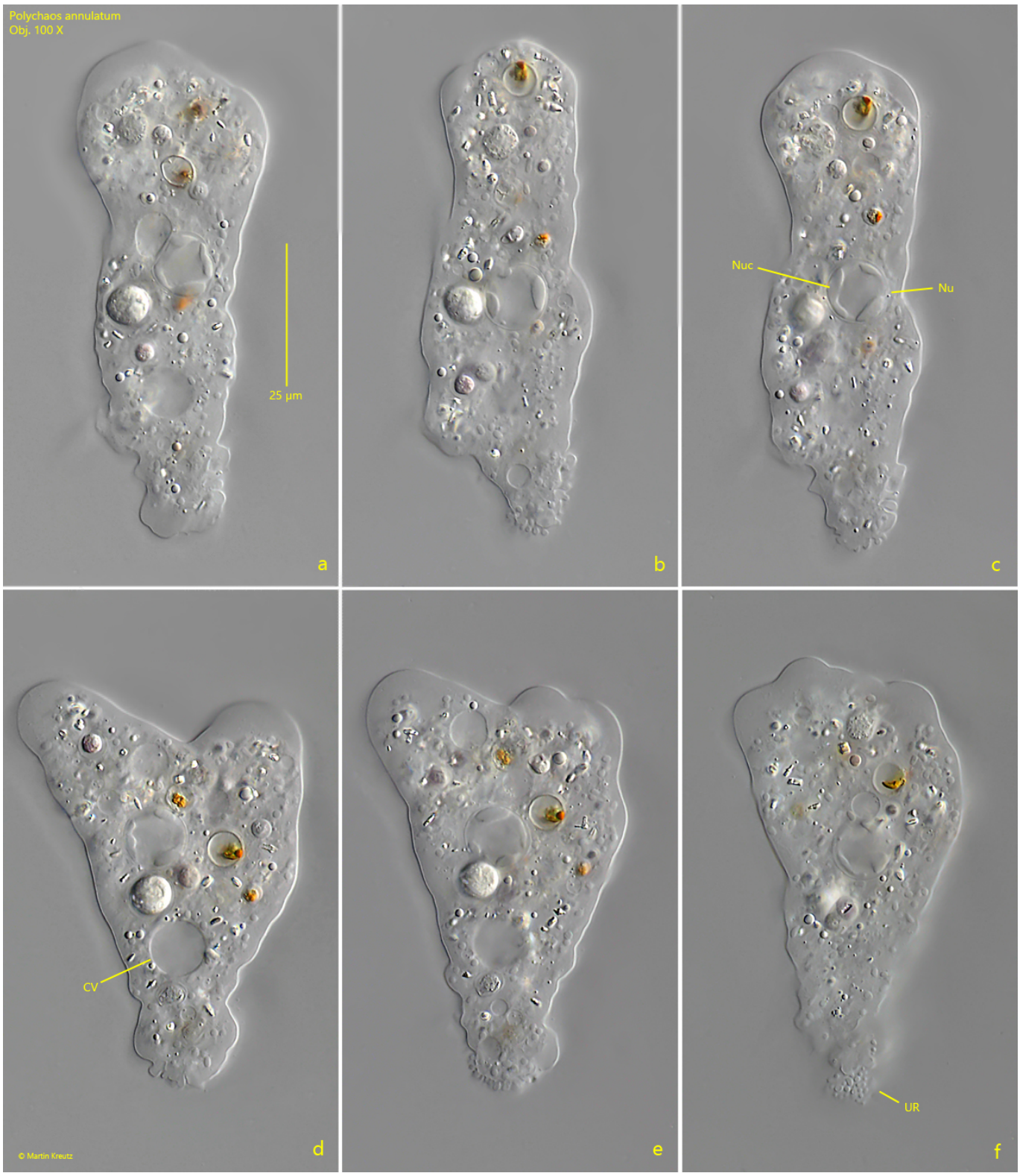


Fig. 1 a-f: *Polychaos annulatum.* L = 88 µm. Different stages of the monopodial locomotion. Note the bulbous uroid (UR). The diameter of the nucleus in this specimen is 11 µm. CV = contractile vacuole, Nu = nucleus, Nuc = nucleolus. Obj. 100 X.

