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# SOME LITTLE KNOWN VICTORIAN DECAPOD CRUSTACEA WITH DESCRIPTION OF A NEW SPECIES.

By S. W. FULTON and F. E. GRANT.

(*Read 8th August, 1901*).

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ART. VI.—*Some little known Victorian Decapod Crustacea with Description of a New Species.*

BY S. W. FULTON AND F. E. GRANT.

(With Plate V.)

[Read 8th August, 1901].

Although considerable attention has been paid to the carcinological fauna of the more tropical coasts of Australia, little has so far been done on the marine crustacea of Victoria.

A paper by Dr. Kinnahan,[1] read before the Royal Dublin Society in 1858, recorded the existence of sixteen species from Port Phillip, but these were apparently overlooked by Professor Haswell[2] in his Catalogue of Australian Crustacea in which his records of Victorian habitats are by no means adequate. Professor McCoy[3] has also described and figured a few of our well-known marine forms, and in the Report of the Voyage of the "Challenger,"[4] a number of other species which were dredged in the vicinity of our shores are noted. With these exceptions, however, there has been no attempt at serious work on our marine Decapoda, and we hope that at some subsequent date we may be able to give some additional notes which will be of assistance in an endeavour to make up a census of this part of our fauna.

TRIBE—*Cyclometopa.*

FAMILY—*Portunidae.*

### Carcinus maenas, Linn.

Linnaeus. Fauna Suecica, p. 492.
Pennant. Brit. Zool. iv., p. 3., pl. iii., fig. 5.

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1 Journal of the Royal Dublin Society, vol. i., 1858.
2 Catalogue of the Australian Stalk- and Sessile-eyed Crustacea, 1882.
3 Prodromus of the Zoology of Victoria, 1878-1890.
4 Reports of the Scientific Results of the Exploring Voyage of H.M.S. "Challenger."

1853. Bell. History of the British Stalk-eyed Crustacea, p. 76.

1899. Alcock. Journal of the Asiatic Society of Bengal, vol. lxvii., pt. ii., p. 13.

1900. Fulton and Grant. Victorian Naturalist, vol. xvii., p. 147.

Dr. A. Alcock, in his valuable paper quoted above, in referring to the distribution of the well-known European Shore Crab, states that in addition to its usual habitat, it "has been reported from the Hawaiian Islands, from the Bay of Panama, and though there is doubt about this locality—from Australia."

In a short paper read by us before the Victorian Field Naturalists' Club in November, 1900, and before were were aware of Dr. Alcock's reference, we had recorded its establishment in the waters of Port Phillip. We cannot learn, however, of its occurrence at any other points on the Australian Coast and there seems little doubt that it has been introduced here in the shipping. In confirmation of this we would point out that although exceedingly abundant now, special reference is made to its absence from our fauna in a paper by Dr. Kinnahan, published by the Royal Dublin Society, vol. i., p. 111, in 1856, entitled "Remarks on the Habits and Distribution of Marine Crustacea, on the Eastern shores of Port Phillip, Victoria, Australia, with descriptions of undescribed Species and Genera."

In the after discussion on our paper by the members, Consul Gunnersen suggested that it found its way here from Europe through the medium of the old lumber ships attracted to our Port in the early 50's, on the discovery of the goldfields—many of these vessels were far from seaworthy and had been patched up with false bottoms which had become riddled with Teredo navalis and were fouled with marine growths, affording ample shelter for the fry and young crabs on their long voyage, which would leave the ship on her coming to anchor. This theory might also account for the scattered distribution of this species as indicated by Dr. Alcock.

The Rev. T. R. Stebbing in his "History of the Crustacea," in the International Scientific Series, p. 98, refers to an analagous case of the introduction of species of "Plagusia," to the Mediterranean on the bottom of an iron vessel from Pondicherry, *via* the Cape of Good Hope, in 1873.

*Carcinus maenas* is exceedingly abundant on the coasts of Europe.

TRIBE—*Brachyura anomala.*

FAMILY—*Dromiidae.*

## Platydromia, gen. nov.

Carapace much flattened, subpentagonal, pubescent.

