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No. 2. — *Preliminary Report on the Crustacea dredged in the Gulf Stream in the Straits of Florida*, by L. F. DE POURTALES, Assist. U. S. Coast Survey. Part I. BRACHYURA. Prepared by DR. WILLIAM STIMPSON.

(COMMUNICATED BY THE SUPERINTENDENT OF THE U. S. COAST SURVEY.)

THE crustacea collected by M. Pourtales are very numerous in species, and among them there is an unusually large proportion of new forms; so that their investigation has occupied more time than was anticipated. To avoid delay in publishing a portion at least of the results, it is thought best to give at once that part of the work which has been done thus far, reserving the completion for a second part, in which the general considerations derived from the entire study will also be given.

To preserve accuracy in the statements of localities and depths, and to insure the correction of any errors which may have occurred, all the details on the labels of each species are given below, arranged in the order of depths of water.

52

MAIOIDEA.

FAMILY MAIIDAE.

SUBFAMILY LEPTOPINAE.

The group typified by the genus *Leptopus* Lamarck (*Egeria* Latr.) should be separated from the *Inachinae* of Dana on account of the broad and somewhat heart-shaped meros-joint of the external maxillipeds, which in *Inachus* is simply ovate and elongated, with the palpus articulated at the small extremity.

*Pyromaia* nov. gen.

Carapax somewhat pyriform, convex; rostrum simple, slender, of moderate length, acute; transorbital breadth small; præorbital spine short, almost erect; postorbital tooth rather large, pointing forwards. Meros-joint of the external maxillipeds short and broad, deeply and broadly notched for the reception of the palpus, and with the inner lobe strongly projecting and the outer lobe angular. Ambulatory feet long; those of the first pair three times as long as the post-frontal portion of the carapax.

This genus approaches nearest to *Microrhynchus* Bell, but differs in its more elongated and pyriform carapax, larger rostrum, and prominent, angular external lobe of the meros-joint of the outer maxilliped.

## SUBFAMILY PERICERINAE.

Milne-Edwards, Dana, and authors generally, speak of the eyes of *Pericera* as being non-retractile, having probably studied the genus by means of dried specimens only. In fact, however, the eyes in this group are more perfectly retractile than in any other crustacea; so much so that they may be entirely concealed in their orbits, which form a capacious cavity with a small, round external orifice. In this cavity the peduncle of the eye, the inner half of which is not indurated, becomes bent to a right angle when retracted.

*Pericera trispinosa* H. M.-EDW.

*Pisa trispinosa* LATREILLE, Encyc. Mèth., X, 142.

*Pericera trispinosa* H. M.-EDWARDS, Hist. Nat. des Crust., I, 336. GUERIN, Iconog. du Règne Anim., Crust., pl. viii, fig. 3. GIBBES, Proc. Am. Assoc. Adv. Sci., 1850, p. 172.

Dredged at Key West in from 2 to 5 fathoms, and found at the Tortugas at low-water mark.

*Pericera camptocera* nov. sp.

Allied to *P. trispinosa*, but differs as follows: The carapax is narrower and more sparsely pubescent. The four tubercles at the summit of the gastric region are more prominent, forming erect spines. The posterior spine and the lateral spines are longer and more curved. The rostrum is longer, and its horns are regularly divergent from the base. The orbital tubes are more protuberant, and the præocular and postocular teeth longer. The movable part of the antennæ is both longer and stouter. Finally the carpal joint of the ambulatory feet is narrower and not tuberculated.

Measurements of a male: Total length of carapax, 0.92; length of rostrum, from base of orbital tubes, 0.25; breadth, between the tips of the lateral spines, 0.70; between the bases of these spines, 0.48 inch.

One male and one female specimen were taken near Key West in from 2 to 5 fathoms.

*Pericera eutheca* nov. sp.

Carapax subtrapezoidal, constricted anteriorly behind the orbits, and broadly rounded behind. Frontal and hepatic regions concave; gastric, cardiac, intestinal, and branchial regions moderately prominent and each bearing a slender spine. Rostrum very small, forming about one sixth the length of the carapax, nearly horizontal, and consisting of two slender, acute, parallel horns. Orbits very strongly prominent, projecting forward and outward far beyond the antero-lateral margins, forming sheaths longer than the rostrum, and each occupying nearly one third the interorbital

width of the carapax. The distance between their extremities equals four fifths of the greatest width of the carapax. The extremity of the orbital sheath is armed with two spines, one before and one behind the eye. The spine of the basal joint of the external antennæ is rather small and slender, and about one third as long as the rostrum. The ambulatory feet are very slender.

The measurements of a female specimen are: Total length of carapax, 0.90; breadth, excluding the spines, 0.65; length of first pair of ambulatory feet, 0.75 inch.

It may be distinguished from all the species hitherto known by the great size and prominence of the orbital sheaths.

Off French Reef, April 3, 1869. Cast No. 1. 15 fathoms.

West of Tortugas, Jan. 16, 1869. Cast No. 9. 37 fathoms.

#### *Pericera septemspinosa* nov. sp.

Carapax oblong, strongly convex, pubescent; antero-lateral and postero-lateral sides concave. Dorsal surface armed with seven prominent spines, one on the gastric, one on the cardiac, one on the intestinal, and two on each branchial region. Rostrum about one fourth as long as the post-frontal portion of the carapax, deflexed; horns subtriangular, acute, diverging, curved, pointing outward. Orbits projecting, with a prominent, acute præocular and postocular spine. On the suborbital and subhepatic region there are three spines, the posterior one of which is longest. There is a small, slender, acute spine on the basal joint of the antennæ. Feet unarmed. The pubescence of the body adheres strongly to rough objects brought in contact with it, and notably to that of other specimens of the same crab.

Measurements of a male: Length of carapax, 0.33; breadth, excluding the spines, 0.25 inch.

It differs from *P. eulheca* in its broader rostrum and less prominent orbital sheaths; also in the spines on the subhepatic region, etc.

West of Tortugas, January 16, 1869. Cast No. 4. 36 fathoms.

#### *Pericera cornuta* H. M.-EDW.

*Cancer cornuta* HERBST, Naturg. d. Krabben u. Krebse, pl. lix, fig. 6.

*Maia taurus* LAMARCK, Animaux sans Vert., V, 242.

*Pericera cornuta* H. MILNE-EDWARDS, Hist. Nat. des. Crust., I, 335; pl. xiv bis, fig. 5. Illust. Cuv. Règne Anim., pl. xxx, fig. 1. GIBBES, Proc. Am. Assoc. Adv. Sci. 1850, p. 172. STIMPSON, Notes on N. American Crust., p. 55.

A young example, one inch long, of this well-known species, occurred in rather deep water. It had previously been found only about low-water

*Pyromaia cuspidata* nov. sp.

Body and feet naked. Carapax granulated, with the regions well defined, tumid, and armed with short spines. Rostrum trigonal, with the three edges (the superior and two lateral) armed with minute spines. Basal joint of external antennæ with a slender spine in front, and a smaller one beneath; the latter pointing directly downward. Chelipeds with the meros-joint spinous below and with a spine at the summit; carpus with one spine on the outer side at the articulation of the hand; hand inconspicuously spinulose, fingers longer than the palm, not gaping, serrated, and acuminate. Ambulatory feet with cylindrical joints; in the adult female smooth and naked; in the young male sparsely and inconspicuously hairy; dactyli two thirds as long as the penult joint, and flattened toward the extremities.

The dimensions of the largest specimen, a female, are as follows: Length of the carapax, 1.2 inch; greatest breadth, 0.94 inch; proportion of breadth to length, 1 : 1.28. Length of ambulatory feet of the first pair, 3.05 inch.

This species lives in deep water, with a range of from 82 to 125 fathoms, as shown by the following table of localities, etc., taken from the notes of the expedition.

|                     |                    |             |             |
|---------------------|--------------------|-------------|-------------|
| Off Sand Key,       | May 11, 1868.      | Cast No. 5. | 82 fathoms. |
| Off Alligator Reef, | May 8, 1869.       | Cast No. 6. | 88 "        |
| Off the Samboes,    | May 9, 1868.       | Cast No. 6. | 93 "        |
| Off the Samboes,    | May 9, 1868.       | Cast No. 1. | 121 "       |
| S. W. of Sand Key,  | February 17, 1869. | Cast No. 2. | 125 "       |

## SUBFAMILY PISINAE.

*Pisa antilocapra* nov. sp.

Carapax subovate, rather narrow, pubescent, and spinous, with a strong, acute spine on the hepatic region, seven to ten smaller, subequal ones on the branchial, and four, forming a rhomb, on the intestinal region. A few sharp tubercles on the cardiac and gastric regions. Rostrum horizontal, equalling in length more than one third the post-frontal length of the carapax; horns diverging from the basal third, rather slender, acute, and straight, or slightly curved inward near the extremities. Præorbital spine slender, less than one third as long as the rostrum. On the superior margin of the orbit there are two spiniform teeth between the base of the præorbital spine and the external angle, which is also acute. Spine of the basal joint of the external antennæ much smaller than the præorbital spine. Feet pubescent, with the meros-joints sparsely spinose above. Dactyli of the ambulatory feet unarmed on the inferior edge.

Dimensions of a male : Total length of carapax, 1.22 ; breadth, excluding the spines, 0.65 ; length of ambulatory foot of the first pair, 1.30 inch.

It is a more elongated species than any of the three *Pisae* described by Desbonne and Schramm, which are the only ones as yet indicated as inhabiting the West Indian seas, if, indeed, these species truly belong to the genus.

The specimens occurred at the following localities and depths :—

Off Carysfort Reef, March 31, 1869. Cast No. 1. 52 fathoms.  
 Off Carysfort Reef, March 31, 1869. Cast No. 5. 60 "  
 Off Alligator Reef, May 8, 1869. Cast No. 10. 118 "

#### *Pisa praelonga* nov. sp.

Carapax long and narrow, the width across the branchial regions being very little greater than that between the orbits. It is sparsely hairy, and armed with a few very small spines on the sides. Surface beneath the hairs smooth. Rostrum large, as long as one third the post-frontal length of the carapax ; horns slender, acute, divergent. Præorbital spine slender, acute. Orbit large, with one sharp tooth on the upper margin, near the base of the post-orbital tooth. Basal joint of external antennæ with a spine in front (smaller than the præorbital spine), and another on the outer side near the base.

Dimensions of a male : Length of carapax, rostrum included, 0.39 ; length to the base of horns of rostrum, 0.30 ; breadth, 0.19 inch.

It differs from all species of the genus hitherto known in the narrowness of the carapax.

Off Alligator Reef, May 8, 1869. Cast No. 10. 118 fathoms.  
 Off Tennessee Reef, May 7, 1869. Cast No. 7. 124 "

#### *Milnia bicornuta* Stm.

*Pisa bicornuta* LATREILLE, Encyc. Mèth., X, 141.

*Pericera bicorna* H. MILNE-EDWARDS, Hist. Nat. des Crust., I, 337.

*Pisa bicorna* GIBBES, Proc. Am. Assoc. Adv. Sci., 1850, p. 170.

*Pericera bicornis* SAUSSURE, Crust. Nouv. du Mexique et des Antilles, p. 12 ; pl. i, fig. 3.

*Milnia bicornuta* STIMPSON, Notes on North American Crustacea, p. 52.  
 SMITH, Trans. Connecticut Acad. of Arts and Sciences, II, 1.

Found at low-water mark at the Tortugas, and dredged at Key West in 2 to 5 fathoms.

The generic name *Milnia* is preoccupied, having been used by Haime for an Echinoid, but it seems scarcely necessary to change it.

mark. In the young, the horns of the rostrum are more divergent than in the adult, and the anterior branchial spine is smaller. The feet are provided with a few long, thick hairs not found in the adult.

Off the Quicksands, January 23, 1869. Cast No. 1. 34 fathoms.

*Tiarinia setirostris* nov. sp.

Carapax narrow, with perpendicular sides. The greatest breadth, which is at the posterior fourth of the post-frontal length, is only one fourth greater than the transorbital breadth. The upper surface is naked, and bears a few small tubercles, of which three, in a median line on the posterior half of the carapax, are larger than the others. The posterior tubercle, on the intestinal region, is spiniform and curved upward. Sides of the carapax somewhat setose. Rostrum half as long as the post-frontal part of the carapax, with the horns slightly gaping near the base, but contiguous for the remainder of their length, very slender, setiform, and setose. External antennæ as long as the rostrum; basal joint concave, without any spine at the antero-external angle; flagellum long, hair-like. Chelipeds in the male large, longer than the carapax including the rostrum; hand somewhat compressed, granulated above; fingers very short, widely gaping. Ambulatory feet long, slender, and smooth; those of the first pair nearly as long as the chelipeds.

