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borders of the first and second with a shallow excavation on each side; those of the fourth and fifth with deep notches. No spines in the middle of the posterior border of the sixth segment. Last segment with a narrow mesial groove; its apex spiniform; its lateral margins armed with several spines.

Length about $1\frac{1}{2}$ inches.

Hab. Palm Is. (Chevert Exped.).

CONTRIBUTIONS TO A MONOGRAPH OF AUSTRALIAN LEUCOSIIDÆ.

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

In Bell's Monograph of the Leucosiidæ (*Trans. Linn. Soc., Vol. 21., p. 277, et seq.*) seven species are mentioned as inhabiting the Australian Coast. A recent paper by Mr. E. J. Miers of the British Museum (*Trans. Linn. Soc., 1877, p. 235*), on this interesting family of Brachyurous Decapods, has added six new species to the list. From an examination of the Crustacea of the Chevert Expedition, as well as other specimens in the Macleay Museum which Mr. Macleay has kindly allowed me to study, together with a few in the Australian Museum, which I have been permitted to examine by the courtesy of Mr. E. P. Ramsay, I am enabled to add twelve new species to the list of Australian forms, and also to indicate new localities for several species not previously known to inhabit the Australian region.

GENUS I.—LEUCOSIA, Fabricius.

Sp. 1. *Leucosia unidentata*, *De Haan. (Crust. Japon., p. 133. t. 33, fig. 3)*. "Fronte unidentata; sinu thoracico anticè circulari, tuberculis perlalis circumscripto; brachiis facie superiore seriebus binis tuberculorum."

Hab. Torres Sts. (Brit. Mus.).

Sp. 2. *Leucosia orbicularis*, *Bell, (Trans. Linn. Soc., Vol. 21, p. 284, pl. 30, fig. 1)*. "Testa orbiculari, fronte lato, brevissimo,

tridentato; sinu thoracico nullo; sterno in utroque sexu antice granulato.”

Hab. Coasts of Australia (Brit. Mus.).

Sp. 3. *Leucosia ocellata*, *Bell.* (*l. c.*, p. 289, pl. 31. fig. 1). “Testa rhomboidali; fronte tridentato; regione gastrica maculis quatuor parvis rubris signata, quarum binæ anteriores ocellatæ.”

Hab. Eastern Shores of Australia, (Brit. Mus.); Keppel Bay, (Chevert Exped.).

Sp. 4. *Leucosia Whitei*, *Bell.* (*l. c.*, p. 289, pl. 31. fig. 2). “Testa rhomboidea, fronte producto, minute tridentato; regionibus hepatica et branchiali granulis tribus vel quatuor; brachiis tomentosus, tuberculis magnis omnino instructis.”

When Bell wrote his monograph, he had only seen a single specimen of this species (a female), found by Macgillivray on the eastern coast of Australia. The Chevert Expedition obtained specimens from Princess Charlotte Bay, Cape Grenville and Brook Island. The male abdomen has its compound part, which includes all the joints except the first and seventh, divided into two segments, of which the proximal is rather broad and prominent, and is marked posteriorly by a short mesial sulcus, while the distal is broad at the base, decreasing gradually in breadth towards its rounded distal extremity.

Sp. 5. *Leucosia reticulata*, *Miers*, (*Trans. Linn. Soc.*, 1877, p. 237, pl. 38, figs. 13—15). Testa orbiculari, laevi, lineis viridibus reticulatis ornata; fronte brevissimo, integro; sinu thoracico brevi, haud definito; regione hepatica granulis paucis rubris signata.

Hab. Shark's Bay, Western Australia. (Brit. Mus.).

A specimen from Port Darwin in the Chevert collection is probably referable to this species; it agrees very closely with the description and figures in the form of the carapace and of the thoracic sinus, the disposition of the tubercles on the arms, etc.;

it differs however, in the marking of the carapace, which, in place of being covered with reticulating lines, is ornamented with a single, thick, somewhat S-shaped green line on the lateral parts of the branchial region, and four large green spots nearer the middle line. Should the examination of further specimens shew those points of difference to be constant, the name of *L. viridimaculata* may be given to this variety.

Sp. 6. *Leucosia Perryi*, *Miers*, (*l. c.*, p. 238, pl. 38, figs. 19—21). Testa sub-depressa; fronte tridentato; sinu thoracico nullo; brachiis ad basin dense tuberculatis; carpo manaque lævibus.

