

THE NEW SPECIES OF *DACTYLOBIOTUS* (PARACHELA, EUTRADIGRADA) FROM FROM KING GEORGE ISLAND, ANTARCTICA

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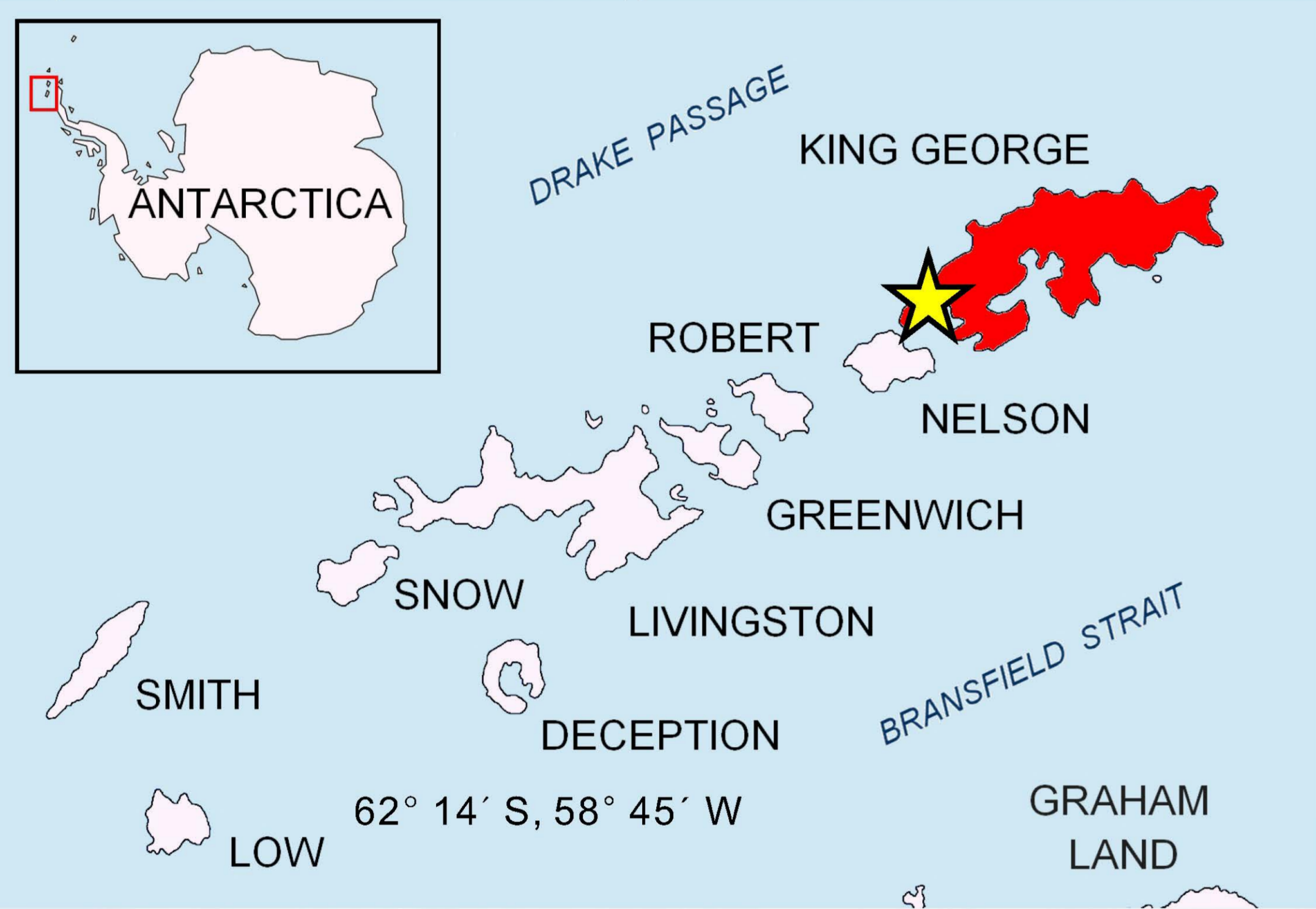
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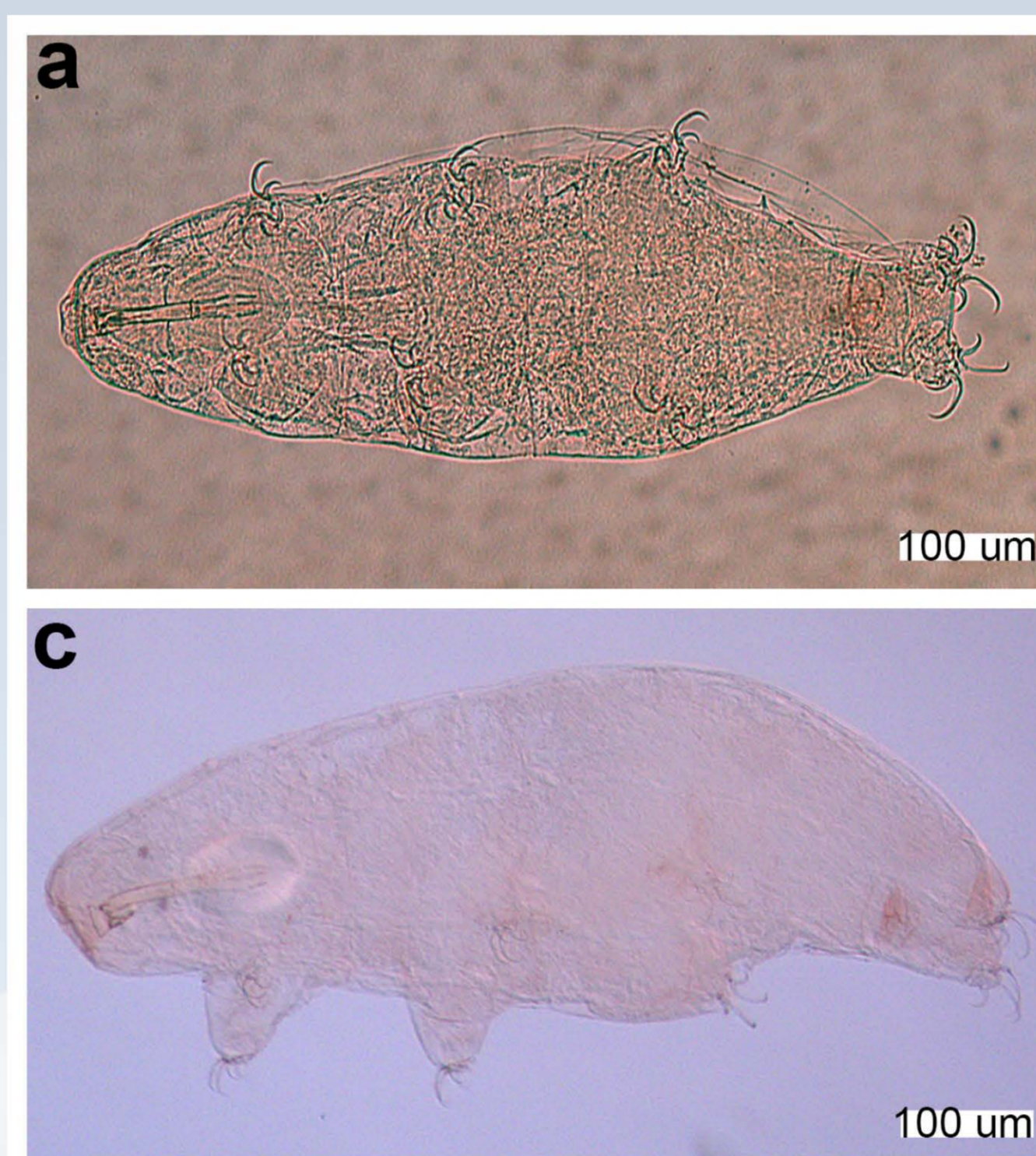
Limno-terrestrial tardigrades form one of the most dominant groups in the scanty terrestrial freshwater ecosystem of Antarctica. However, due to their limited key morphological characters and restricted access to the habitats, taxonomic study on Antarctic tardigrades largely remains to be challenged. KOPRI ecology team collected several species of tardigrades near the King Sejong Station, King George Island, Antarctica during 2014-2015 season.

