

died : about a month after which the old bird made another nest, and laid six eggs, out of which she hatched five young ones, four of which are now alive.—*Samuel Gurney ; Carshalton, September 15, 1856.*

On Crustacea new to the British Fauna.

By R. Q. COUCH, M.R.C.S.E.

THE publication of Professor Bell's work on the Stalk-eyed Crustaceans of Britain has been of great service to all who pursue that branch of Natural History. Being the production of an accomplished crustaceologist, receiving information from observers on all parts of our shores, it may be supposed to give a fair representation of all our available knowledge systematically arranged. Being, therefore, a summary of all that is at present known, it indirectly points out our deficiencies, and gives definite directions as to what is required to be done in future. This is at all times a very desirable thing, and especially so in Crustaceology; since, judging from our periodicals, it is a much-neglected branch of investigation. In the present communication I purpose to lay before the readers of the 'Zoologist' a description of several Crustacea which I think will be found quite new to our Fauna. I have not hitherto been able to identify them with any species described by those authors which I have been able to consult, and am therefore unable to estimate their value in reference to the general subject. If known, they are neither described nor referred to by Bell; and hence they become interesting to British Natural History. The first is a species of *Axius*, a genus composed but of one species, and that but of rare occurrence. Having had an opportunity of examining the recognized one, figured by Bell at page 228, I have been able to compare it with the one which I now suppose to be distinct.

AXIUS.

As the genus is one that rarely comes under observation, I may be allowed perhaps to quote its characters, as introductory to what may be said in comparison with the markings of the two species.

General characters. External antennæ nearly as long as the body; the peduncle furnished above with a small moveable spine: internal antennæ with two setæ nearly as long as the carapace: external pedipalps rather slender, pediform, joints nearly of equal length: anterior

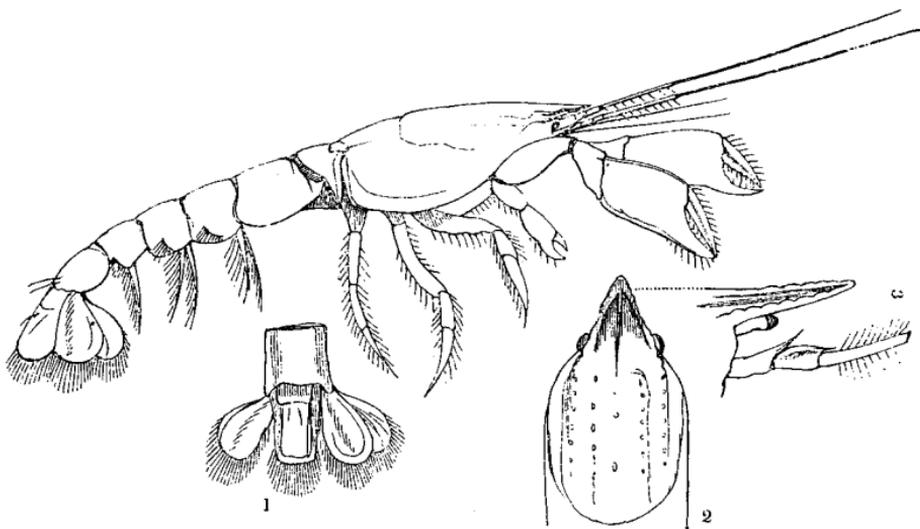
feet unequal, compressed, didactyle, the remaining pairs slender, compressed, simple (the fifth pair most slender and compressed): carapace much compressed, rounded above, the five intermediate of nearly equal length; the caudal joint elongate-triangular.

It will be observed from this definition that it is intended to be specific as well as generic; and this was not a matter of much importance while there was only one species. I would retain in the generic character the description of the external and internal antennæ, external pedipalps, anterior feet, and carapace, and degrade the remainder to specific importance only; and then the present species can be brought within the genus.

The specific character of *Axius stirynchus* I would, then, define as *Specific characters*. Rostrum short, stout, elongate-triangular, having a raised granular margin, and a raised, central, longitudinal line; first ring of abdomen short; central caudal plate elongate-triangular: a row of spines on the external surface of hand.

And the species now under consideration as

Specific characters. Rostrum stout, short, elongate-triangular, with a raised festooned margin, and a raised, central, longitudinal line; first ring of the abdomen small, and on its anterior margin are two projections, which pass forward and join the posterior portion of the carapace: central caudal plate quadrangular.



AXIUS.—1. Posterior view of central caudal plate. 2. Dorsal view of snout. 3. Lateral view of snout.

