On some new exotic sessile-eyed Crustacea

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Fig. 3. *Ptilodictya flagellum*, Nich., of the natural size. 3 *a*. Transverse section of the same, enlarged. 3 *b*. Portion of the surface, enlarged.

Fig. 4. *Ptilodictya* (?) *arctipora*, Nich., a fragment, of the natural size. 4 *a*. Portion of the same, enlarged. 4 *b*. A few cells of the same, enlarged further.

Fig. 5. *Ptilodictya fenestelliformis*, Nich., a fragment near the base of the frond, of the natural size. 5 *a*. Transverse section of the same, enlarged. 5 *b*. Portion of the surface, showing one of the non-poriferous areolæ, enlarged.

Fig. 6. *Fenestella nervata*, Nich., a fragment, of the natural size. 6 *a*. Portion of the same, enlarged.

Fig. 7. *Ceramopora ohioensis*, Nich., part of an incrusting specimen, greatly enlarged. 7 *a*. A few cells from a worn specimen of the same, greatly enlarged. 7 *b*. Portion of a young example of the same, showing the radiating growth of the cells from a central point, enlarged. 7 *c* & 7 *d*. Fragments of much-worn specimens of the same (?), showing numerous interstitial tubuli, enlarged.

XXIII.—*On some new exotic Sessile-eyed Crustaceans.*

By the Rev. Thomas R. R. Stebbing, M.A.

[Plate XV. A.]

I. Of the Crustaceans now to be described, the first is a small Amphipod sent to me by H. J. Carter, Esq., F.R.S., who found three specimens of it in a sponge, a branched Suberite, from the Antarctic sea, dredged up by Sir J. Ross in S. lat. about 77½° and E. long. 175°, from a depth of 300 fathoms.

Two of the specimens are about an eighth of an inch in length, the third being very much smaller. Whether the larger pair had attained their full size or not is open to question. All are of a dark-brown colour—in that respect, Mr. Carter tells me, resembling the sponge from which he took them. All were closely coiled up, with the gnathopods hidden and tail and antennæ tucked under the body. This posture, coupled with the breadth of the pereion or thorax, gave the creatures a subglobose aspect, at the first glance not a little resembling that of a folded Sphæromid. In point of fact, however, their affinities seem to be with the genus *Dexamine*, Leach. The superior antennæ have the first joint stout, the second more slender and twice as long, the third not differing from the following articulations of the flagellum. In the lower antennæ only two of the joints of the peduncle could be made out distinctly, being probably the penultimate and

antepenultimate—the former being more slender than the latter, but in length subequal both to it and to the second joint of the upper antennæ. The flagellum of the upper antennæ is longer and stouter than that of the lower.

In the first and second gnathopods the wrists and hands are hairy; the wrist in each case is about equal in length to the hand. The hand in the first gnathopods is subovate in shape, with no distinct palm, and the finger projecting rather prominently. In the second gnathopods the hand is rather larger, with a fairly defined palm, upon which the finger folds down without overlapping it. In the five following pairs of legs (the pereiopoda) the fingers are all directed backwards, a character which Mr. Spence Bate notes as generally prevailing in the genus *Dexamine*. It is these five pairs of pereiopoda which are the most peculiar and distinctive parts of the animal. They are all alike, with the exception of the coxal joints; and as far as could be made out, they are all equal. The thighs are well developed both in breadth and length. The metacarpal joints are also long, about equalling the wrist and hand conjointly. Long spines are attached to the postero-distal extremity of the wrist. The hands are prehensile, a much-curved finger being opposed to the outer point of an excavated palm. In the actual state of the specimens it was not, however, possible to decide whether the palm terminated in two points with a central spine, or in one point with a spine on either side. There seemed to be an additional spine within the palm close to the base of the finger. The telson is long, lanceolate, and deeply cleft. The coxal joints are figured as they appeared; but those of the first three pairs of pereiopoda were not well preserved, and in a normal state are probably less irregular in shape than those which I have drawn.

The specimens have a very noticeable metallic lustre.

Unless a new genus should be thought wanting, on account of the prehensile feet of the pereiopoda, *Dexamine antarctica* will be an appropriate name for this minute novelty.

II. The next species to be described, also minute and also new, comes from Algoa Bay, South Africa. It travelled to England with the same collection of sponges and Gorgonias which supplied the Arcturidæ described in the 'Annals' for August 1873. There can be little doubt that it ought to be referred to the genus *Seba*, founded by Costa for a Neapolitan species, which Mr. Spence Bate has described and figured in his British-Museum Catalogue, stating that "the descriptions of both the genus and species, as well as the figure, are taken

from a figure given in a memoir in the possession of Professor Milne-Edwards." That the first species of *Seba* should be taken on the coast of Naples, while the second comes from South Africa, suggests the reflection that there must be whole armies of sessile-eyed crustaceans yet to be discovered.

The generic characters given for *Seba* are as follows:—"Slender, smooth; antennæ long, subequal; coxæ small, four anterior deeper than the three posterior; gnathopoda uniform, subequal, chelate." The new species agrees with *Seba innominata* in all these respects, except that the antennæ (at least in my specimen, which may be a very young one) are not very long, and that the gnathopods, though agreeing in general character, are not precisely uniform. The first are shorter than the second; they have the thighs more slender, the hands broader, and the intermediate joints notably of less length. In both the infero-anterior angle of the hand is produced, so as to be equal in length to the finger. The first gnathopod is given in the figure as it and its fellow appeared in the specimen; but the reversed position of the wrist, hand, and finger, pointing forwards instead of backwards, is not likely to be the natural position in the living animal.

