

Rathbun, 1897

2 1798

VOL. I., No. 1.

SEPTEMBER, 1897.

PRICE 1/-

ANNALS
OF THE
INSTITUTE OF JAMAICA.

LIST OF THE
DECAPOD CRUSTACEA OF JAMAICA,

By MARY J. RATHBUN,

SECOND ASSISTANT CURATOR, DEPARTMENT OF MARINE INVERTEBRATES,
UNITED STATES NATIONAL MUSEUM, WASHINGTON, U.S.A.

KINGSTON, JAMAICA,
THE INSTITUTE OF JAMAICA.

Agents in London: H. SOTHERAN & Co., 140, STRAND, W.C., AND 28, PICCADILLY, W.

Agents in New York: G. P. PUTNAM'S SONS, 27 AND 29, WEST 23RD STREET.

THE INSTITUTE OF JAMAICA.

(FOUNDED, IN 1879, FOR THE ENCOURAGEMENT OF LITERATURE, SCIENCE AND ART.)

BOARD OF GOVERNORS:

HON. S. CONSTANTINE BURKE, M.L.C., late
Assistant Attorney-General, *Chairman*, 1897-98.

HON. C. B. MOSSE, C.B., C.M.G., Superintending
Medical Officer.

HON. WM. FAWCETT, B.Sc., F.L.S., Director of
Public Gardens and Plantations.

J. W. PLAXTON, M.R.C.S., Medical Superin-
tendent Lunatic Asylum.

REV. WM. SIMMS, M.A., Master of University
College.

H. VENDRYES, Advocate.

REV. WILLIAM GILLIES, Co-Principal of the
Mico Training College.

G. C. HENDERSON, M.D., Lond.

W. H. STRACHAN, L.R.C.P., F.L.S.

JAMES ALLWOOD, Assistant Colonial Secretary.

J. CARGILL, M.D.

Secretary and Librarian:

FRANK CUNDALL, F.S.A.

Curator of the Museum:

J. E. DUERDEN, A.R.C.Sc. (LOND.).

VOL. I., No. 1.

SEPTEMBER, 1897.

ANNALS
OF THE
INSTITUTE OF JAMAICA.

LIST OF THE
DECAPOD CRUSTACEA OF JAMAICA,

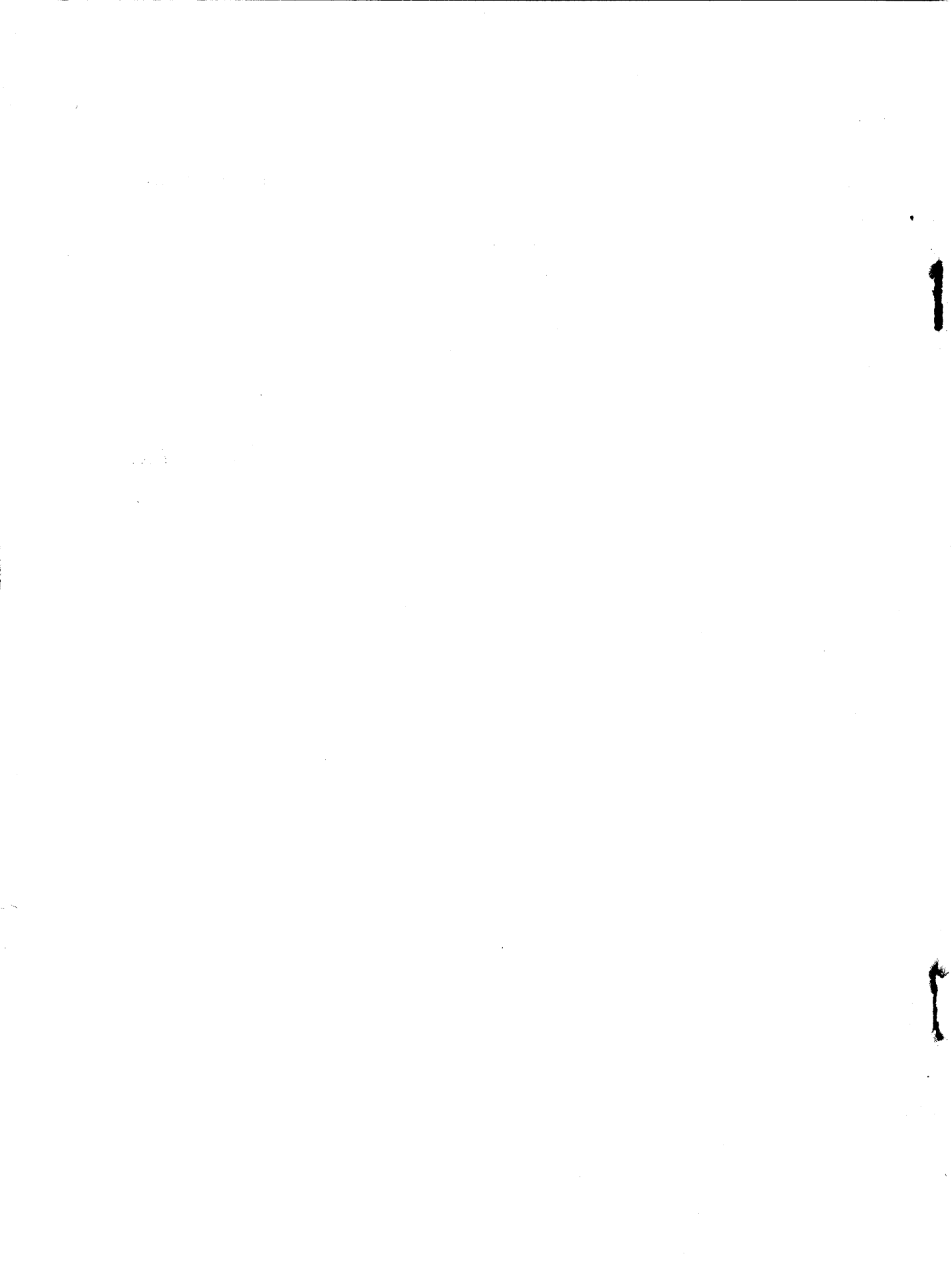
BY MARY J. RATHBUN,

SECOND ASSISTANT CURATOR, DEPARTMENT OF MARINE INVERTEBRATES,
UNITED STATES NATIONAL MUSEUM, WASHINGTON, U.S.A.

KINGSTON, JAMAICA,
THE INSTITUTE OF JAMAICA.

Agents in London: H. SOTHERAN & Co., 140, STRAND, W.C., AND 28, PICCADILLY, W.

Agents in New York: G. P. PUTNAM'S SONS, 27 AND 29, WEST 23RD STREET.



A N N A L S
OF THE
INSTITUTE OF JAMAICA.

VOL. I., No. 1.

1897.

LIST OF THE DECAPOD CRUSTACEA OF JAMAICA,

By MARY J. RATHBUN.

THE Crustacea contained in the collection of Mr. P. W. Jarvis of Kingston, and in the Museum of the Institute of Jamaica, form the basis of the following list, which is intended primarily as a catalogue of those collections. In order, however, to represent as fully as possible the Fauna of Jamaica, the list is augmented by additions chiefly from the following sources: Sir Hans Sloane's "Natural History of Jamaica," Vol. I., 1707, Vol. II., 1725; Dr. Patrick Browne's "Civil and Natural History of Jamaica," 1756; Mr. James E. Benedict's "Decapod Crustacea of Kingston Harbour," in Johns Hopkins University Circular VI., No. 97, April, 1892, comprising Crustacea collected by Dr. T. H. Morgan at Port Henderson and Port Antonio; Crustacea in the U.S. National Museum collected by Dr. R. P. Bigelow, Dr. E. A. Andrews, and Mr. F. S. Conant while at the Johns Hopkins University Laboratory at Kingston, and those brought by the U.S. Fish Commission Steamer *Albatross* from her West Indian cruise of 1884.

Mr. Jarvis's collection contains a number of species not before known to occur on the island of Jamaica, including three new species, which were first described in the Proceedings of the U.S. National Museum, Vol. XIX., No. 1104, pp. 141-144, 1896.

1. STENORYNCHUS SAGITTARIUS (Fabricius).

Cancer sagittarius, Fabricius, Ent. Sys. emend. et auct., II., 442, 1793 (part).

Leptopodia sagittaria, Leach, Zool. Misc., II., 16, pl. 67, 1815.

Jamaica; Robinson's MS. of the 18th century (according to a note furnished by Mr. T. D. A. Cockerell). Kingston Harbour; F. S. Conant.

Range.—Cape Hatteras, N.C., to Rio de Janeiro; Canaries; Cape Verde Islands; Madeira; West Coast of Africa.

In 1788 Herbst reproduced, under the name *Cancer seticornis*, the description and figure of a crab given by Slabber, and later, 1803, described as the same the West Indian crab which Fabricius called *sagittarius*. The inaccuracies of Slabber's figure and the locality, East Indian, are sufficient reasons for doubting the identity of the species and for not restoring the Herbstian name.

Leptopodia, Leach, 1814, is a synonym of *Macropodia*.

2. PODOCHELA RIISEI, Stimpson.

Podochela riisei, Stimpson, Ann. Lyc. Nat. Hist. N.Y., VII., 196, pl. II., f. 6, 1860.

Kingston Harbour, Jamaica; F. S. Conant, 1896.

Range.—Gulf of Mexico, Florida Keys, Bahamas, Caribbean Sea and Windward Islands; to a depth of 30 fathoms.

3. EUCINETOPS BLAKIANA, Rathbun.

Eucinetops blakiana, Rathbun, Proc. U. S. Nat. Mus., XIX., 141, 1896.

Closely allied to *E. lucasii*, Stimpson, from the Pacific coast. Carapace oblong, antero-lateral margins slightly converging anteriorly, nearly straight; postero-lateral margins more oblique than in *E. lucasii*. Surface uneven; median regions elevated, hepatic region depressed, separated from the branchial by a deep hollow and a marginal sinus. Antero-lateral margin tuberculate, a spine at the postero-lateral angle; a few additional tubercles on the upper

surface of the branchial region. Front depressed; rostrum shorter than in *E. lucasii*, formed by two rounded lobes, each tipped with a small sharp spine, and separated by a V-shaped sinus. Antero-lateral tooth longer than broad, acute, upturned, separated from the orbit by a narrow rounded sinus. Eye-stalks filling the orbit, tapering to near the cornea; tip slightly enlarged. Abdomen composed of seven segments in both sexes; in the male, constricted at the fifth segment, sixth segment with convex lateral outlines; seventh rounded, broader than long. Antero-external lobe of the first movable joint of the antennæ moderately developed, not reaching the end of the rostrum.

Chelipeds small, smooth, and shining; merus subtrigonal; carpus with a tubercle above near the merus; hands compressed, margins converging toward the fingers, which are finely dentate and in contact along their prehensile edges. Ambulatory legs subcylindrical; dactyli very slender and much curved. Both carapace and ambulatory legs are clothed with hair, and when collected were concealed by bryozoans, grains of sand, and other foreign substances.

Length of female, 6.4; width, 4.6 mm. Length of male, 4.5; width, 3.3 mm.

Type locality.—Port Royal, Jamaica; P.W. Jarvis (No. 19,405, U.S.N.M.).

Named in honor of Lady Blake, wife of the Governor of Jamaica, who has done much to promote scientific research on the island.

I do not find in *E. blakiana* those differences in the sexes which are described by Stimpson as occurring in the specimens referred to *E. lucasii*, and it is probable that he had two species before him.

4. CHORINUS HEROS (Herbst).

Cancer heros, Herbst, Natur. Krabben u. Krebse, II., 165, pl. XLII., f. I., 1796.

Chorinus heros (Leach MS.), Latreille, Encyc. Méth., X., 139, 1825.

Lime Cay; P. W. Jarvis.

Range.—Florida Keys to Bahia, Brazil. Not common. Not before recorded from Jamaica.

5. ACANTHONYX PETIVERII, Milne-Edwards.

Acanthonyx petiverii, Milne-Edwards, Hist. Nat. Crust., I., 343, 1834.