Dimensions of a male specimen: Length of carapax, 0.82; breadth, 0.35 inch.

This species differs much from the typical *Tiariniæ* in the great length, slenderness, and smoothness of its ambulatory feet, and future investigations, on more abundant materials than those at present available, may prove it to be generically distinct; in which case I would propose for it the name *Leptopisa*.

The *Tiariniæ* hitherto described all belong to the Indo-Pacific fauna, living chiefly in the southern part of the Japanese Archipelago, in the seas of Sulu and the Philippines, Nicobar, etc. Of these species our Florida form approaches nearest to *T. angusta* Dana, which it resembles in the narrowness of the carapax, but from which it is at once distinguished by the less tuberculated carapax and slender feet.

It was taken at the following points:—

Key West, 2 to 5 fathoms.

Near the Tortugas, 9 fathoms.

On the Fishing Banks, S. W. of Loggerhead Key.

SUBFAMILY NAXIINAE.

The characters of the orbital region in *Chorinus* are so different from those of *Naxia* and its allies as to forbid its being placed in the same sub-

family with the latter group, for which the name *Naxiinae* is here proposed. The deep notch on the upper side of the orbit is here a constant character.

*Scyra umbonata* nov. sp.

Carapax triangular, with six large flat-topped protuberances on the upper surface; one on the posterior part of the gastric region, one on the cardiac, and two on each branchial region. On the outer side of the branchial region there is also an acute triangular tooth, pointing forward and outward, and of similar character and nearly as large as the other protuberances just described. They are all not only flattened, but somewhat expanded at the top. Their summits are naked, but the deep channels between them are pubescent. Besides the above there are on the carapax three small tubercles on the gastric and a strong erect tooth on each hepatic region. The gastric and the sides of the branchial regions are hairy. The rostrum is rather longer than the interorbital width of the carapax; it is hairy above, and is neither flattened nor expanded. The movable part of the external antennæ has cylindrical joints. The meso-joint of the external maxillipeds is not notched for the reception of the palpus. Abdomen and sternum pubescent. Sternum of the male with deep excavations between the segments, the excavations being broader than the ridges separating them.

Dimensions of a male: Length of carapax, 0.94; breadth, measured between the tips of the branchial teeth, 0.72 inch.

The species of *Scyra* heretofore known are but two in number, and inhabit waters of moderate depth on the shores of the North Pacific Ocean, one on the coast of California and Oregon, the other on that of Japan. The present species was placed in the genus with some doubt, on account of the character of the rostrum, the external antennæ, and the outer maxillipeds, which, as may be noticed by the description, differ somewhat from those of the type, *S. acutifrons*. The resemblance in all other essential characters is, however, very great; and in the present state of our knowledge, the Florida species ought not to be separated as the type of a distinct genus.

It is an inhabitant of deep water, as follows:—

Off Sand Key, May 11, 1868. Cast No. 15. 143 fathoms.

SUBFAMILY OTHONIINAE.

The Othoniinae are characterized by great orbito-frontal breadth, a small, short rostrum, an extremely short epistome, and gaping external maxillipeds. The orbits are tubular like those of the Pericerinae, but are directed forwards instead of outwards.

**Othonia aculeata** Stm.

*Hyas aculeata* GIBBES, Proc. Am. Assoc. Adv. Sci., 1850, p. 171.

*Othonia aculeata* STIMPSON, Notes on N. American Crust., p. 3.

*Othonia Lherminieri* DESBONNE et SCHRAMM, Crust. de la Guadeloupe, p. 20.

The specimens in the collection are all young, and occurred as follows:—

At Key West, 2 to 5 fathoms.

At the Tortugas, 5 to 6 fathoms.

Off the Tortugas, January 29, 1868, in 13 fathoms.

## SUBFAMILY MITHRACINAE.

**Mithrax hispidus** H. M.-EDW.

*Cancer hispidus* HERBST, Naturg. d. Krabben u. Krebse, pl. xviii, fig. 100.

*Maia spinicincta* LAMARCK, Anim. sans Vert., V, 241.

*Mithrax spinicinctus* DESMAREST, Consid. sur les Crust., p. 150; pl. xxiii, figs. 1, 2.

*Mithrax hispidus* H. MILNE-EDWARDS, Hist. Nat. des Crust., I, 322. GIBBES, Proc. Am. Assoc. Adv. Sci., 1850, p. 172. STIMPSON, Notes on N. American Crust., p. 60. SMITH, Trans. Connecticut Acad. of Arts and Sciences, II, 2, 32.

This well-known species occurred at Key West, in from 2 to 5 fathoms.

**Mithrax pleuracanthus** nov. sp.

This is closely allied to *M. hispidus*, but is a smaller species, with a somewhat narrower carapax. The protuberances of the carapax, and the teeth or spines of the orbits and the basal joint of the antennæ, are sharper and more prominent, and there are small tubercles on the intestinal, branchial, and hepatic regions which do not occur in *M. hispidus*. The minute punctures of the surface are less apparent than in that species.

The dimensions of a male specimen are: Length of the carapax, 0.57; breadth, 0.55 inch; proportion of length to breadth, 1: 0.965.

This species can scarcely be the *M. affinis* of Desbonne and Schramm (Crust. de la Guadeloupe, p. 10), the description of which applies to it in most respects, for those authors state that the front, rostrum, and orbits are like those of *Mithraculus sculptus*.

It occurred at Key West in from 2 to 5 fathoms, and at the Tortugas in 5 to 6 fathoms. There is in the Smithsonian Collection a specimen taken at St. Thomas by A. H. Riise, Esq.

**Mithrax acuticornis** nov. sp.

Carapax much longer than broad, and tuberculated, sparsely on the gastric region but more closely posteriorly and at the sides, the tubercles



becoming spiniform toward the margins, which are armed with true spines curving forward at their tips. Rostrum half as long as the interorbital width, and consisting of two rather slender, acute horns. Basal joint of the external antennæ armed with two spines, the anterior one of which is slender, curved, and two thirds as long as the rostrum. The margin of the orbit is armed with six spiniform teeth, not including those of the antennal joint. The feet are strongly spinose above, but the hands are unarmed. The color in wet specimens, and probably in life, is a bright deep red.

Dimensions of a male: Length of carapax, 0.73; breadth, 0.55 inch; proportion, 1: 0.753.

This species approaches *Schizophrys* in the shape of its carapax, which is much more oblong than in other species of the genus in which I have placed it; but the rostrum is simply two-horned, and the orbits are similar to those of the typical forms of *Mithrax*.

Off the Quicksands, January 23, 1869. Cast No. 1. 34 fathoms.

West of the Tortugas, January 16, 1869. Cast No. 8. 37 "

West of the Tortugas, January 16, 1869. Cast No. 12. 42 "

#### **Mithrax Holderi** nov. sp.

This species resembles *M. acuticornis* in the characters of the front, but the carapax is broader and more strongly and closely tuberculated, the tubercles occupying nearly the whole upper surface, causing it to resemble that of *Tiarinia cornigera*. There is a small spine on the hepatic region and one at the lateral extremity of the branchial region. The anterior spine of the basal joint of the antennæ is nearly as long as the rostrum, and there is another spine, very small, at the insertion of the movable part of the antenna. The ambulatory feet are flattened above, giving the joints a somewhat trigonal form, and both margins of their upper surface are spinulose and ciliated.

Dimensions of a male: Length of the carapax, 0.55; breadth, 0.48 inch; proportion, 1: 0.872.

This species occurred at the Tortugas in 7 fathoms. It is named in compliment to Dr. J. B. Holder, who found it, also at the Tortugas, and I believe at low-water mark, several years ago. Dr. Holder's specimen is in the Museum of the Smithsonian Institution.

#### **Mithraculus sculptus** STM.

*Maia sculpta* LAMARCK, Anim. sans Vert., V, 242.

*Mithrax sculptus* H. MILNE-EDWARDS, Hist. Nat. des Crust., I, 322. GIBBES, Proc. Am. Assoc. Adv. Sci., 1850, p. 172. DESBONNE et SCHRAMM, Crust. de la Guadeloupe, p. 9.

*Mithraculus sculptus* STIMPSON, Notes on N. American Crust., p. 58.

|                    |                 |
|--------------------|-----------------|
| Key West,          | 2 to 5 fathoms. |
| Tortugas,          | 5 to 6 " .      |
| ? Off the Samboes, | 123 "           |

This well-known species is found throughout the West Indian seas, and is very abundant on the reefs at and above low-water mark. I have queried the depth 123 fathoms, fearing that some accidental transposition of labels has taken place, as the *Mithraculi* are eminently littoral in their habits, and the specimen so labelled is a full-grown male, similar in all respects to those found on the shores.

#### ***Mithraculus ruber* nov. sp.**

Carapax subtriangular, one fifth broader than long. Surface naked, polished, and uneven, but with the protuberances less numerous and smaller than in *M. sculptus* and *M. coronatus*. These protuberances are also rounded, and not elongated as in the allied species, and some of them are sparsely tuberculated. Antero-lateral margin armed with three teeth, besides the angle of the orbit, the posterior tooth being sharp, spiniform, and curving forward, the other two teeth tuberculiform; the middle tooth is composed of two tubercles, and there is a small tubercle between it and the posterior tooth. Behind the posterior tooth there is a small sharp tubercle on the postero-lateral margin. The meros-joint of the outer maxillipeds is slightly sinuous in front, showing a faint indication of a notch. Chelipeds rather long and slender; meros armed above with six small, conical, equal tubercles; carpus and hand smooth. Ambulatory feet cylindrical, densely short-hairy above (hairs simple); they are also spinulose above, the spines being scattered in two rows. Color of the carapax chestnut red, with some bluish posteriorly.

Dimensions of a male: Length of the carapax, 0.48; breadth, 0.60 inch; proportion, 1 : 1.25.

It differs from *M. sculptus*, *M. cinctimanus*, and *M. minutus* in its broader carapax, etc., and from *M. coronatus* in its spiniform lateral tooth and in the character of the surface of the carapax.

Found on the reef at Cruz del Padre, Cuba.

#### ***Mithraculus coronatus* STM.**

*Cancer coronatus* HERBST, Naturg. d. Krabben und Krebse, I. 184; pl. xi, fig. 63 (?).

*Mithraculus coronatus* WHITE, Brit. Mus. Cat. Crust., p. 7 (? partim). STIMPSON, Notes on N. American Crust., p. 58. SMITH, Trans. Conn. Acad. of Arts and Sciences, II, 2.

It is somewhat doubtful whether this is really the *Cancer coronatus* of

Herbst. He refers to Seba, pl xxii, fig. 6. Seba's fig. 22 of pl. xix is a better representation of the species under consideration.

Littoral on the reef at Eastern Dry Rocks.

Reef at Cruz del Padre, Cuba.

Key West, in 2 to 5 fathoms.

## FAMILY TYCHIDAE.

### SUBFAMILY TYCHINAE.

#### *Tyche emarginata* WHITE.

*Tyche emarginata* WHITE, Annals and Magazine of Natural History, First Series, Vol. XX, p. 206.

*Platyrinchus trituberculatus* DESBONNE et SCHRAMM, Crust. de la Guadeloupe p. 3; pl. iii, figs. 7 and 8.

The curious genus *Tyche* is so little known that a short description of the crab under consideration may not be out of place here. The carapax is flattened and partly concave above, and has laminiform expansions in front and behind. The frontal region is very broad, the transorbital width nearly equalling that across the branchial regions. The hepatic region is concave. Rostrum rather long, forked from the base; horns widely divergent. Præorbital spines very long, and somewhat divergent, thus, with the rostrum, giving the entire front a four-horned form. External antennæ concealed beneath the rostrum. Eyes long, but reaching scarcely beyond the edge of the expanded orbital margin, which is entire, without notch or tooth.

The external maxillipeds are very remarkable in form, the exognath having a hook-shaped process at the base, which overlaps the base of the ischium-joint of the endognath. The meros-joint of the endognath has a posterior lobe which projects far into the anterior extremity of the ischium.

This crab was found by the expedition at Key West in 2 to 5 fathoms, and at the Tortugas in 7 fathoms.

## FAMILY EURYPODIIDAE.

Among the general characters of this family, the existence of a distinct orbital arch over the base of the eye, and of a postocular spine, seem to be the most important.