This species in size and appearance very much resembles *A. stirynchus*. The carapace is large, deep and much compressed, especially towards the dorsum, where it almost becomes angular; but it is not

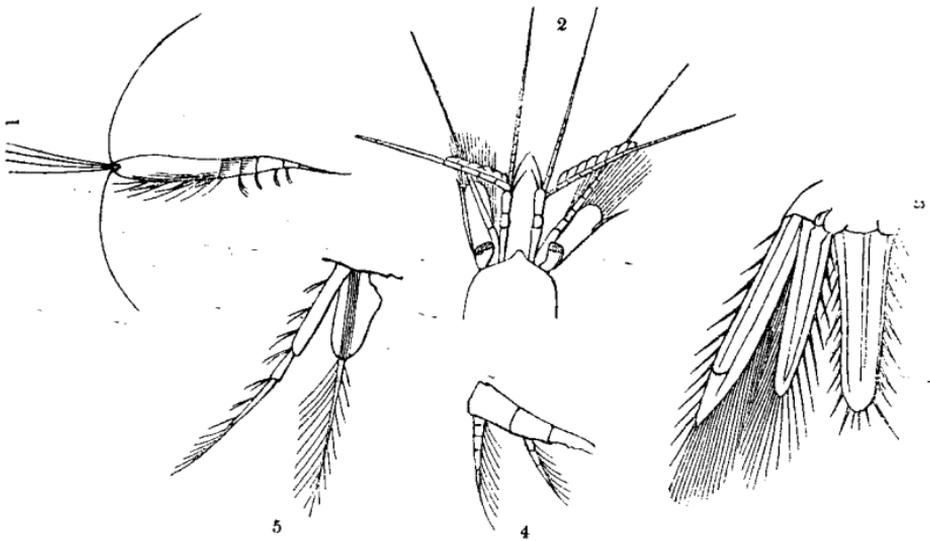
quite so deep as in *A. stirynchus*. The rostrum is short, stout and elongate-triangular, with an obtuse point; the margin is much raised, very distinctly lobulated, and there is a very prominently raised, central longitudinal line; between these lines the surface is much sunk. The external raised rostral lines run divergingly backwards to the margin of the gastric region, where they alter their course, and pass posteriorly parallel to each other; midway between these and on either side of the median line are two other and shorter lines less prominently distinct. Along the inner margins of these are single rows of punctures, beside which are others scattered irregularly over the whole of the dorsal surface of the carapace. The first abdominal ring is much smaller than any of the others; the superior anterior margin is rendered concave by the projection forward of two articulating points, which meet two similar points from the posterior margin of the carapace; the remaining five rings are much larger, and more fully developed and natatory. The three middle annulations, or third, fourth and fifth, have each, on either side near the posterior and inferior angle, a tuft of stout setæ. The middle caudal plate is quadrangular, with two stout spines on each side of the median line, near the upper and middle third. The second plate is also quadrangulantly oval, with a row of spines running down the centre; the external one is similar to the second, but without spines, having only a ridge; all are fringed with long, closely arranged hair, as well as the central one, at their terminal margins. First pair of legs unequal, robust; the arm thicker anteriorly, twice as long as broad; wrist triangular; hand thick, with sides parallel to each other, smooth, unarmed; the fingers are short, strong, with a few stiff hairs, and the upper one is deeply grooved on its superior and external surface. The second pair of feet are didactyle, much compressed, and look very powerless; the arm is as long as wrist and hand, and very hirsute along the lower margin; the other feet get smaller posteriorly. The eye is small and is covered by the rostrum, beneath which it nestles; below, it is sheltered by the peduncle and spine of the antennæ; the whole forming a kind of quadrangular recess. The points of difference, then, between this and *A. stirynchus* are, that in this the rostrum is distinctly lobulated on its margin, that the hand is unarmed on every part, and that the upper and external surface of the moveable finger is deeply furrowed, which is not the case in the other. The peculiar way in which the first abdominal ring is attached to the carapace is very striking, and the ventral edge is quite pterygoid in its form. The posterior margin of the carapace seems, on a lateral view, to be quite

pointed in consequence of this form of articulation. The lateral tufts of setæ to the abdominal rings I never observed in *A. stirynchus*; but they are very apparent in this. The central caudal plate in this is quadrangular, while in *A. stirynchus* it is elongated-triangular. These alone are, I think, sufficient marks of variation to justify the idea of specific distinction.

MYSIS OBERON.

Specific characters. Rostrum obtusely triangular, reaching as far as the circumference of the cornea; middle caudal plate lanceolate; apex rounded, and the rounded portions armed with two diverging teeth.

Habitat. In sheltered pools, and margins of overhanging rocks near low-water mark, in August. Mount's Bay.



MYSIS OBERON.—1. Animal. 2. Dorsal view of rostrum, &c. 3. Caudal extremity. 4. Natatory appendages of abdomen. 5. Feet.