Front bilobed, the lobes divided by a deep sulcation—above this the carapace rises into a prominent arcuate ridge divided into lobes and forming a false front.

Second antennae long and fine.

The fourth pair of ambulatory legs equal the chelae in length. The third pair are very short. The last two pairs of legs are turned up above the first two pairs, but not over the carapace. The penultimate joints of the last four legs are truncate. The dactyli are short and curved.

Abdomen, in both sexes, with seven segments. The sternal sulci of the female terminate between the bases of the first pair of pereipoda in prominent raised ridges which meet in the centre.

### Platydromia thomsoni, sp. nov. (Plate V., Figs. 1, 2, 3, 4).

All parts of the carapace are covered with a short harsh tomentum.

*Carapace* much flattened, and pentagonal in outline—the length from the tip of the frontal processes to the posterior margin equalling the width between the lateral angles. The regions are faintly defined. The "linea anourica" are not present.

The front is formed by two prominent and nearly horizontal teeth, the external edges of which are smooth and turned upwards leaving a large bay between them.

The anterior fifth of the carapace is deeply concave, and terminates posteriorly in a prominent, acute, arcuate ridge, which extends across its greatest breadth and is terminated at each end by the lateral angles which are not spinose. This ridge is slightly thickened and granulate, and is divided into four equal and prominent lobes by three short V shaped sulci, filled with hairs. Immediately behind the lateral angles there is a slight concavity.

On removal of the hairs from the carapace the surface is polished, with a few small pits, but without granules.

The inner part of the pterygostomian region is membranous in consistency.

The *external maxillipeds* are operculiform and covered with a dense pubescence. The ischium is crossed by an oblique elevation which is continued on the hepatic region of the carapace by a prominent crescent-shaped ridge which does not quite reach the posterior lateral margin. The palp is articulated at the antero-lateral angle of the ischium.

The *palate* is well delimited from the epistome. The efferent branchial canals are defined by a distinct ridge.

The *epistome* is triangular and terminates anteriorly in a short ridge which is continuous to the angle formed by the junction of the two lobes of the front.

The *orbits* are well defined posteriorly and terminated anteriorly by the antennulary fossae. The infraorbital margin ends in a prominent ridge which is turned slightly downward—beyond this no teeth are present.

The *first antennae* are short, entirely retractile into pits beneath the lobes of the front, and not visible when viewed from above.

The *second antennae* have a short peduncle which does not extend beyond the orbital margin, and carries a long and fine flagella.

The *eyes* are small and entirely retractile within the orbits.

*Legs.* The chelipeds are shorter than the first and second pairs of ambulatory legs, and are entirely covered with a dense tomentum, with the exception of the tips of the fingers which are naked. The meros is triangular in section and fringed along its upper edges. The upper surface is flattened with its edges prominent. The hand, which is not robust, is obscurely longitudinally cristate on its outer surface. The fingers are strongly toothed and have between them an open space at their base when closed.

The first and second ambulatory legs have the meros markedly triangular in section—the third and fourth less so—while the carpos and propodos are in all cases quadrangular. All of these joints are slightly dilated and truncated at their distal extremities.

The dactyli are short and curved—those of the last pair being turned forwards, while the others are turned backwards. The first pair are the longest but are nearly equalled by the second, the third are short and rudimentary, and lie above the bases of the second, and the fourth are turned backwards along the sides of the carapace and over the first pair, which they nearly equal in length—all are covered with a dense tomentum except on the tips of the dactyli—and the angles of the joints are fringed with hairs.

The *abdomen* in both sexes is seven jointed—the first, second, and part of the third joints being visible when viewed from above, and bears a median convex ridge.

The abdomen of the male is acutely triangular in shape, but the terminal joint is rounded and obtuse.

The sternal sulci of the female do not meet, but end on the posterior part of the first segment of the sternum and between the bases of the first pair of legs. Each is terminated by a raised curved convolute ridge, excavate behind, the two prominences meeting in the central line.

