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XXXVII.—On a collection of Crustacea made by Baron Hermann Maltzan at Goree Island, Senegambia

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is perhaps worth noticing. He represents four spots on the margin of the *left* elytron, and three on the margin of the right *; and I notice that this is just the reverse in the type specimen, which has four spots on the margin of the *right* elytron and three on the left; but if Prof. Westwood represented the spots when drawing on the stone as he saw them in the insect, they would be reversed when the plate was printed. The additional spot on the right side is extremely small, which accounts for Burmeister and Westwood having omitted to mention it in their descriptions.

XXXVII.—*On a Collection of Crustacea made by Baron Hermann Maltzan† at Goree Island, Senegambia.* By EDWARD J. MIERS, F.L.S., F.Z.S.

[Plates XIII., XIV., XV., & XVI.]

[Continued from p. 281.]

MACRURA.

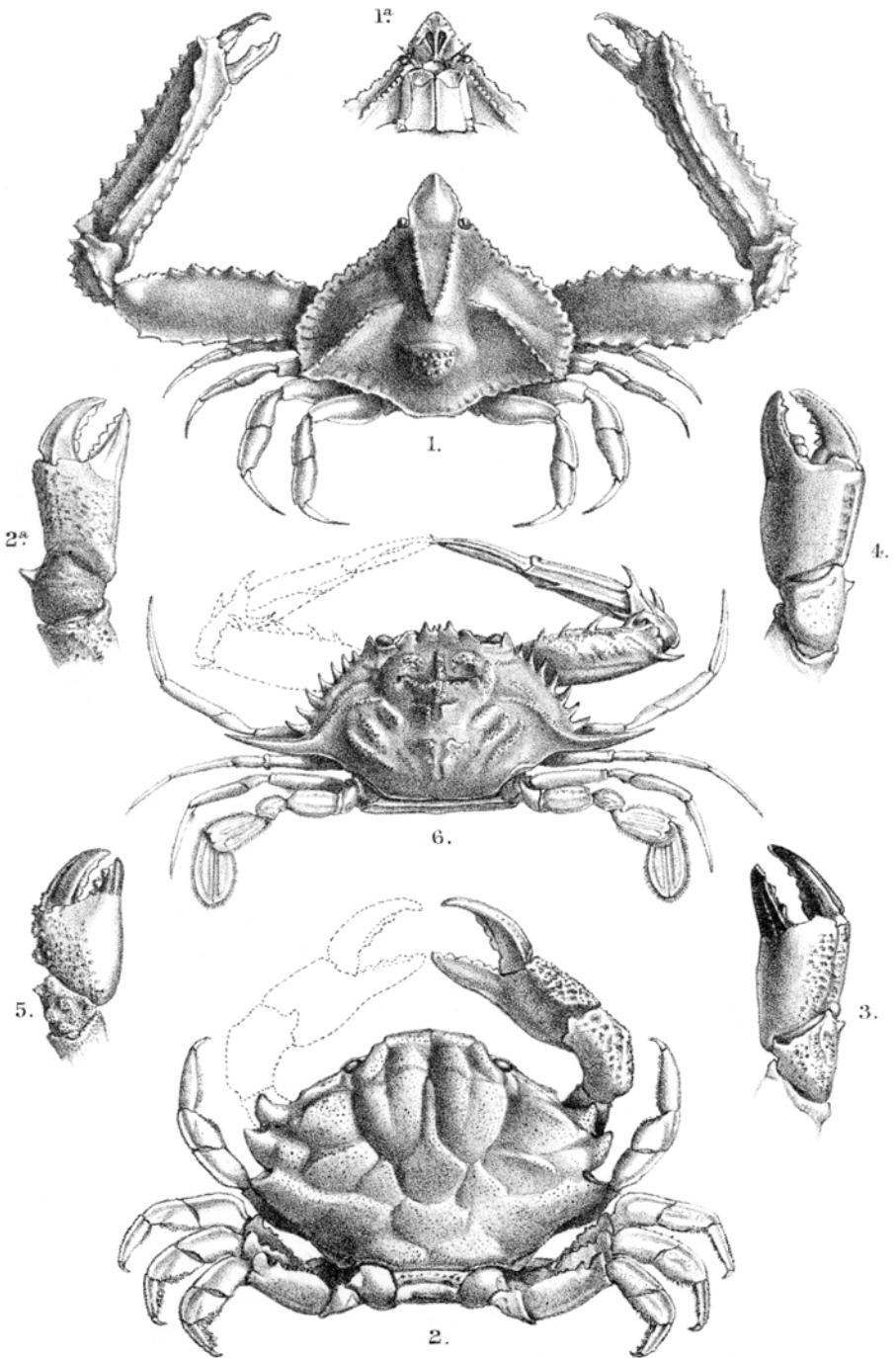
Scyllarus (Arctus) arctus, var. *paradoxus*, n.