### SUBFAMILY COLLODINAE.

This name is proposed for a group of genera of Eurypodidae characterized by the extreme shortness of the rostrum, which group is, as far as known, peculiar to the tropical parts of the American seas, and occurs on both sides of the continent.

*Collodes trispinosus* nov. sp.

Carapax ovate-triangular, hairy, and everywhere covered with small granulated tubercles, except on the front and the anterior portion of the gastric region. There is an erect, capitate spine on the gastric, one on the cardiac region, and one of equal size on the basal joint of the abdomen. Rostrum with two minute horns. Four minute spines on the basal joint of the antennæ, the anterior one of which is placed nearly on a level with the horns of the rostrum. Ambulatory feet long, and provided with long stiff hairs; hairs of the penult joint below straight and above hook-like and often serrated on the inner side near the tip. Dactyli of the ambulatory feet about as long as the penult joint.

In the male of this species the carapax is somewhat more elongated and depressed than in the female; the hands are of moderate size only, and much curved inward; fingers nearly as long as palm and gaping, with a tooth inside on the middle of the thumb. Abdomen of the male elongate triangular; intromittent organs nearly straight, simple, reaching nearly to the extremity of the abdomen.

All the specimens examined were covered with a thick coating of mud, held by the setæ.

The dimensions of a female specimen are: Length of the carapax, 0.41; breadth, 0.32 inch.

The only species hitherto known of this genus is the *C. granosus* of the west coast of North America, described by me in "Notes on North American Crustacea," page 66 (Annals of the New York Lyceum of Natural History, Vol. VII, p. 194), from which the species under consideration differs in its more elongated carapax, which is more completely covered with granulated tubercles, and in the somewhat greater length of the rostral horns and the spines on the basal joint of the antennæ. It is proper to state that of *C. granosus* only a single (female) specimen is as yet known.

The species occurred as follows:—

|                                       |             |             |
|---------------------------------------|-------------|-------------|
| Off the Quicksands, January 23, 1869. | Cast No. 1. | 34 fathoms. |
| Off Carysfort Reef, March 21, 1869.   | Cast No. 8. | 35 "        |
| Off Carysfort Reef, March 21, 1869.   | Cast No. 7. | 40 "        |
| Off French Reef, April 3, 1869.       | Cast No. 4. | 50 "        |

*Collodes nudus* nov. sp.

Allied to *C. granosus* and *C. trispinosus*, having three spines on the back similar in shape and position to those of those species. It differs from them, however, in its naked carapax and feet, and in the less numerous and prominent granulated tubercles of the dorsal surface. The carapax is also much broader anteriorly.

The ambulatory feet of the second pair are rather longer than those of the first pair. The dactyli of the ambulatory feet are armed with spines along the inner edge.

The dimensions of the single specimen found, a male, are as follows: Length of carapax, 0.24; breadth, 0.18; length of ambulatory foot of the first pair, 0.45 inch.

Off Carysfort Reef, March 21, 1869. Cast No. 7. 40 fathoms.

**Arachnopsis** nov. gen.

Carapax oblong, narrow, and somewhat truncated in front. Rostrum short, bifid. Orbital arch high, protuberant. Postocular spine long, and separated from the orbital arch by a deep, narrow fissure. Eye long, considerably overreaching the tip of the postocular spine, but capable of being drawn back beneath it. Basal joint of the external antennæ with a small, sharp spine at the extremity, pointing obliquely forward and outward, between which and the rostrum the movable part of the antenna is exposed, and with a spinulous crest on the inferior surface extending back to the angle of the buccal area. Meros-joint of the external maxillipeds broader than long, and with sharply prominent external and internal anterior angles. Ambulatory feet long, filiform; those of the second pair longest; dactyli straight, acute, and nearly as long as the penult joint.

This genus differs from *Collodes* in its filiform ambulatory feet and long eye peduncles.

**Arachnopsis filipes** nov. sp.

Body armed above with three erect, slender, blunt spines, one on the gastric region, one on the cardiac region, and one on the basal joint of the abdomen. Abdominal spine small; cardiac and gastric spines equal and about as long as the distance between the orbital arches. Carapax convex anteriorly, and flattened posteriorly. Surface of carapax smooth and glossy, naked, except for a few hairs on the anterior part of the branchial, the sides of the gastric, and the frontal region. Beneath, the sub-hepatic and pterygostomian regions are armed with spiniform granules. Chelipeds in the male as long as the carapax and much curved; edges of meros and carpus spinulose; hand nearly smooth; fingers as long as the palm. Ambulatory feet spinulose along the lower edges of all the joints, except the dactyli; those of the second pair more than twice as long as the carapax. Sternum, abdomen, and external maxillipeds tuberculated.

Dimensions of a male: Length of carapax, 0.25; breadth, 0.18; length of ambulatory foot of first pair, 0.5 inch.

Off Conch Reef, May 11, 1869. Cast No. 2. 34 fathoms.

Off Carysfort Reef, March 21, 1869. Cast No. 7. 40 "

Off French Reef, March 21, 1869. Cast No. 2. 45 "

**Batrachonotus** nov. gen.

Carapax triangular, broadly expanded behind; surface rough with granulations; gastric, cardiac, and branchial regions strongly protuberant; cervical depressions deep and broad, giving the carapax a superior outline much like that of a frog's back. Rostrum very short, not extending beyond the walls of the antennular fossæ, rounded in outline, and slightly emarginated at the middle. Basal joint of the external antennæ with a small tooth or spine on the outer margin, but none at the anterior extremity. No spine on the orbital arch. Post-ocular spine minute. Meros-joint of the external maxillipeds broad, with prominent external and internal anterior angles. Ambulatory feet simple; those of the first pair disproportionately long, nearly twice as long as those of the second pair; those of the posterior pairs very short. Dactyli of ambulatory feet rather long. Abdomen very narrow at base.

It differs from the other genera of Collodinae, among other characters, in the want of a terminal spine on the basal joint of the antennæ, and in its very long anterior and short posterior ambulatory feet.

**Batrachonotus fragosus** nov. sp.

The following description is that of a male. Body and feet naked. On each of the protuberant regions of the carapax there are one or two large and many smaller rounded tubercles or granules. A strong tubercle on the basal joint of the abdomen. A sharp tubercle on the subhepatic, and one on the pterygostomian region. Sternum regularly granulated. Chelipeds as long as the carapax, and sparsely granulated within; ischium with an erect spine at the summit; hand unarmed; fingers toothed and slightly gaping. Ambulatory feet of the first pair about three times as long as the carapax.

Color of the body in the alcoholic specimen whitish, or pale flesh-color, variegated with purplish.

Of this species we find in the collection only one specimen, a male, the dimensions of which are: Length of the carapax, 0.28; breadth, 0.245; length of ambulatory feet of the first pair, 0.80 inch.

The specimen was taken in N. Lat.  $24^{\circ} 36' 40''$ , W. Long.  $83^{\circ} 2' 20''$ , on the 22d of January, 1868. Cast No. 3. Depth 16 fathoms.

**Euprognatha** nov. gen.

Carapax pyriform. Rostrum short, trifid, the median horn being the interantennular spine, which points forward and downward at a much lower level than that of the other two horns, which are minute and divergent.

Basal joint of the external antennæ armed at the anterior extremity with a slender spine reaching forward as far as do the rostral horns; movable part of the antennæ exposed from its insertion. An erect spine on the orbital arch. Eye large; peduncle short. Post-ocular spine reaching beyond the extremity of the eye. Meros-joint of the external maxillipeds somewhat L-shaped, strongly produced beyond the insertion of the palpus in front and at the postero-interior angle. Feet long and slender. Penultimate joint of the ambulatory feet of the first pair more than twice as long as the dactyli, and three times as long as the antepenultimate joint.

This genus differs from all the other genera of Collodinae in its interantennular spine and the spine on the orbital arch, and especially in the shape of the meros-joint of the external maxillipeds.

#### *Euprognatha rastellifera* nov. sp.

The following description is that of a male. Carapax naked, with the regions well defined, and minutely and irregularly granulated. There is a single, erect, blunt, almost capitate spine on the gastric, the cardiac, and each branchial region, making four in all, and there are a few smaller spines on the sides of the branchial, and on the hepatic and pterygostomian regions. There is also a small spine on the basal joint of the abdomen. The interantennular spine projects somewhat beyond the other four spines of the front, which reach to the same vertical plane. The chelipeds are large, nearly twice as long as the carapax; hand swollen; fingers not gaping. Ambulatory feet of the first pair nearly one third longer than the chelipeds. The ambulatory feet are naked (except in bearing a few minute curled setæ above), and rough with minute spines. The sternum is regularly granulated, except on the concave portion between the chelipeds.

Dimensions: Length of carapax, 0.32; breadth, 0.23; length of ambulatory foot of the first pair, 0.76 inch.

This crab is an inhabitant of deep water, ranging from 80 to 138 fathoms, and occurred in considerable abundance, as follows:—

|                                       |              |             |
|---------------------------------------|--------------|-------------|
| Off the Samboes, May 9.               | Cast No. 5.  | 80 fathoms. |
| Off Alligator Reef, May 8, 1869.      | Cast No. 6.  | 88 "        |
| Off Sand Key, May 16, 1868.           | Cast No. 2.  | 120 "       |
| Off the Samboes, May 9, 1868.         | Cast No. 12. | 123 "       |
| S. W. of Sand Key, February 17, 1869. | Cast No. 2.  | 125 "       |
| Off Boca Grande, February 15, 1869.   | Cast No. 5.  | 125 "       |
| Off Sand Key, May 11, 1868.           | Cast No. 11. | 128 "       |
| S. W. of Sand Key, February 17, 1869. | Cast No. 3.  | 138 "       |

## SUBFAMILY AMATHIINAE.

The only species of this group hitherto known is the *Amathia Rissoana* of the Mediterranean Sea. Two species are now added, as follows:—

***Amathia hystrix* nov. sp.**

This species has a close resemblance to *A. Rissoana*, but differs in having four instead of three spines on the gastric region.

The dimensions of a male specimen are as follows: Length of carapax, including the rostrum, 1.23; excluding rostrum, 0.71; breadth, including lateral spines, 0.95; excluding these spines, 0.48 inch.

Off Sand Key, May 11, 1869. Cast No. 16. 138 fathoms.

***Amathia modesta* nov. sp.**

Carapax armed with twelve spines shorter than in the other species of the genus, the two on the gastric region being in fact only spiniform tubercles. The lateral and posterior spines are longest, that on the outer extremity of the branchial region equalling in length one fifth the width of the carapax. Rostrum nearly as long as the post-frontal part of the carapax; horns rather stout, divergent, and curving outward at the tips. The spine before the eye is small, and that behind still smaller. No trace of a spine at the anterior angles of the buccal area. Feet somewhat shorter than in the other two species, and with no trace of a spine at the summit of the mecos-joint.

Dimensions of a male: Length of carapax, rostrum and posterior spine included, 0.84; from base of rostral horns to tip of posterior spine, 0.54; breadth of carapax, including spines, 0.50; excluding spines, 0.36; length of ambulatory foot of the first pair, 0.95 inch.

Taken off Sand Key in 120 fathoms.

## SUBFAMILY ANOMALOPINAE.

This group is indicated for the reception of the genus *Anomalopus*, now for the first time described, with a single species. The crab differs from all other Maioids in its elongated, subcylindrical carapax, and in the character of its ambulatory feet; those of the posterior pair being larger than those of the penult pair. The orbital arch is less distinct than in other Euryptodiidae, and the post-ocular spine much smaller.

***Anomalopus* nov. gen.**

Carapax very much elongated, almost subcylindrical; rostrum very long, slender, bifid. Eyes without orbits; præorbital spine small, acute; post-



ocular spine minute. External antennæ exposed from above; basal joint narrow. Antennular fossæ large. Epistome two thirds as long as it is broad. Meros-joint of the external maxillipeds without any notch at the interior angle where the palpus is inserted; external angle sharply prominent. Chelipeds in the female shorter than the carapax. Ambulatory feet of the first pair very long, twice as long as the carapax, with the dactylus nearly straight, and three fourths as long as the penult joint. Ambulatory feet of the posterior two pairs shorter and stouter than those of the anterior two, and with prehensile extremities; those of the penult pair shorter than those of the last pair.

**Anomalopus furcillatus nov. sp.**

Carapax minutely pubescent, unarmed except in front, regions scarcely defined. Rostrum equalling in length two thirds that of the post-frontal part of the carapax, forked in the terminal half of its length; horns but slightly divergent. External antennæ much shorter than the rostrum; flagellum as long as the two joints preceding it taken together. Antennulæ reaching to the extremity of the peduncle of the antennæ. Chelipeds with a small spine on the outer side of the carpus; hand very small; fingers half as long as the palm and much gaping.

