

*From the Proceedings of the Linnean Society of New
South Wales, Vol. IV.*

ON SOME ADDITIONAL NEW GENERA AND SPECIES OF
AMPHIPODOUS CRUSTACEANS.

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[Plates XVIII.—XXIV.]

GROUP NORMALIA.

FAM. ORCHESTIDÆ.

Genus ALLORCHESTES, Dana.

Allorchestes niger, sp. nov.

Eyes round. Superior antennæ nearly as long as the cephalon
and the first two segments of the pereion; first joint of peduncle

short, about half the length of the cephalon; second and third shorter; flagellum of nine articuli. Inferior antennæ twice as long as the superior pair; flagellum much longer than peduncle, the articuli nearly twice as broad as long at the proximal end, becoming narrower and longer towards the extremity; setæ few and short. Anterior gnathopoda with a lamellar, hair-bordered process on the carpus; propodos ovoid, twice as long as broad, palm short, oblique, with a defining spine. Posterior gnathopoda with the carpus small, triangular; the propodos irregularly heart-shaped with the palm oblique, defined by a triangular tooth, and armed with a row of spines; the dactylos with a small tooth at its base on the inner side. Pereiopoda subequal, with a few setæ on the borders of the segments. Colour blackish purple or brown. Length one-fifth in.

Hab. Among sea-weed on Clark Island, Port Jackson; common.

FAM. GAMMARIDÆ.

Genus CYPROIDIA (*novum*).

Body broad. Pereion and pleon of equal length. Coxæ of gnathopoda very small. Coxæ of the first and second pairs of pereiopoda enormously developed; and cemented together to form broad and deep lateral shields, concealing almost entirely the gnathopoda and pereipoda, and extending forwards to the sides of the cephalon, and backwards as far as the posterior border of the sixth segment of the pereion, excavated posteriorly for the amalgamated shallow coxæ of the third and fourth pereiopoda. Coxæ of the last pair of pereiopoda very small. Antennæ subequal, superior without an appendage. Mandibles with a palp. Maxillipedes unguiculate; both basos and ischium armed with small squamiform plates. Gnathopoda subcheliform. Pereiopoda slender. Posterior pleopoda biramous. Telson single.

Cyroidia ornata, *sp. nov.* (Pl. XVIII. fig. 1.)

Cephalon with a slight rostral prolongation. Eyes round. Superior antennæ nearly as long as the cephalon and the first two

segments of the pereion; first segment of the peduncle stout, half as long as the cephalon; second segment longer and narrower than the first, ending distally in an upper, longer, and a lower, shorter, blunt tooth; third segment similar to the articuli of the flagellum; flagellum equal in length to the peduncle. Inferior antennæ about equal in length to the superior pair, inserted considerably behind the latter; second joint of the peduncle the longest; flagellum shorter than the last segment of the peduncle, of four or five articuli. Mandibles with a three-jointed palp; the incisive edged armed with eight conical teeth. Maxillipedes with the dactylos long, pointed. Anterior gnathopoda having the carpus triangular, its distal and inferior angle produced and armed terminally with a few spines; propodos ovoid, narrowed distally, longer than the carpus, palm not defined; dactylos slender, acute, about two-thirds of the length of the propodos, its inner border armed in about a half of its extent with fine denticles. Posterior gnathopoda with the ischium, meros, and carpus, each produced distally and inferiorly; ischium short, its process longer than its body, gently curved, armed with one or two setæ; meros a little longer than the ischium, its process very short, armed at the extremity with a few setæ; carpus large, the infero-distal process longer than the body, pointed and nearly straight, armed internally with a row of setæ; propodos a little longer than the process of the carpus, oblong, twice as long as broad; dactylos short, stout. Pereiopoda subequal, slender, the basa very narrow. Three posterior pairs of pleopoda biramous, devoid of setæ, the rami styliform, slender, pointed and slightly curved. Telson sub-conical, laterally compressed, subacute. Colour light pink, with minute brown and red dots forming a lobed pattern on the coxæ. Length 3/20ths in.

Hab. Clark Island, Port Jackson, amongst sea-weed at low-water mark.

Cyproidia lineata, *sp. nov.* (Pl. XVIII., fig. 2.)

Body very convex. Lateral plates rather deeper than the pereion; the division between the two constituent coxæ geniculate.

Cephalon with a slight rostral prolongation. Posterior segments of the pleon compressed. Eyes large, round, red. Superior antennæ as long as the cephalon and the first three segments of the pereion; peduncle stout, the second segment produced above into a strong tooth at the distal end; flagellum longer than the peduncle, tapering, of about seven articuli. Inferior antennæ rather longer than the superior pair; peduncle and flagellum subequal. Anterior gnathopoda with the propodos oblong, more than twice as long as broad, the palm oblique, short, armed with a few very short hairs. Posterior gnathopoda with the carpus produced infero-distally into a prominent, distally rounded process armed terminally with a few hairs; propodos ovate, narrowed distally, palm oblique, defined by the distal process of the carpus, armed with a few short bristles. Pereiopoda subequal, slender. Last three pairs of pleopoda successively decreasing in length posteriorly; rami short, pointed, unarmed. Telson very large, laterally compressed, blade-like, nearly as long as the last pair of pleopoda, the upper border convex, the lower nearly straight. Ornamented with numerous brown dots disposed in lines on the lateral shields and the body. Length about 1/10th in.

Hab. Clark Island, Port Jackson.

SUB-FAMILY LYSIANASSIDES.

Genus GLYCERA, Haswell.

Glycera tenuicornis, *mih*.

Glycera tenuicornis, *Haswell, Proc. Linn. Soc., N.S.W., p. 257.*

I have recently obtained a specimen of this peculiar species in Port Jackson. The original habitat was the Howick Group of Islands, off the North-east coast of Australia, so that its range would appear to be very extensive.

Genus *LYSIANASSA*, Edwards.

Lysianassa australiensis, *sp. nov.* (Pl. XVIII., fig. 3.)

Resembles *L. nitens*, mihi, but has the eyes smaller, and the propodos of the posterior gnathopoda narrower, with the dactylos rudimentary.

There are two varieties of this form, the one with the inferior antennæ short, and the other with these organs as long as the body; but I am unable to state whether or no these may be sexual characters.

Hab. Port Jackson (common).

SUB-FAM. STEGOCEPHALIDES.

Genus *MONTAGUA*, Spence Bate.

Montagua Miersii, *sp. nov.* (Pl. XXIV., fig. 4.)

Coxæ of the posterior gnathopoda and the two first pairs of pereopoda much deeper than their respective segments. Superior and inferior antennæ subequal in length, equal in length to the cephalon and first three segments of the pereion; the peduncles stout, rather shorter than the flagella. Anterior gnathopoda small, the propodos subquadrate, the palm nearly transverse. Posterior gnathopoda with the propodos large, cordiform; the palm oblique, undefined. Pereiopoda subequal, rather stout. Colour yellow with brown markings. Length about 3/20ths in.

Hab. Port Jackson.

I have named this species after Mr. E. J. Miers, F.L.S., of the British Museum.

Montagua longicornis, *sp. nov.* (Pl. XXIV., fig. 5.)

Coxæ scarcely so deep as in the preceding species. Superior antennæ as long as the cephalon and pereion. Inferior antennæ a little shorter than the superior. Anterior gnathopoda with the propodos very small, subquadrate, the palm nearly transverse.

Posterior gnathopoda with the propodos long-ovate; palm undefined, fringed with long hairs. Length about 3/20ths in.

Hab. Port Jackson.

SUB-FAM. PHOXIDES.

Genus *ÆDICERUS*, Kröyer.

Ædicerus latrans, *sp. nov.* (Pl. XIX., fig. 1.)

Rostrum curved downwards, acute. Eyes oval, very large. Antennæ subequal, as long as the cephalon and first two segments of the pereion. Superior pair with the peduncle short, stout, the first segment much larger than the other two; flagellum more than twice as long as the peduncle. Inferior pair with the peduncle stout, the third, fourth and fifth segments subequal, short; flagellum more than twice as long as the peduncle. Maxillipedes with fairly large squamiform plates and a stout dactylos. Gnathopoda sub-equal, rather large; propodos ovoid, narrowed slightly distally—that of the second pair rather larger than that of the first; dactylos about half the length of the propodos. Two anterior pairs of pereopoda subequal, sub-foliaceous, armed with a few long hairs; dactylos absent. Third pair similar to the first and second, but with the coxæ narrower and hardly so deep. Fifth pair very much longer than the others; the basos ovate; all the other segments narrow and elongate, bordered with short hairs. Posterior pleopoda foliaceous, pointed, bordered with long hairs. Telson squamiform, slightly cleft.

Hab. Bondi Bay, New South Wales; found burrowing in the sand, the falling waves washing them out of their place of concealment.

A species of the same genus (*Ædicerus fossor*), with precisely similar habits, is described by Stimpson (*Proc. Acad. Nat. Sci., Philad.* 1855.) as found at Botany Bay.

Ædicerus arenicola, *sp. nov?* (Pl. XXIV., fig. 3)

Cephalon slightly produced. Third and fourth segments of the pleon with an obscure longitudinal ridge in the middle dorsal line. Eyes rather small, round. Superior antennæ as long as the cephalon and the first four segments of the pereion; peduncle stout; flagellum subequal with the peduncle, of 15 articuli. Inferior antennæ about equalling the superior in length; flagellum and peduncle subequal, the former composed of 14 articuli. Gnathopoda subequal, hairy, larger in the male than in the female, the carpus in both pairs subtriangular, produced at its inferior and distal angle, rather larger in the posterior pair; propodos ovate, dactylos rather more than half as long as the propodos; palm not defined. Two first pairs of pereiopoda foliaceous, dactylos absent; third and fourth pairs subequal, similar to the first and second, but with the basos broader, and with a very small, conical dactylos; fifth pair very long, the distal segments slender, armed with a few short setæ. Posterior pleopoda having the rami narrow, ovate, bordered internally toward the apex with slender hairs. Length 3/10ths in.

Hab. Shark Island, Port Jackson; found burrowing in sand above high-water mark.

Seems to resemble closely the *Ædicerus fossor* of Stimpson; and may prove to be identical with that species.

Genus UROTHOË, Dana.

Urothoë pinguis, *sp. nov.* (Pl. XIX., fig. 2.)

