THORACOSTOMA ARCTICUM Saveljev 1912.

(Fig. 6, a–d.)

Thoracostoma arcticum Saveljev 1912 (Palafjord).

Deontostoma arcticum (Saveljev) ; Filipjev 1916 (Murman Coast) Allgen 1933 (Lofoten Archipelago) ; Schuurmans Stekhoven 1946 (Skagerak and Baltic Sea).

Thoracostoma arcticum, Saveljev ; Wieser 1953 (Southern Chile).

Wieser 1953 suggests as synonyms *T. anchorilobatum* Allgen 1947, *T. jollaense* Allgen 1947, *T. elongatum* Ditlevsen 1926, and, doubtfully, *T. auklandiae* Ditl. 1926. He gives comparative measurements of specimens from Southern Chile, Palafjord, and *T. anchorilobatum* and *T. jollaense*. *T. magnificum* (Timm 1951) is very close to *T. arcticum*, the only distinguishing feature being the anterior prolongation on the gubernaculum.

T. arcticum was taken in collections from the following stations :

42, 88, 100, 103, 107, 106, 105.

Male : L = 41–43 mm. ; α = 82–93 ; β = 8.2–9.1; γ = 170–205.

Female : L = 35–53 mm. ; α = 85–126 ; β = 8.3–11.1 ; γ = 107–221 ; V = 60–69%.

This, the largest thoracostome collected, is found in 7 of the 12 collections, but it is not present in such numbers as is *T. angustifissulatum*.

In alcohol the worms are a yellowish brown in colour, quite distinct from the opaque white of the other species of *Thoracostoma* described here. The long slender body tapers in the anterior third, or, in older specimens, the anterior quarter of the body, and in the posterior sixth.

The helmet is short, the width of the head at the posterior end of the helmet being 1.8–2.2 times the helmet length. The posterior border of the lobes is usually straight or smoothly indented, but in some cases is jagged. The clefts between the lobes are wide ; the fossae are usually roughly rectangular in shape, although the lateral fossae are sometimes rounded. Lacunae are present along the posterior border of each lobe. The form of each lobe is roughly that of an anchor.

The cephalic setae are short and conical, about 1/13 of the head width at that level. The mouth is triangular, each side bearing two teeth ; the teeth on the dorsal lip are more strongly developed than those on the other sides. No tooth was seen in the buccal cavity. Nuchal setae are present, similar in form to, and only slightly longer than, the cephalic setae.

The eyes are well developed ; they lie three times the helmet length from the anterior end, or 1/4.7 the distance of the nerve ring from the head. The nerve ring lies 1/3.5–1/4 times the length of the oseophagus from the anterior end. The male tail is shorter than the anal breadth (7 : 9, 8 : 10, 8 : 11) ; the spicule is 0.3 to 0.4 mm. long, the gubernaculum 0.24–0.27 mm. long or about equal to the tail length. A median preanal organ lies about 2/3–3/4 tail length in front of the anus. In front of this are at least eight paired papillae, those nearest the anus farther apart, and larger, than those farther away. The nearest pair is as far from the median organ as that is from the anus, or a little farther. Caudal setae are present in two rows from the adanal region to the posteriormost of the paired papillae, and odd setae are present between the paired papillae.

In the female the tails are equal to or slightly longer than the anal breadth. The eggs are 900μ by 270μ in size, and up to two may be present in each uterus.

This species has been referred to *T. arcticum* on account of its large size, including the large a, β and γ values (which agree with those given by Saveljev) and the shape of the helmet, which is shallow with broad grooves between the lobes. The shape of the lobes is more rectangular than shown by previous authors (Saveljev, Wieser), but their anchor like form is only slightly exaggerated.

COLLECTING STATIONS CONCERNED IN THIS REPORT

In Volume I., Pt. 1, of this series (Biological Organization and Station List) the type of fauna and the nature of the sea-floor at each station are not mentioned. The following amplifying notes deal with all stations south of the sixtieth degree of south latitude which yielded nematodes for examination. This information has been compiled from the Biological Log kept during the period concerned. An attempt was made to ascertain the names of the species of marine life recorded as most numerous at the various stations, but since many groups have not yet been reported on, this was not possible.

STATION 29 : 66° 28′ S., 72° 41′ E., T M L (Large Monagasque Trawl) : 1,266 M.

Good haul, large numbers of stones (erratics), some large. Animals suffered from milling of stones. No mention of predominant fauna. Forams and nematodes " many ".