Port Royal Cays ; P. W. Jarvis.

Range.—From the Bahamas to Brazil, and from Cape St. Lucas to Chili. Not before recorded from Jamaica.

6. STENOCIONOPS FURCATA (Olivier).

Cancer furcatus, Olivier, Encyc. Méth., VI., 174, 1791.

Cancer cornudo, Herbst, Natur. Krabben u. Krebse, III., pt. 4, p. 6, pl. LIX., f. 6, 1804.

Pericera cornudo, Latreille, Cuvier's Règne Anim., ed. 2, IV., 59, 1829.

Jamaica ; J. E. Duerden. Kingston Harbour ; F. S. Conant.

Range.—Georgia to Bahia, Brazil.

Olivier's description of *Cancer furcatus* undoubtedly applies to this species. No locality is given. His species is made the type of *Pericera* by Latreille, Encyc. Méth., X., 699, 1825, where it is written '*fuscatus*' by error. The same species was, however, already the type of *Stenocionops*.

7. MACROCELOMA TRISPINOSUM (Latreille).

Pisa trispinosa, Latreille, Encyc. Méth., Hist. Nat., Insectes, X., 142, 1825.

Pericera trispinosa, Guérin, Icon. Règne Anim., pl. VIII., f. 3.

Macroceloma trispinosa, Miers, Jour. Linn. Soc. London, XIV., 665, 1879.

Port Royal ; P. W. Jarvis. Kingston Harbour ; F. S. Conant.

Range.—From North Carolina and the Bermudas to Bahia, Brazil.

8. MACROCELOMA DIACANTHUM (A. Milne-Edwards).

Pericera diacantha, A. Milne-Edwards, Crust. Règ. Mex., 57 (*diacantha*), pl. XV., f. 3 (*diacantha*), 1875.

Macroceloma diacantha, Miers, Jour. Linn. Soc. London, XIV., 665, 1879.

Kingston Harbour, Jamaica; Dr. R. P. Bigelow. Covered with sponge.

Type locality.—Majores, 12 fathoms.

9. MACROCELOMA SUBPARALLELUM (Stimpson).

Pericera subparallelum, Stimpson, Ann. Lyc. Nat. Hist. N.Y., VII., 182, 1860.

Macroceloma subparallela, Miers, Jour. Linn. Soc. London, XIV., 665, 1879.

Jamaica; P. W. Jarvis.

Range.—Florida?; Jamaica; Old Providence; St. Thomas; Guadeloupe. Not before recorded from Jamaica.

10. MICROPHRYS BICORNUTUS (Latreille).

Pisa bicornuta, Latreille, Encyc. Méth., Hist. Nat., Insectes, X., 141, 1825.

Microphrys bicornutus, A. Milne-Edwards, Nouv. Archiv. Mus. Hist. Nat. Paris, VIII., 247, 1872.

Collected by P. W. Jarvis at Lime Cay, Port Royal, and Kingston Harbour.

Range.—The Bermudas, Bahamas, and Florida to Brazil. Common.

11. PITHO ACULEATA (Gibbes).

Hyas aculeata, Gibbes, Proc. Amer. Assoc. Adv. Sci. III., 171, 1850.

Othonia aculeata, Stimpson, Ann. Lyc. Nat. Hist. N.Y., VII., 49, 1859.

Lime Cay; P. W. Jarvis.

Range.—Florida; the Bahamas; St. Thomas; off Santa Cruz. Not before recorded from Jamaica.

The name *Pitho* was applied to this genus in 1835; in the following year Bell changed the name to *Othonia*, which is not only a synonym, but was first used by Johnston for a genus of worms.

12. PITHO LHERMINIERI (Schramm).

Othonia lherminieri, Schramm, Crust. de la Guadeloupe, 20, 1867 ;
A. Milne-Edwards, Crust. Rég. Mex., 116, pl. XXIV., fig. 5, 1875 ;
not *O. lherminieri*, Rathbun, 1892.

Othonia carolinensis, Rathbun, Proc. U.S. Nat. Mus., XV., No. 901,
256, pl. XXXV., figs. 1 & 2, 1892.

Jamaica ; Dr. T. H. Morgan. Port Royal and Lime Cay ;
P. W. Jarvis. Many dead shells on beach.

Range.—Off Charleston, S.C., 1 to 12 fathoms ; Old Providence ; St. Thomas ; Guadeloupe ; Martinique ; off Cape St. Roque, Brazil, 20 fathoms.

P. carolinensis was based on imperfect specimens taken from fish stomachs. Since it was described, I have examined a series of the same species from Jamaica, also types of *P. lherminieri*, (Schramm) and *P. anisodon* (von Martens), and find that the two first named species are identical and distinct from the last which is the species I supposed to be the *lherminieri* of Schramm.

The females are considerably broader behind than the males. The carapace is ornamented with many tubercles of different sizes. The frontal teeth are as a rule slightly more advanced than the outer angles. The orbit is narrower than in *aculeata*. The second article of the basal antennal joint is much like that of *P. anisodon*, but is wider than in that species ; the outer lobe is well developed. In the fully developed male the margins of the hand are subparallel, the tooth near the base of the dactyl is large and is situated near the middle of the gape.

13. PITHO ANISODON (von Martens).

Othonia anisodon, von Martens, Arch. f. Natur., XXXVIII., 83, pl. IV.,
f. 3, 1872.

Othonia lherminieri, Rathbun, Proc. U.S. Nat. Mus., XV., No. 901,
255, pl. XXXIV., figs. 3 & 4, 1892.

Jamaica ; Str. *Albatross*.

Range.—From Florida to United States of Colombia and Guadeloupe.

14. PITHO QUADRIDENTATA (Miers).

Othonia quadridentata, Miers, Ann. Mag. Nat. Hist. (5) IV., 15, 1879.
Othonia lherminieri, Benedict, Johns Hopkins Univ. Cir., XI., No. 97,
77, April, 1892; Rathbun, Proc. U.S. Nat. Mus., XV., No. 901,
255, 1892 (part).

Port Royal; P. W. Jarvis. Kingston Harbour; T. H. Morgan
and F. S. Conant.

West Indies is given as the type locality.

This species I at first supposed to be a variety of *P. anisodon*, but have since discovered it to be *P. quadridentata* (Miers), and although closely allied to *anisodon*, yet probably distinct. The lateral spines are four in number. They are more conical, less flattened, and less appressed than in *anisodon*. All are of large size, the second and third the largest, the fourth as long as the first, but more slender. Between the first and second spines there is a tubercle corresponding to the small tooth or spine in *anisodon*. This tubercle is present in the type specimens also.

15. MITHRAX SPINOSISSIMUS (Lamarck).

Maia spinosissima, Lamarck, Hist. Nat. Anim. sans Vert., V., 241, 1818.
Mithrax spinosissimus, Milne-Edwards, Mag. Zool., II., Cl. VII., pls.
II. & III. 1832.

Port Royal; P. W. Jarvis. Jamaica; Dr. R. P. Bigelow.

Range.—Florida to Martinique.

16. MITHRAX VERRUCOSUS, Milne-Edwards, variety.

Mithrax verrucosus, Milne-Edwards, Mag. Zool., II., pl. IV., 1832;
Rathbun, Proc. U.S. Nat. Mus., XV., No. 901, 265, 1892 (typical).
Mithrax aculeatus, Rathbun, Proc. U.S. Nat. Mus., XV., No. 901, 264,
1892 (variety); not *M. aculeatus* (Herbst).

In the typical form of this species the carpus of the chelipeds is armed with three stout blunt spines on the inner margin, the outer surface is smooth, the manus is unarmed and the surface of the carapace is naked. There are two lots of this form in the

U.S. National Museum, those from Big Pine Key measuring in length, 48.3, 45 and 35 mm. respectively; one from Swan Island measuring 24.6 mm. A second form (which I had supposed to be Herbst's *Cancer aculeatus**) has the outer surface of the carpus as well as its inner margin armed with spines, the manus bears one or more spinules on its upper margin at its proximal end, and the surface of the carapace is densely pubescent. This form is much more common than the first. Two of the larger specimens have a length of 37.2 and 34.2 mm. respectively.

For the present, the second form may be considered a variety of the first. The maxillipeds of the typical *verrucosus* do not fill the anterior part of the buccal cavity as snugly as do those of the varietal form. The comparison of a larger series of specimens will determine whether these differences are specific or not. Of the varietal form there are two specimens only which lack a spinule on the manus. These are a single male collected by Dr. T. H. Morgan in Jamaica, and a single female from San Domingo. Both are soft-shelled.

Range.—Typical form: Big Pine Key, Florida, and Swan Island, Caribbean Sea. Tortugas, Guadeloupe, and Martinique (A. Milne-Edwards). Variety: Florida Keys, numerous. Kingston Harbour, Jamaica; T. H. Morgan. Lime Cay, Jamaica; P. W. Jarvis. San Domingo. Abaco, Bahamas. St. Thomas.

17. MITHRAX HISPIDUS (Herbst).

Cancer hispidus, Herbst, Natur. Krabben u. Krebse, I., 247, pl. XVIII., f. 100, 1790.

Mithrax hispidus, Milne-Edwards, Mag. Zool., II., Cl. VII., 1832.

Port Royal and Kingston Harbour; P. W. Jarvis.

Range.—North Carolina to Brazil.

**Cancer aculeatus*, Herbst, 1790, is identical with *Mithrax pilosus*, mihi, 1892. The latter name should be retained, as *Cancer aculeatus* was used in 1780 by O. Fabricius, for a different species.

18. MITHRAX CINCTIMANUS (Stimpson).

Mithraculus cinctimanus, Stimpson, Am. Jour. Sci. (2) XXIX., 132,
Jan., 1860; Ann. Lyc. Nat. Hist. N.Y., VII., 186, April, 1860.

Mithrax (Mithraculus) cinctimanus, Miers, Jour. Linn. Soc. London,
XIV., 667, 1879.

Kingston Harbour; P. W. Jarvis.

Range.—Florida and Gulf of Mexico to Guadeloupe and
Curaçao.

19. MITHRAX SCULPTUS (Lamarck).

Maia sculpta, Lamarck, Hist. Anim. Sans. Vert., V., 242, 1818.

Mithrax sculptus, Milne-Edwards, Mag. Zool., II., Cl. VII., pl. V., 1832.

Port Royal and Port Royal Cays; P. W. Jarvis. Kingston
Harbour; F. S. Conant.

Range.—Florida to Brazil, to a depth of 20 fathoms.

20. MITHRAX CORYPHE (Herbst).

Cancer coronatus, Herbst, Natur. Krabben u. Krebse, I., 184, pl. XI,
f. 63, 1785; not *Cancer coronatus*, Molina, 1782.

Cancer coryphe, Herbst, op. cit., III., Heft 2, 8, 1801.

Mithrax (Mithraculus) coronatus, Miers, Jour. Linn. Soc. London, XIV.,
667, 1879.

Port Royal; P. W. Jarvis.

Range.—Florida to Brazil, to a depth of 30 fathoms.

21. THOE PUELLA, Stimpson.

Thoe puella, Stimpson, Ann. Lyc. Nat. Hist. N.Y., VII., 178, 1860.

Jamaica; T. H. Morgan.

Range.—Florida Keys to Guadeloupe.

22. PLATYLAMBRUS SERRATUS (Milne-Edwards).

Lambrus serratus, Milne-Edwards, Hist. Nat. Crust. I., 357, 1834.

Platylambrus serratus. A. Milne-Edwards, Crust. Rég. Mex., 156, pl. XXX., f. 1, 1878.

Jamaica ; P. W. Jarvis.

Range.—North Carolina to Gulf of Mexico and Guadeloupe ; 5 to 27 fathoms.

23. HETEROCRYPTA GRANULATA (Gibbes).

Cryptopodia granulata, Gibbes, Proc. Amer. Assoc. Adv. Sci., III., 173, 1850.

Heterocrypta granulata, Stimpson, Ann. Lyc. Nat. Hist. N.Y., X., 102, 1871.

Port Royal ; P. W. Jarvis.

Range.—Vineyard Sound to St. Thomas, W.I.

