

The mandibles have the cutting edge strongly tridentate, the spine row consisting of seven or more short spines, the teeth of the molar saw twelve to fourteen, the palp set much further back than usual in this family, its first joint a little more than a quarter as long as the second, shorter but much stouter than the third, which is fringed with graduated spines, increasing in size towards the apex. The distal two-fifths of the second joint are spiniferous.

The first maxillæ have three plumose setæ on the inner plate and eleven unequal spines, of which two are obscurely denticulate, on the outer.

The second maxillæ have five setæ on the inner, four on the outer, and a single seta on the little median lobe.

The maxillipeds have a broad second joint, not much longer than broad apart from its produced plate, which is tipped with two setæ and carries certainly one hook and apparently three others. The sixth and seventh joints are not very large, the fourth and fifth are broad.

The limbs of the peræon are of the usual pattern, but not powerful, the first three pairs short, the last four very slender, and of these only the two hinder pairs elongate. The ventral male appendages of the seventh peræon segment are short, parallel-sided.

The pleopods have setose fringes on the rami, excepting the inner ramus of the fifth pair. In the second pair the peduncle is broader than long, furnished with three hooked spines and a plumose seta on its inner border. The second joint of its inner ramus, constituting the masculine appendix, is affixed nearly at the base of the ramus. The structure is rather peculiar. The inner margin for about two-thirds of the length is setuliferous and sinuous, widest at the top, rather abruptly narrowing below, the last third being quite narrow, ending in a little slightly inward turned point, beyond which the body of the ramus is prolonged for a short distance. In at least the first four pairs of pleopods the inner upper corner of the inner ramus is overhung by a lappet which curves first inward and then a little outward.

The outer ramus of the uropods is much narrower and shorter than the inner, both are round ended, and setiferous on both margins.

Length of specimen in slightly curved position 7 mm.

Locality. Mauritius, 5 miles W. of Black River, in surface net (*d*).

The specific name, from the Greek ἀσελγοκέρωσ, signifying a creature with outrageous horns or antennæ, is applied to this species as one which by its antennæ is in violent conflict with the custom of its family.

Gen. *CIROLANA*, Leach.

1818. *Cirolana*, Leach, Dict. Sci. Nat., vol. xii., p. 347.

11. *Cirolana minuta*, H. J. Hansen.

1890. *Cirolana minuta*, Hansen, Vid. Selsk. Skr., ser 6, vol. v., p. 347, pl. 3, fig. 5, pl. 4, fig. 1.

1900. *Cirolana minuta*, Stebbing, Willey's Zoological Results, pt. 5, p. 634.

Hansen distinguishes this species from his *Cirolana parva* principally by its smaller

size, its rather more slender legs, its differently shaped masculine appendix to the second pleopods of the male, and above all by the possession of an acuminate horn on the base of the frontal lamina.

The specimens from the Seychelles agree closely in size with Hansen's measurements, which are 4.3 mm. for the male, and 4.8 mm. for the female, though I cannot pretend to the same nicety in determining the fractions of a millimetre. Also, they have the masculine appendix, not incurved as in *C. parva*, but quite straight, ending acutely much (in one case very much) beyond the other part of the ramus. But the hinder peræopods do not show the special slenderness of the second joint which Hansen figures, and I cannot perceive the required horn on the frontal lamina of either of the two males dissected.

Localities. Praslin Reef and Coetivy. A female specimen, 5 mm. long, from Diego Garcia, carried numerous young ones in an advanced stage of development. Its first antennæ have a nine-jointed flagellum, and its second one of twenty-two joints.

Fam. **Corallanidæ.**

1904. Corallanidæ, Stebbing, Gardiner's Fauna Maldive and Laccadive Arch., vol. ii., pt. 3, p. 703.

Gen. *ALCIRONA*, Hansen.

1890. *Alcirona*, Hansen, Vid. Selsk. Skr., ser. 6, vol. v., p. 285.

12. *Alcirona maldivensis*, Stebbing.