DIMENSIONS OF TYPE. ♂.

| | | |
|---|---|---|
| Greatest beadth of carapace | 10 | mm. |
| Greatest length of carapace | 10 | ,, |
| Length of chela | 16 | ,, |
| Length of 1st ambulatory leg | 18 | ,, |
| Length of 2nd ambulatory leg | 17 | ,, |
| Length of 3rd ambulatory leg | 10 | ,, |
| Length of 4th ambulatory leg | 15 | ,, |

The female specimen (which is imperfect) is slightly larger than the male.

*Habitat.*—Our specimens were dredged by Mr. J. Gabriel, in Western Port.

*Observations.*—This species differs so markedly from any others of which we have been able to obtain specimens or to compare the descriptions, that we have been compelled to create a new genus for its reception. Its nearest alliance is with the genus *Dromia*, Fabr., but it does not fall into any of the sub-genera as defined by Dr. Alcock (Journal of the Asiatic Society

of Bengal, vol. lxviii., pt. ii., No. 3, 1899). Its distinctive features are the arcuate ridge which crosses the carapace between the lateral angles—and the long pair of fifth legs which lie immediately over the second pair, but cannot be raised above the carapace, and the form and position of the female sulci.

We have much pleasure in dedicating the species to Mr. G. M. Thomson, F.L.S., of Dunedin, from whom we have received much assistance and advice in our work on the Crustacea.

The types have been deposited with the National Museum.

TRIBE—*Thalassinidea.*

FAMILY—*Axiidae.*

**Axius plectrorhynchus,** Strahl. (Plate V., Figs. 7, 8).

1861. Strahl. Monatsbericht der k. preuss. Akad., p. 1055.

1862. Strahl. Ann. and Mag., Nat. Hist. (3). vol. ix., p. 387.

1884. Miers. Zool. Collection of H.M.S. "Alert," p. 283.

This species was originally described by Strahl, from a single specimen taken at Luzon—and was subsequently identified by Miers as occurring in Torres Straits, a single mutilated specimen being in the collection made by H.M.S. "Alert." We have found it to be plentiful in the crevices of the rotten sandstone reef about 100 yards from the shore at Beaumaris, and about 3 to 4 fathoms below tide mark.

The armature of the carapace appears to be very variable and while we have specimens agreeing closely with both Strahl's and Miers' specific descriptions, we have also others taken with them under circumstances leaving no question as to their belonging to the same species, which differ in many details. This is particularly noticeable in the number of spinules on the front—typically there are eleven of these, but we have specimens with four on one side and six on the other, some have thirteen in all, while a few only agree with the type.

Another feature worthy of note is the presence on the upper surface of the flattened rostrum (in some of our specimens) of

two rows of three small flattened tubercles, which are not referred to in the specific descriptions of either of the authors quoted.

The species does not appear to have been previously figured, and we take this opportunity to do so.

TRIBE—*Thalassinidea.*.

FAMILY—*Callianassidae.*

**Upogebia simsoni,** Thomson. (Plate V., Figs. 5, 6).

G. M. Thomson, Proc. Roy. Soc. Tasmania, 1892, p. 49, pl. 1, figs. 3-5.

This species, which was described by Mr. G. M. Thomson in 1892, from a single specimen collected on the east coast of Tasmania, we have found to be fairly plentiful, burrowing under stones resting on a muddy bottom, below low water mark, inside "Black Head," Flinders, Western Port.

The detailed description given by the author left some doubt in our minds as to the identity of our specimens, and the figure given was of little assistance. Through the kindness of Mr. G. M. Thomson we have, however, been permitted to compare the Victorian examples with the type with which they are in close accord. In case other workers should be confronted with the same difficulties, we have ventured to redescribe the species and figure one of our specimens. The various details mentioned in our description appear to be persistent, little deviation being observed when a series is examined.

