

## ENOPLIDAE

### ENOPLUS MICHAELSENI Linstow.

(Fig. 19. a-c.)

*Enoplus michaelсени* Linstow 1896, Uschuaia ; Baylis 1916, Falkland Islands ; de Man 1904, Londonderry Islands ; Wieser 1953, Chile ; 1954, Greece.

*Enoplus atratus* Linstow 1896, Navarin, Puerto Toro.

Kerguelen Island : Stations 15, 52, 54, 56B, 62, 64 ; Coll. 788.

♀ (15x) : L = 6.2-9.4 mm. ;  $\alpha$  = 34-45 ;  $\beta$  = 6.0-8.6 ;  $\gamma$  = 22-34 ; V = 52-59%.

♂ (11x) : L = 6.7-8.4 mm. ;  $\alpha$  = 31-40 ;  $\beta$  = 5.8-7.4 ;  $\gamma$  = 23-38.

Macquarie Island : Coll. H, I, J, M, N.

♀ (5x) : L = 6.5-7.7 mm. ;  $\alpha$  = 25-39 ;  $\beta$  = 6.0-7.7 ;  $\gamma$  = 22-25 ; V = 54-58%.

♂ (7x) : L = 5.4-6.5 mm. ;  $\alpha$  = 23-31 ;  $\beta$  = 5.2-6.9 ;  $\gamma$  = 21-30.

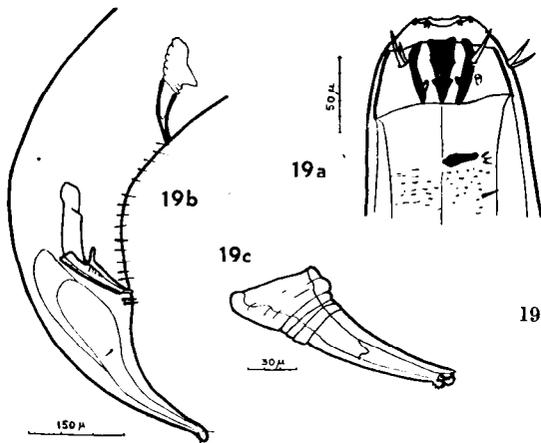
*Enoplus michaelсени* was first fully described by de Man who re-examined the type material at the same time, and it has recently been recorded by Wieser. The specimens from Kerguelen and Macquarie Islands are undoubtedly of the same species although they show slight differences from de Man's detailed description. The measurements indicate a wider variation in the species than previously given, and these tend to reduce the differences between this species and *E. communis* Bastian, which was redescribed at length by de Man (1907, 87). In the structure of the spicular apparatus, which de Man stresses as a distinguishing feature, they agree with *E. michaelсени*. It may be noted that Bastian's figure of *E. communis* shows a gubernacular prolongation as occurs in *E. michaelсени*, but which was stated by de Man to be absent from *E. communis*. In the B.A.N.Z.A.R.E. material about a third of the worms show fine criss-cross striations in the cuticle, as seen in some Thoracostomes ; de Man states that this condition is present in *E. communis* and

not in *E. michaelseni*. It is considered by the present author that the appearance of this character is due to some coincidence of lighting and clearing agent, or some other factor, and that its not being seen is not necessarily due to its absence. Though *E. communis* has been recorded frequently from the northern hemisphere, authors have not given measurements or any description of their specimens.

The body width at the base of the oesophagus is 1.4–1.7 times that at the level of the eyes (de Man gives 1.3–1.5 times for *E. michaelseni* and 2 times for *E. communis*). The longer cephalic setae are 20–30 $\mu$  long, the cephalic breadth 80–100 $\mu$ . The small oval amphid lies about halfway between the base of the lateral cephalic seta and the cephalic suture. There are a number of scattered nuchal setae, including one group of three on each side of the level of the eyespots; this arrangement is described and figured by de Man for *E. communis* but is in no way indicated for *E. michaelseni*.