Body very thick. Eyes small, reniform. Superior antennæ as long as the cephalon and first segment of the pereion; peduncle very stout, first segment the largest, third very small; flagellum as long as the peduncle, of fifteen articuli; appendage two-thirds of the length of the flagellum, composed of ten articuli. Inferior antennæ longer than the superior pair; peduncle very thick, fourth joint the largest, fifth about two-thirds of the length of the fourth and more slender, both fringed below with long hairs;

flagellum as long as the two last segments of the peduncle. Mandibles with a broad foliaceous palp. Maxillipedes with a strong dactylos and with small, spine-fringed, squamiform plates on both basos and ischium. Gnathopoda large; anterior pair with the carpus three-fourths of the length of the propodos; the propodos ovoid, swollen; the palm not defined; the dactylos half as long as the propodos; posterior pair larger than the anterior, carpus small, subtriangular; propodos ovate, palm defined by a prominent angle; dactylos rather more than half as long as the propodos. First two pairs of pereopoda subequal, sub-foliaceous, the basos about thrice as long as broad, the meros ovate, hairy; the carpus broad, with a slight angular projection on its posterior border to which are attached a number of long hairs; propodos nearly equal in length to the carpus, narrow; dactylos small. Third pair with its coxa extending forward nearly to the anterior boundary of the fourth segment; basos broader at its distal than at its proximal end; meros produced posteriorly, broader than long, armed behind with five large, triangular teeth; carpus as long as the meros, but narrower, armed behind with four triangular teeth; propodos rather longer than the carpus, about half as broad; dactylos almost straight, acute; all the segments except the first and last fringed with long hairs. Fourth pair longer than the third, hairy; basos broadly ovate; meros very large, twice as broad as long, with seven teeth on its posterior border; carpus as long as the meros, not quite so broad, narrowing distally; propodos long, narrow. Fifth pair much smaller than the others; basos expanded posteriorly, the posterior border finely serrated; meros and carpus subequal, not expanded; propodos equal in length to the carpus, but narrower; dactylos straight, acute. Rami of posterior pleopoda lanceolate, serrated on the edges. Halves of telson ovate, armed with a few hairs on the outer side and a terminal spine. Length $2/5$ ths in.

Hab. Bondi, New South Wales, cast on the beach during a storm.

Genus IPHIMEDIA, Rathke.

Iphimedia? *ambigua*, *sp. nov.* (Pl. XXIV., fig. 2.)

Cephalon with a long, pointed rostrum. First segment of the pereion broad; the second to the sixth, inclusive, very narrow, the seventh and the first three segments of the pleon very wide; the seventh segment of the pereion and the first three segments of the pleon each armed with an acute spine on each side near the middle dorsal line, and another at the postero-lateral angle; third segment armed in addition with an acute, curved spine situated between the lateral angle and the dorsal spine. Coxæ of the gnathopoda and the two anterior pairs of pereiopoda deep, that of the second pair of pereiopoda excavated behind for that of the third pair, the latter together with the two following pairs with a spine-like posterior angle. Antennæ subequal, the inferior pair rather longer than the superior. Anterior gnathopoda slender, filiform. Posterior gnathopoda slender, sub-chelate. Basos of the third pair of pereiopods armed on the posterior border with an acute spine near the proximal end; basos of the fourth pair with two short spines, that of the fifth pair with the posterior border serrate and armed with an acute spine near its distal extremity. Last pair of pleopoda biramous, the inner ramus longer than the outer, bi-articulate. Telson scale-like, entire. Colour red with brown dots. Length 3/30ths in.

SUB-FAM. GAMMARIDES.

Genus ATYLUS, Leach.

Atylus monoculoides, *sp. nov.* (Pl. XVIII., fig. 4.)

Eyes very large, nearly meeting above. Superior antennæ as long as the cephalon and first six segments of the pereion; first segment of the peduncle rather shorter than the cephalon, stout; second narrower and shorter, third scarcely distinguishable from the articuli of the flagellum; flagellum nearly twice as long as the peduncle; articuli broader than long at the proximal end,

longer than broad distally, each armed with fasciculi of setæ both above and below, every second articulus slightly expanded at its infero-distal angle and tipped with auditory cilia. Inferior antennæ rather shorter than the superior pair; third joint of peduncle short, very stout, fourth and fifth subequal, the latter rather narrower than the former; flagellum as long as the last two segments of the peduncle; articuli very much broader than long at the proximal end, becoming longer than broad towards the extremity. Maxillipedes with a well-developed squamiform plate on the ischium and a smaller one on the basos. Gnathopoda equal, similar, the propodos ovoid, narrower distally than proximally, the palm not defined. Pereiopoda short and stout, bordered with fine setæ, the two last pair rather longer than the third. Last three pairs of pleopoda with slender, acute, styliiform rami, armed with a few fine setæ and slightly curved at the apex. Telson triangular, blunt, cleft in rather more than half its length. Colour light olive with a few red spots on the antennæ; eyes blue-black. Length $\frac{1}{4}$ in.

Hab. Clark Island, Port Jackson, found about low-water mark enclosed in masses of algæ and polyzoa.

Atylus lippus, *sp. nov.* (Pl. XX., fig. 1.)

Eyes roundish, the pigment scattered. Superior antennæ as long as the cephalon and first five segments of the pereion; segments of the peduncle short and stout, the first the largest, the third very small, scarcely distinguishable from the articuli of the flagellum; flagellum twice as long as the peduncle; the articuli longer than broad, each armed both above and below at the distal end with a few setæ, every fourth dilated inferiorly and distally, and crowned with stout cilia. Inferior antennæ longer than the superior pair; flagellum more than twice as long as the peduncle; the segments short, broader than long, ornamented at the distal end with a fasciculus of curved setæ both above and below. Gnathopoda subequal, bordered with a fringe of short

hairs on the meros, carpus and propodos; propodos ovate; palm undefined. Rami of posterior pleopoda foliaceous, serrated on the borders, the serrations armed each with one or two short setæ. Telson triangular, truncate, cleft in rather more than half its length. Length $\frac{1}{4}$ in.

Hab. Clark Island, Port Jackson.

This species is characterised mainly by the irregular form of the eyes, and the shortness of the peduncles of the antennæ.

* *Leucothoë novæ-hollandiæ*, *sp. nov.* (Pl. XX., fig. 2.)

Body thick. Pleon considerably shorter than the pereion. Cephalon small; first segment of the pereion very broad, tumid. Eyes oval. Superior antennæ a little longer than the cephalon and first segment of the pereion; first two segments of peduncle subequal—the second slightly longer than the first—the third about one-third of the length of the second; flagellum as long as the last two segments of the peduncle, very slender. Inferior antennæ subequal with superior; flagellum very slender, rather longer than the last segment of the peduncle. Maxillipedes with a strong dactylos and well-developed squamiform plates—those of the basa united together in the middle line. Anterior gnathopoda large, complexly subchelate; carpus much larger than the propodos, irregularly triangular—the proximal (apical) and superior angles rounded off, the infero-distal angle produced into an incurved pointed process, about one-half as long as the rest of the segment; propodos less than two-thirds of the length of the carpus, rather longer than broad, terminating in a straight edge, its dorsal border concave, ventral convex and closely applied to the infero-distal process of the carpus; dactylos absent. Posterior gnathopoda simply sub-chelate, with a small meros, a sub-triangular carpus, slightly produced at both of its distal angles; the propodos large, more than twice as long as broad, its dorsal border convex in its proximal two-thirds, concave near the distal end, ventral border slightly convex; palm oblique, slightly

excavated, armed with a varying number of blunt teeth; dactylos more than half as long as the propodos. First and second pairs of coxæ as deep as their respective segments; third and fourth rather deeper; fifth scarcely half as deep as the fourth. Three posterior pairs of pereopoda subequal, rather short. Fourth pair of pleopoda longer than the fifth and sixth; fifth and sixth subequal, with short, styliform, slightly curved rami. Telson triangular, blunt. Colour light pink, nearly white. Length $\frac{3}{4}$ in.

Genus *HARMOMIA* (*novum*).

Coxæ not so deep as their respective segments. Superior antennæ with an appendage. Inferior antennæ longer than the superior pair. Mandibles with a palp. Maxillipedes unguiculate sub-pediform, provided with a squamiform plate on the basos only. Gnathopoda subchelate, unequal, posterior pair very large. Pereiopoda stout. Posterior pleopoda biramous, the rami short, conical. Telson single, elongate.

This genus, of which I have as yet observed but one species has affinities with *Eurystheus* and *Amathia*, but is distinguished from the former by the form of the telson and the stoutness of the pereopoda, and from the latter mainly by the large size of the posterior gnathopoda.

Harmomia crassipes, *sp. un.* (Pl. XIX., fig. 3.)

Superior antennæ as long as the cephalon and first six segments of the pereion, first and second segments of the peduncle subequal, the second narrower than the first, third scarcely distinguishable from the articuli of the flagellum, flagellum rather longer than the peduncle. Inferior antennæ longer than the superior pair; peduncle and flagellum subequal. Anterior gnathopoda small; propodos ovoid; palm oblique, undefined. Posterior gnathopoda much larger than the anterior pair; carpus sub-triangular; propodos irregularly ovoid, palm oblique, excavate, defined by a triangular tooth, and armed with another of similar form near the distal end. Two

anterior pairs of pereopoda subequal; three posterior pairs with the basa oblong, twice as long as broad, the other joints very broad, the dactylos very stout; fourth pair smaller than the fifth and sixth. Rami of the fourth pair of pleopoda as long as the protopodite; those of the fifth pair shorter; those of the sixth pair very short, conical, armed with a few straight setæ. Telson simple, conical, compressed. Colour brown. Length 3/20ths in.

Hab. Clark Island, Port Jackson.

Genus *EUSIRUS*, Kröyer.

Eusirus dubius, *sp. nov.* (Pl. XX., fig. 3.)

Last segment of the pereion with a median posterior spine. First two segments of the pleon each with five spines; fourth and fifth segments strongly keeled, the keel ending behind in an acute tooth. Eyes round. Superior antennæ equalling in length the cephalon and first three segments of the pereion; first segment of the peduncle compressed from above downwards, nearly as long as the cephalon; second much shorter; third scarcely distinguishable from the articuli of the flagellum. Flagellum longer than the peduncle, with a well-developed secondary appendage. Inferior antennæ half as long as the body; the peduncle longer than the superior pair; third segment very short; the others long, the fifth rather longer than the fourth; flagellum slightly longer than the last segment of the peduncle. Maxillipedes with a strong pointed dactylos, devoid of squamiform plates. Anterior gnathopoda with the carpus closely applied to the propodos, having a palmar process armed with a bunch of hairs; propodos ovate, longer than the cephalon. Posterior gnathopoda larger than the anterior pair, the carpus and propodos of a similar form; the latter longer than the cephalon and first segment of the pereion. Pereopoda very long, the two anterior pairs slender, the others broad, with the basa oblong, serrated behind. Posterior pleopoda slightly shorter than the fifth pair, the rami broad,

lanceolate, serrated. Telson as long as the protopodite of the posterior pleopoda, deeply cleft; the halves compressed, ending each in two acute spines, of which the outer is much more prominent than the inner. Length about $\frac{1}{2}$ in.

Hab. Tasmania. (Macleay Museum.)