Hab. Shark's Bay, Western Australia. (Brit. Mus.).

Sp. 7. *Leucosia pubescens*, *Miers*, (*l. c.*, p. 238, pl. 38, figs. 22—24). Testa convexa, lævi, polita; regionibus hepaticis concavis, lævibus; fronte tridentato, supra plano; sinu thoracico margine anteriori lævi, haud definito, pubescenti; brachiis supra pubescentibus.

Hab. Shark's Bay, Western Australia. (Brit. Mus.).

Sp. 8. *Leucosia pulcherrima*, *Miers*, (*l. c.*, p. 236, pl. 38, figs. 4—6.). Testa lævi, convexa, antice sparsim punctata, figuris trifoliaceis binis confluentibus, binisque circularibus distinctis ornata; sinu thoracico profundo, angusto, antice bene definito; carpo manaque lævibus.

Hab. Lizard Island. (Brit. Mus.).

Sp. 9. *Leucosia neocaledonica*, *A. Milne-Edwards*, (*Nouv. Arch. Mus.*, X, (1874), p. 40, pl. ii). I have not seen the description of this species; but, from the remarks of Mr. Miers in the paper above cited, it seems to me probable that two specimens from New Caledonia in the Macleay Museum are referable to it; and, if this conjecture be correct, some specimens obtained by the Chevert from the Howick Group of Islands, being seemingly specifically identical with these, are to be placed under this head. They differ from *L. pulcherrima* Miers, chiefly in the colour and

marking of the carapace; but also in the possession of a line of tubercles on the inner border of the band. The carapace is of a dull ashy-grey tint, which becomes blueish on the front, and on the general surface of the arms. There are a pair of circles on the branchial regions, as in *L. pulcherrima* and various other species, but the lines are extremely fine; the anterior trilobate pattern, which is also very faint, has the three lobes drawn out from one another, so as to leave a considerable central space, and the outer lobe is not regularly rounded, as in *L. pulcherrima* and the species next to be described. There are three white spots within the trilobate figure, the most anterior being very small.

Sp. 10. *Leucosia splendida*, *sp. nov.* (Plate 5. fig. 1). Testa lævi, convexa, antice sparsim punctata, figuris trifloriaceis binis distinctis, binisque circularibus ornata, manu ordine inconspicuo tuberculorum; sinu thoracico profundo, angusto, antice bene definito.

This beautiful species is very nearly allied to *L. pulcherrima*; but differs from it in the marking of the carapace, as well as in the possession of a line of very small tubercles on the inner border of the band. The two trefoil markings on the carapace do not coalesce at any point; and the angles between the lobes are more pointed; the circular figures are more remote from one another and from the trefoil marks, and, together with the latter, are much smaller than in the species described by Mr. Miers. There is a very close agreement in all other points.

Length 8 lines; breadth 7 lines.

Hab. Port Jackson (Macleay Museum).

Sp. 11. *Leucosia Chevertii*, *sp. nov.* (Plate 5. fig. 2.) Testa rhomboidea, fronte producto, paeno integro; regionibus hepaticis convexis, lævibus; brachiis ad basin tomentosis, tuberculis magnis omnino instructis.

Carapace rhomboidal, polished, with a rounded elevation on the hepatic region, which is free from granulations. Front nearly

entire, but obscurely trilobed. Thoracic sinus, as in *L. Whitei*, deep, strongly waved above, with a granulated inferior margin. The postero-lateral margin, as in that species, fringed with a line of hair. Maxillipedes and limbs as in *L. Whitei*, except that the wrist has fewer granules. Abdomen (male) broadly triangular, with a deep median sulcus at its proximal end. Colour of the carapace very light brown, with a blush of dark brown on each hepatic region, and a lighter brown mark on the gastric and genital regions; the tubercles of the arms pink, and the fingers red at the base.

Length and breadth about $4\frac{1}{2}$ lines.

Nearly allied to *L. Whitei*, Bell; but distinguished by the form of the front, and the absence of granules on the hepatic region.

Hab. Cape Grenville, and Daruley Id. (Chevert Exped.)

Sp. 12. *Leucosia Leslii*, *sp. nov.* (Plate 6., fig. 1.) Testa rhomboidea; fronte producto, lobis quatuor; regionibus hepaticis vix planis; sinu thoracico minime profundo, haud antice definito, tuberculis quinque repleto.