24. CARPILIUS CORALLINUS (Herbst).

Cancer corallinus, Herbst, Natur. Krabben u. Krebse, I., 133, pl. V., f. 40, 1783.

Carpilius corallinus, Leach in Desmarest, Consid. sur les Crust., 104, 1825.

Jamaica ; J. E. Duerden.

Range.—West Indies. An article of food at some places.

25. LIOMERA LONGIMANUS, A. Milne-Edwards.

Liomera longimana, A. Milne-Edwards, Nouv. Arch. Mus. Hist. Nat., Paris, I., 221, pl. XII., f. 7, 1865 (figure incorrect ; hands represented of equal size) ; Crust. Rég. Mex., 240, pl. XLVI., f. 1., 1879.

Jamaica ; P. W. Jarvis.

Range.—Florida Keys ; Jamaica ; St. Thomas ; Guadeloupe ; Vera Cruz, Mexico. Not before taken at Jamaica.

26. LIOMERA DISPAR (Stimpson).

Chlorodius dispar, Stimpson, Bull. Mus. Comp. Zool., II., 140, 1871.

Leptodius dispar, A. Milne-Edwards, Crust. Rég. Mex., 271, 1880.

Jamaica; P. W. Jarvis. One female with eggs.

Type locality.—Reef at Cruz del Padre, Cuba. Not since recorded.

This species is very closely allied to *L. longimanus*, A. Milne-Edwards, but is easily distinguished by the narrower carapace, straighter front, and shorter left hand. In the one specimen examined the antero-lateral teeth are not evident.

Dimensions of female: Length 4.2, width 6 mm.

27. PLATYPODIA SPECTABILIS (Herbst).

Cancer spectabilis, Herbst, Natur. Krabben u. Krebse, II., 153, pl. XXXVII., f. 5, 1794.

Cancer lobata, Milne-Edwards, Hist. Nat. Crust., I., 375, 1834.

Lophactæa lobata, A. Milne-Edwards, Nouv. Arch. Mus. Hist. Nat. Paris, I., 249, pl. XVI., f. 3, 3a, 1865.

Kingston Harbour; Str. *Albatross*, Dr. R. P. Bigelow.

Range.—Gulf of Mexico; Florida Keys; West Indies.

28. ACTÆA SETIGERA (Milne-Edwards).

Xantho setiger, Milne-Edwards, Hist. Nat. Crust., I., 390, 1834.

Actæa setiger, Stimpson, Ann. Lyc. Nat. Hist. N.Y., VII., 51, 1859.

Kingston Harbour; Dr. R. P. Bigelow.

Range.—Bahamas; Florida Keys; West Indies.

29. ACTÆA ACANTHA (Milne-Edwards).

Cancer acanthus, Milne-Edwards, Hist. Nat. Crust., I., 379, 1834.

Actæa acantha, A. Milne-Edwards, Nouv. Arch. Mus. Hist. Nat. Paris, I., 278, pl. XVII., f. 1, 1865.

Actæa spinifera, Kingsley, Proc. Acad. Nat. Sci. Phil., XXXI., 1879,
392, 1880.

Kingston Harbour ; Dr. R. P. Bigelow.

Range.—Florida Keys ; Jamaica ; Guadeloupe.

30. *ACTÆA RUFOPUNCTATA NODOSA* (Stimpson).

Actæa nodosa, Stimpson, Ann. Lyc. Nat. Hist. N.Y., VII., 203, 1860.

Kingston Harbour ; F. S. Conant.

Range.—Florida Reefs ; Antilles ; Bahia, Brazil.

Miers considers *A. nodosa* only a variety of *A. rufopunctata*,
(Milne-Edwards) from the Indian Ocean.

31. *CYCLOXANTHOPS DENTICULATUS* (White).

Xantho denticulatus, White, Ann. Mag. Nat. Hist. (2) II., 285, 1848.

Kingston Harbour ; P. W. Jarvis.

Range.—Bermuda and Florida Keys to Brazil.

32. *MENIPPE NODIFRONS*, Stimpson.

Pseudocarcinus rumphii, Milne-Edwards, Hist. Nat. Crust., I., 408, 1834,
not *Cancer rumphii*, Fabricius, Ent. Sys., Suppl., 336, 1798.

Menippe rumphii, Dana, Crust. U.S. Expl. Exped., I., 179, 1852.

Menippe nodifrons, Stimpson, Ann. Lyc. Nat. Hist. N.Y., VII., 53, 1859.

Kingston Harbour ; P. W. Jarvis. Jamaica ; J. E. Duerden.

Range.—Gulf of Mexico to Brazil, where it is common.

33. *CHLORODIELLA LONGIMANUS* (Milne-Edwards).

Chlorodius longimanus, Milne-Edwards, Hist. Nat. Crust., I., 401,
1834.

Jamaica ; P. W. Jarvis.

Range.—Florida Reefs to Guadeloupe and Curaçao.

Chlorodiella, Rathbun, 1897 = *Chlorodius*, Milne-Edwards, 1834, not
Clorodius, Leach, 1823.

34. LEPTODIUS FLORIDANUS (Gibbes).

Chlorodius floridanus, Gibbes, Proc. Amer. Assoc. Adv. Sci., III.,
175, 1850.

Leptodius floridanus, A. Milne-Edwards, Crust. Rég. Mex., 268, pl.
XLIX., f. 2, 1880.

Port Royal Cays and Montego Bay ; P. W. Jarvis.
Numerous.

Range.—Florida reefs to Brazil.

35. XANTHODIUS PARVULUS (Fabricius).

Cancer parvulus, Fabricius, Ent. Sys. auct. et emend., II., 451, 1793
(types examined).

Chlorodius americanus, Saussure, Mém. Soc. Phys. Hist. Nat. Genève,
XIV., 430, pl. I., f. 5, 1858.

Leptodius americanus, A. Milne-Edwards, Crust. Rég. Mex., 269, 1880.

Montego Bay ; P. W. Jarvis. Numerous.

Range.—Florida Reefs to Guadeloupe and Curaçao.

36. OZIUS RETICULATUS (Desbonne and Schramm).

Lagostoma reticulata, Desbonne and Schramm, Crust. Guadeloupe, 34,
pl. IV., f. 6, 1867. (Spelled *recticulata* with the description.)

Ozius reticulatus, A. Milne-Edwards, Crust. Rég. Mex., 278, pl. LV.,
f. 3, 1880.

S.E. Cay ; P. W. Jarvis.

Range.—Jamaica to Martinique and Savanilla, U.S.C.

37. PILUMNUS SAYI, Rathbun, new name.

Cancer aculeatus, Say, Jour. Phil. Acad. Sci., I., 449, 1817 ; not *Cancer*
aculeatus, O. Fabricius, 1780, nor *C. aculeatus*, Herbst, 1790.

Pilumnus aculeatus, Guérin, Icon. Règne Anim. Cuvier, pl. III., f. 2.

Kingston Harbour ; P. W. Jarvis.

Range.—North Carolina to Guadeloupe and Curaçao.

38. PILUMNUS CARIBÆUS, Desbonne and Schramm.

Pilumnus caribæus, Desbonne and Schramm, Crust. Guadeloupe, 32, 1867.

Jamaica; P. W. Jarvis and Str. *Albatross*, Kingston Harbour; F. S. Conant.

Range.—Key West, Florida; Jamaica; St. Thomas; Guadeloupe.

39. PILUMNUS DASYPODUS, Kingsley.

Pilumnus dasypodus, Kingsley, Proc. Boston Soc. Nat. Hist., XX., 155, 1879.

Pilumnus vinaceus, A. Milne-Edwards, Crust. Rég. Mex., 283, pl. L. f. 2, 1880. Authentic specimens examined.

Kingston Harbour; P. W. Jarvis.

Range.—Gulf of Mexico to Rio de Janeiro.

40. ? PILUMNUS FLORIDANUS, Stimpson.

Pilumnus floridanus, Stimpson, Bull. Mus. Comp. Zool., II., 141, 1871.

Pilumnus lacteus, A. Milne-Edwards, Crust. Rég. Mex., 292, pl. LI., f. 5, 1880. Not *P. lacteus*, Stimpson, 1871. A. Milne-Edwards's types examined.

The single Jamaican specimen is too young to be identified with certainty.

Range.—Gulf of Mexico to St. Thomas.

41. PILUMNUS PANNOSUS, Rathbun.

Pilumnus gemmatus, A. Milne-Edwards, Crust. Rég. Mex., 290, pl. LI. f. 4, 1880; not *P. gemmatus*, Stimpson, 1860.

Pilumnus pannosus, Rathbun, Proc. U. S. Nat. Mus., XIX., 142, 1896.

This species resembles *P. gemmatus*, Stimpson, but can readily be distinguished. Carapace less quadrate than in *P. gemmatus*, entirely covered with a soft, thick pubescence which, however,

is not evenly distributed. Here and there, in addition, are longer, irregular, club-shaped setæ which give the crab a very ragged appearance. Frontal lobes subtriangular, granulate on the margin, more advanced near the median line; interspace V-shaped. The antero-lateral projections look like shallow lobes until the pubescence is removed, when they are seen to be triangular well-separated spines with slender tips pointing forward. In *P. gemmatus* the lateral spines or teeth are shorter stouter, and less divergent. Upper margin of the orbit with two tuberculiform spines near the inner angle, and two between those and the outer angle; lower margin with a row of short, stout blunt spines of unequal size, and a V-shaped notch next the outer angle.

The upper portion of the hands is tuberculate, but the greater part of the outer surface is smooth and naked. The smaller hand is almost entirely covered with tubercles and granules, but its lower distal portion is bare. In *P. gemmatus*, the outer surface of both hands is entirely tuberculate, the tubercles becoming smaller near the lower margin. In *P. pannosus* the pollex is smooth, and there are but a few tubercles on the dactylus near its articulation. In *P. gemmatus* the tubercles extend halfway down the upper surface of the dactylus, and there are a few on the outer surface of the pollex. Both fingers are very deeply grooved in *P. gemmatus*; in *P. pannosus* the grooves are very shallow, and in the larger cheliped consist of series of shallow punctæ. The outer lower margin of the merus in *P. gemmatus* is marked by a broad band of tubercles; in *P. pannosus* this margin is smooth for its proximal half. Ambulatory legs pubescent and bordered with fringes of club-shaped setæ mixed with long fine hairs. Both carapace and legs have the bead-like tubercles of *P. gemmatus*.

Length of male, 8.6; width, 12 mm.

Type locality.—Key West, Florida; Henry Hemphill (No. 13814, U.S.N.M.).

Range.—Gulf of Mexico and Florida Keys to Jamaica, where it was taken in Kingston Harbour by Mr. P. W. Jarvis. A much more abundant species than *P. gemmatus*.

42. PILUMNUS RETICULATUS, Stimpson.

Pilumnus reticulatus, Stimpson, Ann. Lyc. Nat. Hist. N.Y., VII., 214, 1860.

Jamaica ; P. W. Jarvis.

Range.—Jamaica ; St. Thomas ; Curaçao.

43. EURYPANOPEUS HERBSTII (Milne-Edwards).

Panopeus herbstii, Milne-Edwards, Hist. Nat. Crust., I., 403, 1834.

Kingston Harbour, Port Royal, and Montego Bay; P. W. Jarvis.

Range.—Rhode Island to Brazil.

44. EURYPANOPEUS OCCIDENTALIS (Saussure).

Panopeus occidentalis, Saussure, Rev. Mag. Zool., (2), IX., 502, 1857.

Kingston Harbour, Port Royal, and Montego Bay; P. W. Jarvis.

Range.—South Carolina to Trinidad.

45. ? EURYPANOPEUS RUGOSUS (A. Milne-Edwards).

Panopeus rugosus, A. Milne-Edwards, Crust. Rég. Mex., 314, pl. LVII., f. 4, 1880.