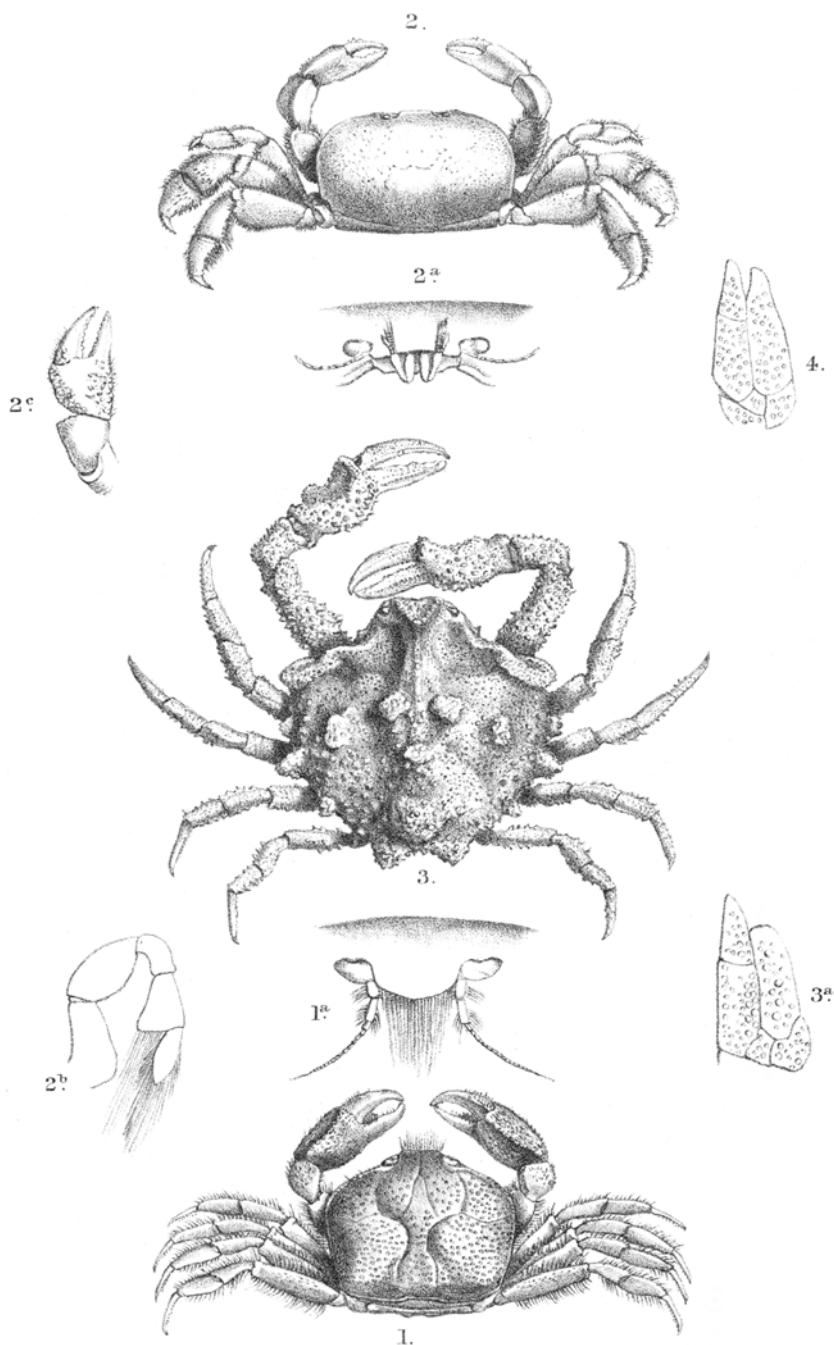
Two small examples are in the collection (length of the largest a little over 1 inch 1 line, 28 millim.), which differ from the typical form of the species in the somewhat broader carapace, the three cardiac prominences of which are more elevated, and in the form of the teeth of the median longitudinal dorsal carina in front of the cervical suture; the most anterior of these teeth is obsolete, the second very minute and situated just in front of, and beneath, the last tooth of the series, which is very prominent; whereas in the typical *S. arctus* these teeth are all well defined and nearly equidistant from one another. In both, the carapace is covered with depressed squamiform tubercles, and the postabdomen marked with impressed lines forming leaf-like patterns.

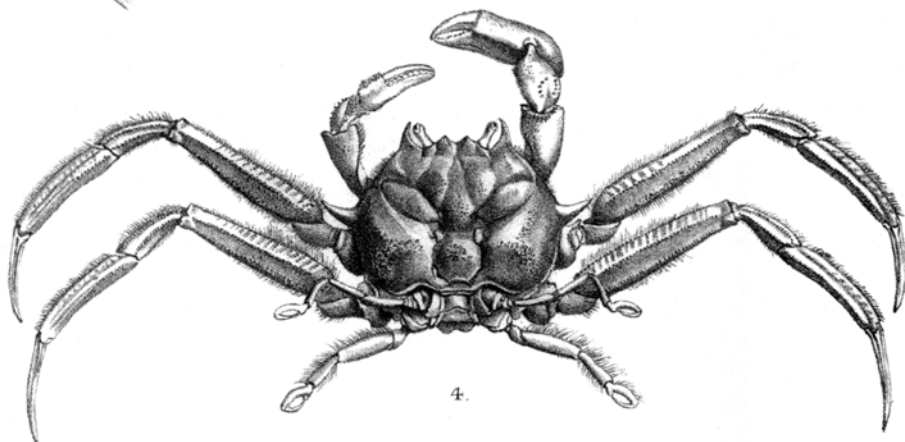
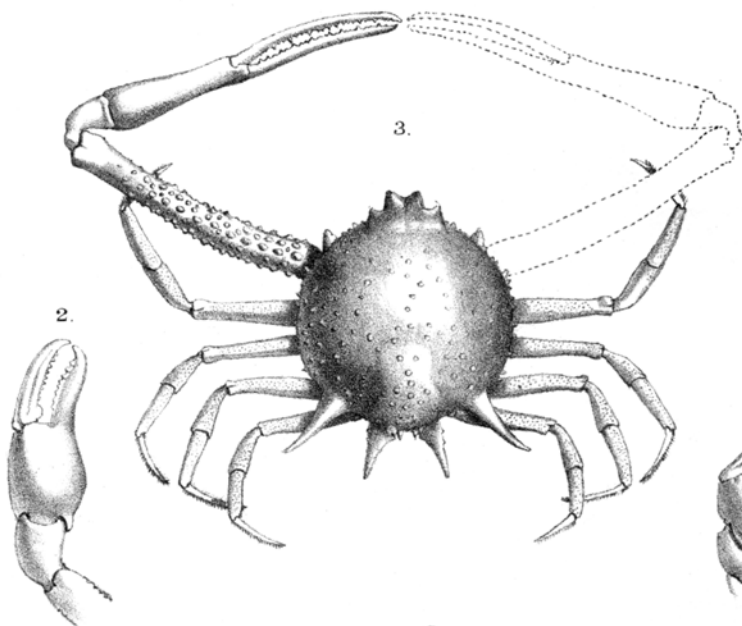
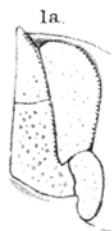
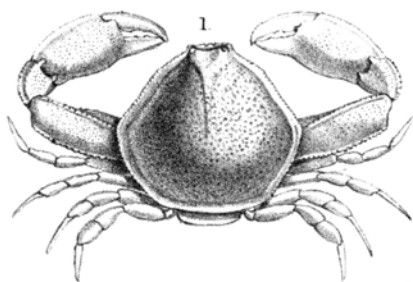
Whether these characters are of permanent value a larger series of better-grown specimens is needed to determine. There is, however, in the Museum collection a series of small specimens from Madeira (*the Rev. R. B. Watson*), the largest of