Among the collected tardigrades, one group shows a buccal-pharyngeal apparatus with ten peribuccal lamellae, and the cuticle structure which joins two claws in each limb. These characters warrant a generic assignment *Dactylobiotus*. This species is quite large in size (600-700 μm) with prominent eyespots and smooth cuticle. The egg has circular or slightly hexagonal cone-type processes with a tip. Compared to *D. ambiguus* and *D. caldarellai* which have a rather similar morphology, this species shows claws with longer primary branch at all limbs. The 18S, 28S rDNA and cytochrome c oxidase subunit 1 (CO1) sequences do not correspond to any previously-reported sequence, although only limited molecular data of tardigrades have been reported so far. Based on the pt-ratio of the buccal-pharyngeal apparatus and claws, the morphology of eggs, and the DNA sequences of 3 partial genes, this species is considered as a new species of *Dactylobiotus*.

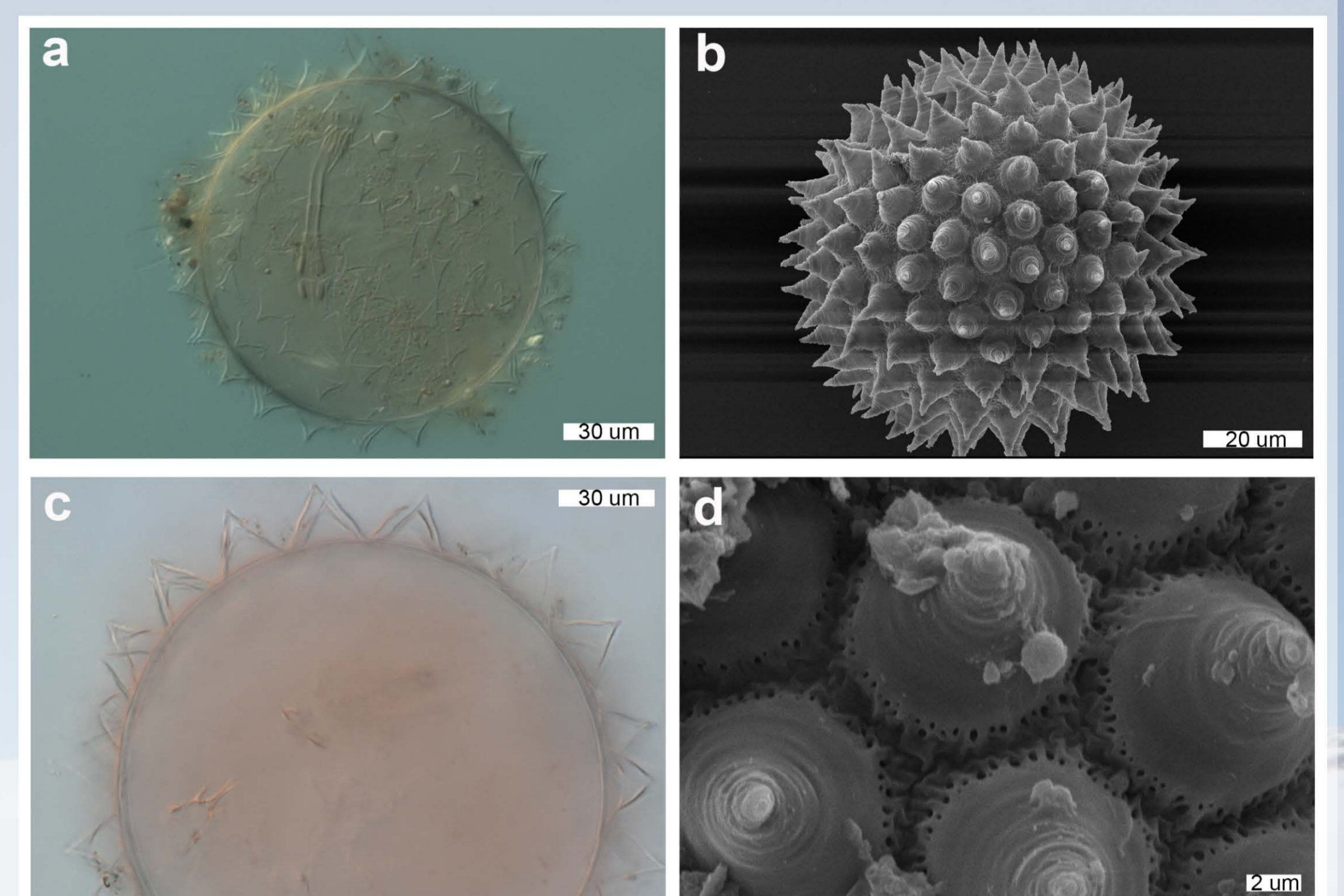
Specimen locality



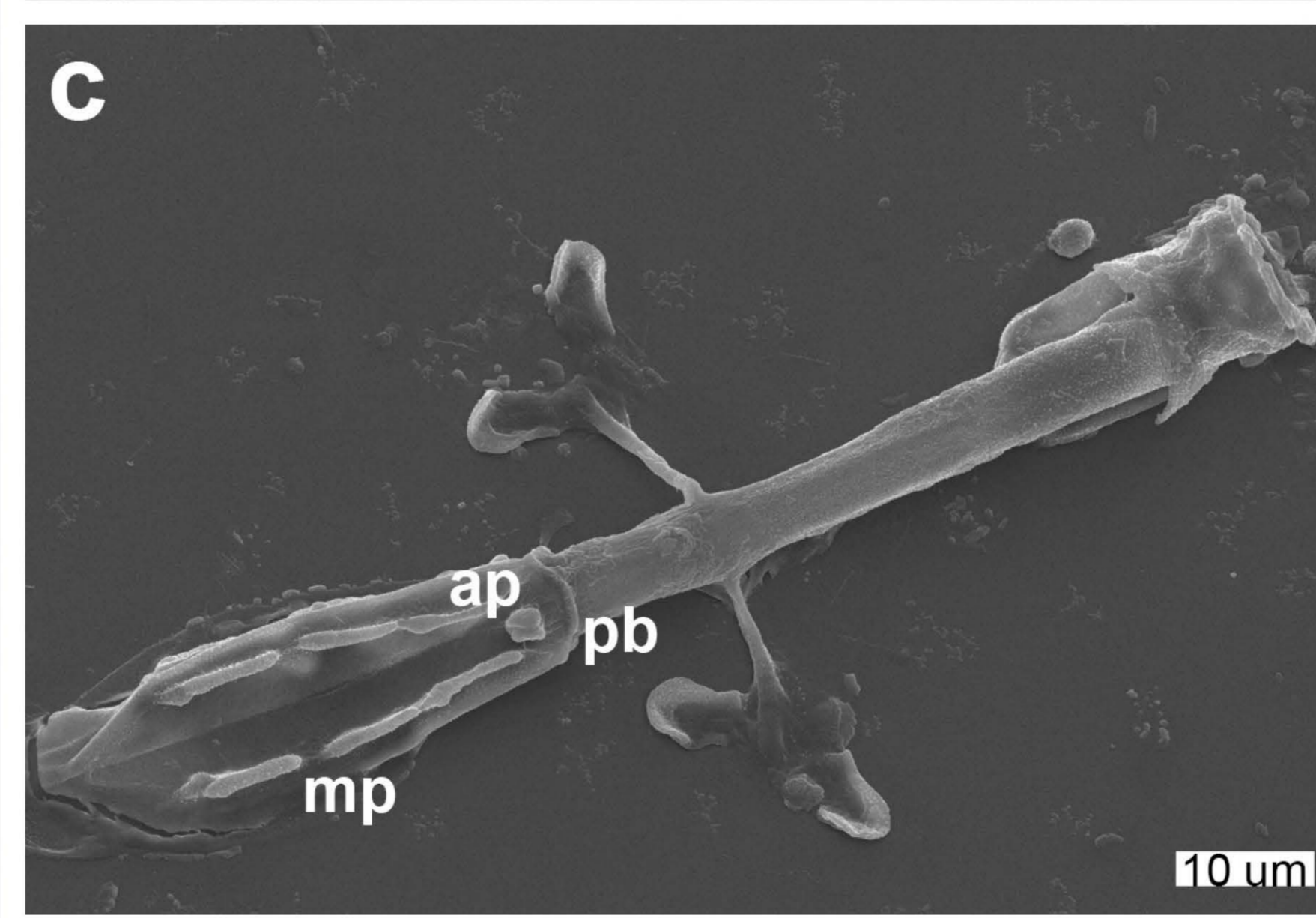
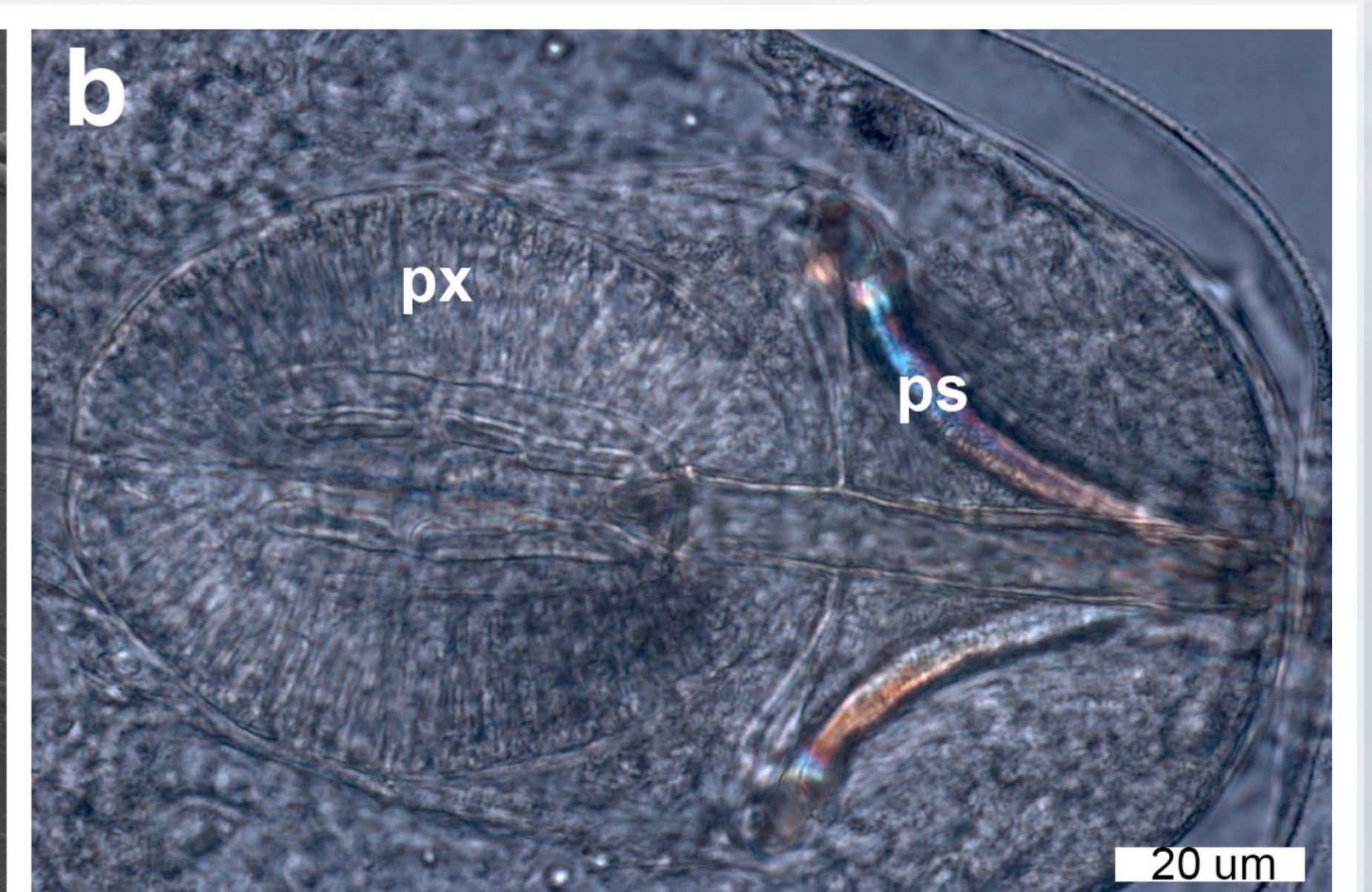
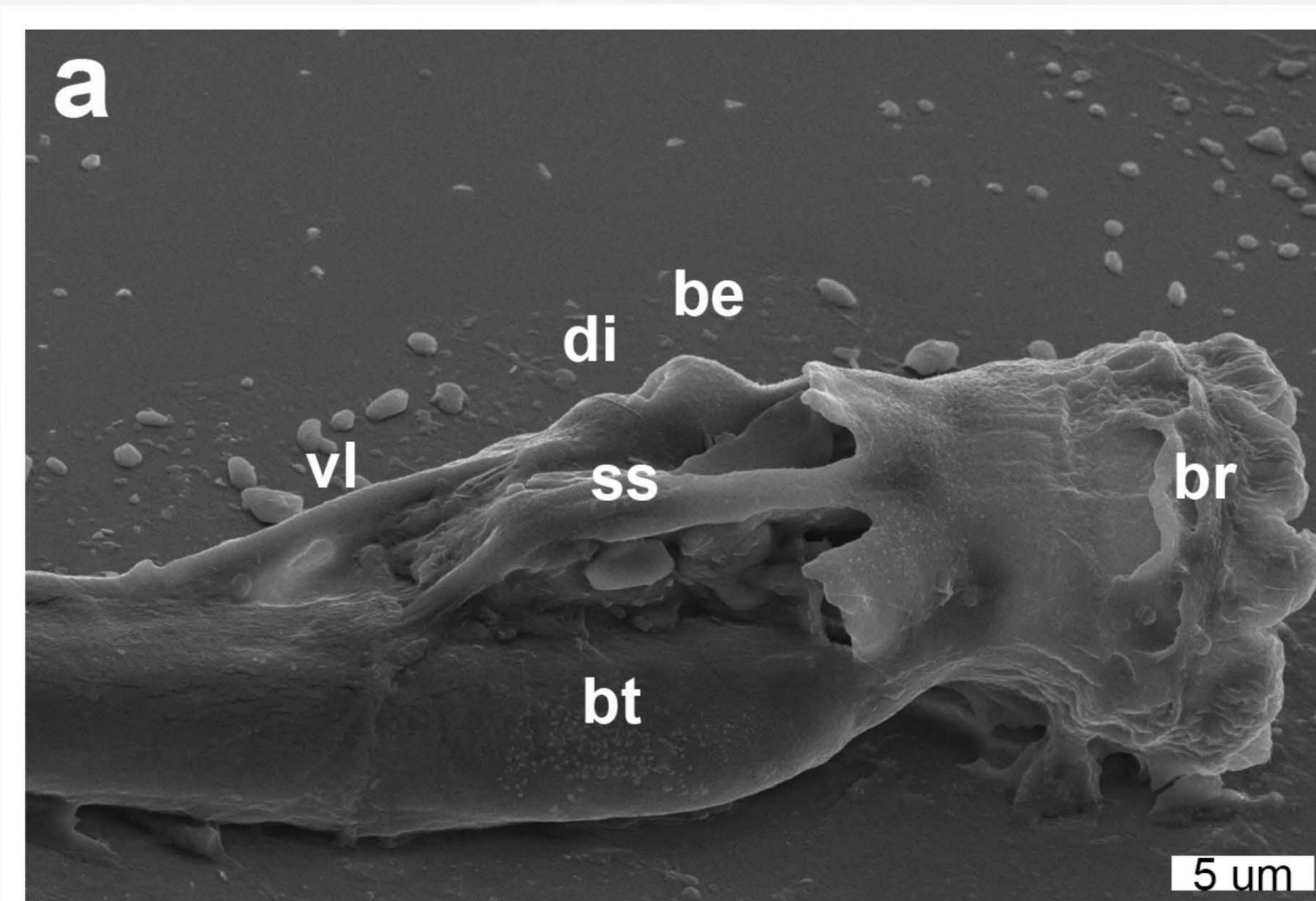