A small specimen of *Eurypanopeus*, 4.7 mm. long and 6.8 mm. wide, collected at Jamaica by Mr. P. W. Jarvis, I have referred provisionally to *E. rugosus*. It is an ovigerous female. The first and second antero-lateral teeth are small, triangular, the second much less advanced than the first. The same, however, is true of an undoubted *rugosus* from Greytown, 24 mm. wide, which differs only in this respect from large specimens, similar to that figured by Milne-Edwards.

Range.—Hayti ; Jamaica ; Honduras ; Nicaragua ; Bahia, Brazil.

46. EURYPANOPEUS AMERICANUS (Saussure).

Panopeus americanus, Saussure, Rev. et Mag. de Zool., (2), IX., p. 502, 1857; Mém. Soc. Phys. Genève, XIV., 432, pl. I., f. 8, 1857 (type examined).

Panopeus areolatus, Benedict and Rathbun, Proc. U.S. Nat. Mus., XIV., 361, pl. XXI., f. 3, 1891.

Kingston Harbour, Port Henderson, and Port Royal Cays ; P. W. Jarvis.

Range.—Bahamas to Brazil.

47. EURYPANOPEUS DISSIMILIS (Benedict and Rathbun).

Panopeus dissimilis, Benedict and Rathbun, Proc. U.S. Nat. Mus., XIV., 366, pl. XX., f. 4, pl. XXIII., f. 1, 1891.

Kingston Harbour ; P. W. Jarvis. Numerous.

Range.—At the time of description this species was known to occur only at Trinidad and Vigia, Brazil. It has since been found at Greytown, Nicaragua, as well as at Jamaica.

48. EURYPANOPEUS ABBREVIATUS (Stimpson).

Xantho parvulus, Milne-Edwards, Hist. Nat. Crust., I., 395, 1834 ; not *Cancer parvulus*, Fabricius, 1793.

Panopeus abbreviatus, Stimpson, Ann. Lyc. Nat. Hist. N.Y., VII., 211, 1860 (type examined).

Panopeus parvulus, Benedict and Rathbun, Proc. U.S. Nat. Mus., XIV., 369, pl. XXI., f. 1, pl. XXIII., f. 2 and 3, 1891.

Kingston Harbour, Port Henderson, and Montego Bay ; P. W. Jarvis.

Range.—Florida Keys to Brazil. Not before noticed from Jamaica.

49. EURYPANOPEUS HARTHII (Smith).

Panopeus hartii, Smith, Proc. Boston Soc. Nat. Hist., XII., 280, 1869. Jamaica ; J. E. Duerden.

Range.—Florida Keys to Brazil. Not before recorded from Jamaica.

50. EURYPANOPEUS BERMUDENSIS (Benedict and Rathbun).

Panopeus wurdemannii, Benedict and Rathbun, Proc. U.S. Nat. Mus., XIV., 372, pl. XXIV., figs. 6 and 7, 1891; not *P. wurdemannii*, Gibbes.

Panopeus bermudensis, Benedict and Rathbun, Proc. U.S. Nat. Mus., XIV., 376, pl. XX., f. 2, pl. XXIV., figs. 14 and 15, 1891.

Kingston Harbour, Port Royal, and Montego Bay; P. W. Jarvis. Numerous.

Range.—Bermuda and Florida Keys to Brazil. Not uncommon.

After the publication of 'The Genus *Panopeus*' in 1891, Prof. Lewis R. Gibbes of Charleston, S.C., kindly sent to Mr. Benedict and myself the types of his *Panopeus wurdemannii*. They proved to be identical with *P. harrisii* (Gould) of earlier date. The types of our *P. bermudensis* are much larger than any specimens that we assigned to *P. wurdemannii*, and an examination of additional material convinces me that they are one and the same species, which hereafter must be known as *E. bermudensis*.

51. EURYPANOPEUS CARIBBÆUS (Stimpson).

Micropanope caribbæa, Stimpson, Ann. Lyc. Nat. Hist. N. Y., X., 108, 1871.

This species agrees with Stimpson's brief description excepting as to the margin of the front. The type, however, was not a full-grown specimen. The species belongs to the genus *Eurypanopeus* as now limited. General outline of carapace much like that of *E. angustifrons*. There is a transverse ridge on either side of the gastric area, and one on the branchial region opposite the sinus between the last two lateral teeth. Front prominent, distinctly emarginate; lobes divided by a shallow sinus into two smaller lobes, the inner pair the more advanced. Outer orbital tooth narrower and more prominent than the second lateral tooth with which it is coalesced. Third and fourth teeth large, triangular, with an acute tip directed forward, the third the broader. Fifth and last tooth much reduced so that it has the appearance of belonging to the postero-lateral margin. Abdomen of male with the second segment narrow, exposing the

sternal segment ; third segment with sides rounded, not in contact with the coxæ of the fifth pair of feet.

Chelipeds very large and unequal. Carpus granulate, with uneven surface, a groove next the hand, and a rather long acute spine at the inner angle. Hands with a shallow superior groove ; outer surface smooth to the eye, but showing fine granules under the lens. The dark colour of the immovable finger extends well up on the hand. Fingers of larger cheliped very broad ; pollex very short, with three or four subequal teeth ; dactylus with a large basal tooth. Fingers of small cheliped strongly bent downward. Ambulatory legs long and very slender.

Length of largest specimen, a male, 8 mm. ; width, 11.5 mm.

Kingston Harbour ; Dr. R. P. Bigelow, P. W. Jarvis. Lives in the heavy mangrove mud, in company with *Eucratoplax spinidentata*, in from one to two fathoms of water, in sheltered positions.

Range.—Jamaica ; Savanilla, U.S.C. ; St. Thomas ; Trinidad.

52. EURYTIUM LIMOSUM (Say).

Cancer limosa, Say, Jour. Phil. Acad. Sci., I., 446, 1817.

Panopeus limosus, Milne-Edwards, Hist. Nat. Crust., I., 404, 1834.

Kingston Harbour, Old Harbour, and Montego Bay ; P. W. Jarvis.

Range.—New York ; South Carolina to Brazil.

53. ERIPHIA GONAGRA (Fabricius).

Cancer gonagra, Fabricius, Sp. Ins., 505, 1781.

Eriphia gonagra, Milne-Edwards, Hist. Nat. Crust., I., 426, pl. XVI., f. 16, 17, 1834.

Port Royal Cays and Montego Bay ; P. W. Jarvis.

Range.—Florida Keys to Brazil. Jamaica is the type locality of this species.

54. *DOMECIA HISPIDA*, Eydoux and Souleyet.

Domécie hérissée, Eydoux and Souleyet, Voy. Bonite, pl. II., figs. 5-10, 1841 (?).

Domecia hispida, Eydoux and Souleyet, Voy. Bonite, I., Crust., 235, 1842.

Pilumnus melanacanthus, Kingsley, Proc. Boston Soc. Nat. Hist., XX., 156, 1879 (type examined).

Eupilumnus websteri, Kingsley, Proc. Acad. Nat. Sci. Phil., XXXI., 1879, 397, pl. XIV., f. 3, 1880 (type examined).

Kingston Harbour, Jamaica : Str. *Albatross*. Jamaica : P. W. Jarvis.

Range.—Florida Reefs ; West Indies ; Cape Verde Islands ; Senegal ; Islands of the Pacific.

55. *LUPELLA FORCEPS* (Fabricius).

Cancer forceps, Fabricius, Ent. Sys. auct. et emend., II., 449, 1793.

Lupa forceps, Leach, Zool. Misc., I., 123, pl. LIV., 1814.

Kingston Harbour ; P. W. Jarvis.

Range.—West Indies. Uncommon.

This is the "Cancer 4" or "larger long-shanked crab" of Browne's 'History of Jamaica,' 421, pl. XLI., f. 2, 1756.

Lupella, Rathbun, 1897, was made for *Lupa forceps*, Leach, as *Cancer pelagicus*, Linnæus, is the type of *Lupa*, Leach.

56. *PORTUNUS SAYI* (Gibbes).

Lupa sayi, Gibbes, Proc. Amer. Assoc. Adv. Sci., III., 178, 1850.

Neptunus sayi, A. Milne-Edwards, Arch. Mus. Hist. Nat. Paris, X., 317, pl. XXIX., f. 2, 1861.

Kingston Harbour, Jamaica ; F. S. Conant.

Range.—Atlantic Coast of America.

Neptunus is a synonym of *Portunus* as restricted by Latreille.

57. ARENÆUS CRIBRARIUS, Dana.

Arenæus cribrarius, Dana, Crust. U.S. Expl. Exped., I., 290, pl. XVIII., f. 2, 1852.

Kingston Harbour; P. W. Jarvis.

Range.—New Jersey to Rio de Janeiro.

58. CALLINECTES SAPIDUS, Rathbun.

Lupa hastata, Say, Jour. Acad. Nat. Sci. Phil., I., 65, 443, 1817.

Callinectes hastatus, Ordway, Boston Jour. Nat. Hist., VII., 568, 1863.

Callinectes sapidus, Rathbun, Proc. U.S. Nat. Mus., XVIII., 352, pl. XII., 1896.

Kingston Harbour, Jamaica; Str. *Albatross*. Kingston Harbour and mouth of the Rio Cobre; Dr. R. P. Bigelow.

Range.—Cape Cod to Brazil.

59. CALLINECTES ORNATUS, Ordway.

Callinectes ornatus, Ordway, Boston Jour. Nat. Hist., VII., 571, 1863.

Kingston Harbour, "common in shallow water"; J. E. Duerden.

Range.—South Carolina to Brazil.

60. CALLINECTES DANÆ, Smith.

Lupa dicantha, Dana, Crust. U. S. Expl. Exped., I., 272, pl. XVI., f. 7, 1852

Callinectes danæ, Smith, Trans. Conn. Acad. Sci., II., 7, 1869.

Kingston Harbour and Port Royal; P. W. Jarvis.

Range.—Cuba to Brazil.

61. CALLINECTES MARGINATUS (A. Milne-Edwards).

Neptunus marginatus, A. Milne Edwards, Arch. Mus. Hist. Nat. Paris, X., 318, pl. XXX., fig. 2, 1861 (types examined, 3 immature females).

Callinectes larvatus, Ordway, Boston Jour. Nat. Hist., VII., 573, 1863.

Callinectes africanus, A. Milne-Edwards, Crust. Rég. Mex., 229, 1879 (variety of *C. dicanthus*) (type examined).

Port Royal ; P. W. Jarvis. Kingston Harbour ; J. E. Duerden.
 "Common in shallow water."

Range.—Florida Keys to Brazil ; Cape Verde Islands ; West coast of Africa.

62. ACHELOUS SPINIMANUS (Latreille).

Portunus spinimanus, Latreille, Nouv. Dict. Hist. Nat., XXVIII., 47, 1819.

Portunus (Achelous) spinimanus, de Haan, Fauna Jap., 8, 1833.
 Jamaica ; J. E. Duerden.

Range.—Cape Hatteras to Rio de Janeiro.

63. GECARCINUS RURICOLA (Linnæus).

Cancer ruricola, Linnæus, Sys. Nat., ed. 10, I., 626, 1758.

Gecarcinus ruricola, Leach, Edin. Encyc., VII., 430, 1814.

The purple or black land crab. Common in Jamaica.

Range.—Bahamas ; Florida Keys ; West Indies.

64. GECARCINUS LATERALIS (Fremenville).

Ocypoda lateralis, Fremenville, Ann. Sci. Nat. (2), III., 224, 1835.

Gecarcinus lateralis, Guérin, Icon. Règne Anim., pl. V., f. 1.

Kingston Harbour, Jamaica ; Str. *Albatross*.

Range.—Bahamas ; Florida Keys ; West Indies ; Savanilla, U.S.C.

65. CARDISOMA GUANHUMI, Latreille.

Cardisoma guanhumi, Latreille, Encyc. Méth., Hist. Nat., Insectes, X., 685, 1825.

Cardisoma quadrata, Saussure, Mém. Soc. Phys. Hist. Nat. Genève, XIV., 438, pl. II., f. 13, 1858.

The forms known as *guanhumi* and *quadrata* intergrade to such an extent that it is impossible to consider them specifically distinct.

Range.—Florida Keys to Brazil ; Cape Verde Islands.