The jaws are 40–50 $\mu$  long, 50–55% of the head breadth. The eyespots are very distinct and lie at 1.0–1.2 times the head breadth. The associated pigment distributed over the anterior part of the oesophagus varies in amount and extent in different individuals. The nerve ring is  $1/2.2$ – $1/2.6$  of the oesophagus and the excretory pore is a short distance in front of this.

The length of the female tail is 2–3 times the anal breadth. It bears several small scattered setae, and four stouter setae near the tip. The eggs measure 230–300 $\mu$  by 120–130 $\mu$ , and there may be up to sixteen eggs in one individual. The male tail is 210–280 $\mu$  long, 1.6–2.1 anal breadths. As well as scattered setae and two pairs of subterminal setae, there are two pairs of stout postanal setae, of unequal length, as described by de Man, and 12 to 17 long slender ones between the anus and the preanal organ. The latter is about 90–100 $\mu$  long, or two-thirds of the body width at the same level, and lies 200–350 $\mu$  in front of the anus. This is 0.8–1.2 times the tail length; this factor is given by de Man as 1.4 and by Wieser as 1.25. The tip of the preanal organ ends in a knob, surrounded by three small subterminal combs (fig. 19c). The spicule is 150–200 $\mu$  long, 1.2–1.5 times the anal breadth.



19. *Enoplus michaelseni*: a, head; b, tail of male; c, preanal organ.

## KERGUELEN ISLANDS.

- STATION 5 : D.R.S., 20m. Off Jeanne d'Arc. Trawling made near belt of kelp ; brownish green mud and some weeds. Echinoids most numerous, other groups represented.
- STATION 9 : Shore collecting stations on islands in Bras Bossière. Nematodes from intertidal mussel bank.
- STATION 12 : D.R.S., 4-5m. ; off Grave Island, Island Harbour ; kelp and red algae common ; many organisms on kelp holdfasts. All groups represented in haul. Polyzoa and a colonial ascidian most numerous.
- STATION 15 : D.R.S., 55m. ; in channel between Hog Island and Blakeney Island. The striking character of the haul was presence of ascidians of several types ; many small invertebrates were found in a common globular silicious sponge.
- STATION 47 : 49° 50' S., 69° 33' E., off south coast of Kerguelen ; D.R.L., 150m. Small stones and gravel ; main features were red ophiuroids and white holothurians.
- STATION 48 : Swain's Bay, near Swain's Haulover. Shore collecting.
- STATION 49 : D.R.S., 2-20m. Western end of Long Island in a little, sheltered harbour with steeply shelving bottom. Dredge full of kelp and red and green algae, bottom of grey-green sand. Ophiuroids, echinoids, and asteroids common ; polychaetes and crustacea numerous.
- STATION 50 : D.R.S., 10m. Grotto Bay. Much kelp and other weed ; echinoids and polychaetes common.
- STATION 51 : D.R.S., 40-50m. Supply Bay. Polychaetes common, many small invertebrates in " roots of common globular silicious sponge ".
- STATION 52 : Bras Bolinder, near head of Greenland Harbour :
1. D.R.S., 20-30m., much kelp and large mussels ; many sponges, polychaetes and ascidians.
  2. Intertidal collections from beneath boulders.
- STATION 53 : D.R.S., 20-30m. Near mouth of Peace River. Calcareous worm tubes common, also silicious globular sponges, harbouring many invertebrates.
- STATION 54 : head of Greenland Harbour ; intertidal collections. A rich fauna.
- STATION 55A : D.R.S., 10-20m. Between Islets in Colbeck Passage, off N.W. end of Long Island. Some kelp, some stinking black mud ; fauna similar to that in other hauls at this depth.
- STATION 55B : D.R.S., 1-5m. Near head of Bras Enzensperger, Royal Sound. Much sand, kelp, and *Ulva* ; numerous small gastopods attached to weed.
- STATION 56A : Rivett Arm, intertidal collection. Very rich fauna in this area, extending down steeply shelving shore line.
- STATION 56B : D.R.L., 50m. ; near Green Island. Good haul, common globular sponge plentiful, with slimy dark green mud. Polychaetes, nematodes, ophiuroids, holothurians, and a large variety of simple ascidians were noted as common.
- STATION 58 : D.R.L., 50m. In Hydrography Channel, a short distance S.E. from Green Island. Good haul, with slimy dark green mud ; common globular sponge plentiful ; polychaetes nematodes, ophiuroids and holothurians, and a large simple ascidian noted as " common ".
- STATION 59 : O.T.L., 47m. Royal Sound, about a mile N.E. of Suhm Island. Large haul of invertebrates from good trawling bottom. Main feature was large numbers of a big translucent ascidian and a rich pink holothurian.
- STATION 60B : Shore collection from Suhm Island. Nematodes from " dripping rock 10 feet above sea level ".
- STATION 60C : Shore collection from small island in Navalo Harbour.
- STATION 61 : intertidal collection from southern part of Antares Island. Nematodes from rock pool.
- STATION 62 : Poincaré Peninsula opposite Murray Island ; shore collections ; nematodes from intertidal rock pools.

