

*Dorsum* with three rows of tubercles, the posterior two rows very faint. *Keels* with lateral margins entire, though granular, those that bear the pore notched or emarginate posteriorly. *Pores* completely marginal, though just visible when the segment is viewed from above.

*Caudal process* semicircularly rounded.

*Anal sternite* bitubercular.

*Sterna* not spined.

*Polydesmorhachis atratus*, sp. n.

♀.—*Colour* of upper surface a uniform blackish brown, the edges of the keels only indistinctly yellow; legs and antennæ infusate; sterna pale.

*Antennæ* short, their length a little less than width of second segment.

*First tergite* mesially depressed, elevated laterally and posteriorly, beset with tubercles and granules. *Keels* of segments 2 to 7 elevated, the rest horizontal; anterior and posterior borders of keels as far back as the seventeenth segment directed obliquely forwards, almost smooth, anterior border basally shouldered, anterior angle rounded and nearly rectangular, strongly convex on the sixteenth, seventeenth, and eighteenth segments; anterior border straight on the anterior part of the body, convex on the posterior seven keel-bearing segments; posterior angle never spiniform, obtusely rounded, square on the sixteenth, produced on the seventeenth to nineteenth. The dorsal surface of keels and of the rest of the segment granular, in addition to the tubercles; the suture of the segments costulate.

*Measurements in millimetres*.—Total length 61; width of second segment 8·5, of fifth 8·5.

*Loc.* Palawan Island, between Borneo and the Philippines (*A. Everett*).

LII.—On two new *Gammarids* from New Zealand.

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

[Plate X.]

THE Amphipods described in the present paper were obtained in the Bay of Islands in January 1884. They were taken by me in the dredge in about 8 fathoms of water on a nearly clean sandy bottom. Only males were met with, and as, in the case of both species, they were very distinct and conspicuous on account of the abnormal development of the



second pair of gnathopods, I deferred publishing a description of them in the hope that I should find and recognize the female forms among the abundant material since obtained from many parts of the colony. This I have not yet succeeded in doing. It is, of course, perfectly possible that I have passed them over without recognizing them, having referred them to other species. The males are unmistakable. Of *Mæra Chiltoni* six specimens were taken, and of *M. Haswelli* four; but all are extremely fragile in structure and all are so much mutilated that in regard to certain limbs the structure has been but imperfectly made out.

*Mæra Chiltoni*\*, sp. n. (Pl. X. figs. 1-5.)

Body slender, rather compressed; pleon well developed.

*Cephalon* produced forward below the articulation of the superior antennæ into an obtusely pointed lobe on each side. The *eyes*, which are subreniform in shape, but broader in the lower than in the upper part, and are formed of numerous ocelli, occupy the greater portion of this lobe, and are placed close up to its anterior margin.

*First antennæ*.—First joint of peduncle stout, half as long as the cephalon, with a few setæ on the sides and at the extremity; second joint about twice as long, much more slender, and with six or seven tufts of setæ on the lower margin; third about two thirds as long as second, with a few tufts of setæ.

*Flagellum* lost; *secondary flagellum* (also lost) nearly as long as last joint of peduncle.

*Second antennæ* somewhat longer than cephalon and the three first thoracic segments; peduncle subequal in length with that of the first antennæ; first joint short, second and third subequal, nearly twice as long as the first, and with a few tufts of setæ on the lower margin; flagellum slightly longer than last joint of peduncle †.

*Mandibles* subquadrate; *left* with the cutting-plate produced almost at right angles to the basal portion into a stout two-lobed tooth, secondary plate shorter and two-toothed, spinerow reaching back almost to the molar tubercle, with about six curved spines; *right* (not satisfactorily made out) with secondary plate well developed, broadening upwards and ending in about four deep indentations; palp with the second

\* Named in honour of Dr. Charles Chilton, F.L.S.

† Owing to an accident many of the smaller parts of the animal were lost after dissection; hence the imperfection of the description in several places.



joint elongated and flattened, broadening upwards, with scattered setæ along the margins, third joint shorter than second and broadened upwards, with a transverse crest of setæ on the dorsal surface and a fringe of setæ round the extremity and distal half of the lower margin, those at the apex of the joint very long.