This elegant species is not very uncommon during the warm weather of August, and it is occasionally found in July if there is much sunshine and quiet. It is most commonly found in clear pools with rocky bottoms, and under overhanging rocks in the tide-way where there is great clearness of the water and no muddy soil. It is now more than two years ago since I first detected it, and ascertained what I consider to be its specific differences. At that time I thought it to be very rare; having, however, lately fished with coloured nets, it has proved to be much more common than was at first anticipated.

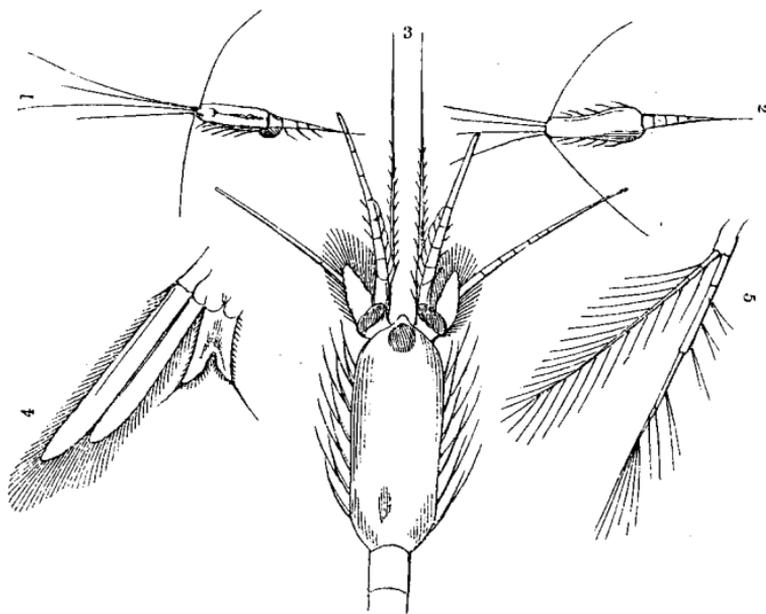
It is a perfectly translucent species, the large black eyes being the chief points by which it can be detected. It is very graceful in its movements, and, unless when much disturbed, it hovers very quietly and elegantly about and among the bunches of pendant sea-weed; but when disturbed it instantly seeks shelter either at the bottom or in some crevice. It is a small species, and, like all the others, has a very slender form. It varies from one-quarter to nearly an inch in length, and is of nearly equal diameter throughout. The carapace is very nearly two-thirds as long as the abdomen, and its sides are nearly parallel to each other and rather compressed. The rostrum is obtusely triangular, is as long as the peduncles of the eyes, and is stout and well marked. The eyes are rather large, and lie close on each side of the rostrum; they reach as far anteriorly as about the middle of the lower joint of the base of the internal antennæ. The internal antennæ are beneath the eyes, and between them and the rostrum; the lower of the basal joints is about twice as long as broad; the second is small, compressed and more or less globular; the third is slightly longer than it is wide, and the distal extremity is enlarged to allow of the articulation of the two terminal filaments, the external of which is the largest, and is ornamented on the median margin near the base with numerous flexible hairs, which bend in a semi-recumbent manner. The hairs on all the other parts are short and thinly scattered. On the internal angle of the base of the antennæ are one or two bunches of long setæ. The external antennæ are the largest and longest, and are situated below and a little externally to the internal ones. The terminal basal joint is about twice as long as the eye-stalk, and the terminal filament is about as long as the body of the creature. The antennal scale is large, extending beyond the basal joints; its internal edge is straight, and terminates anteriorly in a stout spine; the anterior margin is convex, and clothed with long hair closely arranged, which also extends along the inner margin. The abdomen is about one-third longer than the carapace, and gradually decreases in size to the caudal extremity. The middle plate of the tail is obtusely lanceolate; the apex is truncated, the angles rounded, and on each of these rounded portions is a large diverging spine, with a smaller one between. The external caudal plate is longer than the others, and at the external posterior margin there is a contraction, which is covered with short hair, while the remaining portions are clothed with long and closely arranged hair. The second plate is as long as the central one, and is also clothed or margined with long

hair; while the margins of the central plate are armed with long and short denticulations.

This species seems to approach in its characters to *Mysis vulgaris* and *M. Griffithsiæ* of Bell more nearly than to others; but it differs from both in having the apex of the central caudal plate truncated, and the rounded angles armed with two large and diverging spines, as well as in having the other margins armed alternately with large and small teeth. The rostrum is about the size of that of *M. vulgaris*, while the antennal scale is not more than half as long as in that species, as well as being wider and rounded anteriorly. Compared with *M. Griffithsiæ*, the rostrum is not more than half as long, while the antennal scale is longer and wider, and both have the external spine. From these considerations I am inclined to consider it as specifically distinct from both.

MYSIS LAMORNÆ.