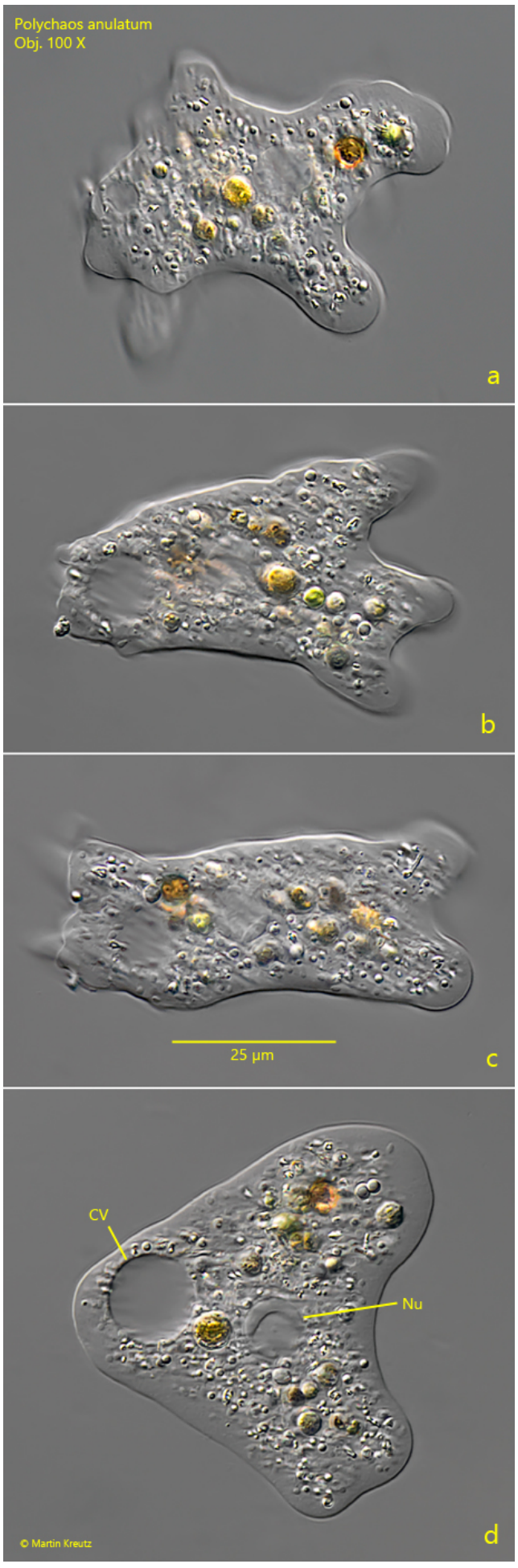

Polychaos anulatum
Obj. 100 X
a
b
25 µm
c
CV
Nu
© Martin Kreutz
d

Fig. 2 a-d: *Polychaos annulatum.* L = 76 µm. A specimen during monopodial locomotion (a-c) and slightly squashed (d). CV = contractile vacuole, Nuc = ring-shaped nucleolus. Obj. 100 X.