Carapace rhomboidal, the lateral angles projecting somewhat; surface with scattered punctations on its anterior half; hepatic region scarcely convex. Front produced, its anterior border obscurely four-lobed. Thoracic sinus rather shallow, elongated, not defined; its anterior border not tuberculated; its cavity occupied by five large tubercles. Lateral border of carapace with a row of tubercles, which are small anteriorly, large and coalescent above the insertion of the arms, stopping short a little behind that point; postero-lateral and posterior border with a row of small, close-set tubercles. Anterior limbs rather longer than the carapace; upper surface of arm with a group of small tubercles at the base, and scattered larger tubercles on the proximal half; inner surface nearly covered with close-set tubercles; outer border with a row of large tubercles; inferior surface almost smooth; inner border of hand with a row of small tubercles. Colour light

yellowish-grey, with yellow markings on the base of the fingers, and on the ambulatory legs.

Length $10\frac{1}{2}$ lines ; breadth 9 lines.

Hab. Darnley Island (Chevert Exped.).

Sp. 13. *Leucosia moresbiensis*, *sp. nov.* Testa suborbiculari, antice depresso-punctata ; fronte tridentato ; sinu thoracico angustissimo, tuberculis complanatis tribus infra ornato ; manibus utrinque carinatis, extrorsum lævibus, introrsum ordine inconspicuo granulorum ; digitis acuminatis, incurvis.

Carapace suborbicular, minutely punctate anteriorly. Rostrum rather short, armed anteriorly with three minute teeth, of which the central one is much the largest. Thoracic sinus very narrow, bordered below by a row of three large compressed tubercles, continued backwards into a row of very minute granules. External maxillipedes with the proximal articulations dilated, and bordered with a close fringe of hairs. Anterior ambulatory limbs somewhat longer than the body ; arm with its upper surface pretty closely tuberculated except at its distal end ; wrist armed with a single row of minute granules ; hand carinated internally and externally, the internal carina granulated ; fingers slender, acuminate, the points incurved, their inner border armed with minute teeth in rather less than the distal half. Abdomen (female) ovoid, strongly convex. Colour deep brown above, lighter posteriorly ; light brown below.

Length 9 lines ; breadth 8.

Hab. Port Moresby, New Guinea. (Australian Museum.)

This form more nearly resembles *L. obscura* of Bell than any other described species ; differs from it, however, in the form of the thoracic sinus, the small size of the granules on the postero-lateral and posterior borders of the carapace, in the possession of a row of granules on the inner border of the hand, and in the armature of the fingers.

GENUS II.—MYRA, Leach.

Sp. 1. *Myra carinata*, *Bell* (*l. c.*, p. 297, pl. 32, fig. 3). “Testa ovata, minute granulata, carinata, spina postica media lateralibus ter quaterve longiore, lateralibus conicis, acutis.”

A specimen from Cape Grenville in the Chevert collection seems to be referable to this species. The abdomen (male) is broadly lanceolate, with its borders slightly concave.*

Sp. 2. *Myra mammillaris*, *Bell*, (*l. c.*, p. 298, pl. 32, fig. 5). “Testa ovata glabra, tuberculis parvis elevatis sparsim instructa; dentibus posticis bevissimis, rotundatis.”

Hab. Shores of Australia. (Brit. Mus.)

Sp. 3. *Myra affinis*, *Bell*, (*l. c.*, p. 296, pl. 32, fig. 2). “Testa ovato-globosa, spinis posticis brevibus, subæqualibus; pedibus anticis thorace vix bis longioribus; manu digitis tertia parte longiore.”

I have some little hesitation in referring to this species a specimen (young) from Cape Grenville, and another from New South Wales, as both have an indistinct carina, and differ from Bell's figure in various minor points; but they seem to be more nearly allied to this than to any of the other species of the genus, and may meanwhile be placed here till adult specimens are procured.

Sp. 4. *Myra australis*, *sp. nov.* (Plate 5, fig. 3). Testa ovata, granulata, carinata; spina media postica acuta, reflexa, lateralibus vix longiore; regionibus hepaticis valde convexis.