STATION 39 : 66° 10′ S., 49° 41′ E., T M L : 300 M.

Big haul characterized by silicious sponges with glass rope spicules. *Synapta*—like Holothurian common ; many Polyzoa of different species.

STATION 40 : 66° 12′ S., 49° 37′ E., T M L : 300 M.

Good clean haul ; Polyzoa and crinoids abundant.

STATION 41 : 65° 48′ S., 53° 16′ E., T M L : 193 M.

Large haul. Trawl full of sponges and sponge mud : glass rope sponge predominant. Much mud with very many molluscs : many ophiuroids. Later, operating at this station with the Large Otter Trawl (O.T.L.), the catch comprised a striking haul of alcyonarians, holothurians " many ", compound ascidians " common ".

STATION 42 : 65° 50′ S., 54° 23′ E., T M L : 220 M.

Haul essentially as at Station 41, T M L.

STATION 88 : 67° 008 S., 142° 36′ E. At Commonwealth Bay, King George V. Land.

Collections ashore on rocks and in ice at Cape Denison, also dredging (DRS) from motor boat in Boat Harbour, and between the latter and the Mackellar Islets amongst kelp, 2–7 fathoms. Red and brown algae, nematodes in holdfast, &c.

STATION 90 : 66° 21′ S., 138° 28′ E., D R L : 640 M.

While being hauled, dredge following the sea-floor came suddenly into shallower water, so may contain specimens from various depths. Coralline bottom with small stones : small amount of grey sandy mud on lip of dredge.

STATION 100 : 65° 48′ S., 89° 49′ E., D R L : 393 M.

Representatives of most groups present. No note as to bottom, or predominance of any fauna.

STATION 103 : 67° 03′ S., 74° 29′ E., D R L : 437 M.

Mud bottom (ooze). All groups represented, none referred to as abundant.

STATION 105 : 67° 46′ S., 67° 03′ E., D R L : 163 M.

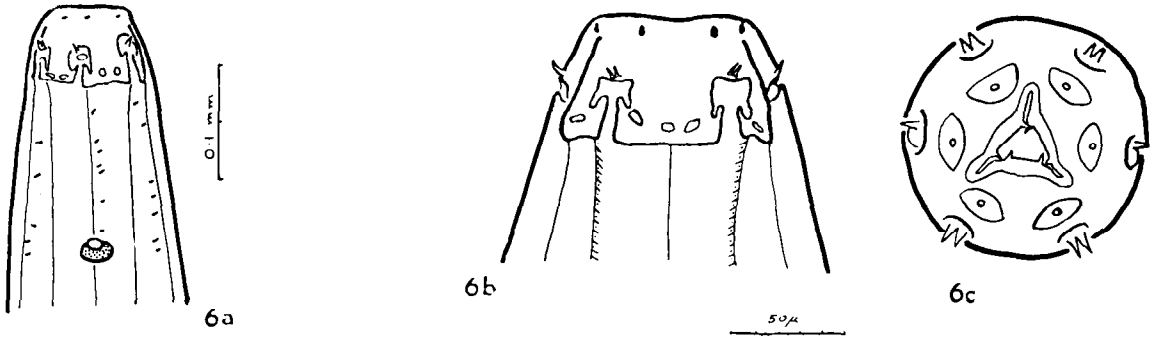
No mud, only a few small erratics. Dominant forms listed as :—(1) Large club-like compound ascidians ; (2) Large simple free ascidians with hairy test ; (3) Transparent ascidian-like *Clavellina* ; (4) Several spp. of sponges. Pycnogonids, asteroids, and ophiuroids abundant. Nematodes very abundant in test of a large ascidian.

STATION 106 : 67° 38′ S., 64° 52′ E., D R L : 210–17 M.

Very little taken as dredge struck rock bottom. Kelp, *Lithothamnion* ; nematodes in holdfasts, also polychaetes and nemerteans.

STATION 107 : 66° 45′ S., 62° 03′ E., D R L : 219 M.

Dredging on an off-shore submarine bank. Fine grey mud. Ophiuroids and Polyzoa chief animals. Nematodes among sponge spicules. Later the Large Otter Trawl brought up a catch with Polyzoa as the dominant group : calcareous and chitinous species.



6. *Thorocostoma arcticum :* (*a*), (*b*), and (*c*) lateral, ventral, and *en face* views of head ; (*d*) male tail. Figs. *b* and *c* to scale below.