Dimensions of a female: Length of carapax 0.67; breadth, 0.25; length of ambulatory foot of the first pair, 1.50; of the third pair, 0.48; of the fourth pair, 0.82 inch.

Of this species I find but one specimen in the collection, a female, which was taken at the depth of 123 fathoms off "The Samboes."

FAMILY LEPTOPODIIDÆ.

This family is characterized by an entire want of orbits and of a true post-ocular spine, and by the great length of the feet.

SUBFAMILY LEPTOPODIINÆ.

**Leptopodia sagittaria LEACH.**

*Cancer sagittarius* FABRICIUS, Ent. Syst., II, 442.

*Inachus sagittarius* FABRICIUS, Suppl. Ent. Syst., p. 359.

*Cancer seticornis* HERBST, Naturg. d. Krabben u. Krebse, III, pl. lv, fig. 2.

*Leptopodia sagittaria* LEACH, Zool. Misc., II, pl. lxxvii. LATREILLE, Encyc. Mèth. pl. ccxcix, fig. 1. DESMAREST, Consid. sur les Crust., pl. xvi,

fig. 2. GUERIN, Iconographie du Règne Anim., Crust., pl. xi, fig. 4.

H. MILNE-EDWARDS, Hist. Nat. des Crust., I, 276; pl. xv, fig. 14. Illust.

Cuv. Règne Anim., Crust., pl. xxxvi. GIBBES, Proc. Am. Assoc., 1850, p. 169. DESBONNE et SCHRAMM, Crust. de la Guadeloupe, p. 1.

This crab, which has hitherto been found in shallow waters, but never, as far as I am aware, above low-water mark, occurred to the expedition at the following points and depths:—

|   |                   |             |             |
|---|-------------------|-------------|-------------|
| South of the Tortugas,                        | January 15, 1869. | Cast No. 3. | 17 fathoms. |
| Off Conch Reef,                               | May 11, 1869.     | Cast No. 1. | 30 "        |
| Santarem Channel, at the edge of Bahama Bank. |                   | Cast No. -  | 35 "        |
| Off French Reef,                              | March 21, 1869.   | Cast No. 2. | 45 "        |

#### SUBFAMILY ACHAEINAE.

#### *Podochela macrodera* STM.

*Podochela macrodera* STIMPSON, Notes on N. American Crust., p. 68.

Found at Key West, in from 2 to 5 fathoms

#### *Podochela gracilipes* nov. sp.

Closely allied to *P. macrodera*, but differs in its narrower body, longer and more acute rostrum, and longer and much more slender feet. The dactylus of the first pair of ambulatory feet is exceedingly slender and longer than in either of the two species hitherto known, being more than one third as long as the penult joint. The process of the penult joint in the other ambulatory feet is almost entirely obsolete.

Dimensions of a female: Length of carapax, 0.35; breadth, 0.24 inch.

Only female specimens occur in the collection.

|                     |                   |             |             |
|---------------------|-------------------|-------------|-------------|
| West of Tortugas,   | January 16, 1867. | Cast No. 5. | 36 fathoms. |
| Off Pacific Reef,   | May 13, 1869.     | Cast No. 2. | 49 "        |
| Off Carysfort Reef, | March 31, 1869.   | Cast No. 1. | 52 "        |
| Off Carysfort Reef, | March 21, 1869.   | Cast No. 5. | 60 "        |

#### *Podonema* nov. gen.

The species of this genus I formerly included under *Podochela* (Notes on N. American Crust., p. 69), but the study of several species which have since become known to me has led me to consider it distinct in the hood-shaped rostrum, and in the existence of lamelliform ridges on the pterygostomial regions, defining the afferent channels. Like *Podochela*, this genus has a concave posterior margin of the carapax.

#### *Podonema Riisei* STM.

*Podochela Riisei* STIMPSON, Notes on N. American Crust., p. 69.

A female specimen of this species was taken in 13 fathoms, off the Tortugas.

#### *Podonema lamelligera* nov. sp.

The following description is that of a female, the only specimen as yet

found. Carapax similar to that of *P. Riisei*, except that there is a spiniform tubercle, curving backward at the tip, on the gastric region, and that the rostrum is smaller and more pointed. The two marginal lamellæ of the basal joint of the external antennæ are strongly prominent, joining each other in front, and curving outward at the posterior extremity. On the ischium-joint of the external maxillipeds there is a smooth longitudinal channel, defined exteriorly by a ciliated ridge. On either side of the buccal area there are four laminiform crests; one at the antero-exterior angle of the area, one on the hepatic, and two on the pterygostomian region. The sternum, where not covered by the abdomen, and the bases of all the feet, are ornamented with cavities, the surface of each joint being concave and surrounded by a laminiform expansion.

Dimensions of the female specimen: Length of carapax, 0.44; breadth, 0.37 inch.

It was taken at the depth of 21 fathoms, off Tennessee Reef, on the 7th of May, 1869.

#### *Podonema hypoglypha* nov. sp.

The following description is that of a male. Gastric, cardiac, and branchial protuberances low and rounded. Rostrum slightly curved upward, and triangular in outline when seen from in front and below, but with the lateral expansions well developed. The basal joint of the external antennæ is greatly elongated, and the laminiform expansions of the margins slight. Hepatic tooth and pterygostomian ridges moderately developed. Sternum with deep and broad channels separating the segments, which have each a corresponding flattened ridge as broad as the channel.

Dimensions of a male specimen: Length of carapax, 0.63; breadth, 0.48 inch.

It differs from *P. Riisei* in the shape of the rostrum, and from both *Riisei* and *lamelligera* in the elongated basal joint of the external antennæ.

No female specimen occurs in the collection.

Key West, in 4 to 5 fathoms.

S. W. of Loggerhead Key, in 9 fathoms.

#### FAMILY ACANTHONYCHIDAE.

In this group the eye is short, in some genera scarcely movable, and in others somewhat retractile, or rather capable of being moved in a horizontal plane. There are no true orbits, but in many genera the eye lies beneath the expanded orbital margin of the carapax, which has frequently two teeth, one before and one behind the position of the eye. The eye

is, however, never concealed by these expansions. The carapax is generally flattened, angular, and naked, instead of subpyriform and spinous as in the majority of Maioids. The feet are usually short.

It is necessary to reject the name *Periceridae*, which was applied to this group by Dana, for in the genus *Pericera* the eyes are completely retractile, as stated on a previous page. The genus *Acanthonyx* seems the most typical of the group, and from this is taken the name adopted above.

#### SUBFAMILY EPIALTINAE.

##### *Epialtus longirostris* STM.

*Epialtus longirostris* STIMPSON, Notes on N. American Crust., p. 71.

Found at Key West, in from 2 to 5 fathoms.

##### *Epialtus affinis* STM.

*Epialtus affinis* STIMPSON, Notes on N. American Crust., p. 3.

Found on the Reef at Cruz del Padre, Cuba.

##### *Mocosoa* nov. gen.

Carapax subpentagonal, tumid; rostrum subtriangular, entire, obtuse, excavated below; eyes large, immovable. External antennæ concealed beneath the rostrum and not reaching to its tip; basal joint triangular, unarmed in front. External maxillipeds very broad; meros-joint particularly short and broad, with the outer angle much projecting outward, and the inner one a right angle, not at all notched for the reception of the palpus.

This genus differs from *Epialtus* in its immovable eyes, which resemble those of *Huenia*. From *Huenia* it differs in the character of the rostrum. The name adopted for the genus is that of one of the Florida Caciques encountered by De Soto in his march.

##### *Mocosoa crebripunctata* nov. sp.

Upper surface of carapax everywhere uniformly punctate, the minute pits being equal in size and wider than the interspaces. Carapax naked and protuberant, there being two prominences between the eyes, three on the gastric region, one large one on the cardiac, and three on each branchial region. Of the three branchial protuberances one is situated at the middle of the region, and two on the outer margin, the posterior one being smallest and bearing a minute blunt spine. Feet short and armed with a few short, blunt spines, chiefly on the meros-joint.

Body of a strawberry color; upper surface of carapax iridescent.

Of this species there is but one specimen in the collection, an immature female, the dimensions of which are: Length of carapax, 0.20; breadth, 0.17 inch.

It was taken in 15 fathoms, off French Reef, April 3, 1869.

#### FAMILY PARTHENOPIDAE.

#### SUBFAMILY PARTHENOPINAE.

#### *Lambrus crenulatus* SAUSS.

*Lambrus crenulatus* DE SAUSSURE, Crust. Nouv. du Mexique et des Antilles, p. 13; pl. i, fig. 4. STIMPSON, Notes on N. American Crust., p. 73. DESBONNE et SCHRAMM, Crust. de la Guadeloupe, p. 21.

This species is remarkable for its depressed form and the excavation of the pterygostomian and subhepatic regions, which excavation extends to the infero-exterior margin of the orbit, forming, when the chelipeds are retracted, covered afferent passages, the external apertures of which are seen between the base of the finger of the cheliped and the margin of the orbit. This arrangement would indicate that the crab habitually conceals itself in the sand, with the rostrum, eyes, and afferent apertures only exposed.

*Lambrus laciniatus* De Haan exhibits the same features in a less marked degree, and the two species, with three or four similar forms, comprise a group which future studies may prove to be distinct from the triangular *Lambri*, and for which the name *Platylambrus* would be appropriate.

*Lambrus crenulatus* was taken near the Tortugas in from 5 to 7 fathoms, and off Loggerhead Key in 13 fathoms.

#### *Lambrus Pourtalesii* nov. sp.

Carapax considerably broader than long, with a median row of four spiniform tubercles, of which one is placed upon the gastric and three on the cardiac region. In front of the tubercle on the gastric region there are two much smaller ones in a transverse line. The oblique ridge on the branchial region is armed with three unequal tubercles, and a strong, spiniform, lacinated tooth, with a smaller tooth at its base, at the margin of the carapax. There are a few small, scattering tubercles on the other parts the carapax, particularly in the hollows between the branchial and cardiac regions. The depressions between the branchial, hepatic, and gastric regions are moderately deep. The general surface is pitted and granulated, having a carious appearance. There is a small prominent tooth on the hepatic region. Antero-lateral margin, behind the cervical sulcus, with

nine small, slender, lacinated teeth, progressively diminishing in size forwards; posterior tooth only one third the size of the large branchial spine or tooth, which is the largest on the margin of the carapax. There is a prominent tubercle at the summit of the branchial region. Rostrum of moderate size, pointing obliquely downward and forward, and bearing a tooth on each side near the base, and a smaller one near the tip. At the basal tooth the rostrum is abruptly contracted more than one half in width. Chelipeds rather long; margins armed with lacinated teeth; meros convex, with the upper surface granulated and tuberculated, the largest tubercles, those along the middle, being subspiniform; carpus with five large and several small spiniform tubercles above and on the outer side. Upper surface of hand with only two or three tubercles about the middle; teeth of the margins larger and more triangular than those of the margins of the meros; those of the inner broader than those of the outer margin, particularly those toward the fingers, which are not, like those toward the carpus, separated by intervals; inner margin with eight large and three small teeth; outer one with four large and six small teeth. Lower surface of hand punctate, with a regular median row of tubercles. Ambulatory feet somewhat compressed; meros-joint spinulose on both upper and lower edge. The ridges of the abdomen, sternum, and outer maxillipeds are tuberculated.

Dimensions of a male: Length of carapax, 0.47; breadth, lateral teeth included, 0.52 inch; proportion of length to breadth, 1 : 1.106; length of meros-joint of chelipeds, 0.37 inch.

|                     |                 |             |             |
|---------------------|-----------------|-------------|-------------|
| Off Conch Reef,     | March 21, 1869. | Cast No. 1. | 40 fathoms. |
| Off French Reef,    | March 21, 1869. | Cast No. 2. | 45 "        |
| Off American Shoal, | May 6, 1868.    | Cast No. 9. | 100 "       |
| Off Conch Reef,     | May 11, 1869.   | Cast No. 6. | 117 "       |

#### *Lambrus fraterculus* nov. sp.

Nearly allied to *L. Pourtalesii*, but differing as follows: The carapax is narrower, the proportion of length to breadth being 1 : 1.04 even in the female, while in the male it is longer than broad. The depressions between the branchial and the gastric and hepatic regions are much deeper. In the female the tubercles of the carapax and the teeth of the margins are less spiniform and generally smaller; the tubercles of the branchial and gastric regions are indeed sometimes obsolete or nearly so. In the only male specimen at hand, the median tubercle of the gastric and that of the cardiac region are much taller than in *L. Pourtalesii*. The rostrum is also longer than in that species, with the narrowed extremity much more slender, and the basal teeth more prominent; there is also a small slender

spine placed beneath and outside of this basal tooth. The chelipeds are shorter, and the lower surface of the hand is always ornamented with several rows of granulated tubercles. The dactyli of the ambulatory feet are covered with a dense velvet-like pubescence, except at the tips.

