

A new Species of the Amphipodan Genus Hyale from New Zealand. By CHAS. CHILTON, M.A., D.Sc., LL.D., F.L.S., C.M.Z.S., Professor of Biology, Canterbury College, New Zealand.

THE genus *Hyale* is represented in New Zealand by several species, of which, perhaps, the commonest is *H. rubra* (G. M. Thomson), which is found on all parts of the New Zealand coast, and agrees well with the brief description given by Stebbing in 'Das Tierreich, Amphipoda' (p. 572). In November 1915 a number of specimens of *Hyale* were sent to me by Mr. P. W. Grenfell from Cuvier Island. Most of these proved to belong to *Hyale rubra*, but among them there was one that attracted my attention by its peculiar maxillipedes, the terminal joints of which were greatly expanded and thickly covered with long setæ. On examination it proved that this specimen, which was a male, differed from *H. rubra* in the second gnathopod also, and I am therefore describing it as a new species. Unfortunately I have only the single specimen, but the characters of the maxillipedes and the second gnathopods are so distinctive that it will be easy to recognize it again. It is quite likely that the peculiar development of the maxillipedes is found in the male only, and is to be looked upon as a secondary sexual character, but the female of this species is at present unknown. The following will serve as a description:—

Hyale grenfelli, sp. n. (Figs. 1-5.)

Specific diagnosis. Male.—In general resembling *H. rubra* (G. M. Thomson), but differing in the maxillipedes, which have the carpus and propod greatly dilated and thickly covered with long slender hairs, and in the second gnathopod, in which the palm is only slightly oblique, well defined, broad, the margin on both outer and inner sides being deeply

concave and provided with numerous short setules, the finger short and rather blunt.

Colour. The body variously marked with pink, as in *H. rubra*.

Size. 7 mm.

Female unknown.

Fig. 1.

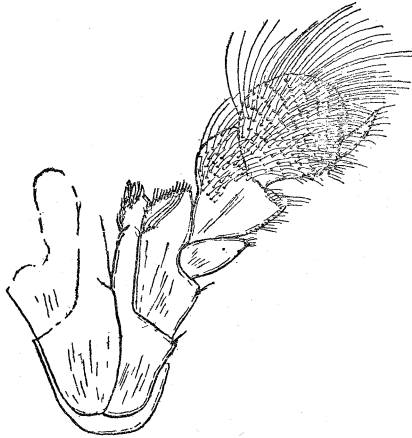


Fig 2.

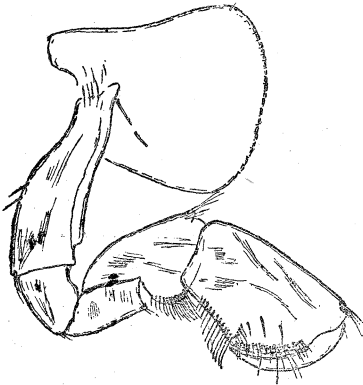


Fig. 3.

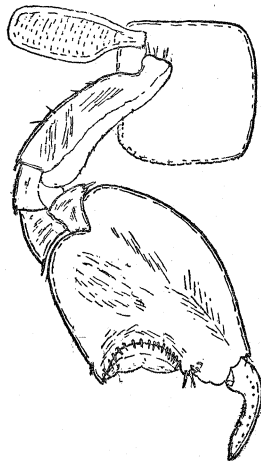


Fig. 1.—*Hyale grenfelli*, ♂. Maxillipeds.

Fig. 2.—Ditto. First gnathopod.

Fig. 3.—Ditto. Second gnathopod.

Locality. Cuvier Island, off the coast of Auckland, New Zealand; between tide-marks.

I have named the species after Mr. P. W. Grenfell, Keeper of the Cuvier Island Lighthouse, to whom I am indebted for many interesting specimens of Crustacea.

In addition to the above brief diagnosis, the following description may be given:—

Side-plates 1-4 fairly deep, first one widening slightly below and produced a little anteriorly. Third segment of pleon with postero-lateral corner quadrate, very little out-drawn, subacute, the posterior margin nearly straight, but

Fig 4.



Fig. 5.

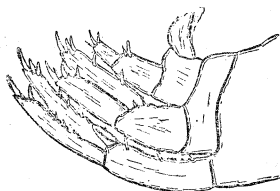


Fig. 4.—*Hyale grenfelli*, ♂. Fifth pereopod. ♀
Fig. 5.—Ditto. Urus, with uropoda and telson.

with a few faint irregularities and three very minute setules. Eyes rather large, irregularly rounded. Antenna 1 half as long as antenna 2, peduncle short, the segments decreasing regularly in size, flagellum with about sixteen joints. Antenna 2 more than half as long as the body, ultimate joint of peduncle slightly longer than preceding; flagellum long, about twice as long as peduncle, with many joints.

Mouth-parts with exception of maxillipeds present no abnormal features. The maxillipeds are of the usual structure in the proximal joints, but the carpus and propod are very greatly dilated, so as to be fully as broad as long, the inner margins being very convex; the inner part of the surface of the carpus and the whole surface of the propod thickly covered with long hairs irregularly arranged in transverse rows, the longest extending considerably beyond the end of the finger. The finger is much shorter than the outer margin of the propod, it is narrow and tapers regularly to the extremity. The outer margins of the carpus, propod, and finger are fringed with setæ. The carpus is narrowed at the base, and the distal portion of the limb is twisted upon this so as to lie in a plane more or less at right angles to that of the proximal portion.

First gnathopod with side-plate slightly widened below and produced a little anteriorly; basis widening distally; carpus with well-rounded lobe of hind margin fringed with a regular series of setæ, which increase in length distally; propod oblong, anterior margin slightly convex, devoid of setæ except for a tuft at base of finger, posterior margin straight, with a regular row of setæ which increase in length distally; palm slightly oblique, curved, and fringed with setæ of varying lengths; finger fitting closely on to palm.

Second gnathopod with side-plate quadrate; basal joint long; hind margin a little convex, with a few setæ; anterior margin produced on the outer side into a thin flange, which projects in a rounded lobe beyond the end of the joint and provides a groove for the reception of the propod when reflexed; ischium with the outer margin similarly produced into a thin rounded lobe; merus and carpus both very short and of the usual form; propod very large, oval except for the excavation of the palm; anterior margin fairly convex, without setæ; hind margin well developed, rather longer than palm, which is oblique, deeply concave, broad, both inner and outer margins very concave, and with a regular row of setules; the surface of the palm itself thin, membranous, slightly protruding beyond the firm margins; finger short and stout, narrowing abruptly towards the end, produced at the base on the inner side into a rounded lobe with an irregular thickening beyond; inner margin of finger with a row of very minute setules.

Peræopods 1 and 2 as long as peræopod 3, of normal structure.

Peræopods 3-5 increasing slightly in length posteriorly; basal joint broad, with hind margin very convex and irregu-

larly crenate below; hind margin of propod without setæ except tuft at base of the finger; setæ on anterior margin of uniform size, not serrulate; finger strongly curved, with minute setule.

Uropods 1 and 2 with rami equal in length to the peduncle and provided with lateral and apical spines, the peduncle of the first uropod bearing a specially stout spine on the upper side at the extremity. Third uropod of usual size, with ramus much shorter than peduncle.

Telson apparently cleft almost to the base, margins entire and without setæ.

This species appears to come very close to *H. rubra* (G. M. Thomson), but until the female is known it is difficult to speak positively about its relationships.