*First maxillæ* with the inner plate in the form of an extremely short pointed lobe without any setæ; outer plate broad, nearly square at the extremity, ending in ten short spines and a few minute setæ; palp broad and flat, apparently three-jointed, the middle joint short, the extremity with a few short spines and setæ.

*Second maxillæ* with the outer plate slightly broader than the inner, setose at the extremity; the inner fringed with short setæ, chiefly round the inner margin.

*Maxillipeds*.—Inner plate reaching to the first joint of the palp, widening above and bearing on the extremities a few short broad spines, interspersed with short plumose setæ, which are continued a little way down the inner margins; outer plates about subequal with second joint of the palp, half as long again as the inner, broad and curved, furnished with numerous leaf-like spines and long simple setæ; palp four-jointed, the three last joints furnished with numerous setæ; last joint short and rounded, with one or two rather stout setæ at the extremity, but without a claw.

*First gnathopods* small; side-plates elongated, widening and rounded below, produced forwards at their infero-anterior angle; basos long and slender, front margin nearly straight, without setæ; ischium short; meros produced into an acute tip, sparingly setose; carpos well developed, subtriangular, broadest at the distal extremity, with several setæ along its sides and numerous tufts on its lower margin; propodos shorter than carpos, narrow-ovate, the oblique and dentate palm occupying about one third of the length, with numerous setæ on both margins; dactylos about two thirds as long as propodos, curved, very acute, and furnished with a few minute denticulations along its inner edge.

*Second gnathopods* very large, side-plates resembling those of the preceding pair; ischium and meros short, the latter produced forward like a tile, so that the carpos, which is attached almost at right angles to it, works in it as in a groove; carpos dilated distally, so as to have the form of an equilateral triangle; propodos large and subquadrate, its lower side straight and fringed with bunches of short setæ, its anterior side dilated into a large rounded protuberance, furnished with a bunch of setæ near the extremity and a few



scattered minute spines on its outer surface; the distal end of the joint is transverse; behind the articulation of the dactylos is an acute tooth, followed by a large rounded protuberance at the joint; palm furnished with one very large powerful conical tooth, followed by a deep indentation, while the postero-inferior extremity of the palm is occupied by a square tooth, the top of which occupies more than a third of the length of the whole palm; dactylos strong, slightly curved, reaching a little beyond the end of the palm.

*First and second periopods* slender; *third* stout; *fourth* and *fifth* increasing in length posteriorly, rather slender and spinously setose.

*Pleopoda* well developed.

*First uropods* the longest; basal portion carrying five spines, which increase in length outwards, on the inner margin, and five or six very short ones on the outer; between the branches is a large acute spine; branches subequal, shorter than the basal portion, furnished with a few spines.

*Second uropods* with only two or three spines on each side of the base; inner branch about subequal with the base, somewhat longer than the outer, both spinose.

*Third uropods* shortest; branches subequal, slightly shorter than the base, spinose.

*Telson* subquadrate, the sides converging posteriorly, deeply cleft, each extremity bearing one spine-like seta.

Length 4-4.5 millim.; depth of body about one fifth of the length.

*Hab.* Taken with the dredge in about 8 fathoms in the Bay of Islands.

*Mæra Haswelli*\*, sp. n. (Pl. X. figs. 6-10.)

Body slender and compressed.

*Cephalon* produced at the sides into an acute angle between the bases of the first and second pairs of antennæ, not rostrate above.

*Eyes* with about eighty to ninety ocelli, produced well forward on the sides of the cephalon.

*First antennæ* with the first and second joints very short and almost merged into the front of the cephalon; third joint more than twice as long as broad, almost destitute of setæ. The three joints together are not more than two thirds as long as the cephalon; fourth joint slender, nearly twice as long as the third, with a few long setæ on the lower margin; fifth joint only about half as long as the fourth, also sparingly

\* Named in honour of Prof. Haswell, F.R.S., of Sydney University.



setose. Flagellum broken off. Secondary flagellum four-jointed, about as long as the fifth joint of the peduncle.

*Second antennæ* with only one joint of the peduncle left, as long as and somewhat stouter than the third joint of the first pair, and bearing a few slender setæ, especially at the lower extremity.