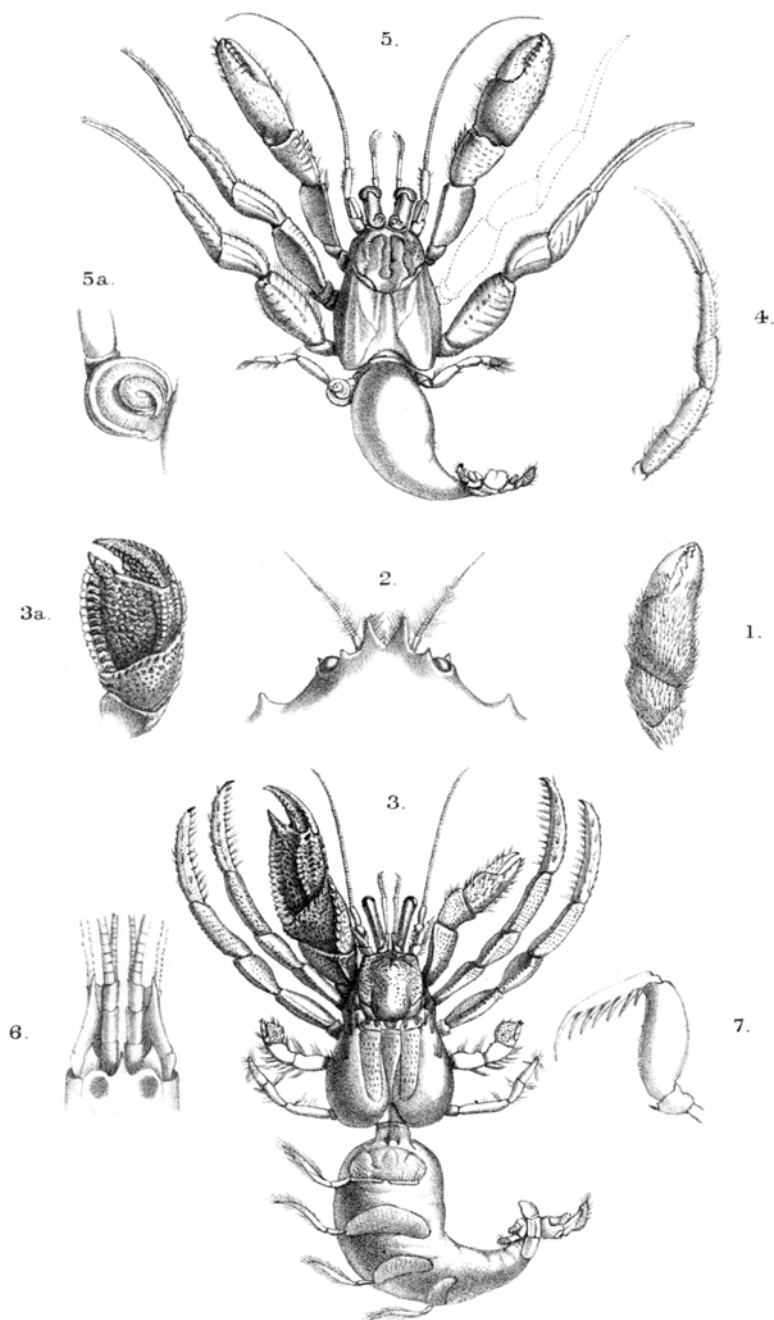
* In the Museum copy of the 'Arcana' the colourist has not placed the white on the spots where they are indicated by small circles.

† By an unfortunate oversight on my part, which I regret extremely, Baron Maltzan's name has been misspelled in the earlier parts of this paper. Instead of "Maltzam" read "Maltzan," and instead of "*Heterocrypta Maltzami*" read "*Heterocrypta Maltzani*."









which does not reach the size of the Gorean specimens, which present all the characters of the typical form of *S. arctus**.

In two small specimens from Mr. Watson's Madeiran collection, and in the one from the same locality referred to by me in my recent report on the Crustacea collected by Dr. Coppinger, of H.M.S. 'Alert,' under the name of *S. arctus* †, the carapace is much depressed and nearly smooth, but little broader than long, with scarcely any trace of squamiform tubercles and the median dorsal teeth very low; the lateral carinæ distinct, and reaching nearly to the posterior margin; the lateral lobes of the second to fifth postabdominal segments are angulated, but the angles not produced into spines; there is a strong spine on the sternum, at base of each of the fifth pair of legs. I have little doubt that these belong to the species recently described by Prof. S. I. Smith under the name of *S. depressus*, the types of which were dredged in 86 fathoms off the New-England coast ‡.

Possibly, as Prof. Smith remarks, both the depressed form of the carapace and the prominence of the sternal spines may be due to immaturity.