Carapace ovoid, strongly convex, granulated, with a slight keel, and provided on each hepatic region with a prominent mammiform elevation; intestinal region dilated, crowned with a

* Fig. 3.a. of pl. 32. in Bell's Monograph is evidently the abdomen of an immature female, not that of a male, as stated in the “Explanation of the Plates.”

cluster of granules; pterygostomial regions very acutely angulated. Median posterior spine little longer than the lateral, conical, pointed, and sharply recurved at the apex; lateral spines flattened, triangular. Front entire, slightly depressed mesially. Arm covered with large granules throughout its whole extent: wrist, hand and fingers covered with fine granulations; fingers about half the length of the hand, slightly ridged longitudinally. External maxillipedes and sternum covered with minute granulations. Abdomen of male triangular, granulated externally, smooth mesially, its borders concave throughout the greater part of their extent, a prominent tubercle on the penultimate segment. Abdomen of female granulated, broadly ovoid, with well-marked longitudinal sulci, and a tooth on the penultimate segment.

Carapace marked with variously-disposed blotches of orange; the proximal half of the upper surface of the arm, and the articulations of the ambulatory limbs marked with the same colour, of which also two circular spots occur on the upper surface of the third joint of each ambulatory limb.

Length 1 inch; breadth 10 lines.

This species—of which the young specimens do not differ markedly from the adult—is very near that described and figured by Mr. Miers (*l. c.*, pl. 38, figs. 25—27.) as probably the young of *M. mammillaris*, Bell; but differs from it in the form of the posterior median spine, the prominence of the intestinal region, and the shape of the abdomen of the male.* From *M. mammillaris* it differs widely in the form of the front and of the posterior spines, and the greater shortness and stoutness of the anterior limbs, as well as in the possession of a carina, and the stronger angulation of the pterygostomial region.

Hab. Sue, Darnley and Palm Islands; Cape Grenville (Chevert Exped.).

* The carapace is more regularly tapering behind than it appears in the figure.

Sp. 5. *Myra Darnleyensis*, *sp. nov.* (Plate 5, fig. 4). Testa ovato-globosa; fronte pæne integro, lobis obscuris; spinis posticis latis, compressis; digitis manui longitudine superantibus.

Carapace granular, non-carinated; a large tubercle on each hepatic ridge. The front deeply grooved mesially, obscurely four-lobed. The posterior spines large, broad, compressed, subtriangular—the middle one slightly larger than the others. Maxillipedes and sternum covered with minute granulations. Fingers slightly exceeding the hand in length, striated longitudinally, meeting by the whole length of their inner edges, which are minutely toothed. Ambulatory limbs slender. Abdomen (male) sparsely granulated; with a small tubercle on the penultimate segment.

A few ill-defined light yellow marks on the carapace; two light red bands on the upper surface of the arm; and one of the same colour on the distal surface of the hand.

Length 7 lines; breadth 6 lines.

Hab. Darnley Id. (Chevert Exped.).

GENUS III.—MYRODES, Bell.

Sp. 1. *Myrodes gigas*, *sp. nov.* (Plate 5, Fig. 5). Testa ovato-globosa, valde convexa, postice acuminata; abdomine maris dente magno armato.

Bell's generic description applies to the specimens now under consideration, (except that the antennary fossæ are *oblique* not *almost longitudinal*); but they differ from the figure given by Bell of *Myrodes eudactylus* from the Philippines,—hitherto the only known species of the genus—in the greater depth of the carapace, which is also more pointed posteriorly and has only the rudiment of a carina, in the absence of any border on the inner aspect of the hand, which is much dilated and rounded, and in the greater length of the terminal hooks of the fingers. Abdomen of male with a few granules at its proximal end, and a strong, blunt, antero-posteriorly flattened tooth on the penultimate segment.

Length $1\frac{1}{2}$ inch ; breadth $1\frac{1}{8}$ th inch.*

Hab. Darnley Id. (Chevert Exped.).

GENUS IV.—PHILYRA, Leach.

Sp. 1. *Philyra lævis*, *Bell*, (*l. c.*, p. 300, pl. 32, fig. 7). “Testa, corpore, pedibus omnino lævibus.”

Hab. Port Adelaide (Brit. Mus.); Hobson’s Bay; Tasmania; King George’s Sound; (Macleay Museum).

Sp. 2. *Philyra porcellana*, *Fabr.* (*Vide* Milne-Edwards, *Hist. Nat. Crust.*, ii. p. 133). “Testa globosa, minute punctata, fronte epistomate parum breviori; margine granulato; brachiis cylindricis, tuberculatis; manibus inflatis, lævibus.”

Hab. Swan River, (Brit. Mus.).