1904. *Alcirona maldivensis*, Stebbing, Gardiner's Fauna Maldive and Laccadive Arch., vol. ii., pt. 3, p. 708, pl. 51 B.

The present specimen is larger but proportionally narrower than that originally described. It is likewise a female with young, which, as in the other case, are far advanced.

Length 7.5 mm. Breadth 3 mm.

Locality. Cargados Carajos, where the "Sealark" obtained it from a depth of 30 fathoms.

Fam. **Argathonidæ.**

1905. Argathonidæ, Stebbing, Herdman's Pearl Fish., Suppl. Rep. 23, p. 16.

In the single species for which this family was founded the fourth and fifth joints of the maxillipeds are fused into one. Another species has now come to light, in which the distinctness of these two joints is clearly manifest. This might be regarded as an important generic difference, were it supported by any other character of equal weight. But that is not the case. In all other respects features than can fairly be allowed generic value appear to be the same for both species.

Gen. *ARGATHONA*, Stebbing.

1905. *Argathona*, Stebbing, Herdman's Pearl Fish., Suppl. Rep. 23, p. 17.

The statement that the maxillipeds are six-jointed through fusion of the fourth and fifth joints must be excluded from the definition alike of the family and the genus, as

inapplicable to the new species, which is well separated from its predecessor by the absence of this fusion. The two are separated further by more easily observable characters as follows:

Without upturned rostral process; dorsal surface strongly spinulose. 1. *A. normani*, Stebbing.

With strongly upturned rostral process; dorsal surface smooth. 2. *A. reidi*, n. sp.

13. *Argathona reidi*, n. sp. (Plate 9 A.)

The rather small head is scarcely half as long as broad. The rostral process is upturned so as to present in profile a flat top, its curvature over-arching a shaded hollow, behind which the distal part of the head forms a raised triangle, with a faintly-marked tubercular swelling at each end of its base. The eyes are wide apart, tending to reniform, diverging to touch the lower margin outside each tubercle. The width of the peræon increases from the first segment, which is slightly the longest, to the fourth. The three following segments are shorter. The side-plates are diagonally furrowed. The first pleon segment is completely hidden. The four following are short. The telsonic segment is wider at the base than its length and forms a broadly round-ended triangle, not reaching quite so far back as the inner ramus of the uropods. Like them it has a close fringe of not over-long plumose setæ, interspersed with little horny spines.

The first antennæ reach the middle of the last joint of the peduncle of the second. Both pairs are in close agreement with those of *A. normani*. The flagellum of the first pair has twelve joints, most of them carrying filaments. In the second pair the flagellum is composed of twenty-nine to thirty joints.

The frontal lamina is pentagonal, not very large. The epistome, emarginate at the top, has widely divergent arms, embracing a rather small area for the upper lip. The latter and also the lower lip were not clearly made out.

The mandibles are very massive at the base, near to which the palp is implanted, having its second joint much the longest, this and the third being armed with serrate spines. That which I have spoken of as a feeble blade, of quasi molar homology, in the other species, appears to be present here also, but so entangled in a transparent membrane, that I feel little confidence in its interpretation for either species.

The first maxillæ agree with those already described, except that the inner plate is apically more squarely truncate.

In the maxillipeds the sixth joint is more robust than in the other species.

The limbs of the peræon are also very near to those of *A. normani*, the superior robustness of the peræopods being no doubt related to the superior size of the new form.

The second pleopods have the male appendix of the same shape as in the other species, but not reaching the end of either ramus instead of extending a little beyond both.

The peduncle of the uropods is much produced. The inner ramus is much broader than the outer, and produced considerably beyond it, though in actual length it does not greatly exceed it. Both are round-ended.

Length 22 mm. Breadth about 10.5 mm.

Locality. The single specimen, a male, was taken by Mr Crossland at Zanzibar in 1901.