S. Gundlachi, von Martens, from Cuba §, appears to bear a considerable resemblance to *S. arctus*, var. *paradoxus*, if the figure may be trusted; but the spines of the carapace are differently arranged. Prof. S. I. Smith (*t. c.* p. 431), I may add, apparently regards this species as synonymous with his *S. americanus*, which has the median crest of the carapace "high, covered with low squamiform tubercles, tridentate, the anterior tooth small, and situated halfway between the front and second tooth," &c.

Crangon (Cheraphilus) cataphractus, Olivi.

There is in the collection a single small specimen (a female with ova), length rather over 11 lines (24 millim.), which I refer, with scarcely any doubt, to this species. The position of the spines of the carapace and the sculpture of the postabdominal segments are similar to those obtaining in the Mediterranean examples in the collection of the British Museum; but the spines are much smaller.

Alpheus paracrinatus, sp. n. (Pl. XVI. fig. 6.)

Rostrum triangulate, acute, arising from the frontal margin

* M. Brullé, in Webb and Berthelot's 'Iles Canaries,' Crust. p. 18 (1836-44), mentions the occurrence of *S. arctus* at the Canaries.

† Proc. Zool. Soc. 1881, p. 63.

‡ Proc. U.S. Nat. Museum, iii. p. 429 (1881).

§ Arch. f. Naturg. p. 123, pl. v. fig. 13 (1872).

of the carapace (which is slightly concave on each side of its base), but not prolonged backward as a dorsal carina. Orbital arches entire, arcuated, without spinules. Anterior margin of the carapace sinuated on the sides, without spines. Postabdominal segments smooth, entire, with the lateral margins broadly rounded; terminal segment not three times as long as broad at the base, with its distal end subtruncated. Eyes completely concealed beneath the carapace. Antennules with three joints of the peduncle exposed, of which the middle one is slightly the longest, with a small spine-like scale at base, reaching nearly to the end of the basal joint. Basal scale of antennæ about reaching to the end of the antennal peduncle, with the outer margin nearly straight and ending in a small spine, and the inner margin convergent towards it and clothed with long hairs. Anterior legs or chelipedes having the merus and carpus slender; merus with a small tooth or spine at the distal end of its under margin; palm of larger chelipede rather more than twice as long as broad, smooth, without notches or ridges, largest at its rounded basal end, with an impressed curved line on its upper and proximal end; fingers nearly half as long as the palm; the upper with its superior margin arcuated. Smaller chelipede with the carpus rather longer, and chela very slender, fingers hairy. Second legs with first joint of the carpus longer than the second, the last three joints of nearly equal length, the last a little the longest, the joint preceding these somewhat longer. Ambulatory legs somewhat hairy. Distal ends of the rami of the uropoda clothed with long hairs. Colour light yellowish (in spirit). Fingers of larger chelipede pinkish. Length 7 lines (nearly 15 millim.).

Two females with ova are in the collection.

Several species of this very difficult genus have been recorded from the Cape-Verd Islands; it may therefore be useful to note that *Alpheus paracrinitus* may be distinguished from *Alpheus pugilator* and *A. rugimanus*, A. M.-Edwards*, *Alpheus streptochirus*, Stimpson†, and *Alpheus Edwardsii* (Audouin)‡, by the absence of spinules from the orbital arches (not to mention other characters), and from *Alpheus Bouvieri*, A. M.-Edwards (t. c. p. 231), by the form and insculptation of the larger chela.

From the well-known Mediterranean *A. ruber* it may be distinguished by the form of the rostrum and of the larger chela.

* Bull. Soc. Philomath. de Paris, ser. 7, ii. pp. 229, 230 (1878).

† Proc. Ac. Nat. Sci. Philad. p. 30 (1860).

‡ Explic. des planches in Savigny's Cr. de l'Égypte, pl. x. fig. 1.

It is also evidently very nearly allied to *A. crinitus*, Dana*, from the far distant Balabac Straits; but the front between the eyes in *A. paracrinitus* can scarcely be described as carinated, and the first carpal joint of the second pair of legs is decidedly longer than the second joint.

Sicyonia sculpta, M.-Edwards.

Seven specimens, which apparently do not differ specifically from this species, are in the collection; the length of the largest is nearly 1 inch 3 lines (32 millim.).

If, as appears to be the case, Olivi's name of *carinata* is the earliest applicable to this species†, it will be necessary to apply a new designation to the *Sicyonia carinata* of M.-Edwards and Olivier, which might be named *S. Edwardsii*. For the present, however, I prefer to adopt the generally-received terminology.

Mr. C. Spence Bate‡, in his recent memoir on the Penæidea, has recorded the occurrence of this species at St. Vincent, in the Cape-Verd Islands ('*Challenger*' collection).

Penæus brasiliensis (Latr.).

Three females are in the collection; length of the largest about 4 inches 2 lines (106 millim.). They were obtained in the marshes at Rufisque.

I have already noted the occurrence of this species at Whydah, on the West-African coast§. On the American coasts its range extends from New York to Brazil (*vide* Kingsley, *Bullet. Essex Instit.* x. p. 69, 1878).

Penæus velutinus, Dana.

Thus must be provisionally designated several small specimens in the collection from Goree (length of the largest to base of rostrum, which is broken, about 1¼ inch, 32 millim.), and also specimens in the Museum collection which I formerly very doubtfully designated *P. affinis*, M.-Edwards, having only M.-Edwards's short diagnosis for a basis of identification. Mr. Spence Bate, however, has recently examined the type of *P. affinis*; and I am satisfied from his figure (*t. c.* p. 179, pl. xii. fig. 6) that *P. velutinus* is in reality distinct from M.-Edwards's species. Mr. Bate, however, agrees with me in

* U.S. Explor. Exp. xiii. Cr. i. p. 548, pl. xxxiv. fig. 8 (1852).

