

ART. XXII.—Notes on some Crustacea from Macquarie Island.

By GEORGE M. THOMSON, F.L.S.

[Read before the Otago Institute, 13th November, 1894.]

Plate XIV.

AFTER his return from his eventful trip to Macquarie Island, in May of the present year, the small collection of Crustacea made on the island by Mr. A. Hamilton was handed to me by Professor Parker for examination. This consisted of two or three bottles containing littoral species, one small bottle of fresh-water specimens, and portion of the claw of a large crab which I have not been able to identify. The chief interest naturally attaches to the fresh-water fauna. Mr. Hamilton's collection included only several specimens of a small *Chydorus*, which is apparently identical with the New Zealand *C. minutus*, mihi, and two imperfectly preserved female specimens of a Copepod belonging to the *Calanidæ*, and for which I propose to provisionally form the new genus *Guernea*. The only member of this family hitherto described from New Zealand is *Boeckella* (*Boeckia*) *triarticulata*, mihi, from which this species is very distinct.

Order DECAPODA.

Tribe BRACHYURA.

1. *Halicarcinus planatus*, Fabr.

Three female specimens, all more or less mutilated, occurred in the collection. This species is very common, and is widely distributed throughout the whole of the antarctic and south Australasian region.

Order ISOPODA.

Family SPHÆROMIDÆ.

2. *Sphæroma gigas*, Leach.

This well-marked species was numerously represented. It is abundant throughout the antarctic region.

Family ASELLIDÆ.

3. *Iais pubescens*, Dana. (For the synonymy of this species see Trans. N.Z. Inst., vol. xxiv., p. 266.)

This species was originally found by Dana in Nassau Bay, Tierra del Fuego, as a parasite or commensalist on *Sphæroma lanceolata*. It has been found along with *S. gigas* at Ker-

guelen Island, with *S. obtusa* in various parts of New Zealand, and I found it among specimens of *S. quoyana* from Tasmania,

Order AMPHIPODA.

Family ORCHESTIDÆ.

4. *Hyale novæ-zealandiæ*.

Nicea novæ-zealandiæ, G. M. Thomson, Trans. N.Z. Inst., vol. xi., p. 235, pl. 10, figs. B1, a-f.

Nicea neo-zealanica, Thoms. and Chilton, Trans. N.Z. Inst., vol. xviii., p. 144.

I have not met with this species since describing the original specimens in 1878. These were obtained in the neighbourhood of Dunedin. Mr. Hamilton's collection from Macquarie Island contained four specimens, all females.

5. *Hyale fimbriata*.

Nicea fimbriata, G. M. Thomson, Trans. N.Z. Inst., vol. xi., p. 236, pl. 10, figs. B2, a-e.

This species, like the last, was originally described in 1878, from specimens found near Dunedin. Numerous specimens occurred in the present collection. The degree of fimbriation of the second antennæ, the character from which the specific name is derived, varies a good deal in different individuals.

Family ATYLIDÆ.

6. *Atyloides australis*, Miers.

Several specimens of this species occurred in the collection. It has only hitherto been found in Kerguelen Island, but is allied to, if not identical with, *A. megalophthalmus*, Haswell, an Australian species.

Order BRANCHIOPODA.

Tribe CLADOCERA.

7. *Chydorus minutus*, G. M. Thomson, Trans. N.Z. Inst., vol. xi., p. 262, pl. 11, fig. B3.

Numerous specimens of a very small *Chydorus*, which I think are not specifically distinct from the New Zealand *C. minutus*, mihi, were found by Mr. Hamilton in a fresh-water pool. They were dark-brownish in colour, probably due to the peaty nature of the soil in which the pools occur.

The occurrence of the same minute fresh-water species in New Zealand and in such a distant and isolated land as Macquarie Island is not very easily capable of explanation. Certain species of gulls, which have no doubt great powers of flight, and which, both in New Zealand and in the Macquarie Island, nest in inland localities, could transport mud on their feet, and

could thus carry the eggs of these small crustaceans to distant places; but gulls seldom fly for any great length of time without lighting on the surface of the sea, and the chances of their being able to reach such an outlying spot with living eggs of a species like *Chydorus* are very small. Along with the crustacean was a solitary and minute Hydrachnid, which, however, in absence of knowledge of the Australasian *Hydrachnida*, has not been identified as yet.

Order COPEPODA.

Family CALANIDÆ.

Among the material of the sponge taken from a fresh-water pool were two specimens very imperfectly preserved of a species of Copepod belonging to the *Calanidæ*. Unfortunately, even with all possible care in dissecting, the bodies were in such a soft and disintegrated condition that I could not accurately separate and distinguish the legs. From the position in which the specimens were obtained it seemed to me probable that they lived in cavities in the sponge, and this might partly account for the soft condition of their bodies. While the mouth-parts were, on the whole, similar to those of *Calanus* and allied genera, the fifth pair of legs seemed quite distinct from anything I have met with before. The chances of getting material collected representing the fresh-water fauna of these antarctic islands are so few and far between that, even with the imperfect data in my possession, I have thought it desirable to provisionally describe the present form.

Genus *Guernea*,* nov. gen.