The specific name is given out of respect to Mr J. T. Rennie Reid, the Edinburgh lithographer, who during the past five and twenty years or more has faithfully reproduced on stone the majority of my drawings of Crustacea.

Fam. **Ægidæ.**

Gen. *ÆGA*, Leach.

1815. *Æga*, Leach, Trans. Linn. Soc. London, vol. xi., p. 369.

14. *Æga ommatophylax*, Stebbing. (Plate 9 B.)

1905. *Æga ommatophylax*, Stebbing, Herdman's Pearl Fisheries, Suppl. Rep. 23, p. 21, pls. 4, 5 A.

To this species I refer a specimen from Mauritius, which agrees in all essential particulars with that which I have described and figured (*loc. cit.*, p. 23, pl. 5 A) as the female or a younger form. The two pairs of antennæ and the shape of the telsonic segment perfectly agree, and the great black eyes in like manner stretch all across the head and fold under. But the size of the specimen is considerably smaller. Its greatest breadth is at the fifth peræon segment, with the two following segments shorter than the others, the seventh being completely concealed in dorsal view and furnished with a pair of legs devoid of spines and much smaller than the fourth peræopods. It is interesting to notice that this youthful characteristic is retained in a specimen otherwise so fully developed. But in the pleon also only four segments are conspicuous in advance of the telsonic segment, instead of five as in the adults.

Length 7.5 mm. Breadth at widest part 3 mm.

Locality. Mauritius, station A 2, from a depth of 100 fathoms.

Gen. *ROCINELA*, Leach.

1818. *Rocinela*, Leach, Dict. Sci. Naturelles, vol. xii., p. 349.

15. *Rocinela orientalis*, Schiödte and Meinert.

1879. *Rocinela orientalis*, Schiödte and Meinert, Naturhist. Tidsskr., ser. 3, vol. xii., p. 395, pl. 13, figs. 1, 2.

1905. *Rocinela orientalis*, Stebbing, Herdman's Pearl Fisheries, Suppl. Rep. 23, p. 24, pl. 6 c.

A single specimen, of the female sex, obtained by Mr Crossland in 1901 at Zanzibar, measures 17 mm. in length by 8 mm. in breadth. There is a longitudinal dorsal depression between the rather large dark eyes. The telsonic segment is well rounded distally.

Fam. **Cymothoidæ.**

1881. Anilocridæ + Saophridæ + Cymothoidæ, Schiödte and Meinert, Naturh. Tidsskr., ser. 3, vol. xiii., pp. 1, 281, 286.

1890. Cymothoidæ, Hansen, Vid. Selsk. Skr., ser. 6, Naturv. Afd. v., n. 3, pp. 316, 406.

1900. Cymothoidæ, Stebbing, South African Crustacea, pt. 1, p. 55.
 1905. Cymothoidæ, H. Richardson, Bull. U.S. Nat. Mus., No. 54, p. 215.

Gen. *NEROCILA*, Leach.

1818. *Nerocila*, Leach, Dict. Sci. Nat., vol. xii., p. 351.
 1829. *Ichthyophilus*, Latreille, La Règne Animal, vol. iv., p. 133.
 1902. *Nerocila*, Stebbing, South African Crustacea, pt. 2, p. 55.
 1905. *Nerocila*, H. Richardson, Bull. U.S. Nat. Mus., No. 54, p. 219.

The species which Koelbel in 1878 separated from *Nerocila* as *Emphyllia ctenophora* was united to the earlier genus by Schiödte and Meinert.

16. *Nerocila trichiura* (Miers).

1847. *Anilocra trichiura*, White, List of Crustacea in Brit. Mus., p. 108 (nomen nudum).
 1877. *Anilocra trichiura*, Miers, Proc. Zool. Soc. London, p. 677, pl. 69, figs. 6, 6 a.
 1881. *Nerocila trichiura*, Schiödte and Meinert, Naturh. Tidsskr., ser. 3, vol. xiii., p. 83, pl. 7, figs. 1, 2.