We revert to the generic name Upogebia for this species in place of the more usually accepted Gebia, the former name appearing to have undoubted priority.[1]

The *cephalothorax* is laterally compressed, regularly narrowed anteriorly, and somewhat more abruptly posteriorly. It terminates anteriorly in three conspicuous lobes, the median one forming a flattened rostrum. The cervical groove is well marked and two lateral grooves define the position of the branchiae.

The *front* is divided into three parts by two deep grooves

1 Stebbing, History of the Crustacea, p. 185.

which extend backwards and outwards to the margin at the second third of the length of the cephalic region, forming the three lobes above mentioned. The mesial portion forms a somewhat prominent concave rostrum armed on its outer margin with a row of rounded tubercles interspersed with stiff hairs, and reaching almost to the distal end of the first joint of the second antennae. About half-way from the apex a second row of similar tubercles and hairs commences, and as it mounts the cephalothorax these rows become irregular nearly forming a third line. The lateral lobes of the front, which reach about half way to the point of the rostrum, have their margin armed with a single row of tubercles and hairs. Below this on the hepatic region there is a diagonal line of 3 to 4 small tubercles.

Behind the cervical groove the carapace is quite unarmed, but is fringed with hairs on its posterior margin.

The *abdomen* is without epimeral thickenings. The 3rd, 4th, 5th and 6th segments are strongly fringed, but are unarmed above. The 6th segment is subquadrate, and slightly broader than long. It is the longest of the segments, as is typical of the genus.

The *first antennae* which are short, and each furnished with two flagellae—are unarmed and do not bear a basal scale—the flagellae reach slightly beyond the peduncle of the second pair.

The *second antennae* have the second joint of the peduncle armed with two spines on their upper and one on their lower distal margin. The next two joints are clothed above at their distal end with a number of long stiff hairs. The flagellae, which are almost equal in length to the first pair of legs, are armed with long scattered hairs at each articulation.

The *eye stalks* are small, and the eyes are of moderate size.

The *outer maxillipedes* are pediform.

*First leg.*—The basos has two irregular tubercles near to its distal extremity. The arm is furnished with an acute tooth on its upper border, and with 3 to 5 prominent spines on its lower posterior border. The surface is smooth, with the exception of a few long hairs on the upper border round the spines.

The wrist is carinate, with two prominent sharp spines at its upper, and one at its lower distal extremity, the carina terminating with the inner of the two upper spines.

The hand is large, smooth and flattened, with a few irregular punctations on its lower outer surface. Two large depressions are situated on either side of the articulation of the mobile finger, and are filled with a long, coarse brush of hairs. The upper margin is strongly keeled, the keel is clothed with longitudinal rows of scattered hairs and ends somewhat abruptly at its distal extremity in an acute flattened tooth. The lower margin is armed posteriorly with a series of small, flat, forwardly-projecting teeth, and is somewhat hairy. Its lower distal extremity is extended into a strong, short, rudimentary, inferior finger, which is toothed on its upper margin for its posterior half. The mobile finger is three-fourths as long as the palm. It is slightly curved, flattened and somewhat excavate above, and is triangular in section, with the upper edges strongly denticulate and fringed on the sides with strong hairs, ending in a smooth horny point.

The *second leg*, which is monodactyle, is somewhat larger than the succeeding ones, and is flattened. The arm is clothed with a row of long coarse ciliated hairs. The wrist has its lower distal margin ending in a small tooth, and with the hand and dactylos, is fringed with long hairs. The last two joints are without teeth.

The *third and fourth* legs are more slender than the second, they are not armed with spines or teeth, nor so heavily clothed with hairs.

The *fifth leg* is slender and subchelate, the immobile finger being short spoon-excavate and finely toothed along its upper margin. The last two joints are densely clothed with long hairs, which somewhat conceal the subcheliform structure of the legs.

The *telson* is broadly rounded, medially sulcate, and fringed with stiff hairs.

*Uropods.*—The uropods are furnished with a bifurcating median ridge, having a sharp tooth at the point of bifurcation and a similar tooth behind it on the preceding joint. The endopod bears a strong rib on its upper margin, and also a single median rib. Both are strongly fringed with hairs.