Specific characters. Rostrum obtusely triangular; antennal scale reaching beyond the peduncle of the internal antennæ; the central caudal plate deeply bifurcated, and about half as long as the second.



MYSIS LAMORNÆ.—1. Lateral view. 2. Dorsal view. 3. Magnified dorsal view of rostrum, &c. 4. Caudal extremity. 5. Legs.

Habitat. Under overhanging rocks along the margin of the tide-way, near low water. Not uncommon. Mount's Bay.

This is the smallest and yet stoutest of all the species of *Mysis* with which I am acquainted. It is generally very easy of detection, by its being most commonly of a deep arterial blood-colour, especially towards the posterior portion of the carapace and in spots along the abdomen. All the specimens yet examined have been thus more or less marked; but yet colour alone can never, among Crustacea, be taken as confirmations of specific differences. It rarely exceeds three-fourths of an inch in length, though occasionally a few may be found rather more than this. It is a very light and active species, but much more quiet in its movements than the others. The carapace is wider in proportion to the abdomen than in *M. vulgaris* or *M. Chamelion*, and it is more enlarged posteriorly than in any of the other long-tailed Crustacea. The rostrum is prolonged into an obtuse, triangular snout, which is about one-third as long as the peduncle of the eye. The internal antennæ terminate in two multiarticulate filaments; the basal joints visible are three in number; the lowest is smallest; the second about twice as long as it is wide, and reaches as far as the peduncle of the eye; the third or terminal one is much compressed superiorly, and expanded for the articulation of the terminal filaments. The internal antennæ have two terminal filaments, and are long and large, and the upper part of the basal margin of the large filament is covered with reflected hairs; the second is shorter and stiff. The external antennæ are longer than the animal, and generally stand almost at right angles from the body. The antennal scale is long and obtusely triangular, the apex being rounded; the internal and external edges are both clothed with long, closely arranged hairs, and there is no spine on the anterior termination of the external margin. The abdomen is slightly longer than the carapace, and in some specimens about one-third longer. The central caudal plate is about half as long as the second and deeply bifurcated; its external margins are nearly straight, the internal slightly waved, and the whole marked with deep serrations; but at the external angle are two stouter teeth than the rest, diverging from one another. The two external plates are long, slender, rounded at their free extremities, and surrounded by long, closely arranged hairs.

The only British species with which this can be confounded is *Mysis Chamelion* of Bell; but there are, I think, sufficient marks of distinction in each to justify a separation into two species. In the one now under notice the antennal scale is not more than half as long as in *M. Chamelion*, and the distal margin is plain and obtusely triangular; while in *M. Chamelion* it is truncated, and armed with a long

spine externally. In the present species the central caudal plate is very short, not being more than half as long as the second plate, and the bifurcation is very deep; while in *M. Chamelion* the central plate is nearly as long as the second, and the bifurcation shallow. In addition to these, which I shall call the specific distinctions, there are numerous others of smaller importance, such as differences of proportions in different parts, which would be unappreciable in description; and these together have induced me to separate this into a specific position.

Penzance, September 15, 1856.

R. Q. COUCH.

Thesia Polita at the Isle of Herm.—This very rare crab, of which three specimens only are recorded by Bell as having been found in Great Britain, is occasionally taken in the Isle of Herm: it there occurs in sand at low water on the Long Beach.—*Alfred Merle Norman; Kibworth, September 3, 1856.*

Hippolyte Spinus off Oban.—I believe that this, the handsomest of the Hippolytes, is not scarce off Oban: I took a specimen the only day I ever dredged in that splendid locality, and have seen another which was taken there by Mr. Templer. It occurs in deep water, muddy bottom, between Kerreza and Mull, on the ground which is usually dredged for *Nucula decussata*, the white variety of *Turritella communis*, &c. *Crangon spinosus* occurred in the same locality.—*Id.*

Note on Comatula rosacea.—*Comatula rosacea*, the only British representative of the Crinoideans, is generally considered rare. I believe that this is an error: although nowhere abundant or gregarious, as many other star-fish are, it seems generally distributed all round our shores. The following list of localities, only gathered from Forbes, the 'Zoologist' of the last half-dozen years, and my own experience, will go some way to prove this:—

ENGLAND.—*Penzance; Falmouth; Budleigh-Salterton; Weymouth; Milford-Haven* and other parts of Wales; Redcar.

SCOTLAND.—*Firth of Clyde; Oban; Orkney; Shetland; Moray Firth.*

IRELAND.—*Irish Sea; Dublin; Cork; Strangford Lough; Down; Antrim.*

CHANNEL ISLES.—*Guernsey; Herm.*

The names printed in Italics are those of places in which I have myself taken the *Comatula*.—*Alfred Merle Norman; Kibworth, September 3, 1856.*