GENUS V.—PHLYXIA, Bell.

Sp. 1. *Phlyxia crassipes*, *Bell*, (*l. c.*, p. 304, pl. 34, fig. 2). “Testa subcarinata, rostro quadrato, quadridentato; pedibus anticis testa plus quam duplo longioribus; brachiis rotundis, medio tumescentibus.”

Hab. Eastern Shores of Australia (Brit. Mus.) Port Jackson, etc. (Macleay Mus.).

This species is extremely common in Port Jackson.

Sp. 2. *Phlyxia lambriformis*, *Bell*, (*l. c.*, p. 309, pl. 34, fig. 1). “Testa carinata, rostro triangulari, emarginato, margine latero-anteriore inciso, latero-posteriore acute carinato.”

Hab. Eastern Shores of Australia (Brit. Mus.) Princess Charlotte Bay (Chevert Exp.).

Sp. 3. *Phlyxia quadrata*, *A. Milne-Edwards*, (*Journal des Museum Godeffroy*, Band. I., Heft. IV., p. 86). Testa rhomboidea, medio elevata, regionibus hepaticis gastricis multum humilioribus;

* N.B.—The carina is made to appear too prominent in the figure. It consists merely of an incomplete line of very small granules.

fronte producto, emarginato; margine postico tuberculis binis; corpore pedibusque granulis minutissimis, ad marginem lateralem majoribus.

Hab. Bass's Strts.

Sp. 4. *Phlyxia erosa*, *A. Milne-Edwards*, (*l. c.*, I. p. 86). Testa elongata, antice coarctata, postice tuberculata, antice vix lævi; regione cardiaca elevata; marginibus lateralibus inermibus; fronte producto, lobis duobus acutis.

Hab. Bass's Strts.

Sp. 5. *Phlyxia orbicularis*, *sp. nov.* (Plate 6, fig. 2). Testa orbiculari, carinata, minute granulata, margine laterali dentibus quinque parvis armato.

Carapace orbicular, moderately carinated, beset throughout with minute granules; median posterior tooth small and sharp, the lateral teeth broad, short and triangular. Lateral borders armed with five minute teeth. Sternum granular. Anterior limbs more than twice the length of the carapace, covered with extremely minute granules; arm cylindrical; hand and fingers of about equal length; the latter stout, curved and terminating in fine points which cross one another when closed, their inner margins finely denticulated. Posterior limbs nearly smooth; their penultimate and terminal joints much compressed and carinated above. Abdomen of male triangular, with the sides straight, nearly smooth. Abdomen of female with the compound segment quadrilateral, with the anterior (distal) angles rounded off.

Length and breadth 8 lines.

Hab. Port Jackson; Jervis Bay; Tasmania (Macleay Mus.).

Sp. 6. *Phlyxia granulosa*, *sp. nov.* (Plate 6, fig. 3). Testa rhomboidali, granulata, dentibus duobus posticis armata; regione cardiaca tuberculo magno; regione genitali spina brevi, obtusa; regione gastrica spinis duabus, regione branchiali spina una; fronte bidentato.

Carapace rhomboidal, closely granulated, the posterior border armed with two triangular compressed teeth; cardiac region elevated to form a prominent pyramidal eminence surrounded by a narrow fissure, continuous with which anteriorly is a pair of similar fissures separating the genital region from the branchials. Genital region armed with a short, blunt spine; a pair of similar spines on the posterior half of the gastric region, and one on each branchial region; on each hepatic region a triangular tooth, bounded behind by a narrow fissure similar to that which surrounds the intestinal eminence. Front moderately prominent, bidentate. Sternum and external maxillipedes covered with close-set granules, which become elongated into spinules towards the anterior extremities of the latter. Limbs covered all over with similar granules. Arm obscurely triquetrous; hand ridged above and internally; fingers acuminate, meeting when closed by the entire extent of their finely-toothed inner margins. Abdomen of male marked on its compound segment by a protuberance on each side. Female abdomen with the intersegmental lines on the compound segment distinct. Colour pale reddish-grey, with reddish-orange spots, which are arranged as follows:—one on each side of the front; one on the external maxillipedes and pterygostomial region, one on the arm, one on the wrist, and one on the hand; and one on each of the third, fourth and fifth articulations of the ambulatory limbs.

Length and breadth about 3 lines.

Hab. In deep water outside Sydney Heads; dredged by H. M. S. "Challenger."