In this species the outer ramus of the uropods greatly exceeds the inner in length. The side-plates of the hinder peræon segments end obtusely, contrary to what is usual in the genus.

Locality. A single specimen was obtained at Great Chagos. It is attached by the mouth and front claws at an angle to the underside at the base of the wing fin of a flying-fish, *Exocætus evolans*.

Gen. *CYMOTHOA*, Fabricius.

1793. *Cymothoa* (part) Fabricius, Ent. Syst., vol. ii., p. 503.
 1883. *Cymothoa*, Schiödte and Meinert, Naturh. Tidsskr., ser. 3, vol. xiv., p. 223.
 1905. *Cymothoa*, H. Richardson, Bull. U.S. Nat. Mus., No. 54, p. 247.

17. *Cymothoa eremita* (Brünnich).

1775. *Oniscus æstrum*, Spengler, Besch. Berl. Ges. Naturf. Fr. i., p. 312, pl. 7, figs. I—K.
 1783. *Oniscus eremita*, Brünnich, Vid. Selsk. Skrift. Nye Saml., vol. ii., p. 319.
 1857. *Cymothoa stromatei*, Bleeker, Crust. Ind. Archip., p. 35, pl. 2, fig. 13.
 1883. *Cymothoa eremita*, Schiödte and Meinert, Naturh. Tidsskr., ser. 3, vol. xiv., p. 259, pl. 7, figs. 3—13.

The references, but not the dates, are borrowed from Schiödte and Meinert. The first two dates are due to Sherborn's "Index Animalium," which, however, does not mention Spengler's *Oniscus æstrum*, perhaps from the opinion that it was identical with the species so named by Linnæus. The western species is now named *Cymothoa æstrum* (Linn.), distinguished by no very strongly divergent characters from Brünnich's, which inhabits the Pacific and Indian Oceans. Spengler's statement that his species was found attached to whales on the coast of Greenland is regarded by Schiödte and Meinert as

quite untrustworthy. The specimen roughly figured by Brünnich, fig. 5 on the plate illustrating his "Entomologia," 1764, as a typical *Oniscus*, is probably intended for the present species. It attains a large size, sometimes making a near approach to two inches, with great breadth. The head is very deeply sunk within the verrucose first segment of the peræon.

The specimens were obtained by Mr Crossland at Zanzibar in 1901.

Gen. *MEINERTIA*, Stebbing.

1893. *Meinertia*, Stebbing, History of Crustacea, p. 354.

18. *Meinertia carinata* (Bianconi).

1869. *Cymothæ carinata*, Bianconi, Memorie della Accademia delle Scienze dell' Istituto di Bologna, fasciculus xvii., p. 210, pl. 2, figs. 2 a, b.

1869. *Cymothoa* (*Ceratothoa*) *carinata*, Hilgendorf, Von der Decken's Reisen in Ost-Afrika, vol. iii., p. 846.

1883. *Ceratothoa carinata*, Schiödte and Meinert, Naturh. Tidsskr., ser. 3, vol. xiii., p. 327, pl. 13, figs. 1, 2.

In cataloguing this species Hilgendorf mentions that Bianconi's memoir appeared in two forms with different pagination. Thus Hilgendorf's reference to p. 344 answers to p. 210 in the "Memorie" above cited. Bianconi's *Cymothæ* may be intended for a correction of *Cymothoa* Fabricius, or it may be an error caused by Milne-Edward's use of the French form along with the Latin. As I have elsewhere explained, Schiödte and Meinert in instituting the genus *Glossobius* allotted to it precisely the two species for which Dana had established *Ceratothoa*, of which *Glossobius* consequently became a synonym, the name *Meinertia* being then substituted as generic name for the species which the two authors had assigned to *Ceratothoa*. Between the latter in the true sense and *Meinertia* the distinction drawn is that *Ceratothoa* has the fingers unequal, those of the third pair largest of all, while in *Meinertia* the fingers are all equal or subequal.

As Bianconi's Latin description of this rare species is excellent and not easily accessible, it may be convenient here to translate it.