This species probably approximates near enough to *E. cuspidatus* and *E. Helvetiæ* to be placed in the same genus; although the form of the maxillipedes appears to be rather different.

Genus MœRA, Leach.

Mœra dentifera, *sp. nov.* (Pl. XX., fig. 4.)

Superior antennæ equal in length to the cephalon and first four segments of the pereion; third segment of the peduncle two-thirds of the length of the second; flagellum as long as the last two segments of the peduncle, of about ten articuli, each ornamented, like the peduncle, with several longish hairs; appendage well-developed, of five articuli. Inferior antennæ slightly longer than the superior; fourth and fifth segments of the peduncle sub-equal; flagellum half as long again as the last segment of the peduncle of about twelve articuli; both peduncle and flagellum armed with slender hairs, which are longer on the former. Anterior gnathopoda small; propodos ovate, palm not defined. Posterior gnathopoda very large; meros with a pointed process at its infero-distal angle; carpus short, sub-triangular; propodos about six times the length of the carpus, broad at the base, narrowing distally; palm two-thirds of the length of the propodos, concave, with a low protuberance at its distal end, armed with fasciculi of long hairs, and defined by a long spine-like tooth; dactylos nearly as long as the propodos. Rami of posterior pleopoda scarcely larger than the others, lanceolate, armed with a few bristles. Telson small, the segments conical. Colour light olive with minute black dots. Length $\frac{1}{5}$ th in.

Hab. Clark Island, Port Jackson; among sea-weed.

Mœra hamigera, *sp. nov.* (Pl. XXI., fig. 1.)

Superior antennæ as long as the cephalon and pereion; second segment of the peduncle longer and narrower than the first; third half the length of the second; flagellum nearly as long as the peduncle; appendage of four articuli. Inferior antennæ as long as the first two segments of the peduncle of the superior pair; flagellum longer than the last segment of the peduncle. Anterior gnathopoda small; propodos ovate, hairy; palm not defined. Posterior gnathopoda unequal; left a little larger than the anterior, and of similar form; right very large; meros produced infero-distally into a short pointed prominence; carpus subtriangular; propodos four times as long as the carpus, slightly broader distally than proximally, greatest breadth about half the length, upper and lower borders nearly straight; palm oblique, with three irregular teeth, the defining one sub-acute, the others blunt; dactylos short, hooked. Posterior pleopoda with the rami ovate, serrated, armed with setæ on the serrations and at the extremity. Length $\frac{1}{2}$ in.

Hab. Clark Island, Port Jackson.

Mœra viridis, *sp. nov.* (Pl. XXI., fig. 2.)

Eyes round. Superior antennæ as long as the cephalon and the first five segments of the pereion; second joint of the peduncle slightly longer and narrower than the first, third short; flagellum rather longer than the last two segments of the peduncle; appendage half as long as the flagellum, of five elongated articuli. Inferior antennæ inserted rather behind the superior pair, their peduncle subequal with the peduncle of the latter, the flagellum not longer than the last segment of the peduncle. Squamiform plates of the maxillipedes bordered with curved spines. Anterior gnathopoda small; propodos ovate, palm oblique, not defined. Posterior gnathopoda very large; carpus irregularly triangular, closely applied to the propodos which is very large (as long as the cephalon and first three segments of the pereion) oblong,

rather broader distally than proximally, the palm transverse, armed with three large compressed teeth; dactylos armed internally with two teeth. Three anterior pairs of pereopoda subequal in length; two posterior pairs longer; basa of the three last pairs more than half as broad as long, minutely serrated; mera broad, strongly convex behind; meros, carpus, and propodos serrated and hairy on the borders. Posterior pleopoda biramous, the rami unequal, phylloid, the larger with three small notches on its outer border, smooth on its inner; the smaller with both borders smooth, truncate and armed with a few straight hairs. Telson with the segments compressed, terminating each in two teeth, of which the inner is the more prominent, and armed with several straight spines. Colour light green. Length $\frac{1}{4}$ in.

The *female* has the palm of the posterior gnathopoda straight, and the meros of the two last pairs of pereopoda narrower than the male.

Hab. Clark Island, Port Jackson.

This species resembles *M. truncatipes*, Spinola, in the form of the posterior gnathopoda and other points; but differs from it in the form of the posterior pleopoda. From *M. quadrimanus*, Dana, to which it is also nearly allied, it differs in the form of the basa of the three posterior pairs of pereopoda. From *Moera Ramsayi*, Haswell, to which it also has a singular superficial likeness it differs in the absence of spines on the pleon, and in the shortness of the rami of the last pair of pleopoda.

Moera approximans, *sp. nov.* (Pl. XXI., fig. 3.)

Resembles *M. dentifera*, but has the posterior gnathopoda subquadrate with the palm oblique, convex, defined by a small conical tooth.

Hab. Clark and Shark Islands, Port Jackson.

Moera Ramsayi, *mih.*

Melita (?) *Ramsayi*, *Haswell, Proc. Lin. Soc.. N.S.W., p. 264.*

The discovery of several specimens with the posterior pleopoda complete has shewn that this species ought to be placed in the present genus.

Genus MEGAMCERA, Spence Bate.

Megamœra sub-carinata, *sp. nov.* (Pl. XXI., fig. 4.)

Fourth segment of the pleon dorsally carinate, the carina projecting posteriorly in the form of a compressed tooth. Superior antennæ nearly as long as the cephalon and perion; first two segments of the peduncle subequal, the first rather stouter; third very short; appendage minute; flagellum longer than the peduncle. Peduncle of inferior antennæ rather shorter than that of superior pair; flagellum shorter than the last two segments of the peduncle. Anterior gnathopoda stout, propodos small; palm oblique, undefined. Posterior gnathopoda large (in the male); meros and carpus short, propodos ovate, narrower distally than proximally, dorsal border nearly straight, ventral strongly convex, bordered with hairs, palm defined by an obscure protuberance. Posterior pleopoda with broad ovate rami, serrated externally, smooth internally, emarginate, tipped with a few setæ. Telson with the segments compressed conical, emarginate, the extremity armed with two acute teeth and a few bristles. Colour nearly white, covered with minute brown dots, with two or three brown bands on the antennæ. Length $\frac{3}{10}$ ths in.

Hab. Port Jackson, (very common at low-water among algæ, etc), Botany Bay; Port Stephens, (Macleay Museum).

Megamœra suensis, *sp. nov.* (Pl. XXI., fig. 5.)

This species resembles the preceding in the form of the antennæ, the posterior pleopoda and telson and in the presence of a similar pair of teeth on the fourth segment of the pleon, but differs from it—besides other minor points—(1) in the possession of short mesial teeth on the posterior border of the last segment of the

pereion and first two segments of the pleon; (2) in the direction of the palm of the posterior gnathopoda, which is almost transverse. Length $3/10$ ths in.

Hab. Sue Island, Torres Straits (Chevert Exped.).

Megamœra Boeckii, *sp. nov.* (Pl. XXI., fig. 6.)

Eyes oblong. Superior antennæ nearly as long as the cephalon and pereion; first two segments of the peduncle nearly equal in length, third small; flagellum longer than the peduncle; appendage composed of four elongated articuli. Inferior antennæ scarcely two-thirds of the length of the superior pair; the flagellum a little longer than the last segment of the peduncle. Anterior gnathopoda with the propodos ovate, palm undefined, hairy. Posterior gnathopoda having the carpus subtriangular; the propodos ovate, twice as long as broad, twice as long as that of the anterior pair, the palm oblique, slightly excavate, with four small teeth; the dactylos rather more than one-third of the length of the propodos. Posterior three pairs of pereiopoda rather stout, serrated and bordered with setæ. Rami of posterior pleopoda short and broad, truncate, serrated and setiferous. Length $3/20$ ths in.

Hab. Clark Island, Port Jackson.

Genus *WYVILLEA* (*novum*).

Coxæ scarcely so deep as their respective segments. Superior antennæ shorter than the inferior pair, appendiculate. Mandibles with an appendage. Maxillipedes exunguiculate, squamiform processes rudimentary. Gnathopoda subchelate, posterior pair very large. Posterior pleopoda uniramous—the ramus large. Telson simple, undivided.

I have named this genus in honour of Prof. Sir C. Wyville Thomson.

Wyvillea longimanus, *sp. unic.* (Pl. XXII., fig. 7.)

Eyes round. Superior antennæ rather longer than the cephalon and first three segments of the pereion; first segment of the peduncle short, thick; second twice as long; third rather smaller than the second; flagellum rather longer than the last segment of the peduncle, of seven articuli; appendage nearly one-fourth of the length of the flagellum. Inferior antennæ stout, subpediform with the peduncle equal in length to the superior pair; flagellum equal in length to the last segment of the peduncle, armed with hairs which are slightly hooked at the points. Anterior gnathopoda small; propodos ovoid, narrowed distally; palm nearly longitudinal. Posterior gnathopoda very large; carpus short, subquadrate; propodos elongated, four times as long as broad, curved forwards, a blunt tooth at the proximal and another at the distal end of the concave posterior border; dactylos as long as the propodos. Pereiopoda all short, broad, bordered with setæ, the two anterior pairs equal, shorter than the rest. Posterior pleopoda with the outer ramus broad, lanceolate, armed on the borders with a few setæ, and terminating in two short, strong setæ. Telson conical, blunt. Length about $\frac{1}{4}$ in.

Hab. Port Jackson.

FAM. COROPHIIDÆ.

SUB-FAM. PODOCERIDES.

Genus AMPHITHOË, Leach.

Amphithoë quadrimanus, *sp. nov.* (Pl. XXI., fig. 7.)

Eyes small, round. Superior antennæ as long as the cephalon and pereion; flagellum thrice as long as the peduncle. Inferior antennæ twice as long as the peduncle of the superior pair; third segment very stout, produced below at the distal end into a rounded protuberance, clothed in common with the lower margins of the fourth and fifth segments, with long plumose hairs;

flagellum as long as the peduncle. Propodos of anterior gnathopoda sub-quadrate, a little broader distally than proximally, palm nearly transverse, not defined. Posterior gnathopoda with the meros and carpus both produced into a small tooth at their inferior and distal angle; propodos large, sub-quadrate, twice as long as broad, palm nearly transverse, concave. Posterior pleopoda reaching beyond the extremity of the preceding pair, the outer ramus armed with three hooks, the inner foliaceous, armed with slender straight spines. Telson armed with about half-a-dozen slender spines. Length $\frac{1}{4}$ in.

Hab. Clark Island, Port Jackson.

Genus *PODOCERUS*, Leach.

Podocerus australis, *sp. nov.* (Pl. XXI., fig. 8.)