Dimensions of a male: Length of carapax, 0.47; breadth, 0.45 inch. Of a female, length of carapax, 0.54; breadth, 0.56; length of meros-joint of cheliped, 0.34 inch.

|                     |                   |              |             |
|---------------------|-------------------|--------------|-------------|
| Off Sand Key,       | May 11, 1868.     | Cast No. 2.  | 26 fathoms. |
| Off Carysfort Reef, | March 21, 1869.   | Cast No. 8.  | 35 "        |
| West of Tortugas,   | January 16, 1869. | Cast No. 4.  | 36 "        |
| Off Conch Reef,     | March 21, 1869.   | Cast No. 1.  | 40 "        |
| Off Carysfort Reef, | March 21, 1869.   | Cast No. 5.  | 60 "        |
| West of Tortugas.   | January 16, 1869. | Cast No. 13. | 68 "        |

#### *Lambrus agonus* nov. sp.

Carapax broader than long, of rounded form, without angles at the sides. Depressions between the regions rather shallow. Surface above everywhere minutely tuberculated and granulated. The larger tubercles are somewhat spiniform, and are arranged as follows: Five on the gastric region, of which four are placed in a transverse line across the middle, and one, larger than the others, on the median line behind them; three in a longitudinal row on the cardiac region; one each side of the intestinal, far apart; five on each branchial, and one on the hepatic region. From the central cardiac, and from each hepatic tubercle, proceeds on each side a row of granules, forming a V. Antero-lateral margin behind the hepatic region armed with six very small teeth, beneath and behind the posterior one of which there is a short tooth-like crest. The rostrum, though smaller in size, resembles that of *L. Pourtalesii* in having a slender extremity, but instead of two denticles near the tip, it has two or three denticles near the basal teeth. There are two prominent teeth on the outer side of the orbit, and a minute spine at the summit of the eye. On the sternum, near the base of the chelipeds, there is a conical tubercle on each side. Tooth of the basal joint of the cheliped acutely triangular. On the second joint of the abdomen there is a sharply prominent, bluntly triangular transverse crest, and a tooth on each side; and on the penult joint there is a crest like that of the second joint, but smaller.

The chelipeds are very long and slender; upper surface minutely scabrous, and with an irregular row of tooth-like tubercles which is median on the meros and carpus, but approaches the outer margin in the hand. Edges of the meros and carpus with numerous small irregular teeth. On the inner (superior) edge of the hand there are nineteen teeth, increasing

somewhat regularly in size to a point near the anterior extremity, where they gradually diminish again. On the outer edge of the hand there are four or five large and about eleven small teeth alternating by threes with the larger ones. The fingers are white in color, and not so much bent downwards as is usual in the genus. Ambulatory feet long, slender, naked, and unarmed, or with only obscure indications of teeth on the meros-joint.

Dimensions of a male: Length of carapax, 0.45; breadth, 0.50; proportion, 1 : 1.11; length of meros-joint of cheliped, 0.55 inch.

In a male specimen of what is probably a variety of this species, dredged off Conch Reef, the hands are shorter than in the typical form, and the rostrum is not narrowed toward the extremity, and is devoid of marginal teeth. These differences are certainly important ones, but the specimen accords so well with the type in all other characters that I can scarcely believe it to be distinct.

The species has some resemblance to *L. mediterraneus* Roux, but differs in the smaller and less numerous marginal teeth of the carapax, and in the unarmed ambulatory feet.

|                     |                    |             |             |
|---------------------|--------------------|-------------|-------------|
| Off the Marquesas,  | February 10, 1869. | Cast No. 3. | 40 fathoms. |
| Off Carysfort Reef, | March 21, 1869.    | Cast No. 7. | 40 "        |
| Off Conch Reef,     | March 21, 1869.    | Cast No. 1. | 40 "        |
| Off Conch Reef,     | May 11, 1869.      | Cast No. 3. | 49 "        |

#### *Solenolambrus* nov. gen.

This name is proposed for a well-defined group of Parthenopidae, allied to *Lambrus*, of which I have before me three species, the only ones as yet known, all of which are new to science.

The carapax is pentagonal, and more or less broader than long. The posterior side of the pentagon is much the shortest, and the other four sides are about equal. The margin is acute on all sides, forming a slight crest. The upper surface is naked, glossy, strongly convex, and bears four protuberances, one gastric, one cardiac, and two branchial. The gastric and cardiac protuberances are more or less triangularly pyramidal, and the branchial protuberance is armed with an acute ridge, running obliquely to the postero-lateral margin of the carapax. The frontal region is slightly convex, and there is no protuberance on the orbital region. The rostrum is short and blunt, or faintly tridentate. The orbits are round, with the upper margin entire and smooth. The basal joint of the external antenna is about as long as the next joint; it may be either longer or shorter. The epistome is concave. From the antero-external angle of the buccal area a sharp, elevated, crenulated ridge extends to the outer base of the cheliped, separating the concave pterygostomian from the subhepatic



region, which is also concave and channel like. When retracted, the extremity of the hand of the cheliped covers the pterygostomian region, forming the afferent passage. The external maxillipeds fit accurately the buccal area, and closely against each other within, and the exognath is concave, forming part of the wall of the afferent channel, which is defined within by a slight elevated ridge on the outer side of the ischium of the endognath; the meros-joint has a prominent antero-external angle, and its surface is concave toward the antero-interior angle, and there is no notch for the insertion of the palpus, which, except at its origin, is concealed beneath the other joints of the endognath. The chelipeds resemble those of *Lambrus*, except that the fingers are very small, and the dactylus is generally at right angles with the palm when retracted. The terminal joints of the ambulatory feet are acuminate. The third, fourth, and fifth joints of the male abdomen are soldered together.

This genus differs from *Parthenope* and *Lambrus* in its naked, polished carapax, in the distinct definition of the afferent channels, and in the want of a notch in the meros-joint of the external maxillipeds for the reception of the palpus. As far as known, it is peculiar to the tropical portions of the American seas, species being found on both the east and the west coasts of the continent.

#### *Solenolambrus typicus* nov. sp.

Carapax one eighth broader than long; posterior side considerably produced. Surface punctate. Protuberances of the gastric and cardiac regions triangularly pyramidal, and acute, with the ridges forming the angles crenulated; one of the ridges, the posterior, is in the median line of the carapax, and the other two diverge from each other in front. The cardiac pyramid is symmetrical, each of its triangular sides being equal; while the gastric protuberance is not symmetrical, the posterior ridge being a short, steep slope, and the two anterior ridges being long, and enclosing a gradual, somewhat convex slope toward the front. The ridge of the branchial region is also crenulated, and is bent at the middle at an obtuse angle, almost a right angle. In the male each of the protuberances of the carapax is surmounted by an acute spine, while in the female the apical angles are not thus acute. The margin of the carapax is more or less distinctly crenulated, especially the antero-lateral margin, at the outer or posterior end of which there are three small but distinct teeth. The antero-lateral margin is concave anteriorly and convex posteriorly. The posterior margin is straight, with the lateral angles sharply defined, and even spiniform in the male. Eyes rather large, with a minute tubercle on the anterior side of the extremity. Basal joint of the external antennæ somewhat longer than the next joint.

Epistome of moderate length. On the subhepatic region, near the afferent ridge, and parallel to it, there is a slight supplementary ridge. External maxillipeds naked; ischium with the outer ridge tuberculated, and a few tubercles on the surface near the extremity; external angle of meros very strongly prominent. On the sternum between the bases of the chelipeds there are two small tubercles, one on either side of the median line. Chelipeds long, naked, with the exception of some inconspicuous setae on the crest of the hand; meros with denticulated margins, and with the surface smooth and glossy above, except at the inner or posterior extremity, where there are three or four small tubercles, and at the outer extremity, where there is a granulated protuberance; carpus with five denticulated crests; hand trigonous, with ten strong, regular, equal teeth on the superior crest, twelve small, granulated teeth on the outer margin, and fifteen teeth, increasing regularly in size toward the extremity, on the lower margin; upper surface of the hand with two rows of tubercles and two or three scattered ones between the rows; lower surface with three rows of tubercles, those of the middle row minute and obsolescent toward the extremity; inner surface glabrous at the middle, and with a row of tubercles close to either margin, and a few scattered ones near the fingers. All the tubercles of the surfaces of the hand are ornamented with granules, from two to five in number. Fingers very small and slender, one fifth as long as the palm; dactylus when retracted placed almost at a right angle with the palm. Ambulatory feet compressed, naked, polished, with a lamiform crest above; the meros of the posterior pair having a crest below also, which has a lobe-like expansion at the inner extremity. Abdomen tuberculated on the sides; that of the male not narrowed at the third joint and very little tapering.

Dimensions of a female specimen: Length of carapax, 0.45; breadth, 0.50 inch; proportion, 1 : 1.11; length of meros-joint of cheliped, 0.41; length of hand, 0.59 inch.

Off the Samboes, May 9, 1868. Cast No. 5. 80 fathoms.

Off Alligator Reef, May 8, 1869. Cast No. 6. 88

Off Alligator Reef, May 8, 1869. Cast No. 8. 110

***Solenolambrus tenellus* nov. sp.**

This species is much smaller than the preceding, and more delicate and fragile in appearance. The carapax is but little shorter than broad, and about equally produced in front and behind beyond the line of the lateral angles. Surface rather coarsely punctate. Protuberances of the carapax much less prominent than in the other species; those of the gastric and cardiac regions obtusely rounded, without angular ridges; ridge of branchial region sufficiently well marked near the postero-lateral margin,

but almost obsolete anteriorly. Margins of carapax crenulated, the teeth being most distinct on the flattened, expanded, and broadly rounded lateral angle, where they are about six in number, not crenulated, and but little projecting, being defined chiefly by the impressed lines on the marginal limb. On the hepatic region there are two or three denticulated teeth. Postero-lateral margin slightly concave. Posterior margin convex; its lateral angles obtuse. Rostrum rather prominent and faintly tridentate at the extremity; median tooth smallest and most prominent. External angle of orbit not prominent. Eye large, with a very minute tubercle at the summit. In the external antennæ the basal joint is about equal to the next in length. Subhepatic region less concave than in *S. typicus*, and without any supplementary ridge. External maxillipeds and afferent channels nearly as in *S. typicus*, but with the ridges less strongly tuberculated, and with the outer angle of the meros-joint less acutely prominent. Sternum between the bases of the chelipeds convex on either side, but not tuberculated. Chelipeds very long and slender; edges denticulated, but with the surface between them smooth and polished; meros with about thirteen denticles on either edge, the third denticle from the outer extremity being larger than the others; hand with twelve sharp, forward-curving teeth on the superior edge, the terminal tooth above the finger being spiniform and considerably longer than the others; outer edge of hand with about eleven obtuse, equal, less prominent, minutely crenulated teeth; inner edge with nineteen or twenty very minute teeth. Ambulatory feet naked and compressed, but without laminiform crests; meros-joint of the posterior pair slightly expanded below near the base. In the male the sternum and abdomen are smooth and glabrous; abdomen broad at the base and narrower at the third joint.

Dimensions of a male: Length of the carapax, 0.25; breadth, 0.27 inch; proportion, 1:1.08; length of meros-joint of cheliped, 0.29; length of hand, 0.32 inch.

|                                     |             |            |
|-------------------------------------|-------------|------------|
| Off Carysfort Reef, March 21, 1869. | Cast No. 8. | 35 fathoms |
| Off Carysfort Reef, March 21, 1869. | Cast No. 7. | 40 "       |
| Off Conch Reef, March 21, 1869.     | Cast No. 1. | 40 "       |
| Off French Reef, March 21, 1869.    | Cast No. 2. | 45 "       |
| Off Carysfort Reef, March 21, 1869. | Cast No. 6. | 48 "       |
| Off Conch Reef, May 11, 1869.       | Cast No. 3. | 49 "       |

#### *Mesorhoea* nov. gen.

This genus bears an almost exact resemblance to *Solenolambrus* in the form and armature of the carapax, the character of the feet, and that of the pterygostomian and hepatic channels, except that the latter are deeper. It differs, however, in the very important point that the affe-

rent channels meet at the middle of the endostome, which has there a triangular projection, and a deep notch in its vertical, laminiform wall. The meros-joint of the external maxillipeds is acutely produced forward at its internal angle, and behind it the palpus is entirely concealed. The epistome is very short. The eyes are small, and may be retracted into their deep sockets so as to be almost entirely concealed. The basal joint of the external antennæ is somewhat shorter than the next joint.