"A *Cymothæ* with the peræon anteriorly and the pleon carinate. Telsonic segment very broad, with curved sides, distal margin deeply excavate. Head of moderate size, subtriangular, obtuse in front, on either side very sloping. First antennæ bent back, their second joint large. Margin of seventh peræon segment without any tubercle. Head broad at the base, but narrowed towards the obtuse apex; at the sides it is so much depressed that the head also itself appears carinate in the middle. The first antennæ, short and thick, strongly flattened, are bent back laterally, at their third joint, over the head. First segment of the peræon of moderate size, strongly carinate in the middle, narrowing anteriorly, and there extending forward on each side, to reach the insertion of the second antennæ; these processes end in a fairly sharp point directed forward, from a swollen base. The second and third segments are in like manner carinate. Hind margin of fifth pleon segment sinuate; it shows two shallow concavities, which divide the margin itself into three sections. Sixth segment large, very broad; its marginal lines

at the sides rather convex. Its hind margin deeply excavate in the middle, not extending further back than the rami of the uropods.

"This species is very near in some characters to *Cym. gaudichaudii*, but in others to *Cy. trigonocephalam*.

"Length 38 mm. Greatest breadth 14 mm."

The specimen described by Schiödte and Meinert in the "virgo" stage differs apparently from the ovigerous female as described by Bianconi and as seen in our specimen by having the whole length carinate, the first pereon segment much the longest, and especially by having the uropods much longer than and extending much beyond the telsonic segment. In our specimen the uropods scarcely reach the distal margin of the telson, which is 12 mm. broad by 4 mm. long at the centre and nearly 6 mm. at the longest part of the lateral surfaces. It should be noticed that the carination besides being partial, is nowhere sharp.

Length of specimen to centre of telsonic segment 28.5 mm. Breadth at sixth pereon segment, where it is widest, 13.5 mm.

Locality. Seychelles, 34 fathoms.

Fam. Sphæromidæ.

1905. Sphæromidæ, Stebbing, Herdman's Pearl Fisheries, Suppl. Rep. 23, p. 29.

1905. Sphæromidæ, Hansen, Quarterly J. Microsc. Sci., vol. xlix., pt. 1, p. 69.

Gen. CYMODOCE, Leach.

1814. *Cymodoce*, Leach, Edinb. Encycl., vol. vii., p. 433.

1905. *Cymodoce*, Hansen, Quarterly J. Microsc. Sci., vol. xlix., pt. 1, p. 120.

19. *Cymodoce pubescens* (Milne-Edwards).

1840. *Spheroma pubescens*, Milne-Edwards, Hist. Nat. Crust., vol. iii., p. 209.

1881. *Cymodocea pubescens*, Haswell, Proc. Linn. Soc. N. S. Wales, vol. v., p. 473, pl. 17, figs. 1, 1x.

1905. *Cymodoce pubescens*, Hansen, Quarterly J. Microsc. Sci., vol. xlix., pt. 1, p. 122.

Mr Crossland's specimens warrant the specific name by being covered dorsally with a kind of velvet pile, consisting of pellucid, short, club-shaped setæ, much like those which I have described on the South African Dromiid crab *Dynomene platyarthodes*. The remarkable metamorphosis of the mouth-parts in the female of this genus, to which Hansen has called attention, is exhibited in the present species, and its pleopods also satisfy the requirements of the Cymodicini, one of Hansen's sections of his group Sphærominæ hemibranchiatæ. An easily observed character of the species is the strongly marked notch on the outer margin of the outer ramus of the uropods. In the specimen dissected the first antennæ have a flagellum of seventeen joints, the first being much the longest; the second antennæ have an eighteen-jointed flagellum. As in *C. pilosa*, figured by Hansen, the first joint of the mandibular palp is the longest, but in the maxillipeds the plate of the second joint differs a little, being obliquely truncate on the distal margin which is beset with a few spinules. The first gnathopods