Eyes small, round. Superior antennæ nearly as long as the cephalon and first four segments of the pereion, armed below with long hairs; flagellum subequal with the last segment of the peduncle, obscurely multiarticulate. Inferior antennæ longer than the superior pair, very stout; flagellum much shorter than the last segment of the peduncle, obscurely multiarticulate, secondary appendage uni-articulate. Anterior gnathopoda small, the propodos ovate, the palm undefined. Posterior gnathopoda very large, carpus produced at its inferior and distal angle into a long, curved, compressed, pointed process, which nearly equals the propodos in length; propodos large, thrice as long as broad, convex dorsally, concave ventrally, the distal extremity armed with an acute tooth near the insertion of the dactylos; dactylos about two-thirds of the length of the propodos. Three anterior pairs of pereopoda very short; two posterior pairs much longer. Length $\frac{1}{5}$ th in.

Hab. Port Jackson.

Genus MICRODEUTEROPUS, Costa.

Microdeuteropus Mortoni, *sp. nov.* (Pl. XXII., fig. 2.)

Anterior gnathopoda large; meros produced at its inferior and distal angle into a long sharp spine which reaches beyond the distal extremity of the carpus; carpus larger than the propodos, oblong, more than twice as long as broad, the upper border convex, the lower straight; propodos nearly as broad as the carpus at the base, but narrowing slightly distally; dactylos two-thirds of the length of the propodos, minutely dentate on its inner border. Last pair of pereopoda longer than the others. Posterior pleopoda short, the rami tipped with setæ which are longer and more slender than those on the preceding pairs. Telson conical, tipped with about half-a-dozen setæ similar to those on the posterior pleopoda. Length 3/10ths in.

Hab. Clark Island, Port Jackson.

I have named this species after Mr. Alex. Morton, a very intelligent and willing collector, to whose assistance I have frequently been indebted.

Microdeuteropus tenuipes, *sp. nov.* (Pl. XXII., fig. 1.)

Eyes round. Superior antennæ as long as the cephalon and first six segments of the pereion; first segment of the peduncle scarcely as long as the cephalon, second half as long again, and much more slender; third about one-fifth of the length of the second; flagellum longer than the peduncle, of about eighteen elongated articuli, each tipped distally above and below with a few short hairs. Inferior antennæ about four-fifths of the length of the superior pair, sub-pediform, the peduncle ornamented below with fasciculi of longish slender hairs; flagellum shorter than the last segment, ornamented with a few slender hairs on each articulus, and with a few stouter hooked hairs at the apex. Anterior gnathopoda with the carpus and propodos nearly equal in length, the former sub-triangular, the latter ovate; palm nearly

longitudinal, scarcely defined. Posterior gnathopoda similar in shape to the anterior pair, but smaller, and with the palm directed a little more transversely. Two anterior pairs of pereopoda short, stout; third pair shorter than the fourth; fifth much longer than the fourth, slender. Fourth and fifth pairs of pleopoda with stout, straight spines; sixth pair with two or three spines like those of the preceding pairs, and with two or three longer and more slender spines or hairs, which are slightly curved at the apex. Telson thick, truncate, armed above with two or three slender spines. Length $\frac{1}{4}$ in.

Hab. Clark Island, Port Jackson.

Microdeuteropus chelifer, *sp. nov.* (Pl. XXII., fig. 3.)

Eyes small, round. Superior antennæ nearly as long as the cephalon and the first six segments of the pereion; flagellum longer than the peduncle, appendage of three articuli. Inferior antennæ sub-pediform, nearly as long as the superior; peduncle stout, much longer than that of the anterior pair; flagellum shorter than the last segment of the peduncle, obscurely multi-articulate. Anterior gnathopoda very large; carpus much larger than the propodos, rounded proximally, becoming broader towards the distal end, its distal border transverse, armed inferiorly with two prominent teeth, of which the outer is longer and sharper than the inner; propodos much narrower than the carpus, articulating with less than the upper two-thirds of the distal border of the latter, twice as long as broad, convex above, concave below, the inferior border armed with a small tubercle near the proximal end, palm not defined; dactylos with a few spine-like teeth on its inner border. Posterior gnathopoda small; carpus and propodos subequal, the latter rather the longer, the former ovate; palm undefined. Two anterior pairs of pereopoda stout; three posterior pairs with the basa long-ovate; the third pair shorter than the fourth and fifth. Posterior pleopoda very small;

rami short, sub-foliaceous, armed with slender hairs. Telson conical, armed above with a few slender hairs. Length $1/5$ th in.

Hab. Clark Island, Port Jackson.

While *M. australis*, mihi, resembles the European species *M. Websteri*, and *M. tenuipes* nearly approaches *M. anomalus*, the present species finds its nearest ally in the commonest English species—*M. gryllotalpa*.

SUB-FAMILY COROPHIIDES.

Genus COLOMASTIX, Grube.

Colomastix Brazieri, *sp. nov.* (Pl. XXII., fig. 4.)

Eyes round, rather prominent. Superior antennæ as long as the cephalon and first three segments of the pereion, sub-pediform, extremely stout; peduncle slightly compressed from above downwards, trigonal; first segment broader but shorter than the second; third half as long as the second; flagellum rudimentary, of four small articuli. Inferior antennæ with the peduncle as stout as that of the superior pair, slightly compressed; flagellum of one articulus, armed with a few simple, straight hairs. Epistome and labrum very prominent. Anterior gnathopoda simple, filiform exunguiculate, folded under the pereion, all the joints (except the coxa) sub-cylindrical, slender. Posterior gnathopoda large, carpus produced inferiorly, propodos ovate, palm oblique, toothed. Two anterior pairs of pereipoda stout; three posterior pairs subequal, smaller than the first two. Sixth pair of pleopoda with the outer ramus short, the inner twice as long, lanceolate, acute. Telson conical, compressed. Colour light green. Length about $2/5$ ths in.

The female differs from the male in the smaller size of the posterior gnathopoda, which have an undefined hairy palm, and a very small dactylos.

Hab. Port Jackson, 2—10 fathoms.

I have named this species after Mr. John Brazier, C.M.Z.S., from whom I obtained my first specimen.

Genus *CYRTOPIUM*, Dana.

Cyrtophium dentatum, *sp. nov.* (Pl. XXII., fig. 5.)

Male.—Two last segments of the pereion, and two first of the pleon projecting in the form of a tooth in the middle dorsal line. Superior antennæ as long as the cephalon and pereion; first segment of the peduncle short, second and third twice as long, subequal, fringed below with long slender hairs; a short, bi-articulate appendage; flagellum rather shorter than the last segment of the peduncle, sex-articulate. Inferior antennæ rather longer than the body; first segment of the peduncle short, stout; second twice as long; third the longest; fourth not half the length of the third and slender; flagellum scarcely as long as the last segment of the peduncle, sex-articulate. Anterior gnathopoda small, with the carpus and propodos subequal, the latter subtriangular, the palm nearly longitudinal, straight; dactylos armed internally with a few acute teeth; meros, carpus, and propodos with a few slender hairs. Posterior gnathopoda much larger than the anterior; meros with an acute spine on its posterior border; carpus small; propodos long-ovoid, palmar border armed with three prominent teeth, and fringed with numerous slender hairs; three setiferous notches on the dorsal border. Two anterior pairs of pereiopoda subequal, bordered with setæ; three posterior pairs subequal, longer than the others, setiferous; basa long-ovate; dactyla large. Fourth and fifth pairs of pleopoda with the rami unequal—the inner the longer—each armed with a few straight spines. Last pair of pleopoda rudimentary with one or two setæ, almost concealed by the telson. Telson prominent, conical, armed terminally with two slender spines. Colour grey or red. Length $2\frac{1}{2}$ lines.

Hab. Clark Island, Port Jackson.

Cyrtophium minutum, *sp. nov.* (Pl. XXII., fig. 6.)

Anterior segments of the pleon slightly produced in the middle dorsal line. Eyes very prominent. Superior antennæ as long as the cephalon and the first six segments of the pereion; flagellum subequal with the last segment of the peduncle, of three articuli, of which the first is much longer than the other two; no appendage. Inferior antennæ equal in length to the superior pair; flagellum scarcely half as long as the last segment of the peduncle, obscurely multiarticulate. Anterior gnathopoda very small, fringed with long hairs; propodos long-ovate; palm undefined; dactylos nearly as long as the propodos. Posterior gnathopoda very large, basos stout; meros produced below into an angular protuberance; carpus sub-quadrate; propodos ovate, dilated, dorsal border strongly convex, palm defined by a prominent acute tooth, and occupied distally by a rounded eminence; ventral borders of the meros and propodos ornamented with a close fringe of long plumose hairs. Fourth pair of pleopoda with the outer ramus much shorter and narrower than the inner; both tipped with a few short bristles. Fifth pair with the outer ramus styliform, armed with one or two hairs at the apex, the inner foliaceous, long-ovate, bordered internally with a few hairs. Nearly colourless, with minute brown spots and a transverse brown band on the cephalon at the base of the superior antennæ. Length 1/10th in.

Hab. Port Jackson.

Genus ICILIUS, Dana.

Icilius punctatus, *sp. nov.* (Pl. XXIII., fig. 1.)

Distinguished from *I. australis* chiefly by the greater breadth of the rami of the three posterior pairs of pleopoda.

The eyes in this genus are truly compound. The mandibles have their apex double—each half being armed with about six teeth; between the apex and the grinding tubercle is a row of about half-a-dozen stout, non-ciliated spines; the grinding

tubercle is prominent and fringed with numerous cilia. The inner lamella of the first pair of maxillæ is short and narrow, ciliated internally and armed distally with but three slender ciliated spines which nearly equal the whole lamella in length: the middle lamella is longer than the inner, its distal border is straight and armed with about a dozen stoutish spines, which are bifurcate near the extremity—one branch being very short, while the other is longer and slightly incurved; the inner border is ciliated; the external lamella is the most prominent, its distal extremity is rounded, and is armed with short, stout, simple spines with a few of more slender form extending also down about half of the outer and less than one-third of the inner border—those on the latter aspect being rather stouter than the rest. The second pair of maxillæ have both lamellæ expanded, ovate in outline, the inner rather shorter than the outer, armed at its extremity and in about half of its inner surface with a series of stoutish spines slightly curved at the tips; the outer lamella is armed at the distal extremity and in less than half of its inner surface with two sets of spines—those of the one set similar in size and form to those of the outer lamella, the others longer and more slender. The basal joint of the maxillipedes has its squamous process oblong, with a straight, distal edge, and a rounded external angle, and is armed at its distal extremity, and on the distal and internal portion of its deep surface with small, curved, ciliated spines. The squamous process of the ischium is much longer than that of the basos, is long-ovate in general outline, but has its inner border slightly concave about the middle of its extent, while the outer border is strongly convex, the inner border is armed with a uniserial row of slender non-ciliated hairs, which are about equal in length to the breadth of the plate. The two succeeding segments are very stout; the meros is about half the length of the carpus, and is armed with only two or three hairs, while the latter is of irregular ovate form, more pointed at its proximal than at its distal end, and fringed internally with a

series of very long, slender, non-ciliated hairs. The propodos is of a clavate form, and furnished at the extremity with a dense fasciculus of hairs similar to those on the carpus; almost concealed amongst these is the slender, pointed dactylos, which equals the propodos in length. The two first pairs of pereiopoda are large and prehensile in the male, the propodos being short and broad, with a deeply excavated, spine-armed palm, and the dactylos stout and long. The mode of locomotion when the animal is removed from the water resembles that of the terrestrial Isopoda.