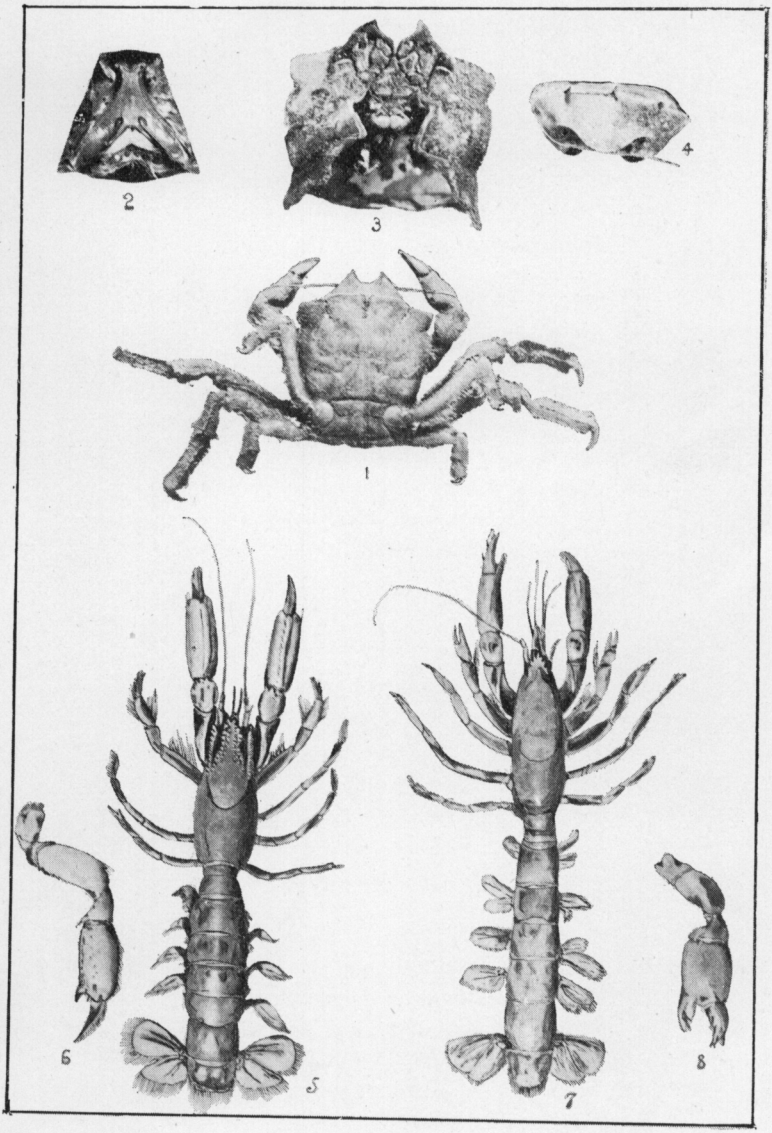
*Colour.*—Cream-yellow shading to pale pink.

DIMENSIONS.

| | |
|---|---|
| From point of rostrum to end of telson - | 21·4 mm. |
| Length of cephalothorax - - - - | 8·4 „ |
| Length of abdomen - - - - - | 13·0 „ |
| Length of anterior legs - - - - | 12·0 „ |
| Breadth of cephalothorax - - - - | 4·0 „ |
| Breadth of abdomen - - - - | 4·0 „ |

## DESCRIPTION OF PLATE V.

Fig. 1.—Platydromia thomsoni, sp. nov., adult male ♂, × 2·5.
„ 2.—The same, ♀, sternum, showing sulci, × 2.
„ 3.—The same, ♀, cephalic region, × 2.
„ 4.—The same, anterior view of frontal region, showing form of frontal lobes, and false frontal ridge, × 2·5.
„ 5.—Upogebia simsoni, Thomson, adult ♂, × 1·8.
„ 6.—The same, side view of chelipede, × 1·8.
„ 7.—Axius plectrorhynchus, Strahl, adult ♂, × 2·3.
„ 8.—The same, side view of chelipede, × 2·3.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