

*Thoracostoma (Pseudocella) tabarini*, sp. nov.

Locality : Port Lockroy, Wiencke Island, Graham Land. Associated with *T. antarcticum*. Under a large stone, less than two feet below lowest recorded position of Spring Ebb.

Material : 1♂. L=17.9, a=54.2, b=7.5, c=105.3.

The head bears the cephalic capsule characteristic of the genus *Thoracostoma* which is, in this species, very simple. It is made up of six lobes, one dorsal, one ventral and two pairs of laterals, which are entire without locules. The lobes are very simple, with very slight notches on their posterior edges, and the large fenestrae open posteriorly through very shallow, but wide, incisions (figs. 2 and 4). (The nomenclature used here is that of Wieser, 1954 a). The internal structure of the head appears to be identical with that of *T. antarcticum*. Since only one specimen is available this conclusion has been reached by studying the head in conjunction with that of *T. antarcticum*, of which *en face* preparations have been made. These confirm that the figures of the latter species, given by de Man (1904) are correct in every detail. The mouth opening is triangular with a large cuticular mass lying on the dorsal side (*pièce cordiforme* of de Man) with two smaller masses, projecting ventrally, developed from the ventral side. These latter structures were described by de Man as teeth but are not pointed, but rounded and massive like the dorsal structure, on a smaller scale. The buccal cavity is triangular in cross section with the apices produced radially. Within the buccal cavity are three "teeth", a small one on each ventro-lateral side and a large spear-shaped one on the dorsal side. The mouth is surrounded by six papillæ, one pair dorso-lateral, one pair ventro-lateral and one pair lateral in position. The distribution of the setæ is typical of the genus, a double pair ventro-lateral and a similar pair dorso-lateral in position with a single pair lying above the amphids. The amphids (fig. 4) are roughly circular, opening anteriorly and are one eighth the width of the head, at their own level, in diameter. The head, at the posterior end of

the cephalic capsule, is 0.074 mm. in diameter and the capsule is 0.037 mm. in depth, measured from the anterior end of the body. Wieser (1954 b) expressed the opinion that "in all species of this group (*Thoracostoma*) there are several cuticularized processes and structures at the anterior

end of the head but it is difficult to decide which ones should be called a 'tooth' and which ones not, and therefore no taxonomic value can be ascribed to this feature". In my opinion, the nomenclature for the structures is of secondary importance to the structures themselves which I have figured in detail for the species under consideration. This does not appear to have been done for most of the nominal species currently referred

to this genus and I would suggest that it is impossible to reach any conclusions on the value of the internal structures of the head until they have been studied and described more fully.

The paired red pigment spots, which are without lenses, lie 0.14 mm. from the anterior end. The pigment is fairly dense posteriorly but is diffuse round this nucleus of colour in the way typical of the subgenus *Pseudocella*. The cervical setæ are arranged, roughly, in six rows running antero-posteriorly down the body being more dense on the anterior portion where they sometimes occur in groups of two or even three. The excretory pore opens on the ventral surface 0.63 mm. from the anterior end.

The tail is curled ventrally and is one anal diameter in length. The tubular organ is 0.43 mm. anterior to the cloacal opening and there are nine pairs of papillæ, of which the most anterior is about 0.28 mm. anterior to the cloacal opening. There are about six small setæ around the porus caudalis and a series of four larger setæ lying lateral and posterior to the cloacal opening. Anterior to the opening is a group of five setæ lying between it and the tubular organ. Anterior to the latter again are about ten pairs of setæ roughly alternating with the pre-cloacal papillæ and of progressively diminishing size.