Sp. 7. *Phlyxia Ramsayi*, *sp. nov.* Testa quadrata, granulosa, fronte lobis quatuor; regione gastrica tuberculis elongatis tribus, regione cardiaca tumidissima; regionibus epibranchialibus depressis; mesobranchialibus elevatis.

Carapace nearly square, covered, together with the limbs, with close-set granules. Front with a slight median fissure, on each

side of which are two rounded lobes. Gastric region with one mesial longitudinal, and two lateral oblique ridges, the latter of which stop short about the posterior boundary of the region, while the former becomes dilated posteriorly and becomes merged in the prominent pointed eminence occupying the cardiac region. Hepatic regions much depressed. Epibranchial regions depressed; meso and metabranchial slightly dilated, with two tubercular elevations—the anterior elongated and double, the posterior conical. Anterior limbs about twice as long as the carapace; hand compressed, and keeled above; fingers slightly curved, pointed, strongly ridged, and armed with rounded teeth. Ambulatory limbs about equal to the carapace in length; propodos dorsally carinate. Colour light red.

Length and breadth $3\frac{1}{2}$ limes.

Hab. Port Jackson; (Australian Museum).

GENUS VI.—NURSIA, Leach.

Sp. 1. *Nursia sinuata*, *Miers*, (*l. c.*, p. 240, pl. 38, fig. 28). Testa convexa, latiore quam longiore, regione cardiaca tuberculis tribus; marginibus posterioribus et postero-lateralibus profunde sinuatis, dentibus septem fere æqualibus instructis; manu compressa, sed vix carinata.

Hab. Moreton Bay. (Brit. Mus.).

GENUS VII.—NURSILIA, Bell.

Sp. unic. *Nursilia dentata*, *Bell*, (*l. c.*, p. 309, pl. 34, fig. 6). "Testa latior quam longior, margine polygono, fronte producto. Orbita bifissa, extrorsum aperta. Fossæ antennariæ obliquæ. Pedipalpi externi epistomati superantes, caule exteriori curvo, medio dilatato; interiore elongato; margine interno arcuato. Pedes antici graciles, manu tumida, digitis curvis, dentatis, manu longioribus." (*Char. gen.*)

Hab. Fitzroy Ids. (Chevert Exped.).

GENUS VIII.—? LITHADIA, Bell.

Sp. 1. ? *Lithadia sculpta*, *sp. nov.* (Plate 6, fig. 5). Testa regionibus gibbosis sulcis profundis intersecta; margine laterali utrinque dentibus quatuor; dentibus posticis nullis; fronte lato, pæne integro, sub-emarginato.

Carapace broader than long, deeply sulcated. Sulci consisting of a circumferential sulcus running round the whole of the carapace, and two which are continuous with it and with one another close behind the rostrum, and diverge as they pass backwards and outwards to include between them an elongated mesial elevation, pointed in front, and rounded posteriorly, which is divided into two by a smaller transverse sulcus.* The elevations which these sulci circumscribe are rough, dilated, rounded and granular, but do not develop pointed projections or teeth. Lateral borders with four rounded teeth, of which the second is bifurcate. Front broad, and slightly emarginate anteriorly, granular above; a low median ridge, passing back from it, crosses the circumferential sulcus and becomes continuous with the mesial elevation. Sternum coarsely tubercular; external maxillipedes closely resembling those of *L. cumingii* as figured in Bell's Monograph. Anterior limbs as long as the carapace; arm coarsely granular; granules becoming elongated on the upper surface of the wrist and hand into irregularly-placed conical teeth; fingers marked by longitudinal rows of granules, and with acute and incurved points, which cross one another when the hand is closed. Ambulatory legs covered with coarse granulations, which take the form of short spines on the fourth and fifth joints; tarsi hairy. Abdomen of female granulated; the intersegmental lines all distinct; a longitudinal sulcus on each side of the middle line. Colour pale brown with ill-defined reddish spots; fingers crossed near their tips by a transverse red stripe.

The sulcated carapace of this species together with the form of the foot-jaws, etc., seem to bring it within the genus *Lithadia* of

* These sulci are hardly so broad as they appear in the figure.

Bell; the proportions, however, of the transverse to the longitudinal diameter of the carapace bring it nearer the genus *Oreophorus*, between which and *Lithadia* it may be regarded as forming a connecting link.