66. UCIDES CORDATUS (Linnæus).

Uca una, Marcgrave de Liebstad, Hist. Rer. Natur. Brasil., Book 4, 184, figure, 1648, male.

Cancer cordatus, Linnæus, Amœn. Acad., VI., 414, 1763, male.

Cancer Vca, Linnæus, Sys. Nat., ed. 12, I., pt. 2, 1041, 1767.

Uca una, Guérin, Icon. Règne Anim. Cuvier, pl. V., f. 3, female.
Milne-Edwards, Hist. Nat. Crust., II., 22, 1837, female.
Gerstæcker, Arch. f. Natur., XXII., pt. 1, 143, 1856.

Uca lævis [*lavis*], Milne-Edwards, *loc. cit.*, male.

Uca lævis, Dana, Crust. U. S. Expl. Exped., I, 375, 1852, not *U. lævis*,
Milne-Edwards, Arch. Mus. Hist. Nat. Paris, VII., 185, pl.
XVI., f. 1, 1854.

Uca cordata, White, List Crust. Brit. Mus., 31, 1847; Smith, Trans.
Conn. Acad. Sci., II., 13, 36, 1869.

Kingston Harbour; Str. *Albatross* Jamaica; J. E. Duerden.
Montego Bay; P. W. Jarvis.

Range.—Jamaica; Surinam; Brazil. As Dana's type is a true *cordatus*, it was undoubtedly collected at Rio de Janeiro.

There is but one species of *Ucides* inhabiting the West Indies and the Atlantic coast of South America. Owing to the different appearance of the sexes, it has been described under different names. This crab was first represented in 1648 by Marcgrave who figured the male under the name *Uca una*. In 1763 Linnæus described the male as a new species, *Cancer cordatus*; his *C. Vca*, 1767, was perhaps taken from Marcgrave. Milne-Edwards described, in 1837, two species from the eastern coast; the first, *Uca una*, to which he refers Marcgrave's *Uca una* and the two Linnæan species; and the second, *Uca lævis* (by error, *lavis*). Gerstæcker in 1856 showed that Milne-Edwards's *Uca una* and original *Uca lævis* are female and male of the same species. The species later (1854) described and figured by Milne-Edwards as *U. lævis* is a different species, from the west coast of South America. The male of *U. cordata* was fully described in 1869 by Prof. Smith who had not seen Gerstæcker's paper and who supposed that there were two east coast species.

The female is much narrower than the male, the lateral margins are marked by distinct granulated ridges, the lower surface of the carapace is granulated, the chelipeds short and subequal, the ambulatory legs sparsely hairy. The relative lengths of the second and third pairs of feet are undoubtedly variable, as in the specimens before me the second is the longer, while Gerstæcker says that the third is somewhat longer.

Ucides, Rathbun, 1897, is substituted for *Uca*, Latreille, 1819, not *Uca*, Leach, 1814.

67. EUCRATOPLAX SPINIDENTATA, Benedict.

Eucratoplax spinidentata, Benedict, Johns Hopkins Univ. Cir., XI., No. 97, p. 77, April, 1892.

Jamaica; Dr. T. H. Morgan and P. W. Jarvis.

Lives in heavy mangrove mud in from one to two fathoms in sheltered positions.

Range.—Jamaica; Trinidad.

68. EUCRATOPSIS CRASSIMANUS (Dana).

Eucrate crassimanus, Dana, Proc. Acad. Nat. Sci. Phil., V., 1851, 248, 1852; Crust. U.S. Expl. Exped., I., 311, pl. XIX., f. 2, 1852.

Eucratopsis crassimanus, Smith, Trans. Conn. Acad. Sci. II., 35, 1869.

Eucratoplax guttata, A. Milne-Edwards, Bull. Mus. Comp. Zool., VIII., 17, 1880.

Jamaica; P. W. Jarvis.

Range.—South Florida; Jamaica; Port of Silam, Yucatan; Rio de Janeiro, Brazil.

Not before taken at Jamaica.

69. OCYPODE ARENARIA, Say.

Cancer quadratus, Fabricius, Mant. Ins., I., 315, 1787; Ent. Sys., auct. et emend., II., 439, 1793 (type examined). Not *C. quadratus*, Fabricius, Ent. Sys., Suppl., 341, 1798, which is a *Sesarma*, nor *Cancer quadrata*, Menschen, 1781.

Ocypode quadrata, Fabricius, Ent. Sys., Suppl., 347, 1798. Smith. Trans. Conn. Acad. Sci. IV., 254, 1880, and synonymy.

Ocypode arenarius, Say, Jour. Phil. Acad. Sci., I., 69, 1817.

Jamaica ; J. E. Duerden.

Range.—Long Island to Brazil.

70. UCA VOCATOR (Herbst).

Cancer vocator, Herbst, Natur. Krabben u. Krebse, III., pt. IV., p. 1, pl. LIX., f. 1, 1804.

Gelasimus pugnax, Smith, Trans. Conn. Acad. Sci., II., 131, pl. II, f. 1, pl. IV., f. 2—2d, 1870.

Kingston ; Old Harbour ; St. James, Montego Bay. Jarvis collection. Common.

Range.—Cape Cod to Brazil.

This species is a most variable one. West Indian specimens usually have the superior orbital border more oblique and more plainly visible from above than in typical *pugnax*, and the upper margin of this border straighter and more transverse. In this form the front is of variable width, the chelipeds may be those of typical *pugnax*, or they may differ in the relative lengths of the joints and in the tuberculation, approaching *U. rapax* and *U. mordax* (Smith).

71. UCA MINAX (Le Conte).

Gelasimus minax, Le Conte, Proc. Acad. Nat. Sci. Phil., VII., 403, 1855.

Kingston Harbour, Jamaica ; Str. *Albatross* and Dr. R. P. Bigelow. Small specimens.

Range.—Cape Cod to Jamaica.

72. UCA HETEROCHELA (Lamarck).

Ocypoda heterochelos, Lamarck, Sys. Anim. sans Vert., 150, 1801.

Uca una, Leach, Edin, Encyc., VII., 430, 1814.

Gelasimus heterocheles, Kingsley, Proc. Acad. Nat. Sci. Phil., 1880, 137, pl. IX., f. 2 (part).

Range.—Bahamas ; Jamaica (Kingsley) ; Mexico (Kingsley) ; Cayenne ; Brazil.

I think that the name *heterochela* can properly be applied to the crab figured by Seba, Thesaurus, pl. XVIII., f. 8, 1758, and reproduced by Herbst, pl. I., f. 11, 1782, and also that this figure was meant for a representation of the Bahaman species before me. The chelipeds are fairly represented, but in order to interpret the carapace we need Seba's assertion that it is "*breve, oblongo-latum*" and also the statement of Herbst that the small white spots are color marks and not due to granulation.

This species is the type of *Uca*, Leach.

73. GONIOPSIS CRUENTATUS (Latreille).

Grapsus cruentatus, Latreille, Hist. Nat. Crust., VI., 70, 1803.

Grapsus (Goniopsis) cruentatus, de Haan, Fauna Japon., 33, 1835.

St. James, Montego Bay ; P. W. Jarvis.

Range.—Bermuda ; Florida to Brazil ; West Africa.

74. GRAPSUS GRAPSUS (Linnæus).

Cancer grapsus, Linnæus, Sys. Nat., ed. X., I., 630, 1758.

Cancer (Grapsus) grapsus, Latreille, Règne Anim., III., 16, 1817.

Grapsus grapsus, Ives, Proc. Phil. Acad. Sci., 1891, 190.

Jamaica ; P. W. Jarvis.

Range.—A common species widely distributed throughout tropical countries.

75. GEOGRAPSUS LIVIDUS (Milne-Edwards).

Grapsus lividus, Milne-Edwards, Hist. Nat. Crust., II., 85, 1837.

Geograpsus lividus, Stimpson, Ann. Lyc. Nat. Hist., N. Y., VII., 230, 1860.

Kingston Harbour ; St. James, Montego Bay ; P. W. Jarvis.

Range.—Florida Keys to Savanilla, U. S. C. ; Lower California ; Peru ; Chili.

76. PACHYGRAPSUS TRANSVERSUS, Gibbes.

Pachygrapsus transversus, Gibbes, Proc. Amer. Assoc. Adv. Sci., III., 181, 1850.

Port Royal and Port Henderson ; P. W. Jarvis.

Range.—Florida to Brazil ; Bermudas ; Cape Verde Islands ; Madeira ; California ; West coast of Central America ; Galapagos Islands ; Peru ; Australia ; New Zealand ; Tahiti.

77. PACHYGRAPSUS GRACILIS (Saussure).

Metopograpsus gracilis, Saussure, Mém. Soc. Phys. Hist. Nat. Genève, XIV., 443, pl. II., f. 15, 1858.

Pachygrapsus gracilis, Stimpson, Ann. Lyc. Nat. Hist. N. Y., X., 113, 1871.

Port Royal ; P. W. Jarvis.

Range.—Florida ; West Indies ; Yucatan.

78. PLANES MINUTUS (Linnæus).

Cancer minutus, Linnæus, Sys. Nat., ed. 10, I., 625, 1758.

Planes clypeatus, Bowdich, Excursions in Madeira and Porto Santo, 15, pl. XII., fig. 2^a, 2^b, 1825.

Planes minutus, White, List Crust. Brit. Mus., 42, 1847.

Figured by Browne, Nat. Hist. of Jamaica, pl. XLII., f. 1. Kingston Harbour ; F. S. Conant.

Range.—Found in all seas.

79. GLYPTOGRAPSUS JAMAICENSIS (Benedict).

Areograpsus jamaicensis, Benedict, Johns Hopkins Univ. Cir., XI., No. 97, p. 77, April, 1892.

Known only from a single specimen, a male, collected by Dr. T. H. Morgan at Kingston Harbour.

Genus SESARMA.

So far as known, there are four species of *Sesarma* on the island of Jamaica. All are without pectinated ridges on the

upper margin of the palm. Two—*ricordi* and *roberti*—have the sides of the carapace entire, and belong therefore to the sub-genus *Sesarma* of de Man; the other two—*curaçaoensis* and *bidentata*—have a tooth behind the orbital angle, and belong to de Man's sub-genus *Episesarma*.

Ricordi and *Roberti* can readily be distinguished from each other by the nearly smooth carapace and hands of the former, and the rough carapace and coarsely granulated hands of the latter. *S. curaçaoensis* can be separated from *S. bidentata* by its much greater width and smooth front.

This last group, however, should be called *Sesarma* as it contains the type species of the genus, *S. reticulata*, Say; while the sub-genus *Sesarma* de Man may be known as *Holometopus*, the name long since given by Milne-Edwards to its type species, *hæmatocheir*.

80. SESARMA (HOLOMETOPUS) RICORDI, Milne-Edwards.

Sesarma ricordi, Milne-Edwards, Ann. Sci. Nat. (3) XX., 183 [149] 1853 (type examined).

Sesarma guerini, Milne-Edwards, loc. cit. (type examined).

Sesarma miniata, Saussure, Mém. Soc. Phys. Hist. Nat. Genève, XIV., 442, 1858 (type examined).

Sesarma angustipes, Smith, Trans. Conn. Acad., II., 159, 1870; de Man, Notes Leyden Mus., XIV., 253, pl. X., f. 5, 1892. Not *S. angustipes*, Dana.

Sesarma stimpsonii, Miers, Proc. Zool. Soc. London, 1881, 70 (type examined); not *S. stimpsonii*, Miers, Challenger Rept., Zool., XVII., 270, 1886.

Old Harbour and Port Royal; P. W. Jarvis.

Range.—Florida Keys to Savanilla and Trinidad.

This species has been confused with *S. angustipes*, Dana, a species with wider front and distinctly granulated hands.

In *S. ricordi*, the carapace is broader than long, but narrower than in *S. cinerea* and is broader posteriorly than anteriorly. The granules of the anterior and antero-lateral regions are few and small and not visible to the naked eye. Sometimes the

carapace has a pubescence arising from the punctæ, as described by Saussure, but often this is entirely wanting. Front narrower across its upper portion than in *S. cinerea*, about $3\frac{1}{2}$ times as wide across the lobes as it is high. The sides of the front are more concave than in *S. cinerea*, and the difference between the superior and inferior widths is greater than in that species. The appendage of the first abdominal segment is transversely arcuate and fringed with hair.