Female.—Cephalothorax six-jointed (?). Anterior antennæ 25-jointed. Posterior antennæ two-branched, the secondary branch, as in *Calanus*, having four small intercalated joints. Mandibles with a wide and strong cutting-edge, and a two-branched palp, branches respectively two- and four-jointed, setose. Maxillæ plate-like, with two lobed processes fringed with marginal setæ. Anterior foot-jaws strong, with numerous long setæ on the terminal joint. Posterior foot-jaws five-jointed, the three last joints each bearing a seta. Legs not clearly made out. Third (?) pair with both branches two-jointed. Fourth (?) pair with outer branch two-jointed, inner branch one-jointed. Fifth pair with both branches one-jointed, consisting each of a single plate. Abdomen four-jointed (?); caudal setæ short.

* After M. Jules de Guerne, Vice-President de la Société Zoologique de France, and joint author with M. Jules Richard of the "Révision des Calanides d'Eau douce."

8. *Guerneæ antarctica*, nov. sp. Plate XIV.

Length of body, exclusive of the caudal setæ, about 1.45mm.

Anterior antennæ less than half as long as the body, 25-jointed, joints furnished with one, or rarely two, very short setæ. Posterior antennæ about one-third as long as the anterior pair; with one branch two-jointed, joints subequal in length, and the terminal one bearing at its apex about five slender setæ; secondary branch seven-jointed, the last joint bearing three slender setæ at its apex, and about as long as the four preceding joints, each of which bears a single seta.

Mandibles with a straight cutting-edge, furnished with nine (or ten) small even teeth; palp two-branched; base two-jointed, the proximal joint broadening upwards and bearing four setæ on its outer edge; outer branch two-jointed, proximal joint broader than long, with three setæ on its outer edge, distal joint short with four terminal setæ; inner branch four-jointed, distal joint broad, ending in three or four long setæ, next three joints short, subequal, the terminal ending in three setæ.

Foot-jaws as in *Calanus*.

In the fifth pair of legs each branch is one-jointed, the outer plate having two short spines on its outer edge, three at its apex, of which the inner is the longest and strongest, and two short slender ones on its inner edge; the inner branch is not half as long as the outer, and bears a few very short spines on its margins.

The abdomen is only about one-third as long as the rest of the body.

The caudal segments are about equal in length to the preceding segment, and are twice as long as broad. Each bears four terminal setæ, of which the inner three are about as long as the abdomen, and the outer is barely half as long, while on each margin near the extremity is a short seta.

Family PELTIDIIDÆ.

9. *Zaus contractus*, G. M. Thomson, Trans. N. Z. Inst., vol. xv., p. 106, pl. 10, figs. 1-7.

Two male specimens of this or a closely-allied Copepod occurred in the collection. They differed from the type-species in the following details: The body was somewhat longer than in the New Zealand form, and, as seen from the side, was somewhat tumid. The central caudal seta on each side was two-thirds as long as the body, whereas in my original figures they appear rather short; but I think this was probably due to their being broken. While the second and fourth pairs of feet bore on their outer branch the four pectinated spines which

are so characteristic of this genus, the third pair appeared to have in their place four strong, straight, and smooth spines. The foot of the fifth pair was also different, the inner branch bearing several short spinose teeth, the outer lobe, which is hardly produced at all, bearing a single slender short seta.

If this should prove to be a new species, I would name it *Z. hamiltoni*, after the enthusiastic naturalist who has done so much to add to our knowledge of Macquarie Island.

EXPLANATION OF PLATE XIV.

Figs. 1-8. *Guernea antarctica*. Fig. 1 \times 56; figs. 2-8 \times 184.

- Fig. 1. Body as seen from the side.
 - Fig. 2. Anterior antenna.
 - Fig. 3. Posterior antenna.
 - Fig. 4. Mandible.
 - Fig. 5. Maxilla.
 - Fig. 6. Anterior foot-jaw.
 - Fig. 7. Foot of fifth pair.
 - Fig. 8. Caudal segments and setæ.
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ART. XXIII.—*On the most frequent Pelagic Copepods and Cladoceres of the Hauraki Gulf.*

By DR. AUGUSTIN KRÄMER, Physician H.I.M.S. "Bussard."

[Read before the Auckland Institute, 1st October, 1894.]

Plates XV.—XXIII.

DURING a stay of about four months at Auckland, from November, 1893, till February, 1894, I was able to get much "plankton" from very different parts of the Waitemata Harbour (except the interior part, beyond the Sentinel Rock), and of the Hauraki Gulf, between Tiritiri, Great Barrier Island, and Rangitoto.

By the measure of more than fifty perpendicular draughts with a volumetric plankton-net I found that the small crustacea, Copepods and Cladoceres, are abundant on every spot, together with many kinds of Diatomaceæ (*Coscinodiscus*, *Bidulphia*, *Chatoceros*, *Triceratium*, *Ceratium*, &c.). There are also always present a genus of Radiolaria, some Appendiculariæ, and Rotifera. As far as it is possible to work out the material on board a ship in a short time I believe that I have done it; but naturally this treatise can be no definite one; but, as