

LARRIDÆ.

- Pison morosus*, Sm.
Pison pruinosus, Cam.
Tachytes sericops, Sm.

CRABRONIDÆ.

- Rhopalum perforatum*, Sm.

FORMICIDÆ.

- Aphenogaster antarctica*, Sm.
Huberia striata, Sm.
Prenolepis longicornis, F. Not hitherto recorded from New Zealand. It is now practically of universal distribution in the warmer parts of the world.
Monomorium nitidum, Sm.
Ponera castanea, Sm., Mayr.

ART. VI.—On the New Zealand Lancelet.

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[Read before the Otago Institute, 13th November, 1900]

Plate I.

SOME years ago a couple of specimens of a lancelet were collected on the east coast of the North Island, and have since been deposited in the Colonial Museum. They were described by Captain Hutton in his "Fishes of New Zealand," published in 1872 by the Colonial Museum and Geological Survey Department, under the title "*Branchiostoma lanceolatum*, Yarrell."

At that period, and for many years subsequent to that date, all lancelets were regarded as belonging to one and the same species, and were known usually as "*Amphioxus*," more properly as "*Branchiostoma*." But as material has been accumulated from various seas, and examined and compared with care, it has become evident that at least three subgenera must be erected for the ten well-characterized species—viz., *Branchiostoma*, *Asymmetron* (Andrews, 1893), from the Bahamas, and *Heteropleuron* (Kirkcaldy, 1895*); the last being characterized by the one-sidedness of certain structures—viz., the genital glands exist on the right side only, and the right

* Quart. Journ. Mic. Sci., xxvii., p. 303.

metapleural ridge is directly continuous with the ventral fin, the left ceasing at the atriopore.

The genus *Heteropleuron* is the commonest in the southern seas, and I was anxious to examine our lancelet in order to ascertain to which genus it really belongs. Sir James Hector was good enough to allow me to examine these interesting and hitherto unique specimens, and I owe him my very best thanks for so readily and generously sending the specimens to Dunedin in accordance with my request; and still further do I thank him for permitting me to retain—as the type of the new species—one of the two specimens, that which I had more particularly and carefully examined and drawn. The other specimen, now in the Colonial Museum, is thus a cotype. The New Zealand lancelet is a very distinct species, and I have named it *Heteropleuron hectori*.

Heteropleuron hectori, n. sp.

Length, just under 2 in. in the preserved condition, and height $\frac{1}{2}$ in. over greater part of body, tapering to each end. Total number of muscle-segments, as indicated by the angulated lines at the sides of the body, 84 (or possibly 85, the first and last being very small), of which 53 lie in front of the atriopore, 19 (or perhaps 20) between atriopore and anus, and 12 behind the anus. The "myotome formula," therefore, is $53 + 19$ (or 20) $+ 12 = 84$ (85).

The median fin is low over the greater part of its dorsal extent; it enlarges to form a small rostral fin (in front of the mouth), which, however, is injured in both specimens, so that its true outline is somewhat uncertain.

The caudal fin, or posterior expansion of the median, is relatively large; it commences dorsally at a point about midway between vertical lines through the atriopore and anus—*i.e.*, about the 10th postatrioporal myotome; and ventrally it commences at about the 7th postatrioporal myotome. It soon attains its greatest height at about the 14th myotome—*i.e.*, in front of the anus—and thence tapers regularly and gradually to a point a short distance beyond the tip of the notochord. Its margin is rounded, and not angulated as in *B. lanceolatum*. Our species, in the shape and proportions of the caudal fin, is very different from either of the species of *Heteropleuron* occurring in the Australian seas. Thus, in *H. bassanum*, from Bass Strait, the caudal fin commences behind the anus; while in *H. cultellum*, from Torres Strait, the caudal, although commencing before the anus, attains its greatest height at the level of this aperture; but in myotome formula and in size these differ considerably from our species.

The ventral fin—*i.e.*, that part of the median fin lying between atriopore and the origin of the caudal—is scarcely to

be regarded as a separate item in this species; it is, indeed, merely the undifferentiated part of the median fin, and is very short. Whereas in *B. lanceolatum* and in *H. bassanum* the ventral fin is provided with paired fin-rays, in the present species there are no ventral fin-rays, though fourteen fin-ray boxes exist. Another peculiarity hitherto unnoticed in the genus is the continuation of the fin-ray boxes, though without fin-rays, along the base of the caudal fin, both dorsally and ventrally, right to the end of the body. In the best-studied form, from the Mediterranean, such structures are absent, or, at any rate, have escaped observation, the fin-rays and their boxes being confined to the dorsal and ventral fins. In the present species, then, there is less differentiation of this median fin than in other cases.

A full and illustrated account of this interesting little marine fish-like form will appear shortly elsewhere; but I append an outline drawing, in order that naturalists having the opportunity may recognise this the lowest member of the vertebrate race of animals. The species may be looked for at low tide in sandy shores, or possibly in fine gravel.*

EXPLANATION OF PLATE I.

Heteropleuron hectori, n. sp. View of the left side; three times natural size.

An., anus.

Atp., atriopore.

c.f., caudal fin.

fl., floor of atrium.

My., Muscle-segments (myotomes), of which only a few at each end and in the middle of the body are indicated.

Mp., Left metapleural ridge.

ART. VII.—*An Account of Acanthodrilus uliginosus*,
Hutton.

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of Biology in the University of Otago.

[Read before the Otago Institute, 13th November, 1900.]

Plate V.

IN my "Re-examination of Hutton's Types of New Zealand Earthworms" (1) I mentioned the fact that I had been unable to find the "type" of "*L. uliginosus*."† Since that date,

* The specimens referred to were collected one at Awanui, near the East Cape, and the other on Mahia Peninsula, Hawke's Bay.—Ed.

† Trans. N.Z. Inst., vol. xxxi., Art. xix.