The carpi of the chelipeds are rugose. The hands are smooth to the eye, but with a lens numerous fine granules are to be seen. The ambulatory legs are longer and more slender than in *S. cinerea*, the meri of the third pair being three or more times as long as broad in adults. In small specimens the meri are relatively shorter, less than three times their width.

81. *SESARMA* (HOLOMETOPUS) *ROBERTI*, Milne-Edwards.

Sesarma roberti, Milne-Edwards, Ann. Sci. Nat. (3) XX., 182 [148], 1853.

Sesarma bromeliarum, Rathbun, Proc. U. S. Nat. Mus., XIX., No. 1104, 143, 1896.

Sesarma americana, Pocock, Ann. Mag. Nat. Hist. (6) III., 7, 1889. Not *S. americana*, Saussure.

After the description of *Sesarma bromeliarum* had gone to press, I had the opportunity of examining the types of a number of species of *Sesarma* in European Museums. *S. roberti*, Milne-Edwards, from Gorée, described in a very few words, I find to be identical with *S. bromeliarum*, thus adding another to the list of species common to both sides of the Atlantic.

My description of *S. roberti* is here reproduced.

Length and posterior width of carapace nearly equal, in large specimens exceeding the anterior width; in medium-sized specimens, about the same as the anterior width.

Regions strongly marked. Surface punctate, the punctæ irregular and having a tendency to coalesce, making the surface rough and uneven. Anteriorly the surface is very rough with squamose tubercles. Branchial striæ well marked. Front about four times as wide as its greatest height. Superior lobes very prominent and separated by deep grooves. Lower margin

strongly produced in old specimens ; median sinus viewed from above, broad, deep, and rounded ; on either side a very shallow sinus. Viewed from in front also, the margin appears sinuous. The third segment of the abdomen of the male has oblique margins, the abdomen being widest at the distal end of that segment. The sixth segment is proportionally longer than in *S. cinerea* and *S. ricordi*, and the last segment more oblong. The appendages are two-lobed at the extremity, the inner lobe less advanced than the outer.

Outer surface of merus and carpus of chelipeds coarsely rugose ; the manus is densely tuberculate on the outer side and has large scattered tubercles on the inner side. Fingers tuberculate to near the extremity. Meri of ambulatory legs less than three times as long as broad, their transverse rugæ much more prominent than in *S. cinerea*. The propodi are fringed above and below with stout black bristles. This character is less marked in small specimens.

Dimensions :—

Locality.	Sex.	Length, from margin of superior frontal lobes.	Anterior width.	Posterior width.	Superior frontal width.	Inferior frontal width.	Depth of front.	Length of merus of third ambulatory leg.	Width of same.
Rio Cobre	Male	26.1	24.5	26.2	13.7	13.4	3.3	19.8	7
"	Female	24.8	23.2	25	13.8	13.6	3.2	18.7	6.6
Hayti	Male	15	15	15.2	8.1	8.3	2.2	11.3	4.6

Rio Cobre, St. Catherine, Jamaica ; P. W. Jarvis. Interior of Jamaica ; E. A. Andrews.

Range.—Hayti (U. S. Nat. Mus.) ; Jamaica ; Dominica (Brit. Mus.) ; Martinique (Paris Mus.) ; Gorée, Senegambia (type locality).

Of this crab, Dr. E. A. Andrews, Johns Hopkins Univ. Cir., XI., No. 97, p. 75, April, 1892, says :

"A peculiar sesarma-like crab is found in the fresh water rills running into the Wag Water River, at least 12 miles from the sea, and was also taken near the Moneague, on trees, where it lives amid the moist bases of the leaves of bromelias."

82. *SESARMA* (*SESARMA*) *BIDENTATA*, Benedict.

Sesarma bidentata, Benedict, Johns Hopkins Univ. Cir., XI., No. 97, p. 77, April, 1892.

St. Elizabeth, Accompong, and Mountain Spring, St. Andrew ; P. W. Jarvis. Mandeville ; Henderson and Simpson.

Range.—Known only from Jamaica.

83. *SESARMA* (*SESARMA*) *CURACAOENSIS*, de Man.

Sesarma curacaoensis, de Man. Notes Leyden Mus., XIV., 257, pl. X., f. 6, 1892.

The West Indian representative of *S. reticulata*, Say. Carapace wider than in *S. reticulata*, superior frontal lobes very faintly marked, lateral teeth more prominent and separated by a deeper notch than in *S. reticulata*. Surface finely punctate, with scattered bunches of fine pubescence. The eyes attain the extremity of the outer angle of the orbit, while in *S. reticulata* they fall short of that point. In immature specimens of *S. reticulata* the lateral tooth is very slightly indicated, while in even the smallest examples of *S. curacaoensis* the tooth is very distinct. Propodus of cheliped in the male shorter and deeper than in *S. reticulata*. Dactylus much more arched than in that species.

Dimensions :—

Locality.	Sex.	Length, from margin of superior frontal lobes.	Anterior width.	Posterior width.	Superior frontal width.	Depth of front.	Length of propodus of cheliped.	Greatest depth of same.
Curaçao	Male	12.2	15.1	14.9	8.9	1.6	12	7.8
„	Female	10	12.6	12.4	7.7	1.3		

Range.—Several specimens of this species were taken at Curaçao, the type locality, by the *Albatross* in 1884. A large soft-shelled female 17.5 mm. wide was collected in Jamaica by

Dr. T.H. Morgan. Several specimens were taken at Old Harbour and Montego Bay, Jamaica, by Mr. P. W. Jarvis.

METOPAULIAS,* Rathbun.

Metopaulias, Rathbun, Proc. U.S. Nat. Mus., XIX., 144, 1896.

A grapsoid crab belonging to that section of the family Grapsidæ in which the maxillipeds are crossed by an oblique ridge. Carapace flat, sides arcuate, dentate. Front less than half the width of the carapace, abruptly deflexed, concave, margins acutely lobate. Antennæ not excluded from the orbit. Merus of external maxillipeds very broad and rounded anteriorly, with an oblique piliferous ridge. Ambulatory legs long and slender. Allied to *Sesarma*.

84. METOPAULIAS DEPRESSUS, Rathbun.

Metopaulias depressus, Rathbun, Proc. U. S. Nat. Mus, XIX., 144, 1896.

Carapace subquadrate, entirely flat except close to the margins, sides arcuate anteriorly with one tooth behind the orbital angle. Surface punctate, slightly roughened anteriorly. Mesogastric and cardiac regions marked by deep sulci. Branchial and hepatic regions separated only by shallow pits. Front deeply concave both longitudinally and transversely, longer inwardly than outwardly; superior margin with four lobes having a sharp granulated edge and one or more granulated ridges across their upper surface. Lobes separated by U-shaped sinuses, the median sinus twice as wide and more than twice as deep as the lateral. Margin of lobes very oblique, the inner pair most advanced inwardly, the outer pair most advanced outwardly or next the orbit. Lower margin of front with two prominent subtruncate lobes separated by a shallow sinus. Outer orbital tooth rather slender, acute. Tooth of lateral margin small obtuse. Outer maxillipeds widely gaping; merus shorter than the ischium, nearly as broad as long, extremity broadly rounded, scarcely emarginate for the insertion of the palpus.

Chelipeds in the female rather short and rough; merus and carpus with transverse granulated rugæ; outer margin of the

* From μέτωπον, front, and αὐλὸς, groove.

lower surface of the merus spinulose ; inner border laminate and irregularly dentate. Hands tuberculate outside and in, the tubercles having a tendency to form rugose lines. Fingers punctate, the dactylus tuberculate on its upper surface for its proximal half. Fingers in female not gaping. Ambulatory legs with upper margin of meral and carpal joints minutely spinulose ; both margins of propodi and dactyli with larger spinules.

Length, from inner lobes of front, 18.5 ; greatest width, 19.8 ; anterior width, 17 mm.

Type locality.—Newport, Manchester, Jamaica, female (No. 19407, U. S. Nat. Mus.). Young specimens were taken at Accompong.

85. ARATUS PISONII, Milne-Edwards.

Sesarma pisonii, Milne-Edwards, Hist. Nat. Crust., II., 76, pl. XIX., f. 4, 5, 1837.

Aratus pisoni, Milne-Edwards, Ann. Sci. Nat. (3) XX., 187, 1853.

Port Royal ; P. W. Jarvis.

Range.—Florida to Brazil ; West coast of Nicaragua ; Ecuador.

86. CYCLOGRAPSPUS INTEGER, Milne-Edwards.

Cyclograpsus integer, Milne-Edwards, Hist. Nat. Crust., II., 79, 1837.

Port Henderson and Montego Bay ; P. W. Jarvis.

Range.—Florida ; Bahamas ; Jamaica ; Savanilla, U.S.C. ; Brazil.

87. PLAGUSIA DEPRESSA (Fabricius).

Cancer depressus, Fabricius, Sys. Ent., 406, 1775.

Plagusia depressus, Say, Jour. Phil. Acad. Sci., I., 100, 1817.

Lime Cay ; P. W. Jarvis.

Range.—Widely distributed throughout the Atlantic region from Charleston, S. C., to Brazil, and from the Mediterranean Sea to St. Helena. Fabricius recorded it from Jamaica in 1787.

88. LEIOLOPHUS PLANISSIMUS (Herbst).

Cancer planissimus, Herbst, Natur. Krabben u. Krebse, III., pt. 4. p. 3, pl. LIX., f. 3, 1804.

Leiolophus planissimus, Miers, Cat. Crust. New Zealand, 46, 1876.

S. E. Cay ; P. W. Jarvis.

Range.—Florida ; Bahamas ; West Indies ; Madeira ; Azores ; Mauritius ; Islands of the Pacific ; Japan ; Cape St. Lucas ; Chili.

89. PINNOTHERES MACULATUS, Say.

Pinnotheres maculatum, Say, Jour. Phil. Acad. Sci, I., 450, 1817.

Kingston Harbour ; P. W. Jarvis. In *Pinna* ; J. E. Duerden.

Range.—Cape Cod to the West Indies.

90. CALAPPA FLAMMEA (Herbst).

Cancer flammea, Herbst, Natur. Krabben u. Krebse, II., 161, pl. XL., f. 2, 1794 ; III., pt. 3, p. 19, 1803.

Calappa flammea, Bosc., Hist. Nat. Crust., I., 185, 1802. Miers, Challenger Rept., XVII., 284, pl. XXIII., f. 1, 1886.

Calappa marmorata, Latreille, Hist. Nat. Crust., V., 392, 1803 ; not *C. marmorata*, Fabricius.

Port Royal ; P. W. Jarvis. "Fairly common in shallow water in Kingston Harbour" ; J. E. Duerden.

Range.—North Carolina to Savanilla and Venezuela ; Bermudas ; Cape of Good Hope ; probably Indian Ocean.

Herbst originally described this from the East Indies, but later, 1803, states that it is found also in America, and is figured by Parra, pl. XLVII., f. 2.

91. CALAPPA GALLUS (Herbst).

Cancer gallus, Herbst, Natur. Krabben u. Krebse, III., pt. 3, pp. 18 and 46, pl. LVIII., f. 1, 1803.

Cancer (Calappa) gallus, Latreille, Règne Anim., III., 24, 1817.

Calappa galloides, Stimpson, Ann. Lyc. Nat. Hist. N. Y., VII., 71, 1859.

Port Royal; P. W. Jarvis.

Range.—Islands of the Pacific and Indian Oceans; Red Sea; Florida Keys; Jamaica; Curaçao. Jamaica is a new locality for the species.

I can see no difference between East and West Indian specimens.

92. HEPATUS PRINCEPS (Herbst).

Cancer princeps, Herbst, Natur. Krabben u. Krebse, II., 154, pl. XXXVIII., f. 2, 1794.

Calappa angustata, Fabricius, Entom. Syst., Suppl., 347, 1798.