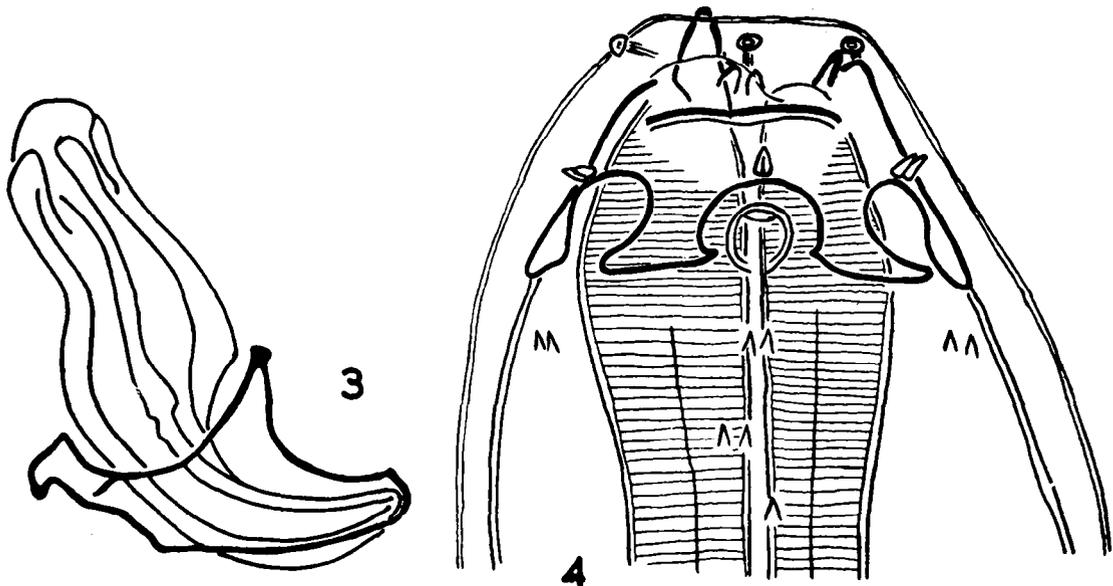
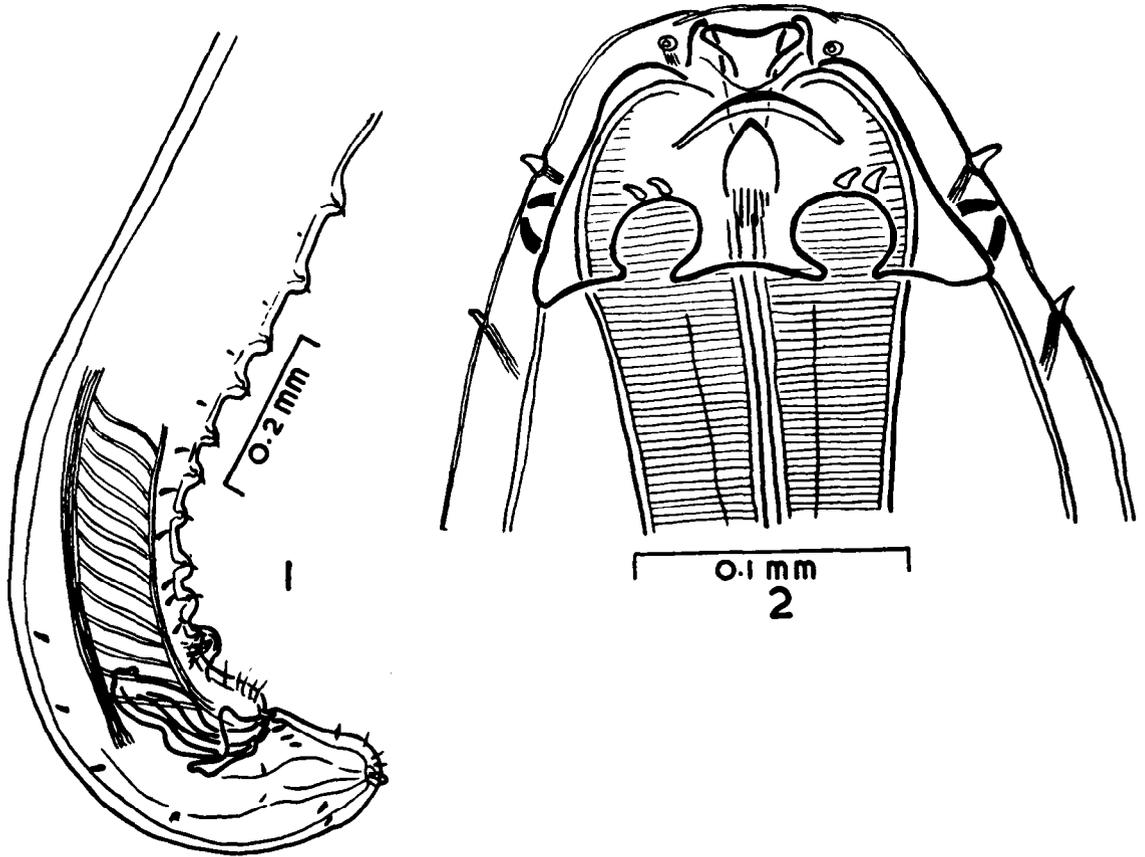
The spicules are massive and characteristically kinked at their dorsal edge; their tips are bluntly rounded and unswollen. Their structure is most easily understood from fig. 3. The gubernacular complex appears to consist of a dorsal simple gubernaculum and paired lateral portions. The spicules are 0.193 mm. long, measured across the chord, and the gubernaculum is 0.110 mm. long.

Female : Unknown.

*Discussion* : This species has all the characters diagnostic of the subgenus *Pseudocella* Filipjev, 1925 : the lack of true ocelli, the form of the spicules and the shape of the gubernaculum. There are at present ten nominal species referred to this subgenus : *conicaudatum* Kreis, 1928 ; *obliqua* Ditlevsen, 1926 ; *panamaense* Allgén, 1947 ; *pseudocellum* Filipjev, 1925 ; *saveljevi* Filipjev, 1925 ; *trichodes* (Leuckart, 1849) ; *coecum* Saveljev, 1912 ; *elegans* Ditlevsen, 1926 ; *filipjevi* Kreis, 1928 and *kreisi* Wieser, 1954. The present species differs from the first six in having a short head capsule ; from the next two in the wide, almost wholly reduced, lateral incisions of the capsule, and also in the structure of the spicules ; and from the last two in the structure of the capsule, which in *filipjevi* is much more reduced than in the present species, while in *kreisi* the amphids project behind the level of the cephalic capsule, in which there are no incisions.

Thus the specimen described here is unique and appears to form a link, in the form of its cephalic capsule, between *coecum* and *elegans*, and *filipjevi* and *kreisi*. Further, this appears to be the first record of a species of the subgenus *Pseudocella* from the Antarctic.

The type specimen is in the collections of the British Museum (Natural History), Registration number : 1957.10.29.1 and is named in honour of Operation Tabarin, members of which collected it.



Male tail from the right. 2. Dorsal view of head. 3. Detail of spicule and gubernaculum, from the right. 4. Lateral view of head, with the dorsal surface to the left (2, 3 and 4 are to the same scale).