The present species lives in colonies on the surface of calcareous sponges (particularly *Veluspa polymorpha*), growing in a fathom or two of water in Port Jackson. The surface of the body and limbs is covered with numerous minute red or grey spots.

Genus incertæ sedis.

Genus POLYCHERIA. (*novum.*)

Pereion broad; pleon compressed, more or less carinate. Antennæ sub-equal; superior pair without an appendage. Mandibles exappendiculate. Maxillipedes with well-developed squamiform process. Gnathopoda small, sub-chelate. Pereiopoda all prehensile, with narrow basa. Posterior pleopoda biramous with equal rami. Telson double.

Polycheria tenuipes, *sp. nov.* (Pl. XXII., fig. 8.)

Eyes very large, red. Superior antennæ as long as the cephalon, and first six segments of the pereion; first joint of the peduncle short and stout; second longer and narrower than the first; third inconspicuous; flagellum rather longer than the peduncle, of fourteen articuli. Inferior antennæ rather longer than the superior; first joint of the peduncle short and stout; second and third longer, slender, subequal; flagellum about equal in length to the peduncle, of seven elongated articuli, each with a circlet of a few delicate hairs. Anterior gnathopoda with the propodos

oval; the palm nearly transverse, not defined. Posterior gnathopoda longer and more slender than the anterior pair; carpus and propodos nearly equal in length, the latter narrower than the former, with the palm transverse, the dactylos short. Pereiopoda subequal, slender, all prehensile; basos narrow; propodos oblong, palm transverse, waved; dactylos short. Three posterior pleopoda biramous, the rami unarmed, last pair with the rami broad-lanceolate, with one or two hairs on the borders. Segments of the telson broad-lanceolate, acute. Length $\frac{3}{20}$ ths inch.

Hab. Port Jackson, two fathoms.

Polycheria brevicornis, *sp. nov.*

Eyes rather small, round. Superior antennæ as long as the cephalon and first three segments of the pereion; first segment of the peduncle short and stout, second narrower than the first and about twice as long; third about one-fourth of the length of the second; flagellum equal in length to the second segment of the peduncle, of eight articuli. Inferior antennæ equal to the superior in length; flagellum as long as the last segment of the peduncle, of six articuli. Anterior gnathopoda with the carpus and propodos subequal, the latter ovate, with a few serrations on the borders; palm transverse, dactylos short. Posterior gnathopoda with the carpus rather longer than the propodos—the latter oblong, nearly three times as long as broad, with a few serrations on the borders; palm transverse, dactylos short. Length $\frac{3}{20}$ ths inch.

Hab. Port Jackson.

GROUP ABNORMALIA.

FAM. CAPRELLIDÆ.

Genus CAPRELLA, Lamarck.

Caprella echinata, *sp. nov.* (Pl. XXIII., fig. 2.)

Male.—Cephalon rather longer than the other segments, armed on its dorsal surface a little behind the eye with a very prominent

slender, acute spine, and at the posterior end with a second spine of similar form, but shorter; second segment with a pair of short spines a little behind the middle of its dorsal surface; the rest of the segments unarmed. Eyes oval, red. Superior antennæ more than twice the length of the cephalon; flagellum nearly as long as the peduncle. Inferior antennæ nearly as long as the peduncle of the superior pair. Anterior gnathopoda small, about two-thirds of the length of the cephalon. Posterior gnathopoda very large, more than four times as long as the anterior pair; basos long, slender, armed with a compressed tooth at the distal end of its anterior border; carpus small; propodos very large, of irregular form, constricted at the proximal end, broader distally, armed on the dorsal border with three very large, compressed teeth, near the middle, and a small blunt tooth at the distal end; palm defined by a short acute tooth, and armed about its middle with a sharp spine which is separated by a deep sinus from a broad, compressed process occupying the distal third of the palmar border. First pair of pereopoda more slender than the two posterior pairs; with the dactylos smaller; dactyla of the posterior pairs nearly as long as the propodos, palm defined by a small tooth. Length $\frac{1}{2}$ in.

Hab. Clark Island, Port Jackson.

Caprella cornigera, *sp. nov.* (Pl. XXIII., fig. 5.)

Neck very long; the other segments increasing in length to the fourth; fifth rather shorter than the fourth; second, third, and fourth segments each with a pair of cornua on the middle of its dorsal border, and a short conical tooth at its posterior extremity. Eyes small, round. Superior antennæ half as long as the cephalon and pereion; flagellum as long as the last segment of the peduncle, of seven articuli of which the first is very long. Inferior antennæ very small, little longer than the first segment of the peduncle of the superior pair; flagellum as long as the last segment of the peduncle, of four articuli. Anterior gnathopoda small, propodos ovate, narrowing distally; palm nearly

longitudinal, undefined. Posterior gnathopoda very large; basos longer than the cephalon; carpus small, sub-triangular; propodos nearly as long as the basos, narrow, palm nearly longitudinal, defined by a broad, low, triangular process, and armed near the distal end with a sharp tooth. Pereiopoda short and broad, with a well-defined, bristle-armed palm. Colour grey. Length $\frac{1}{2}$ in.

Hab. Clark Island, Port Jackson.

Caprella inermis, *sp. nov.* (Pl. XXIII., fig. 3.)

Cephalon terminating anteriorly in a minute mesial tooth. Neck very long; first segment of the body longer than the head and neck, the rest shorter. Superior antennæ as long as the cephalon and first segment of the pereion; flagellum shorter than the last two segments of the peduncle. Inferior antennæ a little longer than the peduncle of the superior pair; flagellum shorter than the two last segments of the peduncle. Anterior gnathopoda short; propodos ovate, palm longitudinal, undefined. Posterior gnathopoda very large; propodos elongated, narrow; palm excavate, uniformly concave, occupying about one-third of the entire length of the propodos, Branchiæ sub-cylindrical. Last pair of pereiopoda longer than the others. Colour green. Length $\frac{7}{10}$ ths inch.

Hab. Port Jackson.

Caprella obesa, *sp. nov.* (Pl. XXIV., fig. 1.)

Male.—Body stout, unarmed; first two segments subequal, the rest much shorter. Eyes small, round. Superior antennæ rather exceeding in length the cephalon and two succeeding segments; peduncle very stout, flagellum equal in length to the last segment of the peduncle. Inferior antennæ a little longer than the first two segments of the peduncle of the superior pair, fringed below with long hairs. Anterior gnathopoda small, palm longitudinal, undefined. Posterior gnathopoda very large, basos broad, its anterior border minutely toothed; propodos as long as the cephalon;

palm longitudinal, defined by a conical tooth and armed with two others—of which the proximal is the smaller—towards the distal end. Branchiæ clavate. Pereiopoda subequal, short and stout, with a distinct palm. Colour red. Length $\frac{1}{2}$ inch.

Hab. Clark Island, Port Jackson.

EXPLANATION OF PLATES XVIII.—XXIV.

In all the figures *a.*—superior antennæ; *b.*—inferior antennæ; *c.*—mandibles; *e.*—maxillipedes; *f.*—anterior gnathopoda; *g.*—posterior gnathopoda; *h.*—first pair of pereiopoda; *i., k., l., m.*—second, third, fourth, and fifth pairs of pereiopoda respectively; *p.*—sixth pair of pleopoda; *x.*—telson.

Plate XVIII.

- Fig. 1.—*Cyproidia ornata*.
 „ 2.—*Cyproidia lineata*.
 „ 3.—*Lysianassa australiensis*.
 „ 4.—*Atylus monoculoides*.

Plate XIX.

- „ 1.—*Ædicerus latrans*, details.
 „ 2.—*Urcthoë pinguis*.
 „ 3.—*Harmonia crassipes*.

Plate XX.

- „ 1.—*Atylus lippus*.
 „ 2.—*Leucothoë novæ-hollandiæ*; *g.*—right, *g'*—left posterior gnathopod.
 „ 3.—*Eusirus dubius*.
 „ 4.—*Mœra dentifera*.

Plate XXI.

- „ 1.—*Mœra hamigera*; *g.*—right, *g'*—left, posterior gnathopod.
 „ 2.—*Mœra viridis*.
 „ 3.—*Mœra approximans*, details.
 „ 4.—*Megamœra sub-carinata*.
 „ 5.—*Megamœra suensis*.

- Fig. 6.—*Megamœra* Boeckii.
 „ 7.—*Amphithoë* quadrimanus.
 „ 8.—*Podocerus* australis.

Plate XXII.

- „ 1.—*Microdeuteropus* tenuipes.
 „ 2.—*Microdeuteropus* Mortoni.
 „ 3.—*Microdeuteropus* chelifer.
 „ 4.—*Colomastix* Brazieri.
 „ 5.—*Cyrtophium* dentatum.
 „ 6.—*Cyrtophium* minutum.
 „ 7.—*Wyvillea* longimanus.
 „ 8.—*Polycheria* tenuipes.

Plate XXIII.

- „ 1.—*Icilius* punctatus, details.
 „ 2.—*Caprella* echinata.
 „ 3.—*Caprella* inermis.
 „ 4.—*Caprella* cornigera.

Plate XXIV.

- „ 1.—*Caprella* obesa.
 „ 2.—*Iphimedia* ambigua.
 „ 3.—*Edicerus* arenicola.
 „ 4.—*Montagua* Miersii.
 „ 5.—*Montagua* longicornis.

ON THE CYCLOSTOMATOUS POLYZOA OF PORT JACKSON AND
 NEIGHBOURHOOD.

BY WILLIAM A. HASWELL, M.A., B.Sc.

1. *Idmonea* radians, Lamk.

Retepora radians, Lamk., *Hist. des An. sans Vert.* 2nd ed. p. 279.

Idmonée rayomante, M.-Ed., *Ann. des Sc. Nat.* 2e serie, t. ix.,
 1838.

Idmonea radians, Busk, *Catalogue of the Cyclostomatous Polyzoa in the Collection of the British Museum*, p. 11, pl. vii., figs. 1—4.

“Zoarium usually procumbent, stipitate, sometimes suberect; branches dichotomous, radiating more or less regularly in a circular form from the centre, very angular in front; dorsal surface perforated; cells 1—4 in each series, the innermost the longest, aperture (when quite perfect) bilabiate.” (Busk.)

This species is extremely common on the shore near Sydney, both in Port Jackson and on the outer coast.

2. *Idmonea milneana*, D'Orbigny.