† *Vide* 'Zoologia Adriatica,' p. 51, pl. iii. fig. 2 (1792).

‡ *Ann. & Mag. Nat. Hist.* (ser. 5) viii. p. 172 (Sept. 1881).

§ *Proc. Zool. Soc.* 1878, p. 299.

regarding *P. affinis* (*barbatus*) of De Haan as identical with *P. velutinus*.

The range of this species having now been ascertained to extend to the West-African coast, it is more than ever probable that *P. pubescens*, Stimpson, from St. Thomas (West Indies), which is scarcely to be distinguished by the author's description, will have to be united with *P. velutinus*. Stimpson mentions, however, but a single pair of lateral caudal spines.

Mr. Spence Bate has described several species from New Guinea, the Philippines, and Japan, which (in the short diagnoses published) are separated from one another and from *P. velutinus* by characters largely drawn from the rostrum and postabdomen. I may add, therefore, the following particulars respecting the Gorean examples and others in the Museum collection:—Rostrum nearly straight, sharp, slightly ascending from the base, and armed with from seven to ten spines on its upper margin, besides the gastric spine (the number of spines fewest in the smallest specimens). Second to sixth segments of the postabdomen carinated, the carina terminating on the last segment in a small tooth or spine; terminal segment longitudinally sulcated above and terminating in a strong spine and with four pairs of lateral spines, of which the proximal pair are small and remote from the rest. These are wanting in some specimens, and may have been disarticulated and lost. A similar arrangement of the spines is evident in two specimens from the Gulf of Suez in the Museum collection; in a specimen from the Japanese seas the proximal pair of spines are wanting, and in one from the Australian seas the distal pair. In another specimen from Shark Bay, West Australia, the spines correspond in number and development with the Gorean specimens. In all of the above there is but little variation in the form of the rostrum and number of its teeth and of the postabdominal carina; and in all the body is more or less densely clothed with a short scabrous pubescence. In but few of the specimens I have seen are the external genital appendages fully developed.

STOMATOPODA.

Lysiosquilla (*Coronis*) *acanthocarpus*, var. *septemspinosa*.
(Pl. XVI. fig. 7.)

I thus designate a small female example in the collection that agrees with examples of *C. acanthocarpus*, from Port Essington, North Australia, and from Penang, in the form of

the carapace and postabdomen, the number of the spines on the terminal segment, the existence of a spine on the carpus of the large raptorial limbs, in the form of the spines of the basal prolongation of the uropoda, &c.

It scarcely differs, indeed, except in the somewhat less-elongated, slightly transverse rostral plate (which, as in the typical examples of *C. acanthocarpus*, has its anterior margin armed with a short spine, and its antero-lateral angles not prolonged into spines), its less prominent eyes, and in having the dactylus of the raptorial limbs armed with seven, not six, spines on their inner margins; the penultimate spine is also relatively not so short as in the two specimens of *C. acanthocarpus* above referred to; the small spinules on the latero-posterior margin of the terminal segment are somewhat more elongated. The example from Goree Island measures barely 1 inch 4 lines (34 millim.), whereas the smallest (the type) specimen of *C. acanthocarpus* measures about 2 inches 6 lines (64 millim.); and in the absence of a larger series for comparison I do not venture to regard the distinctions above mentioned as of specific value; yet, in consideration of the widely-separated localities, it appears desirable to apply a distinct designation to the West-African variety. As in the typical form, the lamellate appendage of the antepenultimate joint is less dilated in the last pair of thoracic limbs than in the preceding*.

Lysiosquilla armata, Smith†, from the coast of New England, is a very distinct species from the foregoing, differing (it would appear) in the form of the rostrum and terminal segment, as well as in having ten spines on the prehensile edge of the dactylus of the "raptorial limbs" (second maxillipedes).

ISOPODA.

Cirolana Swainsonii.

Nelocira Swainsonii, Leach, Dict. Sci. Nat. xii. p. 347 (1818); Desmarest, Consid. Crust. p. 302, pl. xlviii. fig. 2 (1825); M.-Edwards, Cr. in Cuvier, Règne Anim., Atlas, pl. lxxvii. fig. 4.

Eurydice Swainsonii, M.-Edwards, Hist. Nat. Crust. iii. p. 238 (1840); White, List Crust. Brit. Mus. p. 106 (1847).

? *Cirolana hirtipes*, Heller, Verh. zool.-bot. Gesellsch. Wien, xvi. p. 742 (1866); Stalio, Atti Istit. Veneto (ser. 5), iii. p. 1375 (1876-77).

There are in the collection six small specimens that I refer

* Vide Ann. & Mag. Nat. Hist. (ser. 5), v. p. 125 (1880).

† Proc. U.S. Nat. Mus. iii. p. 446 (1881).

to this species with little hesitation after comparison with Leach's types in the British Museum, which are from the Mediterranean, and are dried and in fairly good condition. The length of the largest of the West-African examples is not quite 4 lines (8 millim.), whereas that of the largest of the Mediterranean types is about 6 lines (over 12 millim.). It may be useful to subjoin a detailed description of this species, the original diagnoses being very short and insufficient.