Hepatus fasciatus, Latreille, Hist. Nat. Crust., V., 388, 1803.

"A fairly common species in Jamaica"; J. E. Duerden.

Range.—Georgia to Brazil. East Indies (Herbst).

Hepatus princeps is not the same species as *H. epheliticus* (Linnæus), = (*Cancer decorus*, Herbst). The following are the most striking differences: The carapace in *H. princeps* is broader anteriorly, the sub-orbital area is broader, the anterior margin of the subhepatic channel is much less arcuate, the abdomen of the male is longer and narrower, especially the penultimate segment. The carapace of *H. princeps* is marked with transverse lines of small dark spots, that of *H. epheliticus* with large patches of colour margined by darker lines.

93. SPELÆOPHORUS NODOSUS (Bell).

Oreophorus nodosus, Bell, Trans. Linn. Soc. London, XXI., 307, 1855.

Spelæophorus nodosus, A. Milne-Edwards, Ann. Soc. Entom., France, (4), V., 149, 1865.

Spelæophorus nodosus Stimpson, Ann. Lyc. Nat. Hist. N. Y., X., 119, 1871.

Port Royal; P. W. Jarvis.

Range.—So far as known, this species is peculiar to Jamaica.

The specimens examined agree with Stimpson's modification.

of Bell's description. The carapace of the male is much more uneven than that of the female; the postero-inferior marginal lobe is more distinctly bilobate. In one specimen, a male, the smallest of the three examined, the postero-superior lobe is not closely joined to the rest of the carapace, but leaves a small irregular hole on either side, leading into the large excavations below. Abdomen composed of five segments; in the male, the third, fourth, and fifth normal segments are coalesced; in the female, the fourth, fifth, and sixth. At the proximal end of the penultimate segment in the male there is a sharp median spine directed downward and backward.

94. UHLIAS LIMBATUS, Stimpson.

Uhlia limbatus, Stimpson, Ann. Lyc. Nat. Hist. N.Y., X., 118, 1871.

This species was described by Stimpson from a female at St. Thomas. It has not since been noticed. The type is not extant. Mr. Jarvis has collected a single male, smaller than the type, 5.8 mm. wide, 4.3 mm. long. The abdomen has the third, fourth, and fifth segments coalesced. The proximal portion of the coalesced segment has a median sulcus, with the surface swollen on either side; the anterior portion rises in a low median tubercle. The penultimate segment is the shape of a short hour-glass, being constricted in the middle. The terminal segment is triangular, longer than broad, and over-reaches the sternum, projecting a little into the buccal cavity. The chelipeds are, like the carapace, closely granulate. The merus is subtrigonal, not lobate. The hands are very thick, with a convex lower margin and a thin upper edge.

95. PERSEPHONA PUNCTATA (Linnæus).

Cancer punctatus, Linnæus, Sys. Nat., ed. 10, I., 630, 1758 (part).

Persephona punctata, Stimpson, Ann. Lyc. Nat. Hist. N. Y., VII., 70, 1859.

Browne, pl. XLII., f. 3, represents this species, and says

(p. 422), "Not common in the harbours of Jamaica. I have seen only one of the sort."

Range.—North Carolina to Savanilla, U. S. C.

96. LITHADIA CARIOSA, Stimpson.

Lithadia cariosa, Stimpson, Ann. Lyc. Nat. Hist. N. Y., VII., 238, 1860

Lithadia lacunosa, Kingsley, Proc. Acad. Nat. Sci. Phil., 1879, 403, 1880.

Ebalia (Lithadia) brasiliensis von Martens, Arch. f. Natur. XXXVIII., 115, pl. V., f. 10, 1872 (type examined).

Port Royal ; P. W. Jarvis.

Range.—Beaufort, N. C., to Jamaica. Brazil. Not before noticed from Jamaica.

These little crabs are often encrusted with bryozoans. A single specimen neatly covered with a species of *Membranipora* formed the type of Kingsley's *L. lacunosa*.

97. DROMIA ERYTHROPUS (G. Edwards).

Cancer marinus chelis rubris, Catesby, Nat. Hist. Carolina, Florida and Bahama Islands, II., 37, pl. 37, 1743.

Cancer erythropus, Edwards, Catalogue of Animals in Catesby's Nat. Hist. of Carolina, with the Linnæan names, 1771.

Dromia lator, Milne-Edwards, Hist. Nat. Crust., II., 174, 1827.

Jamaica ; J. E. Duerden. "Generally found with a sponge on dorsal surface."

Range.—Inhabits the Florida Keys and West Indies.

98. DROMIDIA ANTILLENIS, Stimpson.

Dromidia antillensis, Stimpson, Proc. Acad. Nat. Sci. Phil., X., 225, 1858 ; Ann. Lyc. Nat. Hist. N. Y., VII., 71, 1859.

Jamaica ; Dr. T. H. Morgan. Kingston Harbour ; Dr. R. P. Bigelow.

Range.—Florida Keys ; West Indies ; Brazil.

99. PORCELLANA SAYANA (Leach).

Porcellana galathina, Say, Jour. Phil. Acad. Sci., I., 458, 1817 (Not *P. galathina*, Bosc).

Pisidia sayana, Leach, Dict. Sci. Nat., XVIII., 54, 1820.

Porcellana ocellata, Gibbes, Proc. Amer. Assoc. Adv. Sci., III., 190, 1850.

Porcellana sayana, Kingsley, Proc. Acad. Nat. Sci. Phil., 1879, 407, 1880.

Jamaica ; J. E. Duerden. Kingston Harbour ; F. S. Conant.

Range.—South Carolina to the West Indies.

100. PETROLISTHES ARMATUS (Gibbes).

Porcellana armata, Gibbes, Proc. Amer. Assoc. Adv. Sci., III., 190, 1850.

Petrolisthes armatus, Stimpson, Proc. Acad. Nat. Sci. Phil., X., 227, 1858.

Jamaica ; Dr. T. H. Morgan. Kingston Harbour ; F. S. Conant.

Range.—Florida Keys to Aspinwall.

101. PETROLISTHES SEXSPINOSUS (Gibbes).

Porcellata sexspinosa, Gibbes, Proc. Amer. Assoc. Adv. Sci., III., 190, 1850.

Petrolisthes sexspinus, Stimpson, Proc. Acad. Nat. Sci. Phil., X., 227, 1858.

Range.—Florida Keys ; Jamaica (Dr. T. H. Morgan).

102. PETROLISTHES (near SEXSPINOSUS), Benedict.

Petrolisthes, sp., Benedict, Johns Hopkins Univ. Cir., XI., No. 97,
p. 77, April, 1892.

Jamaica ; Dr. T. H. Morgan.

103. MEGALOBRACTHIUM GRANULIFERUM, Stimpson.

Megalobrachium granuliferum, Stimpson, Proc. Acad. Nat. Sci. Phil.,
X., 228, 1858 ; Ann. Lyc. Nat. Hist. N.Y., VII., 76, 1859.

Jamaica ; Dr. T. H. Morgan.

Range.—West Indies.

104. REMIPES SCUTELLATUS (Fabricius).

Hippa scutellata, Fabricius, Ent. Sys., aucta et emend., II., 474, 1793.

Remipes scutellatus, Leach in White, List Crust. Brit. Mus., 57, 1847.
Miers, Jour. Linn. Soc. London, XIV., 319, 1879.

Jamaica ; J. E. Duerden.

Range.—Florida Keys ; West Indies ; Brazil ; Cape Verde
Islands ; Ascension Island ; West Africa.

105. HIPPA EMERITA, Fabricius.

? *Cancer emeritus*, Linnæus, Sys. Nat., ed. 12, I., pt. 2, 1055, 1767.

Hippa emerita, Fabricius, Ent. Sys., Suppl., 370, 1798.

Kingston Harbour ; Dr. R. P. Bigelow.

Range.—Texas to Central America ; West Indies ; Lower
California to Panama.

The American forms of *Hippa* are by some combined in a single species, and by others referred to two only. The fact can not be overlooked, however, that there are three different types which can be detected at a glance. If a specimen from California (*analoga*) be held with the tail extended in a line with the carapace, will be seen that the first segment does not touch

the carapace along the extent of its anterior margin, the posterior line of the carapace being directed obliquely forward. This is not true of *talpoida* and *emerita*. The lateral expansion of the carapace is much shorter than in those forms and its anterior margin joins the antero-lateral margin of the carapace with a very slight sinus. Another conspicuous difference is the shorter tail of *analoga* as compared with *talpoida* and *emerita* of equal size.

Hippa emerita can easily be detected by the rugosity of the carapace throughout its whole length, by the frontal teeth much narrower and more widely separated than in *talpoida* or *analoga*, and by the tail having the last segment broadly triangular.

106. ALBUNEA OXYOPHTHALMA, Leach in Miers.

Albunea oxyophtalma, Leach in Miers, Jour. Linn. Soc. London, XIV., 329, pl. V., f. 14, 15, 1879.

Kingston Harbour ; Dr. R. P. Bigelow.

Range.—West Indies to Brazil.

107. CÆNOBITA DIOGENES (Linnæus).

Cancer diogenes, Linnæus, Sys. Nat., ed. 12, 1049, 1767 (part).

Cænobita diogenes, Milne-Edwards, Hist. Nat. Crust., I., 240, pl. XXII., f. 11—14, 1837.

Jamaica ; J. E. Duerden.

Range.—West Indies to Brazil.

108. PETROCHIRUS BAHAMENSIS (Herbst).

Cancer bahamensis, Herbst, Natur. Krabben u. Krebse, II., 30, 1791.

Pagurus granulatus, Olivier, Ency. Méth., Hist. Nat., Insectes, VIII., 640, 1811.

Petrochirus granulatus, Stimpson, Proc. Acad. Nat. Sci. Phil., 1858, 233.

Jamaica ; J. E. Duerden.

Range.—Gulf of Mexico to Rio de Janeiro ; Cape of Good Hope.

This common West Indian hermit-crab is the *Cancellus maximus bahamensis* of Catesby (Nat. Hist. Carolina, II., p. 34, pl. XXXIV., 1743). Herbst, in 1791, translated Catesby's description into German, under the name *Cancer bahamensis*, which specific name should prevail over that of *granulatus* by which it has been called since 1811.

109. CLIBANARIUS SCLOPETARIUS (Herbst).

Cancer sclopetarius, Herbst, Natur. Krabben u. Krebse, II., 23, pl. XXIII., f. 3, 1791.

Clibanarius sclopetarius, Stimpson, Proc. Acad. Nat. Sci. Phil., X., 235, 1858.

Kingston Harbour ; Str. *Albatross* and Dr. R. P. Bigelow.

Range.—Florida Keys to Brazil.

110. SCYLLARUS ÆQUINOCTIALIS, Lund.

Scyllarus æquinoctialis, Lund, Skrivter Naturh. Selsk., II., pt. 2, p. 21, Copenhagen, 1793.

Jamaica ; J. E. Duerden. One specimen. Figured by Browne in his History of Jamaica, 1756, and called "Astacus 6. The Mother Lobster." He says "This species is very rare, and seldom seen in Jamaica, though a native of those seas."

Range.—West Indies to Brazil.

111. PARRIBACUS ANTARCTICUS (Lund).

Scyllarus antarcticus, Lund, Skrivter Naturh. Selsk., II., pt. 2, p. 22, Copenhagen, 1793.

Parribacus antarcticus, Dana, Crust. U.S. Expl. Exped., I., 517, pl. XXXII., f. 6, 1852 (given by error, *Ibacus antarcticus*, with the description).

Jamaica ; J. E. Duerden.

Range.—Oriental Region ; Jamaica ; Brazil.

Sloane says, "This I have taken near the *Canoes* in the sea adjoining to *Jamaica*." (Nat. Hist. Jamaica, II., 271, 1725.)

112. PALINURUS ARGUS (Latreille).

Palinurus argus, Latreille, Ann. Mus. Hist. Nat., Paris, III., 393, 1804.
Milne-Edwards, Hist. Nat. Crust., II., 300, 1837.

Palinurus americanus, Milne-Edwards, *op. cit.*, 298.