The remarkable form of the endostome and external maxillipeds in this genus indicates an approach to the oxy stomatous crabs, to which the Parthenopidae show, indeed, considerable resemblance in other respects.

**Mesorhoea sexpinosa** nov. sp.

Carapax one fifth broader than long, and about equally produced in front and behind beyond the line of the lateral angles. Surface punctate and inconspicuously pubescent. Protuberances of the gastric, cardiac, and branchial regions strongly angular, each surmounted by a three-sided spine, the spine of the branchial region being situated on the postero-lateral margin, of which it forms a projection. The angles or ridges are more or less crenulated. The lateral edges of the gastric protuberance are continued forward nearly to the front, becoming parallel shortly after diverging from the spine. The cardiac spine is more slender than the others, and its posterior edge is nearly vertical. The branchial ridge is nearly straight. Between the protuberances and ridges the surface is more or less regularly concave, the sides of the protuberances being not swollen. The rostrum is short. The margins of the carapax are sublaminiform and almost entire, the normal crenulation being indicated only by faint impressed lines on the limb. Microscopic netches may, however, be detected on the antero-lateral margin, which is slightly convex toward the lateral angle. Postero-lateral margin concave. Posterior margin about half as long as the postero-lateral, convex at the middle, and terminating on either side in a slight tooth. Afferent channels deep, separated from the subhepatic channels by a very thin and sharp, prominent, ciliated lamina, and defined on the inner side by the ciliated outer edge of the ischium of the external maxillipeds. From the anterior angle of the buccal area a short ridge extends to the middle of the inner tooth of the orbit, which ridge separates the concavity of the epistome from that of the subhepatic region. Meros-joint of the external maxillipeds with two tubercles on the surface, one towards the postero-exterior angle, the other close to the antero exterior angle; anterior margin of the joint deeply concave or notched. Chelipeds short, pubescent, especially on the toothed edges; surface between the edges smooth; on the basal joint

below there is a strong, triangular, pyramidal spine, nearly as large as the dorsal spines of the carapax; margins of the meros crenulated with six or seven small teeth on either edge; carpus flattened above, with two strong, crenulated crests, the outer one of which bears a larger, spini-form tooth at the middle; hand with an elevated, nine-toothed superior crest and eleven-toothed outer margin; fingers very small; dactylus at right angles with palm. Ambulatory feet much compressed; antepenult and penult joints with a laminiform crest above; meros-joint of the posterior pair with a slight crest below. Abdomen glabrous.

Of this species there is but one specimen — a female — in the collection; in which the length of the carapax is 0.32; the breadth, 0.39 inch. The length of the hand is 0.28 inch.

The specimen was taken in 11 fathoms, four miles southwest of Logger-head Key.

#### SUBFAMILY CRYPTOPODIINAE.

##### *Cryptopodia concava* nov. sp.

Carapax subpentagonal, greatly expanded posteriorly, the posterior margin, which is nearly straight, equalling the entire width; lateral margins short; antero-lateral margins slightly convex. Rostrum triangular. The gastric region is protuberant, and from its summit a sharp, crenulated ridge or raised line passes on either side to the postero-lateral angle, enclosing a concave, triangular space. The surface between this ridge and the antero-lateral margin is also concave. The entire upper surface of the carapax, the ridges excepted, is smooth and shining. The margins are crenulated with small teeth, the furrows separating which extend for some little distance inward, giving the indentations the appearance of being much deeper than they really are. The teeth themselves are minutely granulated. External maxillipeds smooth, glabrous; meros-joint triangular, with the external angle very acutely projecting, and the internal angle without a notch for the insertion of the palpus, the first joint of which is indurated, with a projecting tooth at its extremity.

Chelipeds flattened as in *C. fornicata*, but with the meros-joint narrower, the carpus smaller, and the hand convex below; fingers slender, curved. Ambulatory feet crested; crest of meros spinulose above and below. Transverse crest of sternum bilobed, each lobe being three-toothed, and in the same line with a tooth on the basal joint of the cheliped, which belongs also to this crest, which forms the margin of the concave and perpendicular front of the sternum.

The dimensions of the only specimen found — a young female — are as follows: Length of carapax, 0.32; breadth, 0.43; proportion, 1 : 1.34;

length of meros-joint of cheliped, 0.22; length of hand, 0.26; breadth of hand, 0.12 inch.

The specimen was taken off Conch Reef in 34 fathoms.

## CANCROIDEA.

### FAMILY CANCRIDAE.

#### SUBFAMILY XANTHINAE.

##### *Actaea nodosa* STM.

*Actaea nodosa* STIMPSON, Notes on N. American Crust., p. 75. DESBONNE et SCHRAMM, Crust. de la Guadeloupe, p. 25.

Dredged January 16, 1869, west of the Tortugas, in 35 and 37 fathoms.

##### *Actaea setigera* STM.

*Xantho setiger* H. MILNE-EDWARDS, Hist. Nat. des Crust., I, 390.

*Actaea setigera* STIMPSON, Notes on N. American Crust., p. 51. A. MILNE-EDWARDS, Nouv. Arch. du Muséum d'Hist. Nat., I, 271; pl. xviii, fig. 2.

Found on the Reef at Cruz del Padre, Cuba.

##### *Carpoporus* nov. gen.

Carapax subhexagonal, nearly as long as broad; antero-lateral margin armed with three small teeth (in a line which conducts beneath the orbit anteriorly), and drawn in posteriorly, the greatest breadth of the carapax being at the middle tooth; postero-lateral shorter than the posterior margin; facial region very broad; front prominent. Orbit circular, without teeth below, except two or three minute spiniform denticles on the margin; fissures of outer and inferior margins obsolete. Basal joint of the external antennæ narrowing forwards, reaching the front, and passing well into the hiatus of the orbit, nearly as in *Euxanthus*; movable part of the antennæ very small. Chelipeds, when retracted, having a large hole between the carpus and hand above for the passage of water to the afferent branchial apertures. Third, fourth, and fifth joints of the abdomen in the male soldered together; terminal joint as broad as long.

This genus differs from *Xantho* in its external antennæ; from *Euxanthus* in the narrowness of the carapax; from *Polycrænnus* in its five-jointed male abdomen; and from *Halimede* and *Medæus* in the want of conspicuous fissures and teeth on the margin of the orbit.

It is very peculiar in the perforation of the retracted chelipeds, recalling a similar perforation of the chelipeds of *Echinocerus foraminatus*, in which, however, it occurs between the carpus and meros.

**Carpoporus papulosus** nov. sp.

Carapax naked above, areolated; areolets protuberant, somewhat wart-like, and granulated; gastric and frontal regions very prominent. Lateral teeth small, spiniform; their interstices armed with denticles, two or three in number. Front strongly projecting at the middle, and bilobed; margin of lobe concave. Peduncle of the eye granulated, and with a few minute spines at the summit. Orbit with the margin minutely crenulated with granules, with a slight fissure near the middle of the superior margin, and with two spiniform teeth below near the outer side. Outer maxillipeds armed in front and along the inner edges with small but strongly prominent tubercles. The carpus and hand of the chelipeds are sculptured externally with granulated protuberances, which on the hand are arranged in four or five longitudinal rows; hand serrated above with four teeth; fingers short, less than half the length of the palm. Ambulatory feet hairy below; penult and antepenult joints armed above with two rows of short, stout spines.

Dimensions of a male: Length of carapax, 0.25; breadth, 0.31 inch; proportion, 1: 1.24.

S. W. of the Tortugas, January 18, 1869. Cast No. 1. 25 fathoms.  
Off Carysfort Reef, March 31, 1869. Cast No. 1. 52 "

**Micropanope** nov. gen.

The generic group now for the first time described is nearly allied to *Panopeus*, and also shows some resemblance to *Pilumnus*. As in the latter genus, the species are among the smallest of Cancroid forms, and live in deep or moderately deep water. As far as I am aware they are never truly littoral like the *Panopei*. Species of the genus occur in the warmer seas of both sides of the American continent.

The carapax is rather narrow, with the antero-lateral margin short and the front broad. As in *Panopeus*, there are five teeth on the antero-lateral margin, but the second tooth is coalesced with the scarcely prominent angle of the orbit, and the posterior tooth is minute; so that only two of the teeth are prominent, arming the carapax at its antero-lateral angle. The external hiatus of the orbit is reduced to a simple emargination. The basal joint of the external antennæ is short, but meets a process from the front. The endostome is usually marked on either side by a slight ridge, which does not, however, extend to the anterior margin. The hand in the chelipeds is large, with rather long fingers, bent to an angle with the palm, so that the lower margin of the hand is rather deeply concave.

*Micropanope sculptipes* nov. sp.

Carapax naked, distinctly areolated; anterior and antero-lateral areolets somewhat roughened in front with small, sharp, tooth-like tubercles. Antero-lateral teeth sharp and denticulated; the posterior one nearly obsolete. Frontal lobes little projecting, but with a convex outline; margin minutely crenulated, and defined by a slight furrow following it above. A small tubercle on the subhepatic region beneath the second antero-lateral tooth. Chelipeds granulated above; carpus with a sharp tooth and denticulated margin within, and with the granules arranged in reticulating lines; hand with a double denticulated crest, and with the minute granules of the outer surface showing a tendency to arrangement in rows; these granules become obsolete toward the base of the thumb or propodal finger. Ambulatory feet armed with minute spines above, which form two rows on the carpal joint.

Dimensions of a male: Length of carapax, 0.13; breadth, 0.17 inch; proportion, 1:1.30.

It was taken at the following localities and depths:—

|                       |                    |              |             |
|-----------------------|--------------------|--------------|-------------|
| Off the Marquesas,    | February 10, 1869. | Cast No. —.  | 15 fathoms. |
| Off Carysfort Reef,   | March 21, 1869.    | Cast No. 8.  | 35 “        |
| West of the Tortugas, | January 16, 1869.  | Cast No. 6.  | 35 “        |
| West of the Tortugas, | January 16, 1869.  | Cast No. 12. | 42 “        |
| Off French Reef,      | March 21, 1869.    | Cast No. 2.  | 45 “        |
| Off Carysfort Reef,   | March 21, 1869.    | Cast No. 5.  | 60 “        |
| West of the Tortugas, | January 16, 1869.  | Cast No. 13. | 68 “        |

*Chlorodius dispar* nov. sp.

Carapax transversely oval, very broad, convex, smooth, polished, sparsely punctate in front, and scarcely at all areolated, the only depressions at all conspicuous being those at the antero-lateral corners of the gastric region, partly defining the protogastric lobes. Antero-lateral margin almost entire, the posterior two of the five normal teeth only being distinguishable. Orbits entire, above and below. Front straight, slightly notched, but not at all prominent at the middle; margin furrowed. Chelipeds very unequal, the right one in both specimens under observation being much larger than the other; they are naked, smooth, and polished; fingers a little more than half as long as the palm, scarcely gaping, and but little excavated at the tips. Ambulatory feet compressed, hairy above.

Colors: Carapax, dark brown; chelipeds, dark reddish; fingers, black; greater hand with one or two white spots on the outer side between the bases of the fingers.



Dimensions of a male: Length of carapax, 0.18; breadth, 0.26 inch; proportion, 1 : 1.44.

This species approaches somewhat *C. levissimus* Dana, of the Sandwich Islands, but differs from that and all other known species in its smooth, oval, convex carapax and the obsolescence of the antero-lateral teeth.

Found on the reef at Cruz del Padre, Cuba; two specimens, a male and a female.

## FAMILY ERIPHIIDAE.

### SUBFAMILY OZINAE.

#### *Pilumnus aculeatus* H. M. EDW.

*Cancer aculeatus* SAY, Jour. Acad. Nat. Sci., Philad., I, 449.

*Pilumnus aculeatus* H. MILNE-EDWARDS, in GUERIN, Iconog. du Règne Anim., Crust., pl. iii, fig. 2; and Hist. Nat. des Crust., I, 420. GIBBES, Proc. Am. Assoc. Adv. Sci., 1850, p. 177.