STATION 64 : 49° 32' S., 70° 33' E., 2.3.30, O.T.L., 91m.; off entrance to Royal Sound.

A "very good haul of invertebrates", including cidaroids, red ophiuroids, numerous lamellibranchs, and ascidians.

Collections 103, B100 : Jeanne d'Arc ; among algae on beach.

Collection B173 : Long Island, Royal Sound : Intertidal, under stones.

Collections 752, 753 : 15.2.30, Jeanne d'Arc. Low Spring Tide level, under stones.

Collection 755 : 15.2.30 ; Tarn at head of Greenland Harbour, in green slime.

Collections 771, 772 : 15.2.30 ; Jeanne d'Arc. From sponge washed up on beach.

Collection 788 : 15.2.30 ; Jeanne d'Arc. Low Spring Tide level, under stones, among coelenterates.

Collections 789, 790, 792 : 16.2.30 ; Jeanne d'Arc, intertidal.

Collection 855 : 23.2.30 ; Green Rock, near Island Harbour, Royal Sound. Semi-stagnant pool high up on beach.

Collection 865 : 23.2.30 ; off Murray Island, among kelp.

Collection 930 : 27.2.30 ; Antares Island, intertidal pool, with hydrozoa and crustacea.

#### HEARD ISLAND.

STATION 19 : 53° 05' 30" S., 73° 24' E., Shore collection along beach of Atlas Cove. Nematodes from algae washed up on shore.

#### CROZET GROUP.

Collection from American Bay, Possession Island ; nematodes from algae taken at 12m.

#### MACQUARIE ISLAND.

##### B.A.N.Z.A.R.E. COLLECTIONS.

Station 81B : 54° 29' S., 158° 58' E. ; ashore at Buckles Bay. "Great masses" of *Durvillea* growing here.

Station 83 : 54° 42' 30" S., 158° 54' 30" E. Off Lusitania Bay ; D.R.L., 69m. Dominant forms were pectens, Veneridae, *Waldheimia* (brachiopod). Most invertebrate phyla represented.

##### A.A.E. COLLECTIONS.

The following collections were made at Macquarie Island by the A.A. Expedition during 1912-1913. The reference letters under which they are listed here follow in alphabetical sequence with those given to A.A.E. Antarctic collections recorded in Section 2 of this Report :—

G. Littoral.

H. Among seaweeds, probably at the north end of the Island.

I. Shore collection.

J. Low tide.

K. Below low tide.

L. Rock scrapings from below low tide, mostly sponges.

M. West coast, among green algae and oligochaetes.

N. North end of island, scrapings from rocks below low tide level.

O. Townt net off North-East Bay, 19.6.12, "mainly Copepods, some Radiolaria".