Body oblong-oval, convex, and nearly smooth. Head transverse, closely encased in the first segment of the body, smooth above, its anterior margin with only a very small subacute median rostriform lobe that projects somewhat between the bases of the antennules. First thoracic segment more than twice as long as the following, with its antero-lateral angles little prominent; the following segments of the thorax are short, with their posterior margins straight and their postero-lateral angles nearly right angles. The postabdomen has not more than four or five of its segments visible in a dorsal view; of these the first four are very short, the second and third having their sides prolonged, acute, and visible in a lateral view; the penultimate has its posterior margin perfectly straight to within a short distance of the lateral angles; the terminal segment is nearly equilaterally triangulate, flat above, with the apex subacute and fringed with hairs. The eyes, which are placed close to the postero-lateral angles of the head and occupy about half of the lateral margins, are oblong in a lateral view and more or less distinctly faceted. The antennules reach about to the posterior margin of the head; the two visible joints of the peduncle are moderately enlarged and of nearly equal length; flagellum of eight or nine joints. Antennæ barely half as long as the animal, with the last two joints of the peduncle subequal and longer than the preceding; flagellum with numerous joints (twenty to forty). Epimera of second and third segments oblong and transverse; those of the four following segments with the postero-lateral angles slightly prolonged and acute, and with an oblique line on their outer surface. Legs moderately robust, the fourth to sixth joints margined with short stiff setæ; dactylus slightly curved. Uropoda little longer than the terminal segment, the rami arising from a broad and transverse base, margined with hairs, the outer the narrower, both somewhat ovate, outer with the apex subacute. Colour more or less of a yellowish brown, with darker punctulations.

Cirolana Swainsonii is regarded (but doubtfully) by Heller (*t. c.*) as synonymous with *C. hirtipes* of Milne-Edwards, a

species from the Cape of Good Hope. Stalio, while retaining Dr. Heller's designation of *C. hirtipes* for the Adriatic specimens, is yet of opinion that *Eurydice Swainsonii* may be their proper designation, and *C. hirtipes* be a distinct yet allied species. That *C. hirtipes* is distinct is, I think, certain, since in Milne-Edwards's figure the body is represented as longer and narrower, the terminal segment less acute, and the uropoda subequal and of a more acute and narrow lanceolate shape; moreover, in specimens referred, I think rightly, to *C. hirtipes* in the British-Museum collection, the interantennal process of the epistome is narrower and the median frontal lobe more distinct and prominent.

In all its characters *C. Swainsonii* much more nearly approaches *C. Cranchii* of Leach; and the two species may even be identical; but more specimens of *C. Cranchii* are needed for comparison, and for the present it may suffice to point out the affinity and possible identity of the two species. Neither the degree of granulation of the eyes nor the number of exposed postabdominal segments are characters of importance, since I have seen specimens of *C. Cranchii* having the eyes nearly smooth and but five postabdominal segments exposed; there are, however, slight differences in the form of the uropoda and terminal segment.

AMPHIPODA.

Ampelisca tenuicornis, Lilljeborg.

Here are referred with little hesitation two Amphipods in somewhat imperfect condition in the collection which agree in all essential characters with A. Boeck's diagnosis of the species*, who, moreover, quotes as synonymous with the Arctic form the *Araneops diadema* of Costa from the Gulf of Naples†. I have thought it well, however, to subjoin the following detailed description of the Gorean specimens:—

The body is compressed and dorsally arcuated, without spines or tubercles; the head projects somewhat beyond the anteriorly-projected coxa of the first thoracic segment, is nearly twice as long as its greatest vertical depth, and its antero-lateral margins are slightly sinuated. Segments of the postabdomen smooth; the first has its postero-lateral angles rather broadly rounded; in the third postabdominal segment this angle is nearly a right angle; the fourth seg-

* De Skandinaviske og Arktiske Amphipoder, ii. p. 519, pl. xxxi. fig. 1 (1876).

† Mem. R. Accad. Sci. Napoli, p. 178, pl. i. fig. 1 (1856).

ment is dorsally somewhat carinated; the terminal segment is narrow-ovate and divided through rather more than half its length by a narrow fissure. The eye-specks are very small, pale-coloured, and scarcely distinguishable. Antennules scarcely half as long as the antennæ; with two joints of the peduncle visible, the first being thicker and rather shorter than the second; flagellum with from eighteen to twenty joints; the antennæ have the first peduncular joint very short, the next two slender, elongated, and subequal; the flagellum is longer than the peduncle, but broken in the two specimens I have examined; the coxæ of the first four legs are narrow; and the posterior margins of the five succeeding joints in these legs are clothed with long hairs. In the first pair of legs, which are rather shorter than the next pair, the wrist and palm are a little longer than broad and somewhat dilated inferiorly, so that these joints are broadest in the middle of their length; dactylus scarcely more than half as long as the palm and closing against its inferior margin. Second legs with the wrist slender, more than three times as long as broad; palm slender and a little shorter than the wrist (which it resembles in shape), not dilated below; dactylus rather shorter than the palm. The third and fourth legs have the penultimate and antepenultimate joints somewhat dilated, the dilatation greatest in the fourth legs; dactylus very slender and longer than the two preceding joints taken together. In the three posterior pairs of legs the coxæ are very short and the basa or second joints very considerably dilated; in the fifth and sixth pairs these joints are dilated anteriorly as well as posteriorly; in the last pair the anterior margin is straight and the large posterior dilatation is broadly rounded; in the fifth and sixth legs the fifth joints are slightly produced at their posterior and distal angles; and the dactyli in all three are very short. The three posterior pairs of postabdominal appendages are biramose, the rami lanceolate; those of the last pair slightly sinuated. Colour pale yellowish in spirit. Length a little more than 5 lines (11 millim.).

CIRRIPEDIA.

Balanus spongicola, Brown.

To this species, as characterized by Mr. Darwin *, are referred numerous small specimens incrusting certain of the shells tenanted by hermit crabs in the collection; two or

* Monograph of the Cirripedia, Balanidæ, p. 225, pl. iv. fig. 1 (1854).

three specimens were also observed attached to the dorsal surface of the carapace of *Lambrus massena*, var. *atlanticus*, and *Ebalia tuberculata*. The valves of the operculum in these specimens are of a pinkish or purplish hue in spirit, and longitudinally ribbed or folded, the ribs often nearly as prominent as in *B. trigonus*; the adductor ridge of the scutum is generally very distinct, the tergum has a short and broadly truncated spur.