A young specimen of this species was collected at the Tortugas. I find no note of the depth of water at which it was taken.

#### *Pilumnus caribaeus* DESB. et SCHR.

*Pilumnus caribaeus* DESBONNE et SCHRAMM, Crust. de la Guadeloupe, p. 32.

The specimens which I have referred to the above species differ from *P. aculeatus* in having the anterior spine of the three principal ones of the antero-lateral margin bifid, and in the shorter and more numerous spines of the frontal margin.

Found on the reef at Cruz del Padre, Cuba, and at Key West in from 2 to 5 fathoms.

#### *Pilumnus floridanus* nov. sp.

This species belongs to the same group with *P. aculeatus*, and bears a close resemblance to it. It differs in its narrower carapax, which is covered with a dense, short pubescence, with a few longer hairs, a transverse series of which, across the frontal region, forms a somewhat conspicuous feature. Below the ciliated line, the frontal region is naked, and its margin is unarmed; its lobes are not strongly and evenly projecting as in *aculeatus*, but are most prominent within, near the median sinus. The orbits are unarmed above, but have eight or ten spiniform teeth on the margin below, which teeth are far shorter than in *aculeatus*. The subhepatic tooth or tubercle is small and inconspicuous, and the surface of the subhepatic region is not perceptibly granulated. There are no spines on the hepatic region above. In the chelipeds the entire outer surface of the greater hand is tuberculated. The ambulatory feet are armed with spines as in *aculeatus*.

Dimensions of a female specimen: Length of carapax, 0.22; breadth, 0.30 inch; proportion, 1 : 1.36.

Found at the Tortugas.

***Pilumnus lacteus* nov. sp.**

Closely allied to *P. gemmatus* Stm. (Notes on North American Crustacea, p. 86), and like that species covered with a whitish or cream-colored, velvet-like pubescence. It differs in the more spiniform shape of the antero-lateral teeth of the carapax, in the less numerous tubercles on the carapax and chelipeds, in the want of tubercles on the superior margin of the orbit, and in the smooth, glabrous outer surface of the hands, which is light red in color. The lobes of the front also are more triangular and pointed.

Dimensions of a male: Length of carapax, 0.31; breadth, 0.44 inch; proportion, 1 : 1.42.

Found on the reef at Cruz del Padre, Cuba, and at Key West in from 2 to 5 fathoms.

***Pilumnus Agassizii* nov. sp.**

Carapax convex, and with the anterior two thirds deeply areolated; areolets protuberant. Surface pubescent everywhere, except on the anterior and antero-lateral areolets, which are naked and thickly granulated. The depressions between the protuberant areolets are broad, occupying fully as much space as the areolets themselves. Two of the areolets form the lobes of the front, which are as large and prominent as the epigastric lobes, or even larger. The frontal surface is vertical, and not much projecting, but the lobes are deeply separated from each other and from the orbits. Orbital region protuberant and granulated; margin not toothed, but crenulated with granules, and marked by two fissures above and two less conspicuous ones below. The antero-lateral margin behind the orbit is armed with three triangular, acute, equal teeth of moderate size. Subhepatic tooth distinct. Chelipeds stout, short, and thick; carpus covered above with granulated tubercles which are confluent exteriorly, forming transverse ridges; hand covered above and on the outer side with small but prominent mammillary tubercles, having their apices pointing forwards. Ambulatory feet pubescent and hairy; penult and antepenult joints armed with minute spines above.

Dimensions of a male: Length of carapax, 0.65; breadth, 0.83 inch; proportion, 1 : 1.28.

This species has some little resemblance to *P. gemmatus*, but the protuberances of the carapax are densely granulated instead of sparsely tuberculated.

It was taken in from 5 to 7 fathoms between East and Middle Keys, Tortugas, and East of the Tortugas in 13 fathoms.

***Pilumnus nudifrons* nov. sp.**

Body and feet everywhere pubescent above, except on the frontal and orbital regions. Carapax about seven eighths as long as broad, much narrowed posteriorly, convex; regions slightly defined and not protuberant; surface beneath the pubescence punctate and sparsely roughened with scattered tubercles variable in size, and most numerous on the gastric and hepatic regions. Frontal and orbital regions continuous, without any teeth or spines, forming a prominent, wide, naked, minutely granulated anterior border to the carapax, made more distinct by a channel-like depression which separates it from the rest of the surface. On this border there are no sinuses at the junction of the front and orbits, and the median emargination of the straight or slightly convex frontal outline is very slight. At the outer angle of the orbit the border is continued for a short distance posteriorly, on the antero-lateral margin. Beyond this the antero-lateral margin is nearly parallel to the axis of the body, and armed with three small triangular teeth. Orbital margin below entire, and smooth, without fissures or teeth, with the exception of the usual large tooth forming the inner angle. The subhepatic tooth is distinct, forming part of an irregularly denticulated or granulated ridge, which extends from the posterior extremity of the anterior border of the carapax to the anterior angle of the buccal area. The basal joint of the external antennæ is small, and the space between it and the frontal projection is almost equal to its own length. Chelipeds very short and stout, armed above and on the outer side with roughened tubercles like those of the carapax. On the superior margin of the hand there are three strongly projecting teeth.

Dimensions of a female specimen: Length of the carapax, 0.41; breadth, 0.49 inch; proportion, 1 : 1.195.

Only two specimens of this species were taken, both females. They occurred at the depths of 111 and 125 fathoms, off Sombrero Key.

***Pilumnus granulimanus* nov. sp.**

This is a small species, in which the carapax is rather short and broad, naked, areolated and granulated in front, and smooth posteriorly. The granulation is especially conspicuous on the hepatic regions. Antero-lateral margin minutely denticulated, and armed with four small, equal, acute, triangular teeth, besides the angle of the orbit. At the penult tooth a short granulated ridge extends inwards on the surface of the

carapax. The antero-lateral margin in these characters resembles that of *Xantho* and *Panopeus* rather than that of the ordinary *Pilumnus*. The subhepatic region is granulated, and bears a minute tooth beneath the interval between the angle of the orbit and the next marginal tooth. Orbit with a distinct notch beneath the outer angle; margins otherwise entire, above and below. Front somewhat deflexed, very little projecting; margin unarmed and profoundly notched at the middle. The basal joint of the external antennæ falls considerably short of reaching the front. There is no ridge on the endostome. Feet setose; greater cheliped less setose than the rest; carpus and hand covered externally and above with small, subequal granules, regularly crowded, and diminishing in size below; carpus with two minute, sharp teeth at the inner angle. Ambulatory feet with a few minute, short spines along the superior edge. Color yellowish, marbled with red.

Dimensions of a male: Length of carapax, 0.18 inch; breadth, 0.25 inch; proportion, 1:1.38.

A male and a female of this species were found on the reef at Cruz del Padre, Cuba.

#### **Melybia** nov. gen.

Carapax broad, subquadrate; front rather depressed, very broad; antero lateral margin short, only one third as long as the postero-lateral, and armed with three or four teeth. Basal joint of the external antennæ occupying the hiatus of the orbit, firmly soldered, and reaching a process of the front. External maxillipeds very narrow, widely gaping; exognath half the width of the endognath. Feet all spinulose; chelipeds rather large, even in the female; ambulatory feet long, slender, and compressed.

This genus is closely allied to *Melia*, but differs therefrom in its broader carapax, three-toothed antero-lateral margin, firmly soldered basal-joint of the external antennæ, broader exognath of the external maxillipeds, and spinulose feet. It has somewhat the appearance of a *Thalamita*.

#### **Melybia thalamita** nov. sp.

Carapax somewhat convex, slightly pubescent; surface nearly smooth and even; regions faintly defined. Antero-lateral margin three-toothed (the little-prominent angle of the orbit not included); teeth spiniform, pointing forward, the anterior one longest, the posterior one minute. Front bilobed; margin of the lobes nearly straight. Orbit with two fissures above, and one below near the outer side; margins smooth or minutely crenulated. Subhepatic region minutely granulated. In the chelipeds the meros-joint is spinulose along the upper edge, and armed with two slender spines on the inner edge; carpus with four or five spines

on the upper side, the spine at its summit being the longest one on the chelipeda; hand oblong, with two longitudinal rows of spines on the upper edge; fingers two thirds as long as the palm. Ambulatory feet sparsely hairy; meros armed with spines along the upper edge, and with one spine below near the extremity; dactyli nearly as long as the penult joint.

Dimensions of a female specimen: Length of carapax, 0.25; breadth, 0.36 inch; proportion, 1:1.44.

In a variety (?) of the species, dredged, as stated below, in 42 fathoms, the carapax and feet are naked.

|                       |                   |              |             |
|-----------------------|-------------------|--------------|-------------|
| Off French Reef,      | April 3, 1869.    | Cast No. 1.  | 15 fathoms. |
| West of the Tortugas, | January 16, 1869. | Cast No. 7.  | 35 "        |
| West of the Tortugas, | January 16, 1869. | Cast No. 8.  | 37 "        |
| West of the Tortugas, | January 16, 1869. | Cast No. 12. | 42 "        |

#### SUBFAMILY ERIPHIINAE.

##### *Eriphia gonagra* H. M.-EDW.

*Cancer gonagra* FABR., Ent. Syst., II, p. 460. Suppl. Ent. Syst., p. 337.

*Eriphia gonagra* H. MILNE-EDWARDS, Hist. Nat. des Crust., I, 426, pl. xvi, figs. 16 and 17. GIBBES, Proc. Am. Assoc. Adv. Sci., 1850, p. 177.

DANA, U. S. Expl. Exped., Crust., I, 250. STIMPSON, Notes on North American Crust., p. 89. SMITH, Trans. Conn. Acad. Arts and Sciences, II, 7.

Dredged at Key West, in from two to five fathoms.

##### *Domecia hispida* SOUL.

*Domecia hispida* SOULEYET, Voyage au Pole Sud., pl. vi, figs. 3, 7. STIMPSON, Notes on N. American Crust., p. 90.

Of this species I find three lots of specimens, labelled as follows:—

Florida Reefs, in shallow water.

Reef at Eastern Dry Rocks, littoral.

Reef at Cruz del Padre, Cuba.

#### FAMILY PORTUNIDAE.

##### SUBFAMILY PORTUNINAE.

##### *Bathynectes* nov. gen.

Very near *Portunus*,\* but differing in its antero-lateral teeth, which are not like those of a saw, but are somewhat spiniform, and separated by

\* By *Portunus* the typical forms are meant, *P. puber*, *corrugatus*, etc. *P. holsatus* (*marmoratus*) should be separated generically; it is quite distinct in its external max-

considerable intervals. The front, also, has no median tooth, and the hiatus of the orbit is widely open, not being filled by the basal-joint of the external antennæ, which is narrow, and firmly soldered anteriorly to the process of the front. The meros-joint of the external maxillipeds is as broad as long, and does not project anteriorly, but fits accurately to the anterior edge of the buccal area. The ambulatory feet are very slender; those of the first pair much shorter than those of the second; second and third pairs very long, the third longest; fourth pair two thirds as long as third.

***Bathynectes longispina* nov. sp.**

The following description is that of a male: Body naked; feet also naked, except the posterior ones, which are ciliated, as usual. Carapax subhexagonal, with a granulated and uneven surface. A well-defined ridge crosses the middle, connecting the lateral spines; while a shorter ridge crosses the cardiac, and another, interrupted at the middle, the gastric region. Antero-lateral margin armed with five sharp, spiniform teeth, including the angle of the orbit; the posterior tooth or spine being three times as long as the others, and more than one third as long as the width of the carapax, excluding the spines; first (anterior) two teeth broader and less spiniform than the others; third and fourth teeth very acute and a little longer than the distance between their bases. Front prominent, four-toothed; the middle two teeth being smaller than, and projecting a little beyond, the two lateral ones. Orbit with two open fissures above and one below; besides which, below, there is a sinus beneath the outer angle, and a broader one, with a denticulated margin, next the inner tooth. From the base of this inner tooth of the orbit a small projecting lobe crosses the bottom of the hiatus of the orbit and reaches the basal joint of the antenna. This joint is oblong in form, and bears a crest or carina along the outer side, terminating anteriorly in a slight tooth. Flagellum of the outer antennæ more than half as long as the carapax. Chelipeds one half longer than the carapax; meros with a long spine on the inner edge, and a short one on the superior edge, both distant from the anterior extremity of the joint about one third its length; carpus with a very long spine at the inner angle, which spine is itself armed with two or three small teeth on the anterior edge, and with three

illipeds, the meros-joint of which is elongated, projecting considerably beyond the buccal margin; and the basal joint of the external antennæ is slightly movable; the carapax is naked; there is no elevated line on the surface of the terminal and penult joints of the posterior pair of ambulatory feet, and the first joint of the abdomen is almost entirely concealed beneath the carapax. For *P. holzatus* and its allies the name *Liocarcinus* is proposed.

other spines, and several spinuliform tubercles on the supero-exterior surface. Hand costate, there being three ridges on the outer, two on the upper, and one on the inner side; of the superior ridges, the outer one is armed with five spines, and the inner one is denticulated, with a long spine at the summit anteriorly; fingers nearly as long as the palm, and strongly toothed within, the teeth being four or five in number on each. Ambulatory feet of the third pair two and a half times as long as the carapax. Colors: Body greenish; ambulatory feet white.