The last three pairs of pereiopoda differ from those of *Seba innominata* in having the thighs broad, in the last pair with a serrated edge, and in having the metacarpal joints strongly developed and overlapping the wrists. The telson is small; the caudal appendages short, the rami of the second pair extending a little beyond those of the first and third. The name proposed is *Seba Saundersii*, out of respect for W. Wilson Saunders, Esq., F.R.S., for whom the marine treasures were collected among which this little stranger, about an eighth of an inch long, reached our shores.

III. Out of the same sifting of sand and fragments which yielded the *Seba* came a tiny Isopod, only a twelfth of an inch in length, with a very striking resemblance, at first sight, to the figure of *Cymodocea armata* in Milne-Edwards's 'Histoire Naturelle des Crustacés' (pl. xxxi. fig. 16). The resemblance, however, is only one of general outline; for whereas the striking feature in the *Cymodocea* is the triangular prolongation of the seventh segment of the thorax, in the new species it is the terminal segment of the abdomen or tail which is produced beyond the caudal appendages into a large conical tooth.

The body is smooth, with scale-like markings visible under a lens over all parts of the skin. The abdomen is in two divisions, the first retaining indications of three segments sol-

dered together. The second division is nearly three times as long as the first, and for two thirds of its length is much inflated; it then becomes slightly constricted and considerably depressed. Of the caudal appendages the outer plate is much smaller than the inner both in length and breadth, and is oval in shape. The inner plate follows much the same curve along its free border; but, where it closely adjoins the tail-segment to which it is united, it has a slight concavity fitting the corresponding convexity of the tail-piece. On the underside of the animal a broad fold of this last tail-segment stretches the whole length of each side of it; beneath the narrower part of the segment the edges of these folds meet.

There is a species of *Sphæroma* (*Sphæroma Jurinii*) described by Milne-Edwards from the Egyptian crustaceans of Savigny and Audouin, of which he says:—"This species appears to be very near to *Sphæroma serratum*, but is distinguished from it by the form of the last segment of the abdomen, which is prolonged backwards into an obtuse point. The external plate of the caudal appendages has its edge smooth. The length is about two lines." This, as far as it goes, might fairly suit the present species; but as nothing is said of the great difference in size between the plates of the caudal appendages, which are in consequence very unlike those of *Sphæroma serratum*, there can be little doubt that the present is a distinct species, for which I propose the name of *Sphæroma algoense*.

It is scarcely of importance to mention that both this and *Seba Saundersii* are light yellow in colour, since the colour may have faded or changed since the animals' deaths. It may be remarked, too, that some of our English species of *Sphæroma* are exceedingly variable in colour.

IV. Before closing this paper, I may observe that along with the new species some very small specimens have presented themselves of *Arcturus lineatus*, described and figured in the 'Annals' for August 1873, above referred to. The point demanding notice in reference to these young specimens is that the fourth segment of the thorax is not elongated as in adult life—a point the more interesting, because upon this character Milne-Edwards grounds a division of the genus *Arcturus* into two sections:—one containing the large *Arcturus Baffini* from Baffin's Bay, which has the segment in question not elongate; the other containing the British *Arcturus longicornis*, which has this one segment as long as all the other body-segments put together. Of these sections Goodsir made a genus *Arcturus* and a genus *Leachia*—a division obviously now inconvenient, since according to it our *Arcturus lineatus*

would belong at one time of its life to the one and at another time to the other.

EXPLANATION OF PLATE XV. A.

Fig. 1. *Dexamine antarctica.* 1 *a.* First gnathopod. 1 *b.* Second gnathopod. 1 *c.* Third pereiopod. 1 *d.* Hand and finger of third pereiopod, more highly magnified.
Fig. 2. *Seba Saundersii.* 2 *a.* First gnathopod. 2 *b.* Second gnathopod. 2 *c.* Fifth pereiopod.
Fig. 3. *Sphæroma algoense.* 3 *a.* Underside of tail-piece.

XXIV.—*Descriptions of some new North-American* Lithobioidæ. By Anton Stuxberg.

1. *Lithobius monticola*, n. sp.

Lamina cephalica subcircularis, eadem fere latitudine ac longitudine, margine postico subrecto, setis punctisque impressis sparse prædita. *Antennæ* mediocres, articulis 20 maximam partem cylindraceis, setis rigidis vestitis compositæ. *Oculi* longitudine triplo majore quam altitudine, ocellis 7–9 in 2 series longitudinales digestis. *Coxæ* pedum maxillarium secundi paris dentibus 6+6 conicis, acutiusculis, nigerrimis armatæ. *Scuta dorsualia* rugulosa, sparsissime pilosa, 2°, 4°, 6°, 7°, 9°, 11°, 13° margine postico recto, angulis posticis rectis vel rotundate rectangulis, 1°, 3°, 5°, 8°, 10°, 12°, 14° margine postico elevato sinuato, angulis parum productis, rotundate acuminatis. *Scutum ventrale* 15^um^ fovea longitudinali profundiore, cetera omnia plana. *Pori coxales* numerosi, rotundi, in 3–4 series irregulares dispositi. *Pedes* primi paris calcaribus 2, 3, 2. *Pedum analium* articulus primus calcaribus binis, altero majore inferiore, altero minore laterali armatus. *Pedes anales* ungue singulo, calcaribus 1, 4, 3, 1—1, 4, 3, 2 armati. *Color* non manifestus.

Longitudo corporis 18 millim.

Hab. in Sierra Nevada (*G. Eisen*).

2. *Lithobius pusio*, n. sp.

Lamina cephalica subcircularis, eadem fere latitudine ac longitudine, setis minimis sparsissimis. *Antennæ* breviores, articulis 20 plerumque brevibus, crassis compositæ, ex quibus ultimus longissimus, longitudine quatuor præcedentes junctos æquans. *Oculi* ocellis 6 magnis in 2 series