Idmonea milneana, D'Orbigny, *Voy. Amér. Mérid., Polypiers*, p. 20, pl. ix., figs. 17—21; Busk, *l.c.*, p. 12, pl. xi.

“Zoarium spreading, ramose, dichotomous, each longer branch usually terminating in a pair of short forks; tubes very slightly exserted, flattened and even; aperture wide, margin thick; four cells in each series. Surface finely dotted, slightly sulcate behind; dorsal surface convex, usually marked with concentric lines of growth.” (Busk.)

I have some hesitation about placing under this heading a species of *Idmonea* very commonly dredged in Port Jackson. It seems to approach very near the above named species in general form and habit of growth; but the oral margins of the cells in place of being thick as described by Busk in D'Orbigny's species, are extremely thin and delicate. The “dots” on the surface consist not of impressed dots but of close set minute granules, which are seen under a higher power to be of compressed ovate form, each marked by a mesial longitudinal groove. The colour is light purple.

3. *Idmonea Pedleyi*, *sp. nov.*

This species which seems to be undescribed, is a near ally of the preceding. The branches are more slender, and the terminal

branchlets less expanded; the cells are usually three in a transverse row, they are prominent, usually less than half immersed; their wall is closely ringed, and the peristome is very thin. The whole ventral surface is sparsely ornamented with dots which a higher power resolves into minute spinules; the dorsal surface is smooth. Colour greenish.

Hab. Port Jackson.

I have named this species after my friend Mr. Perceval Pedley, who first called my attention to it.

Genus *Pustulopora*, Blainville.

4. *Pustulopora proboscidea*, E. Forbes.

Pustulopora proboscidea, *Johnston, Brit. Zoopl., 2nd ed., p. 278, pl. 48, figs. 4—6*; *Busk, l.c., p. 21, pl. xvii., A. right figure.*

“Zoarium slender, branched alternately, cells slightly projecting, four completing a whorl.”

Found under large stones a little below low-water mark at Cabbage-tree Bay near Manly, usually growing parasitically on the stalk of a *Tubularia*.

5. *Pustulopora intricaria*, Busk.

Pustulopora intricaria, *Busk, l. c., p. 22, pl. x., figs. 1 (pars) and 4.*

“Zoarium constituted of short clavate branches very irregularly disposed and united by frequent anastomoses, so as to form a dense intricate growth; cells slightly ventricose, deeply immersed, sometimes produced into rather long, straight, projecting tubes; oœcia—?” (Busk.)

Occurs plentifully in the littoral zone under large stones on the coast of New South Wales.

6. *Pustulopora parasitica*, Busk.

Pustulopora parasitica, *Busk, l. c., p. 21, pl. xvii.*, figs. 1—2.

“Zoarium about a quarter inch high, usually formed of 1—3 branches, short and truncate; cells usually deeply immersed and very slightly prominent, except in very young specimens. Colour brown with white spots.”

Port Jackson, parasitic on *Catenicella ventricosa*.

Genus TUBULIPORA, Lamarck.

7. *Tubulipora flabellaris*, Johnston.

Tubulipora flabellaris, *Johnston, Brit. Zooph.*, p. 274, *pl. 46*, figs. 5, 6; *Busk, l. c., p. 26, pl. xxiv.*, xxv.

“Zoarium adnate, fan-shaped, often recurved on the sides; cells decumbent, cells irregularly disposed, or obscurely serial.”

Common on *Laminaria* in Port Jackson; seemingly identical with the British and Scandinavian species above named.

Genus DISCOPORELLA, Gray.

Discoporellæ are very numerous in Port Jackson; a small-leaved species of fucus growing on Clark Island and in other situations is generally so closely covered with these polyzoa, together with a species of *Lepralia*, that the stem is entirely concealed. After a comparison of a considerable number of specimens found on this fucus and in other situations, I am inclined to regard them as consisting of at least five species which I have determined as follows:—

8. *Discoporella novæ-zelandiæ*, Busk.

Discoporella novæ-zelandiæ, *Busk, l. c., p. 32, pl. 30, fig. 2.*

“Discoid, cupped; cells tubular, projecting, connate in uniserial radii; peristome bifid; central area (unoccupied by cells)

depressed; cancelli large, becoming smaller towards the periphery." (Busk.)

Port Jackson on Fucus; Botany Bay.

9. *Discoporella ciliata*, Busk.

Discoporella ciliata, Busk, *l. c.*, p. 31, pl. 30, fig. 6.

"Discoid; cells uniserial, 4—6 in each row; diameter of mouth less than that of interstitial cancelli; peristome much produced on one side, nearly vertical, divided into several (2—4) long acute slender spines."

Common in Port Jackson on Fucus.

10. *Discoporella porosa*, *sp. nov.*

Zoarium orbicular, a little depressed in the centre. Cells disposed very regularly in biserial or triserial rows, becoming longer towards the centre, where they are very much elevated, closely adnate in their whole length; peristome angular, usually a little produced on their outer side. Central areae occupied by cancelli which are smaller than those between the rows of cells—the latter all nearly circular, a little wider than the mouths of the cells.

Found in Port Jackson.

This species seems to be a close ally of *D. californica*, D'Orb., from which it appears to differ mainly in the smaller size of the central cancelli.

11. *Discoporella complicata*, *sp. nov.*

Zoarium orbicular, slightly depressed in the centre. Cells not disposed in regular rows, nearly totally immersed at the periphery, a little elevated towards the centre; mouth oblique, nearly circular, peristome entire; wall of cell frequently ornamented with a few acute spicules which are less than the

diameter of the cell in length. Central area and intermediate spaces occupied by numerous polygonal cancelli, bounded by slender trabeculæ, from the point of anastomosis of which frequently arises a short perpendicular spinule; cancelli smaller than the mouths of the cells, and occupied in turn by a series of very minute secondary cancelli.

Hab. On Fucus, Clark Island, Port Jackson.

12. *Discoporella tridentata*, *sp. nov.*

Zoarium strongly convex, of circular outline; margin thin, marked with radiating ridges; cells free, distant, in radiating rows; peristome produced into three points, two (smaller) internal, and one external. Whole surface divided into angular areae by smooth, semicylindrical, anastomosing trabeculæ, the areae punctate.

Common on Fucoids, Port Jackson.

Genus CRISIA, Lamx.

13. *Crisia punctifera*, *sp. nov.*

Cells 9—14 in each internode, elongate, often projecting considerably, with numerous punctations; mouth circular, or elliptical, usually with a small tooth-like thickening behind. Branches arising from the third or fourth cell, usually the third; joints black. Radical tubes 4—5 jointed, punctated, arising from the third or fourth cell, usually the third. Growing in close tufts.

Hab. Manly Beach, Port Jackson, etc.

Allied to *C. denticulata*, but of thicker habit and much more numerous punctations.

14. *Crisia incurva*, *sp. nov.*

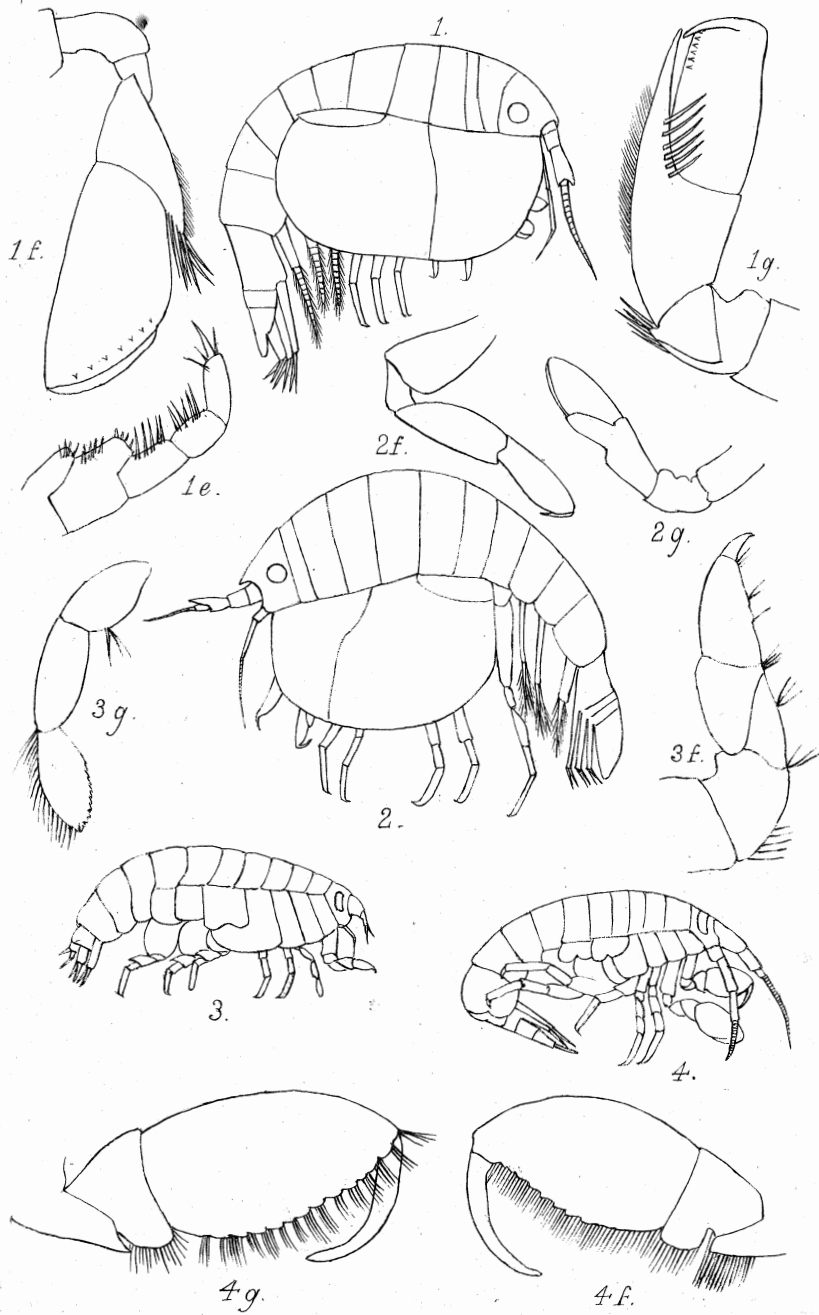
Cells 6—11 in each internode, cylindrical, curved forwards, annulated, with tolerably numerous small punctations; branches