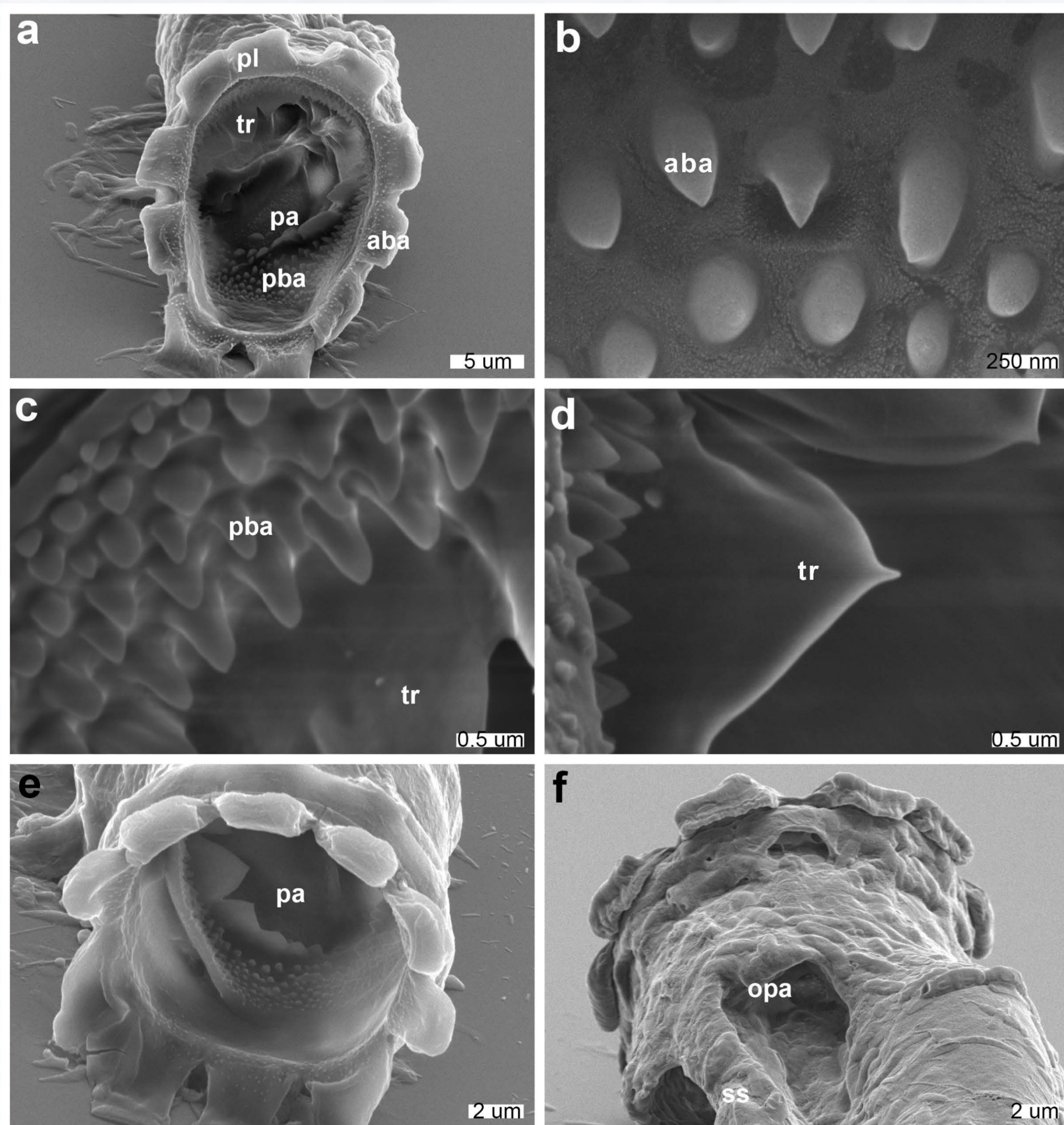
Dactylobiotus sp.



Eggs of *Dactylobiotus* sp.



Buccopharyngeal apparatus of *Dactylobiotus* sp.



| Abbreviation | |
|--------------|-----------------------------------|
| aba | anterior band of buccal armature |
| ap | accessory point |
| be | bulbous expansion |
| br | buccal ring |
| bt | buccal tube |
| cc | cuticular connection |
| di | deep invagination |
| mp | macroplacoid |
| opa | oval perforated area |
| pa | perforated area |
| pb | pharyngeal bar |
| pba | posterior band of buccal armature |
| pl | peribuccal lamella |
| ps | piercing stylet |
| px | pharynx |
| ss | stylet sheath |
| tr | transverse ridge |
| vl | ventral lamella |

Claws of *Dactylobiotus* sp.