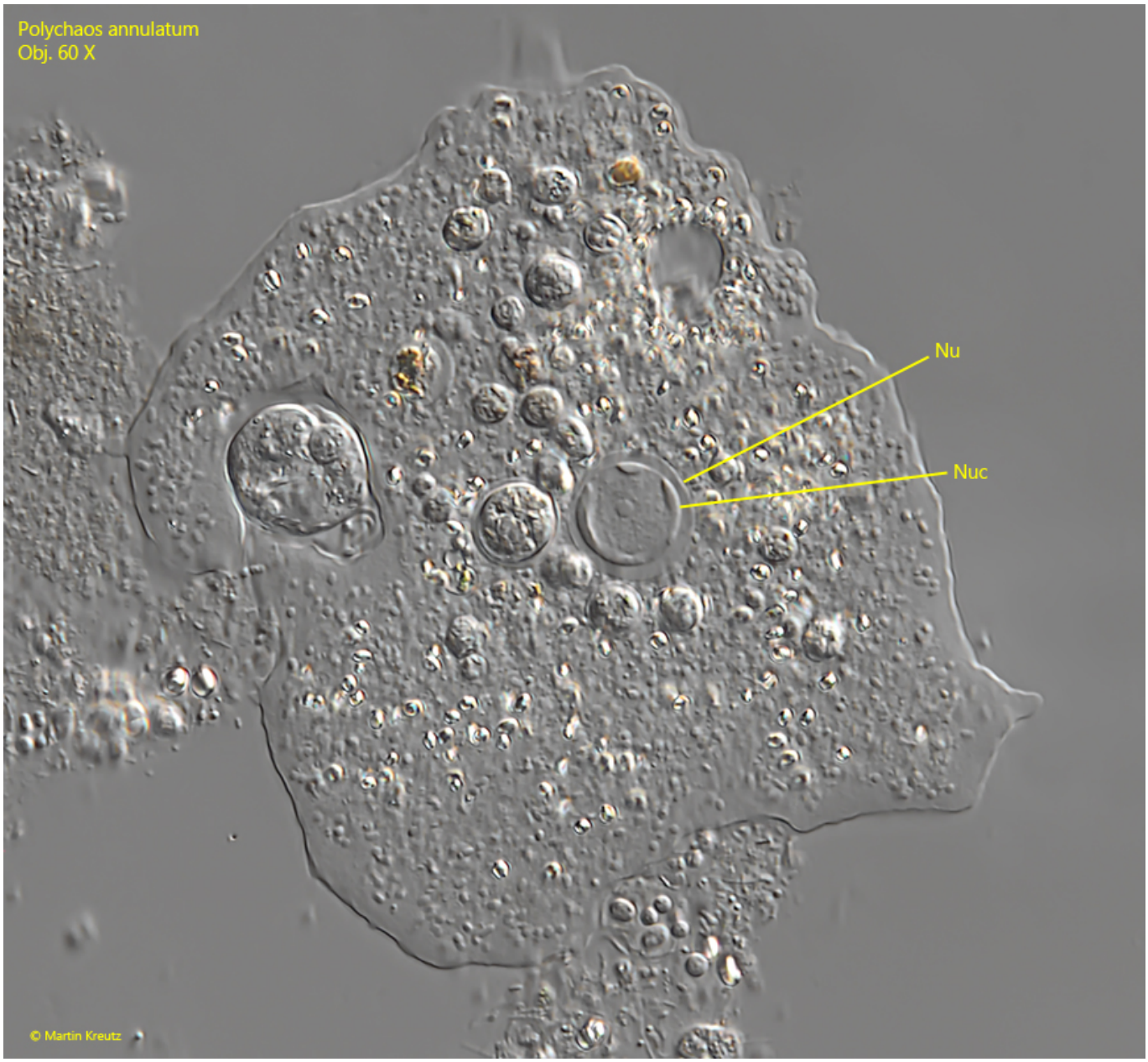


Fig. 3: *Polychaos annulatum.* The nucleus (Nu) in a strongly squashed specimen. The nucleolus (Nuc) is a perforated hollow sphere and appears as an interrupted ring. Obj. 60 X.