Length about 4 lines; breadth about 5.

Hab. Fitzroy Is. (Chevert Exped.)

GENUS IX.—ARCANIA, Leach.

Sp. 1. *Arcania gracilipes*, *Bell*, (*l. c.*, p. 310, pl. 34, fig. 9). “Testa granulosa, tuberculis quinedecim supra, et tribus ad marginem posteriorem instructa; pedibus anticis tenuissimis.”

Hab. Darnley Id. (Chevert Exped.)

Sp. 2. *Arcania novem-spinosa*, *Adams and White*, (*Crust. of the Voyage of the Samarang*, p. 56, t. 13, f. 1). “Thorace lævi, granuloso, marginibus latero-anterioribus spinis duabus, latero-posterioribus spinis duabus, posteriori spina longa, recta.”

Hab. Darnley Id.; Cape Grenville; Cape York. (Chevert Exped.)

Sp. 3. *Arcania granulosa*, *Miers*, (*l. c.*, p. 240, pl. 38, fig. 29). Testa granulosa, sub-globosa, tuberculis nullis, margine spinis decem brevibus acutis instructo, regione intestinali spina una.

Hab. Moreton Bay. (Brit. Mus.)

Sp. 4. *Arcania pulcherrima*, *sp. nov.* (Plate 6, fig. 4). Testa globosa, paulo latiore quam longiore, tuberculata, margine laterali spinis sex tuberculatis armato, laterali utrinque reliquis longiore; pedibus anticis gracilibus, longissimis.

Carapace globose, rather broader than long, covered with vertically elongated granules and armed above with thirteen tubercles or short spines which are covered with granules similar to those on the rest of the carapace. Lateral border armed with six spines—the median posterior spine found in *A. septemspinosa*,

Bell, (the nearest ally of this species) being absent;* lateral pair much the longest, hardly appreciably flattened and slightly curved upwards; covered, in common with the others, with granules like those on the surface of the carapace. Front prominent, emarginate. Anterior limbs more than twice as long as the carapace; arm slender and tuberculated; hand smooth, slightly swollen at base, and tapering towards the fingers, which are very slender, and armed on their inner margins with fine denticles and a few larger triangular teeth. Posterior limbs slender, cylindrical and smooth. Abdomen (female) ovoid, granulated; the compound part with no trace of intersegmental lines, but traversed by well-marked longitudinal sulci. Colour nearly white, with a blush of red over the lateral parts of the carapace and the lateral spines; and a band of the same colour on the upper surface of the arm.

Length 5 lines; breadth, including lateral spines, $8\frac{1}{2}$ lines.

Hab. Darnley Id. (Chevert Exped.)

GENUS X.—IXA, Leach.

Sp. 1. *Ixa inermis*, *Leach*, (*Zool. Misc.* t. III, p. 26, pl. 129, fig. 1). Testa regionibus sulcis minime profundis separatis, margine postico tuberculis binis, processibus lateralibus inermibus.

Hab. Cape Grenville. (Chevert Exped.)

GENUS XI.—ACTÆOMORPHA, Miers.

Char. gen. Testa convexa, marginibus ut in cancroideis arcuatis; fronte fossaque buccali latis.

Sp. unica. *Actæomorpha erosa*, *Miers*, (*Journ. Linn. Soc.* 1876. p. 183, pl. 14). Testa granulis fossisque parvis omnino signata, tuberculis quinque instructa; pedibus anticis robustis, manu carpo vix longiori; pedibus posticis brevibus, compressis.

Hab. Port Curtis.

* The posterior spines are rather closer together than they appear in the figure.

GENUS XII.—PERSEPHONA, Leach.

Sp. 1. *Persephona tuberculosa*, A. Milne-Edwards (*Journal des Museum Godeffroy, Band I.*, p. 86). Testa quadrata, tunida, granulis complanatis, apud margines majoribus, omnino instructa; regione gastrica tuberculis tribus; regione cardiaca tuberculo magno, fissura angustissima circumscripto; margine postico tuberculis duobus; pedibus anticis longis, granulatis.

Hab. Bass's Strts.

EXPLANATION OF PLATES 5. AND 6.

Plate 5.

- Fig. 1.—*Leucosia splendida*; with female abdomen, and lateral view of carapace.
 „ 2.—*Leucosia Chevertii*; with male abdomen.
 „ 3.—*Myra australis*; with male, and female abdomen, and lateral view of carapace.
 „ 4.—*Myra darnleyensis*; with the male and female abdomen.
 „ 5.—*Myrodes gigas*; with the male and female abdomen.