Panulirus argus, White, List Crust. Brit. Mus., 69, 1847.

Jamaica ; J. E. Duerden.

Range.—Florida Keys to Brazil.

113. ATYA SCABRA, Leach.

Atys scaber, Leach, Trans. Linn. Soc. London, XI., 345, 1815.

Atya scabra, Leach, Zool. Misc., III., 29, pl. 131, 1817.

Jamaica ; J. E. Duerden.

Range.—Fresh waters of tropical America and Cape Verde Islands.

This species is probably identical with *A. occidentalis*, Newport.

114. BITHYNIS JAMAICENSIS (Herbst).

Cancer (Astacus) Jamaicensis, Herbst, Natur. Krabben u. Krebse, II., 57, pl. XXVII., f. 2, 1792.

Palæmon jamaicensis, Olivier, Encyc. Méth., Hist. Nat., Insectes, VIII., 659, 1811.

Bithynis jamaicensis, Pocock, Ann. Mag. Nat. Hist., (6), III., 10, 1889.

Jamaica ; J. E. Duerden.

Range.—Fresh waters of America from Gulf of Mexico and West Indies to Brazil, and from Cape St. Lucas to Nicaragua ; West Coast of Africa.

The type of the genus *Palæmon* was specified by Latreille in 1810 (Consid. Génér. Crust., 421) as *P. squilla* ; the genus was thus restricted to the section containing that species. The genus *Bithynis*, Philippi, Arch. f. Natur., XXVI., pt. 1, 161, 1860, is restricted by Ortmann (Zool. Jahr., V., 748, 1891) to the type species only. If this restriction be sustained, the genus *Palæmon* of Stimpson and Ortmann may be known as *Macrobrachium*, Bate. Ortmann (*op. cit.*) in dividing the genus *Palæmon* (as restricted by Stimpson, Proc. Acad. Nat. Sci., Phil., XII., 41, 1860, not *Palæmon*, Latreille, 1810) into subgeneric groups, fails to assign to the subgenus *Macrobrachium* any of the five species which originally constituted that genus. The species *M. formosensis*, Bate, and *M. longidigitum*, Bate, are placed under *Eupalæmon* ; the species *jamaicensis* = *M. americanum*, Bate, comes under *Brachycarpus*, Bate, 1888 ; the species *M. africanum*, Bate, is equivalent to *Bithynis* ; and the fifth and last species *M. gangeticum*, Bate, is insufficiently defined and is not mentioned by Ortmann.

115. BITHYNIS FAUSTINUS (Saussure).

Palæmon faustinus, Saussure, Mém. Soc. Phys. Hist. Nat. Genève, XIV., 469, pl. XV., f. 30, 1858.

Jamaica ; J. E. Duerden.

Range.—Cuba ; Hayti ; Jamaica ; Vera Cruz, Mexico.

116. PENÆUS SETIFERUS (Linnæus).

Cancer setiferus, Linnæus, Sys. Nat., ed. 12, I., pt. 2, 1054, 1767.

Penæus fluviatilis, Say, Jour. Phil. Acad. Sci., I., 236, 1818.

Penæus setiferus, Milne-Edwards, Hist. Nat. Crust., II., 414, 1837.

Jamaica ; J. E. Duerden.

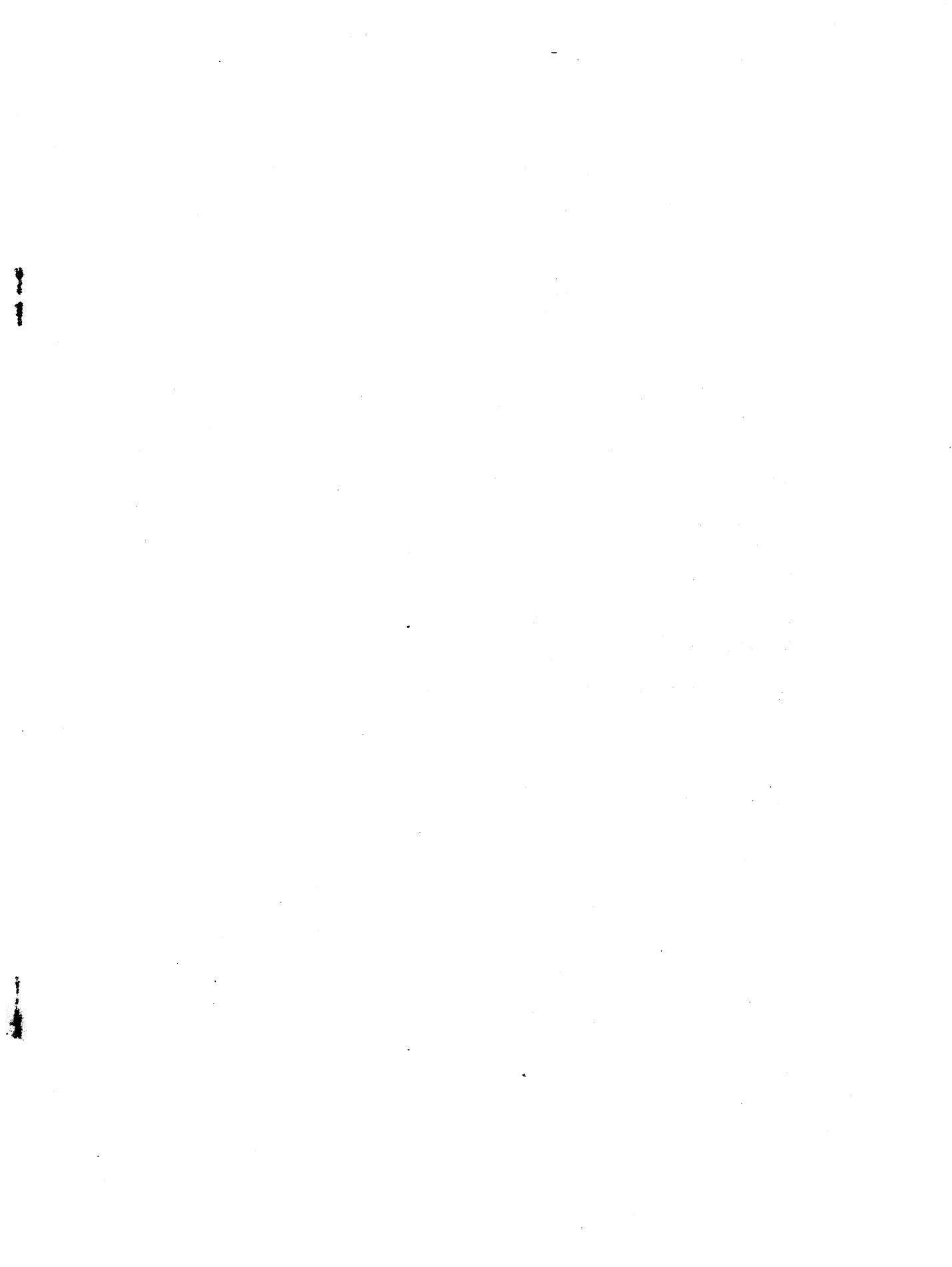
Range.—South Carolina to Brazil.

117. PENÆUS BRASILIENSIS, Latreille.

Penæus brasiliensis, Latreille, Nouv. Dict. Hist. Nat., XXV., 156, 1817.

Kingston Harbour, Jamaica ; Str. *Albatross*.

Range.—Cape Hatteras to Brazil ; West Africa.



PUBLICATIONS OF THE INSTITUTE.

(TO BE OBTAINED AT THE INSTITUTE AND OF ITS AGENTS IN LONDON AND NEW YORK.)

	PRICE.	TO MEMBERS.
The Journal of the Institute of Jamaica.		
Vol. I., Pts. i.-iv. & vi.-viii., per part ...	6 <i>d.</i>	Gratis.
Vol. II., Pt. i. (Special "Columbus Celebration" Double Number) ...	<i>out of print.</i>	
Vol. II., Pts. ii. & iii., per part ...	1 <i>s.</i>	Gratis.
Vol. II., Pt. iv. (Special "Aboriginal Indian Remains" Number) ...	1 <i>s.</i>	Gratis.
Vol. I., bound ...	7 <i>s.</i> 6 <i>d.</i>	7 <i>s.</i> 6 <i>d.</i>
Annals of the Institute of Jamaica.		
(Co-Editors: J. W. Plaxton, M.R.C.S., and J. E. Duerden, A.R.C.Sc.)		
1. List of the Decapod Crustacea of Jamaica, By MARY J. RATIBUN	1 <i>s.</i>	6 <i>d.</i>
The Rainfall Atlas of Jamaica, By MAXWELL HALL, M.A., 1892		
	5 <i>s.</i>	4 <i>s.</i>
A Provisional List of the Fishes of Jamaica, By T. D. A. COCKERELL, F.Z.S., F.E.S., 1892		
	Gratis.	Gratis.
Institute of Jamaica Lectures. Agriculture, 1893		
	2 <i>s.</i> 6 <i>d.</i>	1 <i>s.</i> 3 <i>d.</i>
Catalogue of the Books in the Library of the Institute, 1895		
	6 <i>s.</i>	4 <i>s.</i>
List of Books on Jamaica in the Library of the Institute. Excerpted from the Catalogue, 1894		
	3 <i>d.</i>	1 <i>d.</i>
Classified Book-List: Agriculture, 1893		
	1 <i>d.</i>	Gratis.
Bibliotheca Jamaicensis: Some account of the principal works on Jamaica in the Library of the Institute, 1895		
	6 <i>d.</i>	3 <i>d.</i>
Jamaica Cartography. Chronological List of the Maps of Jamaica in the Library of the Institute of Jamaica, both on separate sheets and in books: with some notes on the History of the Parishes of the Island, 1897		
	2 <i>d.</i>	1 <i>d.</i>
Jamaica in 1897: A Handbook of information for intending settlers and others, 1897		
	6 <i>d.</i>	6 <i>d.</i>
Guide to the Museum, 1893		
	T. D. A. COCKERELL, F.Z.S.	1 <i>d.</i> Gratis.
Objects of the Institute of Jamaica ...	... 1881	REV. J. RADCLIFFE. 6 <i>d.</i> 6 <i>d.</i>
Root Food Growth in Jamaica ...	... "	REV. J. CORK. 6 <i>d.</i> 6 <i>d.</i>
The Timbers of Jamaica ...	... "	HON. W. B. ESPEUT. 6 <i>d.</i> 6 <i>d.</i>
Stock and Stock-raising in Jamaica ...	... "	ARCHIBALD RÓNBURGH. 6 <i>d.</i> 6 <i>d.</i>
		<i>out of print.</i>
Cacao: How to Grow and how to Cure It ...	... 1882	D. MORRIS. 6 <i>d.</i> 6 <i>d.</i>
Some Objects of Productive Industry: Native and other Fibre Plants ...	... 1884	D. MORRIS. 6 <i>d.</i> 6 <i>d.</i>
Outline of a Lecture on Vegetable Chemistry ...	... "	J. J. BOWREY. 6 <i>d.</i> 6 <i>d.</i>
The Cultivation of the Orange in Jamaica ...	... "	DR. JAMES NEISH. 6 <i>d.</i> 6 <i>d.</i>
The Vine and its Culture ...	... "	REV. W. GRIFFITH. 6 <i>d.</i> 6 <i>d.</i>
The Cultivation of the Ramie ...	... "	HON. J. C. PHILLIPPO. 6 <i>d.</i> 6 <i>d.</i>
On a New Beverage Substance: The Kola Nut ...	... "	DR. JAMES NEISH. 6 <i>d.</i> 6 <i>d.</i>
The Advantages to result from Railway Extension ...	... "	HON. W. B. ESPEUT. 6 <i>d.</i> 6 <i>d.</i>
On the Geology of Jamaica ...	... 1889	} REV. H. SCOTLAND. 6 <i>d.</i> 6 <i>d.</i>
On Mining in Jamaica "	
The Mineral Springs of Jamaica ...	... 1891	HON. J. C. PHILLIPPO. 6 <i>d.</i> 6 <i>d.</i>