ANTICOMA COLUMBA Wieser.

(Fig. 6, a–b.)

Anticoma columba Wieser 1953, Central and Southern Chile.

Anticoma australis Mawson 1956, MacRobertson Land.

The specimens, the measurements of which are given below, fall in two size groups, indicated by the initials L and S in the locality list. In the one group (L) the females are not less than 3.4 mm. nor the males less than 3.0 mm.; in the other group (S) the longest female is 3.0 mm. and the longest male 2.5 mm. The remarks below apply also to specimens from Antarctic stations, the measurements of which were given in Part 2 of this Report.

Kerguelen Island: Station 5 (L), 9 (L), 47 (S), 51 (L), 52 (L & S), 56B (L), 59 (L), 64 (S); Coll. 790 (L).

♀ (6x): L = 3.5–4.1 mm.; a = 30–37; β = 5.1–5.9; γ = 10.3–12.4; V = 46–48%.
(2x): L = 2.3 mm.; a = 29, 33; β = 4.6, 4.8; γ = 9.6, 9.2; V = 45%.

♂ (5x): L = 3.1–4.5 mm.; a = 26–30; β = 5.2–5.6; γ = 10.6–11.1.
(5x): L = 2.2–2.5 mm.; a = 25–31; β = 4.6–5.2; γ = 8.1–9.3.

Macquarie Island: Coll. I, L.

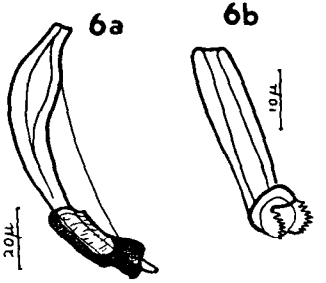
♀ (3x): L = 3.4–3.8 mm.; a = 26.1–27.1; β = 5.4–6.2; γ = 11.8; V = 44–47%.

♂ (3x): L = 3.3–3.9 mm.; a = 26.4–30.0; β = 5.3–5.6; γ = 11–14.

Heard Island: Station 19.

♂ (2x): L = 3.5–3.7 mm.; a = 29–31; β = 5.3–5.4; γ = 10.0–11.9.

The difference in size is not one of age judging by the presence of apparently ripe eggs in females of all sizes. An attempt has been made to distinguish between the groups by some other morphological character or according to geographical distribution, but no real difference is discernible. The only points which emerge are that in the longer worms the excretory pore is more forward in relation to the whole length of the oesophagus, and the spicule and preanal organ are larger by absolute measurement. Both these are readily explainable as factors of the greater size. The



6. *Anticoma columba :* a, spicule ; b, preanal organ.

points of complete agreement between the groups include the shape of the buccal cavity, the position of the amphid, the position, size, and arrangement of the nuchal setae, the size and shape of the tail, the shape and size, in relation to the anal breadth, of the spicules, gubernaculum, and preanal organ. In all these they agree with Wieser's description of *A. columba*, although his figure does not show all details of the spicule, gubernaculum, and preanal organ.

Anticoma ditlevseni Micoletsky is a markedly similar form, the measurements and proportions of which are included in the wider range now given for *A. columba*. However, one hesitates to assume synonymy as the amphid of *A. ditlevseni* is distinctly large, and the proportions of the tail are not given.

In the present subantarctic specimens the cephalic setae are hardly as much as two-thirds of the cephalic diameter ; they vary in length from just under to just over half the cephalic diameter. In the specimens described as *A. australis* (Mawson 1956, 52), the cephalic setae are 1/2.8–1/3.0 of the head breadth. In the Antarctic specimens examined more recently, the setae are distinctly under the half head breadth, but this does not warrant their separation as another species. The labial papillae are distinct, the buccal cavity is well cuticularized. The anterior border of the helmet is six-lobed, but the posterior border was not seen except in profile. The amphid opening lies about a head's breadth from the anterior end, and is a quarter to a fifth of the corresponding body width.

The nuchal setae the most anterior of which lie two to three, in one specimen four, head breadths from the anterior end, vary in number from four to six ; there are in addition always two more pairs of shorter lateral setae lying much further back, just in front of the level of the excretory pore. The excretory pore lies three to four times as far from the head as do the most anterior of the nuchal setae, and, as described by Wieser, it has a very short duct from the ampulla to the exterior. If the distance of the excretory pore from the head be taken as a percentage of the oesophageal length, its position would appear to be very variable, this figure being 15–34%, or 21–34% in the shorter specimens and 15–25% in the longer. This distance is 37–71% of that of the

nerve ring from the anterior end, and this in turn is 42–50% of the length of the oesophagus. (Except in one large male, in which it is 36%, and in this the distance of the excretory pore from the anterior end is 48% of the nerve ring, and 15% of the length of the oesophagus.) These figures have been given at length, as the position of the excretory pore in relation with the oesophagus is used as a distinguishing character in the key to the genus given by Wieser (1953, 14), and it now appears as if it would be better to use its position in relation to that of the nerve ring or the nuchal setae.

The spicule is 44–55μ long in the shorter worms, 65–100μ in the longer, and in all 1.0–1.4 times the anal breadth. The structure is similar in all, the " reinforcing bow " on the ventral side of the proximal end of each spicule is very strongly developed ; from it an ala extends to near the tip of the spicule. The gubernaculum is about a third of the spicule length ; it is usually closely applied laterally to the spicule (which accounts for its having been overlooked in *A. australis*) but in a few specimens it lies quite behind the spicule ; the proximal end is lightly chitinized, the distal third heavily developed and enlarged (fig. 6a). The preanal organ is also more heavily cuticularized distally and it ends in a strong ring from which project two serrated lobes (fig. 6b) ; it is 18–24μ long in the shorter worms, 30–36μ in the longer, and lies at about a spicule length in front of the anus or shortly in front of this.

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. Townet off North-East Bay, 19.6.12, " mainly Copepods, some Radiolaria ".