Plate 6.

- Fig. 1.—*Leucosia Leslii*; with male abdomen.
 „ 2.—*Phlyxia orbicularis*; with male and female abdomen, and lateral view of carapace.
 „ 3.—*Phlyxia granulosa*, with male and female abdomen, and lateral view of carapace.
 „ 4.—*Arcania pulcherrima*; with female abdomen.
 „ 5.—*Lithadia sculpta*; with female abdomen.

NOTES ON SOME FISHES FROM THE SOLOMON ISLANDS.

By WILLIAM MACLEAY, F.L.S., &c.

I became a few days ago the possessor of part of a zoological collection made at the Solomon Islands by Mr. Cockerell.

them to members to night. I append the dimensions of the various specimens numbering twelve rows in the series:—

No. 1.	Long. 3,	lat. $3\frac{1}{4}$,	No. 2.	Long. $2\frac{1}{2}$,	lat. $2\frac{1}{2}$ lines.
„ 3.	„ $2\frac{1}{2}$,	„ $2\frac{1}{4}$,	„ 4.	„ 2,	„ 2 „
„ 5.	„ $1\frac{3}{4}$,	„ 2,	„ 6.	„ $1\frac{1}{2}$,	„ $1\frac{1}{2}$ „
„ 7.	„ $1\frac{1}{4}$,	„ $1\frac{1}{2}$,	„ 8.	„ 1,	„ 1 „
„ 9.	„ 1,	„ $\frac{3}{4}$,	„ 10.	„ $\frac{3}{4}$,	„ 1 „
„ 11.	„ $\frac{3}{4}$,	„ $\frac{3}{4}$,	„ 12.	„ $\frac{1}{2}$,	„ $\frac{1}{2}$ „

Specimens from Point Piper are Long. 4, lat. 4 lines.

NOTE SUPPLEMENTARY TO A PAPER ON THE AUSTRALIAN LEUCOSIIDÆ.

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

A recent excursion to Queensland has enabled me to add a few notes with respect to the occurrence of various species of brachyura of the family *Leucosiidæ* in Port Denison and neighbourhood. In all I observed eight species of this family in that locality, and of these two are now for the first time recorded as inhabitants of Australian seas.

1. LEUCOSIA PULCHERRIMA, Miers.

Leucosia pulcherrima, Miers, *Trans. Linn. Soc.*, 1877, p. 236, pl. 38, figs. 4—6.

Found by Alex. Morton, at low spring-tide on a sand-spit, Port Denison.

2. L.

Dredged in about two fathoms, in Gloucester Passage, Queensland.

3. MYRA AFFINIS, Bell.

Myra affinis, Bell, *Trans. Linn. Soc.*, Vol. 21, p. 296, pl. 32, fig. 2.

Large specimens of this species, having the carapace as much as an inch and a half in length, are to be found at low-water on sandy flats on the shores of Port Denison.

4. MYRA AUSTRALIS, Haswell.

Myra australis, *Haswell, l. c.*, p. 50, pl. 5, fig. 3.

Common at depths of a few fathoms in Port Denison.

5. PHLYXIA LAMBRIFORMIS, Bell.

Phlyxia lambriformis, *Bell, l. c.*, p. 309, pl. 34, fig. 1.

Dredged in 20 fathoms, off Holborn Island, Queensland.

6. NURSIA GRACILIS, Bell.

Dredged in 9 fathoms, Port Denison.

7. NURSILIA DENTATA, Bell.

Nursilia dentata, *Ball, l. c.*, p. 309, pl. 34, fig. 6.

Dredged in 9 fathoms, Port Denison.

8. OREOPHORUS NODOSUS, A. Milne-Edwards.

Oreophorus nodosus, *A. Milne-Edwards, Annales de la Soc., Ent. de France.*

Found under a cluster of madrepora, Stone Island; also dredged in about 9 fathoms, Port Denison.

ON THE GEOLOGY OF YASS PLAINS, (3RD PAPER.)

BY C. JENKINS, ESQR., L.S.

It was suggested to me late yesterday that as at this meeting there would probably be present an unusual number of Geologists, it would be a suitable time to address to you a few remarks on the subject of the Silurian beds in the neighbourhood of Yass.