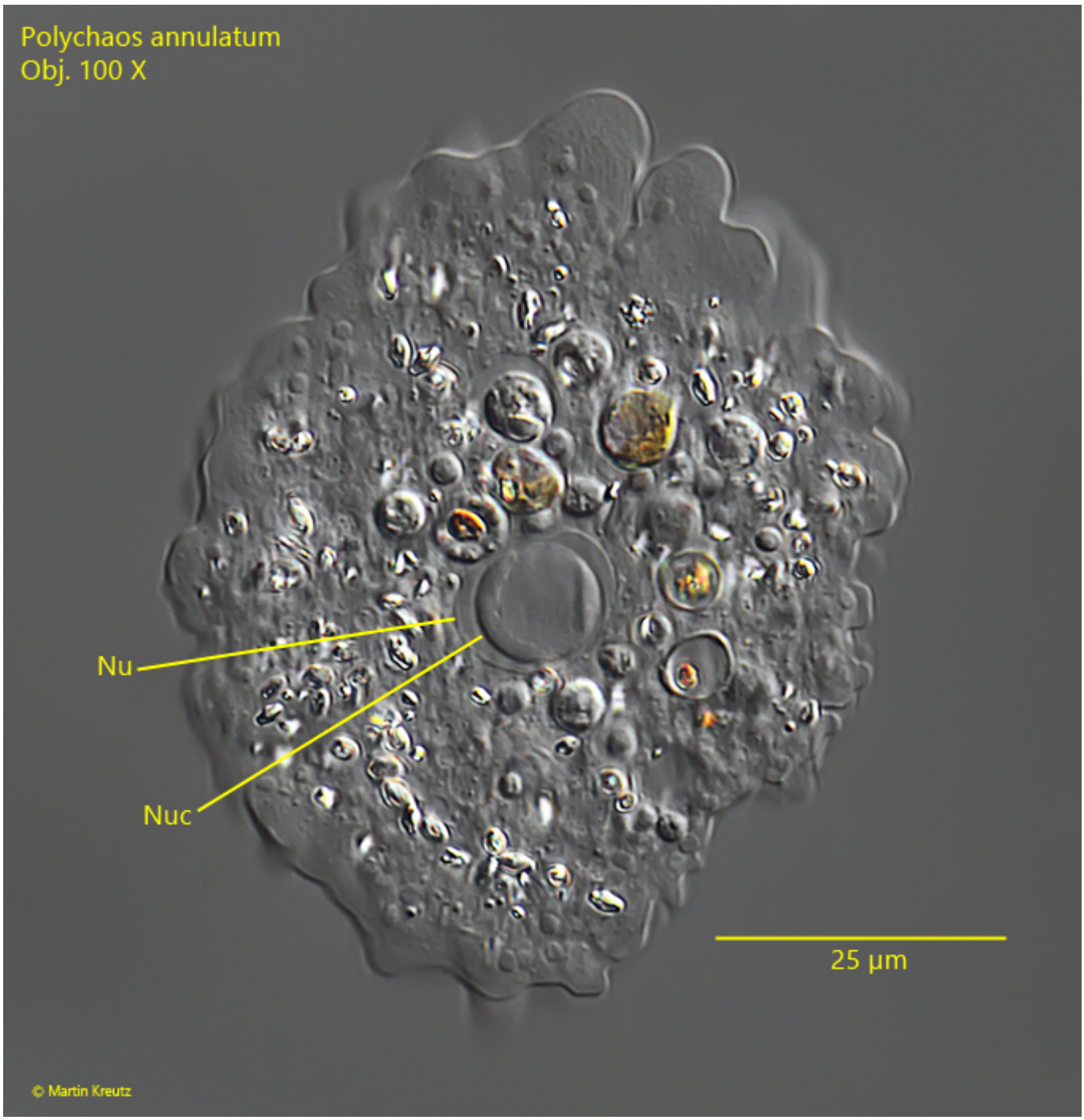


Fig. 4: *Polychaos annulatum.* The nucleus (Nu) and nucleolus (Nuc) in a second squashed specimen. Obj. 100 X.