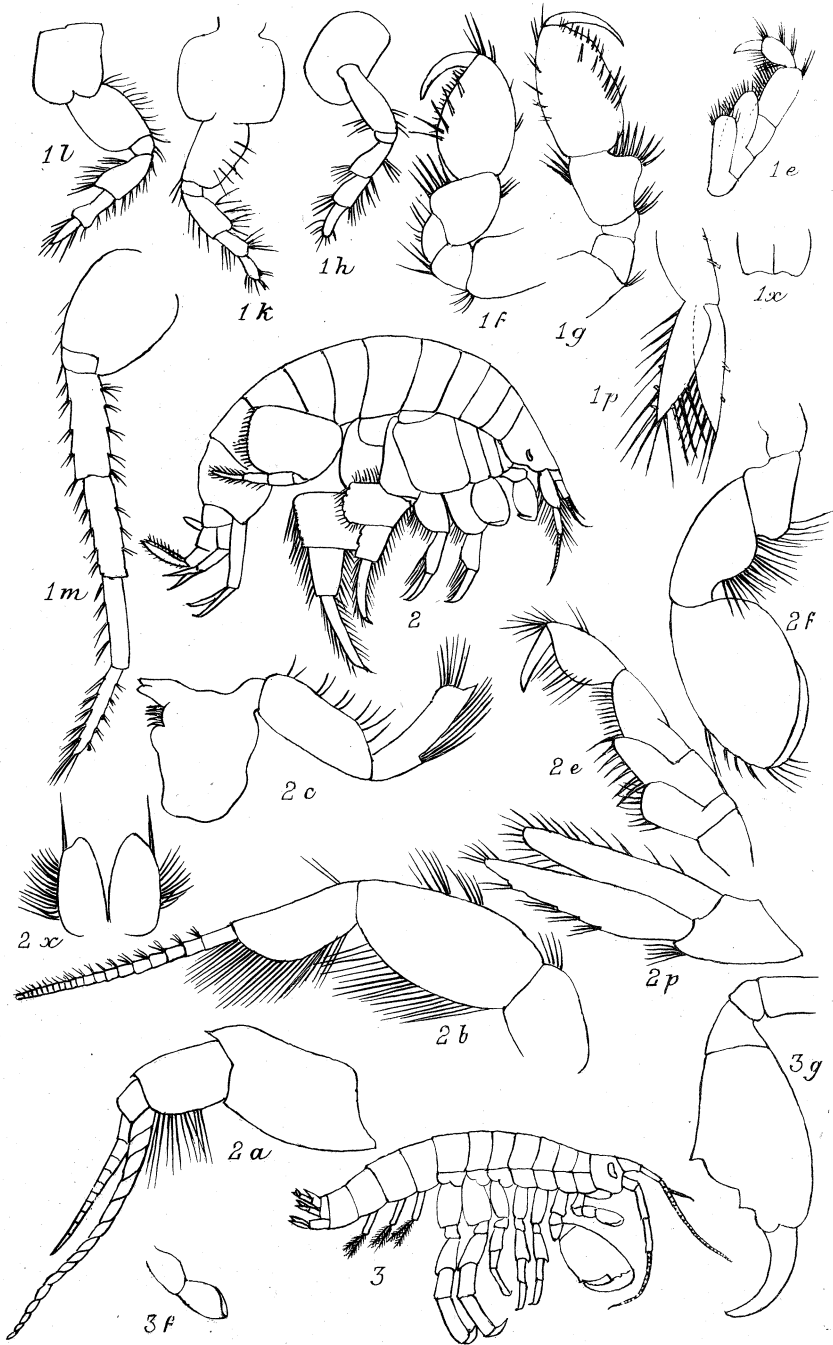
arising usually from the first to the fourth cell of the internode.
Joints light brown.

Hab. Port Jackson.

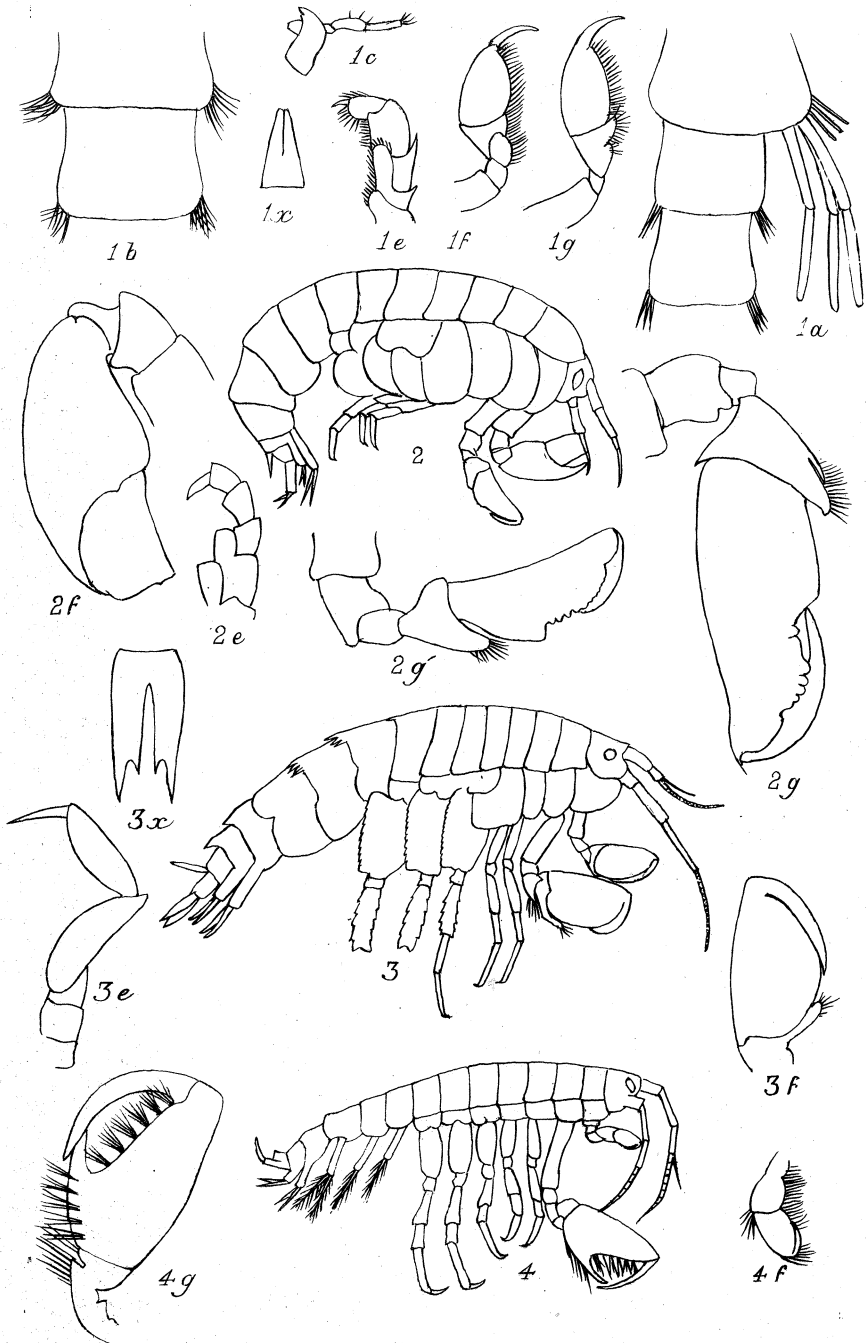
Perhaps scarcely distinct from *C. tubulosa*, Busk.