Intermingled with the above I have found in one or two instances young specimens apparently referable to *Balanus amphitrite*, which is mentioned by Mr. Darwin (*t. c.* p. 241) as occurring on the west coast of Africa and being, in fact, common in nearly all the warmer temperate and tropical seas; whereas *B. spongicola* has, according to Mr. Darwin, a more restricted range, occurring on the southern and western coasts of Britain, at Madeira, and in the West Indies.

Geographical Distribution of the Species.

In order to facilitate reference to the species enumerated in the foregoing paper, the following systematic list is given, with the geographical range of each, so far as known to me at present. Our knowledge of the distribution of the higher Crustacea is as yet very imperfect, although the attention of carcinologists has been of late years increasingly directed to its study. The following list, however, will suffice to show the marked affinities of the crustacean fauna of Goree (so far as it is represented in the collection now described) with that of the Mediterranean and Eastern American coasts, which I have already referred to above. Of 55 species or well-marked varieties contained in this list, 3 are not included in the Gorean collection, and may be dismissed from present consideration. Of the remaining 52, 17 have been recorded from the temperate European seas; and of these several are now indicated from one or more of the intervening island-groups, *i. e.* the Cape-Verd, Canary, and Madeiran Islands; the European affinity is further exhibited by several of the new species having near allies in Mediterranean forms. Only five species in the following list have been recorded from the West Indies or localities on the east coast of North America; but several others find near allies among their American congeners, *e. g.* *Heterocrypta Maltzani*, *Lophozozymus sexdentatus*, *Leptodius punctatus*, *Neptunus inæqualis*, *Ethusa mascarone*, Roux, *Spiropagurus elegans*, *Scyllarus arctus*, var. *paradoxus*, n., and *Penæus velutinus*, Dana.

Portunus corrugatus, Pennant, *Penæus velutinus*, Dana, and *Balanus amphitrite* have an Oriental range; and the typical

forms of *Thalamita integra*, *Pilumnoplax sulcatifrons*, and *Lysiosquilla acanthocarpus* (new varieties of which are in the Gorean collection) are also from Oriental localities. Other species there are, as (*e.g.*) *Goniosoma Milleri*, A. M.-Edw., *Spiropagurus elegans*, and *Alpheus paracrinitus*, which are very closely allied to Oriental congeners.

Several of the new species or varieties described from Goree are also known to occur at the Cape-Verd, Madeira, or Canary Islands; and no doubt all may be expected to have a more or less extended range †.

Systematic List of the Species.

(The species distinguished by an asterisk are those not represented in the collection from Goree.)

DECAPODA.

BRACHYURA.

Stenorhynchus rostratus (Linn.). European seas.

S. rostratus, var. *spinulosus*, n. Vigo Bay?, Ireland?

Herbstia (Micropisa) violacea, A. M.-Edw. Cape St. Vincent (Cape-Verd Isl.), Angola.

Pisa carinimana, Miers. Canaries.

Lambrus (Parthenopoides) massena, Roux. Mediterranean, Cape-Verds?

L. (P.) massena, var. *goreensis* ‡, n.

L. (P.) massena, var. *atlanticus*, n.

L. (P.) bicarinatus, sp. n. Canaries.

Heterocrypta Maltzani, sp. n.

Lophozozymus (Lophoxanthus) sexdentatus, sp. n.

Xanthodes melanodactylus, A. M.-Edw. Madeira, Cape St. Vincent (C.-Verd Isl.), Ascension Island.

Xantho pilipes, A. M.-Edw.? Senegal.

Leptodius punctatus, sp. n.

**L. Macandreeæ*, sp. n. Canaries.

Pilumnus verrucosipes, Stimpson. Cape of Good Hope, Simon's Bay.

Neptunus (Amphitrite) inæqualis, sp. n.

Thalamita integra, var. *africana*, n. Canaries.

† In connexion with the subject of geographical distribution, I may be allowed to call attention to the remarks of Prof. S. I. Smith on the geographical distribution of the Crustacea recently dredged by the United-States Fish Commission on the New-England coast (*vide* Ann. & Mag. Nat. Hist. ser. 5, 1881, vii. p. 146).

‡ This designation must be given to the variety above named *spinifer*, since Mr. Haswell has quite recently applied the latter name to an Australian species.

Goniosoma Millerii, A. M.-Edw. Cape St. Vincent (Cape-Verd Isl.).

Portunus corrugatus (Pennant). European temperate seas, Red Sea, Japan.

P. pusillus, Leach. European temperate seas, New Zealand?
Atelecyclus rotundatus, Olivi. Mediterranean, west coast of France.

Pilumnoplax sulcatifrons, Stm., var. *atlantica*, n. (The typical form was obtained at Hong Kong.)

Typhlocarcinus integrifrons, sp. n.

Thaumastoplax anomalipes, gen. and sp. nov.

Gelasimus tangieri, Eydoux. North and west coasts of Africa, coast of Portugal, West Indies.

Philyra cristata, sp. n.

P. lævidorsalis, sp. n.

Ilia spinosa, sp. n. Canaries.

Ebalia tuberculata, sp. n.

**E. fragifera*, sp. n. Madeira, Canaries.

E. affinis, sp. n.

Dorippe armata, White (ined.), Miers.

Ethusa mascarone, Roux. Mediterranean, Canaries.

ANOMURA.

Dromia fulvo-hispida, sp. n.

D. spinirostris, sp. n.

Diogenes varians (Costa). Coasts of Portugal, Mediterranean, Black Sea.

D. varians, var. *ovata*, n.

D. varians, var. *gracilimana*, n.

Pagurus striatus, Latr. Mediterranean, Madeira, coasts of Portugal.

**P. imperator*, sp. n. St. Helena.

P. granulimanus, sp. n.

Isocheles? gracilis, sp. n.