*Mandibles* stout, with the basal portion subtriangular in form. *Right* with its molar tubercle in the form of a hollow crown, toothed all round the edge and with a few small setæ; cutting-edge, which with the tubercle is directed forwards, furnished with a row of five spines, very closely set, but not clearly made out; secondary plate strongly developed and ending in two large teeth. *Left* with two strong protuberances on the secondary plate. *Palp* slender, three-jointed; first joint very short, second and third subequal, the former with a row of about six or seven short setæ on the lower edge, the latter ending in a number of long setæ and with a tuft of two or three on its upper edge a little distance from the extremity. (The other organs were very small and fragile, and were unfortunately mutilated in dissection.)

*First gnathopods* small; carpos narrow-oblong, dilating outwards to the distal end, fringed on its lower margin with three or four bunches of setæ; propodos with three groups of dorsal setæ placed transversely and a tuft of setæ at the articulation of the dactylos, lower margin with setæ sparingly scattered along its edge; palm oblique and not well-defined; dactylos slightly more than half as long as the propodos, slender, slightly curved.

*Second gnathopods* abnormally developed, nearly half as long as the whole body; basos long and somewhat curved, especially on the posterior margin; ischium quadrilateral, as broad as and about one third as long as basos; meros small, triangular, with its lower side greatly produced into an acute lobe, bearing a few setæ near its extremity; carpos very much broader than long, also produced into a narrow triangular prolongation, which extends as far as that of the meros and bears one or two setæ; propodos about equalling in length all the rest of the limb, widening to the distal end, which is about half as broad as the length of the joint; dorsal surface smooth and curved, ventral straighter, ending in a strong tooth and with a few setæ near the extremity, distal end transverse, with a deep hollow inside the inner tooth, then having a small irregular tooth near the middle which bears a few setæ, and a slight protuberance at the hinge of the dactylos; the latter joint very long and falcate, with its inner edge nearly straight for the first half of its length, then sickle-shaped, its extremity reaching to the prolongations of



the meros and carpos, against which apparently it impinges and between which it is received.

*Pereiopoda* all wanting, except one of the fourth pair (which, on account of its brittleness, went to pieces during dissection), which was about one third as long as the body, and the joints of which were rather slender and were sparingly furnished with short almost spinose setæ.

*Pleopoda* slender.

*First and second uropods* reaching nearly to the extremity of the *third pair*. (Unfortunately, owing to the fragile state of the specimen, these appendages were broken up during dissection, so that details could not be satisfactorily settled.)

*Telson* apparently very short, cleft at the apex, and each side tipped with a very short spine (not well made out).

Length 4 millim.

*Hab.* Taken with the dredge in about 8 fathoms in the Bay of Islands.

#### EXPLANATION OF PLATE X.

Figs. 1-5. *Mæra Chiltoni*.

1. Animal,  $\times 20$ .
2. Mandible,  $\times 125$ .
3. Gnathopod of first pair,  $\times 56$ .
4. Gnathopod of second pair,  $\times 56$ .
5. Telson and last pair of uropods,  $\times 56$ .

Figs. 6-10. *Mæra Huswelli*.

6. Animal,  $\times 20$ .
7. Base of mandible,  $\times 125$ .
8. Mandibular palp,  $\times 125$ .
9. Gnathopod of second pair,  $\times 41$ .
10. Telson,  $\times 56$ .

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LIII.—*A Revision of the Species of Butterflies belonging to the Genus Teracolus, Swains.* By ARTHUR G. BUTLER, Ph.D., F.L.S., F.Z.S., &c.

[Continued from p. 399.]

#### 25. *Teracolus Mananhari*.

*Pieris Mananhari*, Ward, Ent. Month. Mag. vi. p. 224 (1870); Afr.

Lep. p. 2, pl. ii. figs. 1-4 (1873).

*Anthocharis flavida*, P. Mabille, Bull. Soc. Ent. Fr. (5) vii. p. xxxvii (1877).

*Teracolus flavidus*, P. Mabille, Grand. Madag. pl. xl. figs. 1, 1 a, 2, 2 a (1885).

*Teracolus nothus*, Mabille, l. c. p. 290 (1886)\*.

Madagascar.

\* M. Mabille quotes pl. xxxvi. a. fig. 2, but no such plate appears to have been published hitherto; at any rate, it is not in the Museum Atlas to the work.



Thomson, George Malcolm. 1897. "On two new gammarids from New Zealand." *The Annals and magazine of natural history; zoology, botany, and geology* 20, 446–451.

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