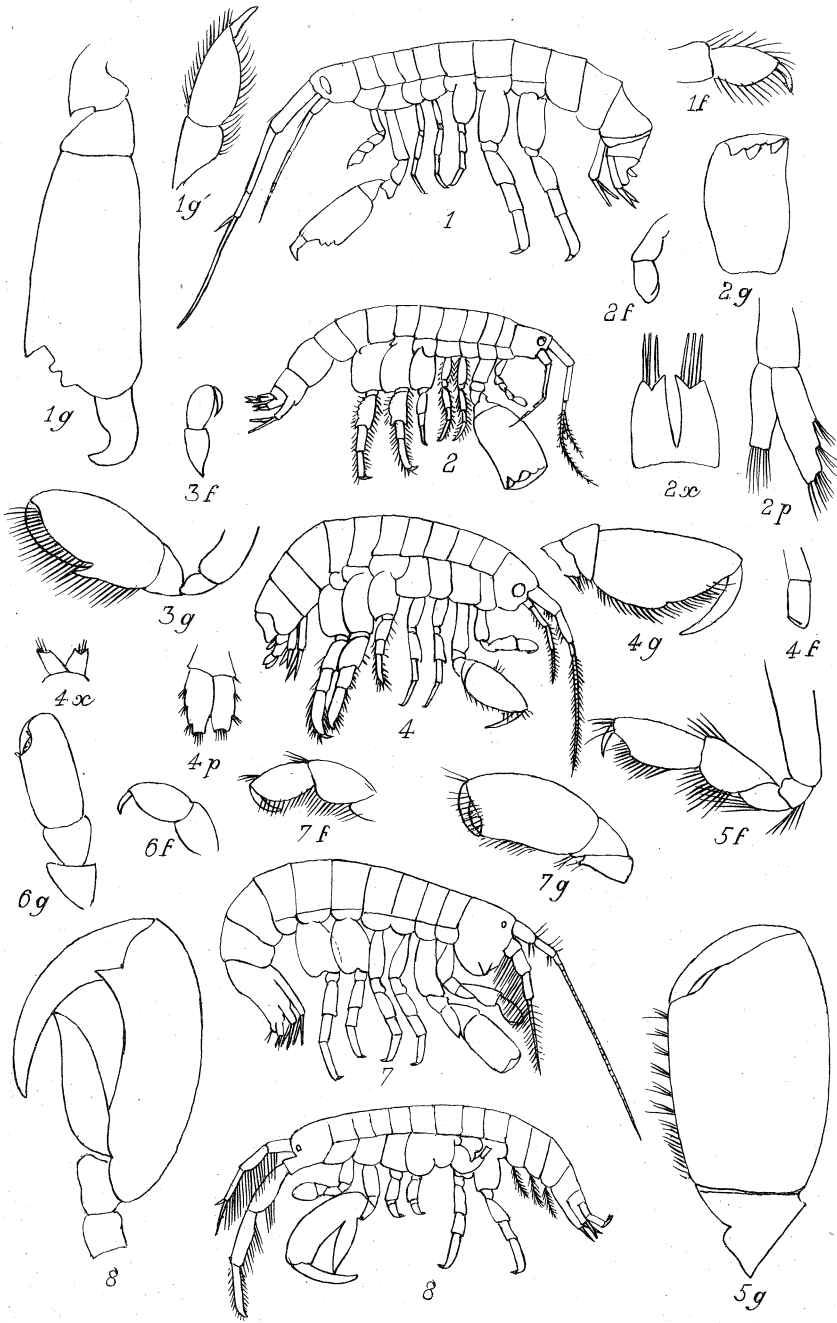




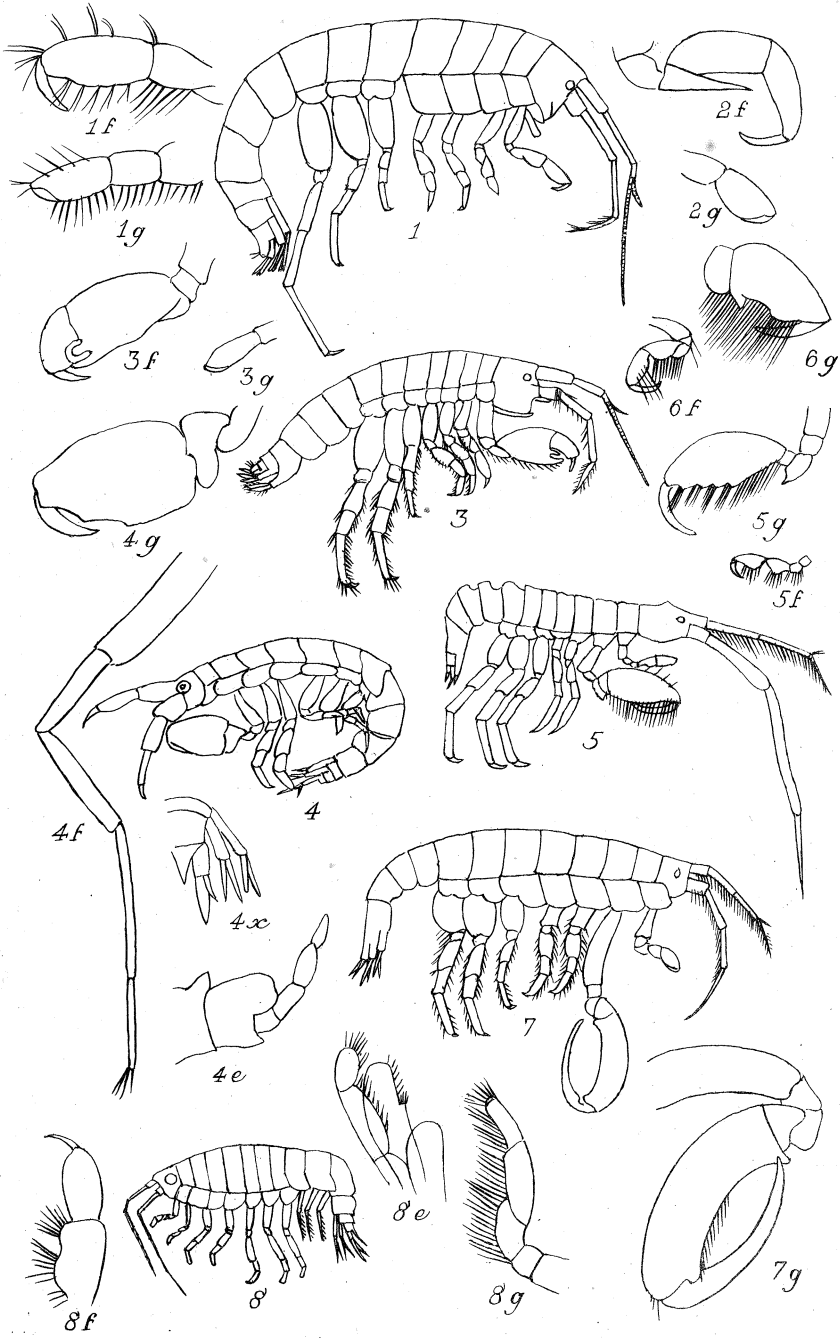
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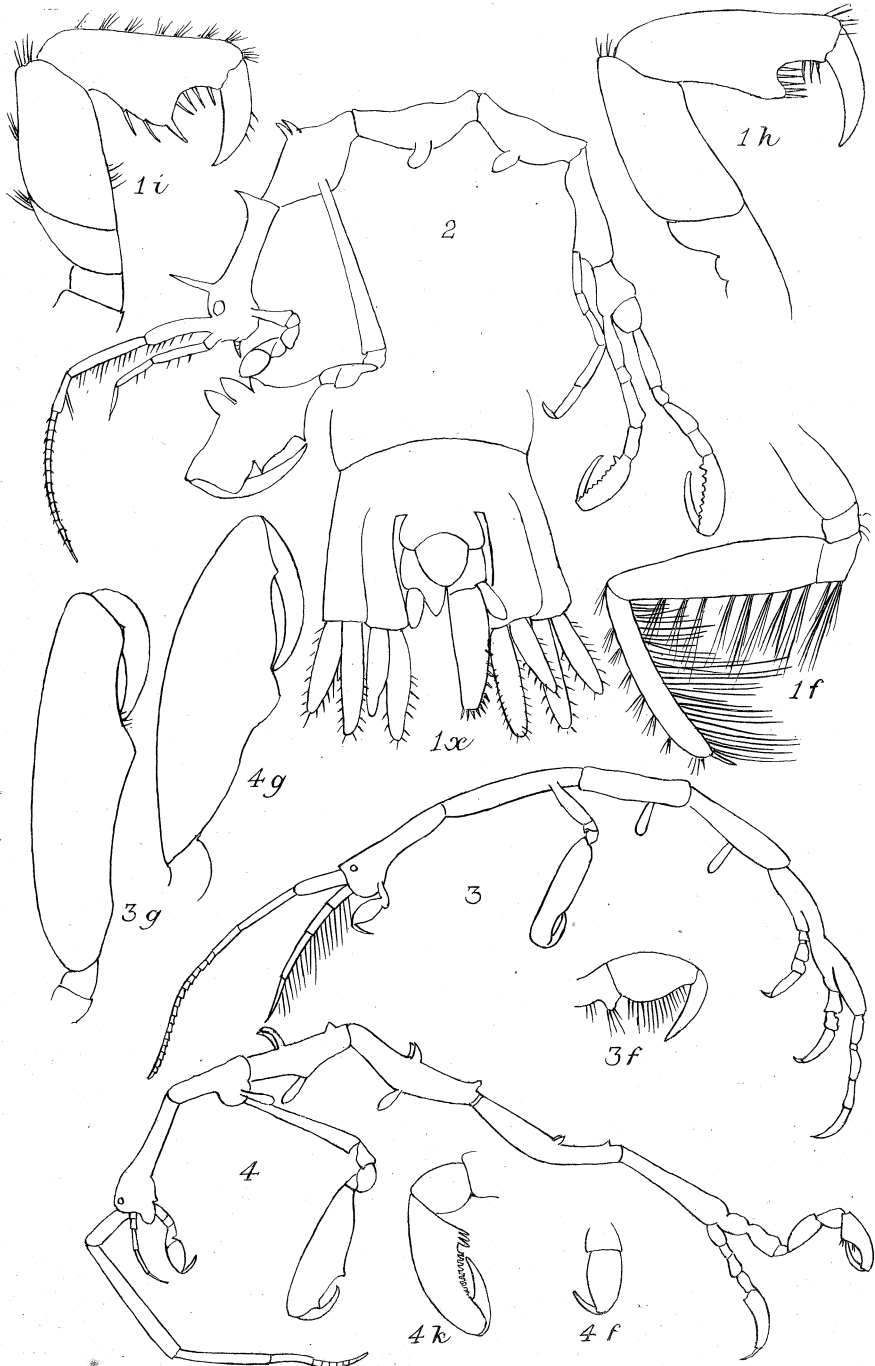
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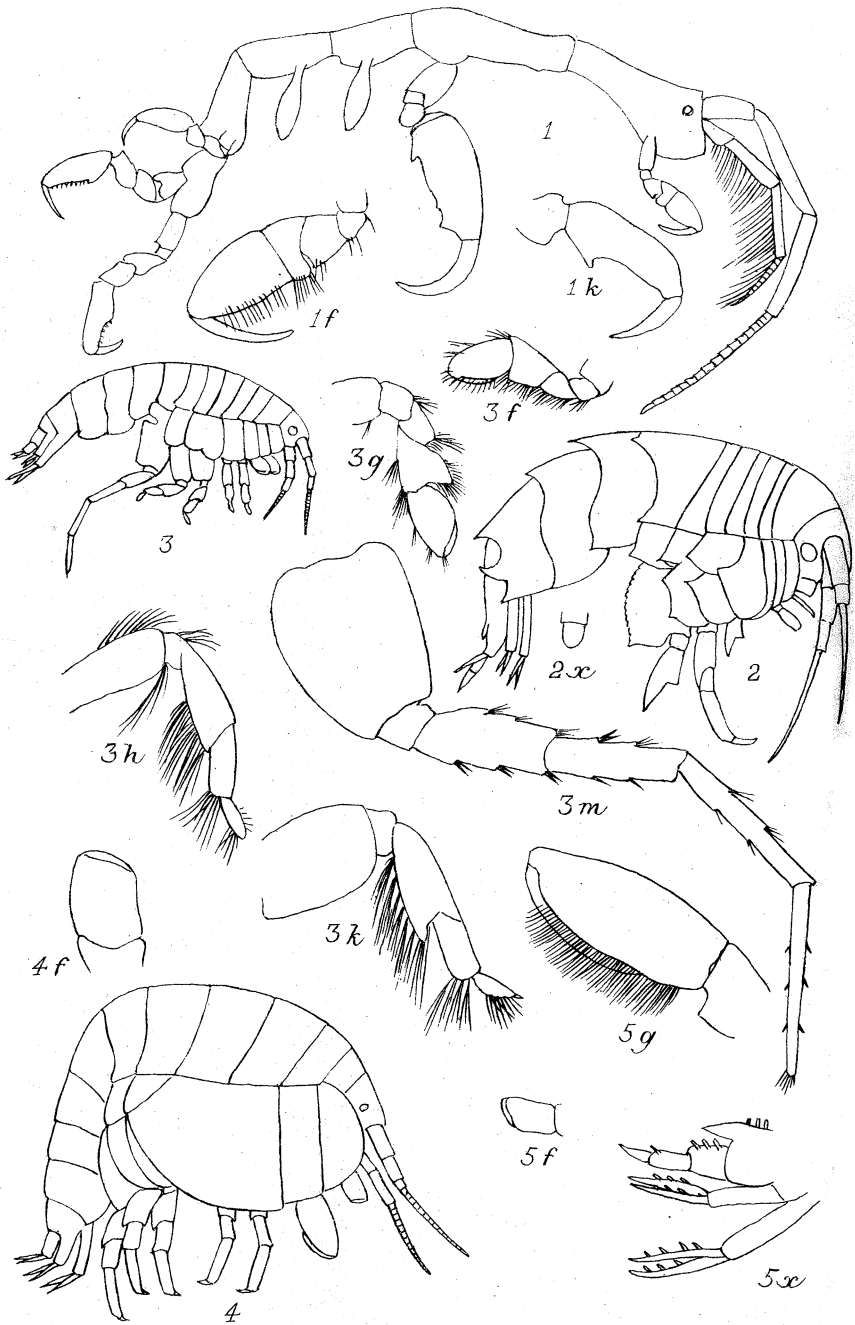
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