Spiropagurus elegans, sp. n.

Eupagurus excavatus (Herbst). Mediterranean.

MACRURA.

Scyllarus (Arctus) arctus, var. *paradoxus*, n.

Crangon (Cheraphilus) cataphractus (Olivi). Mediterranean.

Alpheus paracrinitus, sp. n.

Sicyonia sculpta, M.-Edw. Mediterranean, St. Vincent.

Penæus brasiliensis (Latr.). West Africa, Whydah, American coasts from New York to Brazil.

P. velutinus, Dana. Oriental region, from Japan to Gulf of

Suez; West Australia (Sharks Bay), West Indies,
St. Thomas? (as *P. pubescens*?).

STOMATOPODA.

Lysiosquilla (*Coronis*) *acanthocarpus*, var. *septemspinosa*, n.
(The typical form was from Port Essington, North
Australia.)

ISOPODA.

Cirolana Swainsonii (Leach). Mediterranean.

AMPHIPODA.

Ampelisca tenuicornis, Lilljeb. North-European and Medi-
terranean seas.

CIRRIPEDIA.

Balanus amphitrite, Darwin. Warmer temperate and tro-
pical seas of the globe.

B. spongicola, Brown. South and west coasts of Britain,
Madeira, West Indies.

EXPLANATION OF THE PLATES.

PLATE XIII.

Fig. 1. Heterocrypta Maltzani, sp. n., $\times 3$ diam.

Fig. 1 a. Inferior view of the front of the cephalothorax, showing the
position and structure of the antennæ and outer maxillipedes,
 $\times 3$ diam.

Fig. 2. Lophozozymus (*Lophoxanthus*) *sexdentatus*, sp. n., $\times 3$ diam.

Fig. 2 a. Outer view of chela of the same, $\times 3$ diam.

Fig. 3. Outer view of chela of *Leptodius punctatus*, sp. n., $\times 1\frac{1}{2}$ diam.

Fig. 4. Outer view of chela of *Leptodius Macandree*, sp. n., $\times 2$ diam.

Fig. 5. Similar view of a chela of *Pilumnus verrucosipes*, Stm., $\times 3$ diam.

Fig. 6. Neptunus (*Amphitrite*) *inequalis*, sp. n., $\times 1\frac{1}{2}$ diam.

PLATE XIV.

Fig. 1. Typhlocarcinus integrifrons, sp. n., \times about 3 diam.

Fig. 1 a. Frontal and orbital region of the same, further magnified.

Fig. 2. Thaumastoplax anomalipes, gen. and sp. n., $\times 2$ diam.

Fig. 2 a. Frontal and orbital region of the same, further magnified.

Fig. 2 b. Outer maxillipede of the same, considerably magnified.

Fig. 2 c. Outer view of chela of the same, $\times 2$ diam.

Fig. 3. Ebalia tuberculata, sp. n., $\times 3$ diam.

Fig. 3 a. Outer maxillipede of the same, showing the form of the exo-
gnath, further magnified.

Fig. 4. Outer maxillipede of *Ebalia affinis*, sp. n., considerably magnified.

PLATE XV.

- Fig. 1. Philyra cristata*, sp. n., $\times 4$ diam.
Fig. 1 a. Outer maxillipede of the same, considerably magnified.
Fig. 1 b. Postabdomen of a male, considerably magnified.
Fig. 2. Chela of *Philyra lævidorsalis*, sp. n., magnified.
Fig. 3. Ila spinosa, sp. n., $\times 2$ diam.
Fig. 4. Dorippe armata, White (ined.), nat. size.
Fig. 4 a. Outer view of larger chela of the same, nat. size. (The figures are taken from White's typical specimen in the Museum collection.)

PLATE XVI.

- Fig. 1.* Outer view of chela of *Dromia fulvo-hispida*, sp. n., \times about 4 diam.
Fig. 2. Dorsal view of frontal region of *Dromia spinirostris*, showing the form of the rostral spines, $\times 1\frac{1}{2}$ diam.
Fig. 3. Pagurus granulimanus, sp. n., nat. size.
Fig. 3 a. Outer view of larger (left) chela of the same, nat. size.
Fig. 4. Outer view of third (right) leg of *Isocheles? gracilis*, sp. n., $\times 1\frac{1}{2}$ diam., showing the form of the long and slender dactylus.
Fig. 5. Spiropagurus elegans, sp. n., $\times 1\frac{1}{2}$ diam.
Fig. 5 a. The spirally-coiled genital appendage of the left leg of the fifth pair, $\times 3$ diam.
Fig. 6. Rostrum and orbital region of *Alpheus paracrinitus*, sp. n., $\times 8$ diam.
Fig. 7. Large raptorial limb (second maxillipede) of *Lysiosquilla acanthocarpus*, var. *septemspinosa*, sp. n., $\times 2$ diam.

XXXVIII.—*Description of the Animal of Durgella Christianæ, a Species of Land-Shell from the Andaman Islands.* By Lieut.-Colonel H. H. GODWIN-AUSTEN, F.R.S., F.Z.S., &c.

My friend Mr. Geoffrey Nevill, a short time since, was good enough to send me some specimens of Andaman and Nicobar land-shells in spirit, and among them a specimen named *Helicarion Christianæ*, Theobald. This I took an early opportunity of examining; and it proved a most interesting species. The form of the shell-lobes at once recalled the genus *Durgella*, W. Blf., described in full in Journal Linn. Soc. vol. xv. 1881, p. 291; and after dissecting out the generative organs and odontophore, there was no doubt of its relationship to *D. levicula*, Bs., of Tenasserim, and *D. assamica* of the Brahmaputra valley, Assam, thus extending in an interesting way the range of this very well-marked genus. I give below a full description of the animal of this the largest species of it; and I only wish that I could give