Dimensions: Length of carapax, 0.58; breadth, including the lateral spines, 1.10; excluding the spines, 0.68 inch; proportion of length to latter breadth, 1 : 1.17; length of third pair of ambulatory feet, 1.45 inch.

|                     |                 |             |              |
|---------------------|-----------------|-------------|--------------|
| Off Sand Key,       | May 15, 1868.   | Cast No. -. | 100 fathoms. |
| Off Key West,       | April 21, 1869. | Cast No. 5. | 120 "        |
| Off American Shoal, | May 8, 1868.    | Cast No. 3. | 150 "        |

#### *Bathynectes brevispina* nov. sp.

This species greatly resembles the typical form in color and most other characters, but differs in the following important particulars: The carapax is more convex, and the transverse ridges are less prominent. The antero-lateral teeth are much smaller and shorter, the second, third, and fourth teeth being only half as long as the distance between their bases, and the posterior tooth (lateral spine) equalling in length only one seventh the width of the carapax, excluding the spines.

The dimensions of the only specimen in the collection — a female — are: Length of carapax, 1.96; breadth, including the lateral spines, 2.95; excluding the spines, 2.40; proportion of length to latter breadth, 1 : 1.22.

The specimen was taken in 107 fathoms, off the Marquesas, February 11, 1869.

It was at first regarded as a large female of *B. longispina*, but the differences between the two forms are so much greater than is usual between the sexes in Portunidae, that I have preferred to consider them distinct, until the question can be decided by the acquisition of additional materials.

#### SUBFAMILY LUPINAE.

#### *Neptunus Sayi* STM.

*Lupa pelagica* SAY, Jour. Acad. Nat. Sci. Philad., I, 97 (1817).

*Lupa Sayi* GIBBES, Proc. Am. Assoc. Adv. Sci., 1850, p. 178. DANA, U. S. Expl. Exped., Crust., I, 273, pl. xvi, fig. 8.

*Neptunus Sayi* STIMPSON, Notes on N. American Crustacea (1860), p. 92. A.

MILNE-EDWARDS, Arch. du Mus., X, 317, pl. xxix, fig. 2.

Found on Gulf weed, January 18, 1869.

**Callinectes ornatus** ORDWAY.

*Callinectes ornatus* ORDWAY, Monograph of the genus *Callinectes* (1861), p. 6.

Found at Key West in from 2 to 5 fathoms.

The *Callinectes ornatus* of Smith (Trans. Conn. Acad. of Arts and Sci. II, 8) is probably not the same as that of Ordway, as the Brazilian specimens are described as having the carapax deeply areolated, which is not the case in specimens from the Florida coast.

**Achelöus Ordwayi** SM.

*Achelöus Ordwayi* STIMPSON, Notes on N. American Crustacea (1860), p. 96.

SMITH, Trans. Conn. Acad. of Arts and Sciences, II, 9.

*Neptunus Ordwayi* A. MILNE-EDWARDS, Arch. du Muséum d'Hist. Nat., X, Add.

The carapax is everywhere granulated above, except on certain spaces about the middle. The depressed pubescent areas on the male abdomen are characteristic.

For the differences between this species and *A. spinimanus* and *A. cruentatus*, see the excellent description of Smith, referred to in the synonymy.

Dredged in from 5 to 7 fathoms between East and Middle Keys, Tortugas.

**Achelöus spinicarpus** nov. sp.

Carapax convex, and rendered uneven by granulated ridges and protuberances similar to those seen in all species of *Achelöus*, but which are generally much less prominent than in the species under consideration. The branchial ridge (that extending inward from the lateral spine) is sinuous and strongly convex forward. The lateral spine is long, equalling in length two thirds that of the entire antero-lateral margin. The eight smaller teeth of the antero-lateral margin vary somewhat in size, the second, fourth, and sixth, counting from the front, being smaller than the others. Front moderately prominent, projecting slightly beyond the level of the outer angles of the orbit; teeth sharp, triangular, rather deeply cut, and about equal in size, but the median ones are more prominent than the outer ones. The postero-lateral angles of the carapax are armed with a slight tooth. In the chelipeds, the meros-joint is armed in front with four or five spines (usually four on one side and five on the other) and with one spine at the outer extremity. The inner spine of the carpus is very long, two thirds as long as the palm of the hand. The outer spine of the carpus is short. There is only one spine on the superior margin of the hand. There is no spine on the meros-joint of the posterior pair of ambulatory feet, but the margins of this joint are denticulated both above and below, most strongly so toward the extremities.



The abdomen of the male is naked, smooth, and polished, and the sternum is granulated.

Dimensions of an adult male: Length of carapax, 0.37; breadth, including spines, 0.84; excluding spines, 0.50 inch; proportion of length to latter breadth, 1 : 1.35. In a young male the length of the carapax is 0.25; breadth, including spines, 0.55; excluding spines, 0.34 inch.

This species is easily recognized among most of its congeners by its long carpal spines. From *A. Ordwayi* and *A. tumidulus* it is distinguished by the great length of the lateral spines.

|                             |                  |             |             |
|-----------------------------|------------------|-------------|-------------|
| Off the Tortugas,           | January 4, 1868. | Cast No. 1. | 13 fathoms. |
| Off Carysfort Reef,         | March 21, 1869.  | Cast No. 7. | 40 "        |
| Off Conch Reef,             | May 11, 1869.    | Cast No. 3. | 49 "        |
| Off Alligator Reef,         | May 8, 1869.     | Cast No. 3. | 53 "        |
| Off Pacific Reef,           | May 13, 1869.    | Cast No. 3. | 60 "        |
| Lat 31° 31', Long. 79° 41', | May 25, 1868.    | Cast No. 1. | 74 "        |
| Off American Shoal,         | May 8, 1868.     | Cast No. 3. | 150 "       |

#### *Achelous tumidulus* nov. sp.

Carapax rather narrow, only one fourth broader than long, rather more convex than is usual in the genus, and somewhat protuberant about the middle and posteriorly. Posterior tooth of the antero-lateral margin (lateral spine) of moderate length, about as long as the space occupied by the three teeth next in front of it. Front prominent, projecting much beyond the level of the outer angles of the orbits, convex; teeth rounded, the two middle ones being smaller and most prominent, and separated from the lateral ones by a rather broad, shallow sinus. No notch on the orbital margin above the insertion of the external antennæ. Meros-joint of the outer maxillipeds longer than broad. Chelipeds rather short; meros armed with three large and one small spine on the front edge; spine of the outer extremity of the posterior edge of the meros almost obsolete. Inner spine of the carpus long, reaching to the middle of the palm of the hand. There is only one spine on the superior margin of the hand. On the meros-joint of the posterior pair of ambulatory feet there is a denticulated extero-inferior margin, but no spine. The abdomen of the male is smooth and polished.

Dimensions of a male: Length of carapax, 0.20; breadth, including the lateral spines, 0.31; excluding the spines, 0.25 inch; proportion of length to latter breadth, 1 : 1.25.

This differs from most other American species heretofore described in the narrowness of the carapax and the prominence of the front. From *A. Ordwayi* it differs in the frontal teeth, which are not deeply cut.

|                   |                   |             |             |
|-------------------|-------------------|-------------|-------------|
| West of Tortugas, | January 16, 1869. | Cast No. 8. | 37 fathoms. |
| Off Conch Reef,   | March 21, 1869.   | Cast No. 1. | 40 "        |

**Achelous spinimanus** DE HAAN.

*Portunus spinimanus* LATREILLE, Encyc. Méth., X, 188.

*Lupa spinimana* LEACH, in DESMAREST, Considérat. sur les Crustacés, p. 98.

H. MILNE-EDWARDS, Hist. Nat. des Crust., I, 452.

*Achelous spinimanus* DE HAAN, Fauna Japonica, Crust., p. 8. A. MILNE-

EDWARDS, Arch. du Muséum d'Hist. Nat., X, 341, pl. xxxii. SMITH,

Trans. Conn. Acad. of Arts and Sciences, II, 9.

Taken in shallow water on the Florida coast.

**Achelous depressifrons** STM.

*Amphitrite depressifrons* STIMPSON, Notes on N. American Crustacea (1859),

p. 12.

*Achelous depressifrons* STIMPSON, Notes on N. American Crustacea (1860), p. 95.

A. MILNE-EDWARDS, Arch. du Muséum d'Hist. Nat., X, 342.

Key West, in from two to five fathoms.

Two miles south of Rebecca Shoal, in ten fathoms.

**OCYPODOIDEA.****FAMILY CARCINOPLACIDÆ.**

In this family the base of the abdomen covers the entire width of the posterior extremity of the sternum.

**SUBFAMILY EURYPLACINÆ.**

The genus *Euryplax* is the type of a group which differs from the usual forms of Carcinoplacidae (as *Pseudorhombila*, *Eucrate*, *Pilumnoplax*, and *Heteroplax*) in having the verges lodged in covered or closed canals, and in having the anterior corners of the posterior segment of the sternum exposed instead of being covered by the abdomen. The first joint of the abdomen is narrow and very little developed. The eyes are long and the antennæ are excluded from the orbit by the internal suborbital lobe.

**Euryplax nitida** STM.

*Euryplax nitida* STIMPSON, Notes on N. American Crust., p. 14. SMITH, Trans.

Conn. Acad. of Arts and Sciences, II, 162.

The female, now for the first time described, differs remarkably from the male in its narrower and more convex carapax, in which the broadest part is at the second antero-lateral tooth. The outer angle of the orbit is very prominent, forming the largest tooth of the antero-lateral margin, the posterior tooth of which is the smallest; just the opposite of what occurs in the male. There is no pit on the meros joint of the chelipeds. This pit would, therefore, appear to be a sexual character, belonging to the male.

In a young female specimen, probably of this species, which was dredged in forty-nine fathoms, and is less than two tenths of an inch in length, the posterior tooth of the antero-lateral margin is obsolete. The same thing occurs in a young male of about the same size from St. Thomas. In this young male the pits are already present on the meros of the chelipeds, but the shape of the carapax is like that of the female, and the internal sub-orbital lobe is much less developed than in the adult.

Key West, 2 to 5 fathoms.

Off Elbow Reef, March 21, 1869. Cast No. 3. 49 fathoms.

#### SUBFAMILY EUCRATOPSINAE.

In this group the vergal canals are closed, and the last joint of the sternum in the male is exposed at the anterior corners, as in the Euryplacinae; but the first joint of the abdomen is well developed, and is much broader than the second, reaching to the coxæ of the posterior feet, which the second joint does not. The third joint of the abdomen is much wider than the second, but falls considerably short of the margins of the sternum. The third, fourth, and fifth joints are soldered together. Except in the passage of the verges through the sternum, the typical genus of this group (*Eucratopsis*) differs little from *Panopeus*.

#### *Panoplax* nov. gen.

This genus resembles *Panopeus* in general appearance. The carapax is somewhat depressed, and much broader than long. Antero-lateral margin short, with three teeth (not including the angle of the orbit, which is not prominent), and a slight emargination indicating the fifth, or posterior tooth, which, being placed within as well as behind the prominent fourth tooth, belongs more properly to the postero-lateral margin. Facial region narrow; eyes short; orbit rather small, with a slight hiatus beneath the outer angle. Antennæ and outer maxillipeds as in *Panopeus*. Ambulatory feet compressed; dactyli but little longer than the penult joint.

It is very closely allied to *Eucratopsis* Smith (*Eucrate* Dana), but differs in its broader and more depressed carapax, deflexed front, more elongated hands, etc.

#### *Panoplax depressa* nov. sp.

Carapax faintly arcolated, and smooth and naked above. Third and fourth antero-lateral teeth triangular, acute, and about equal in size, the third, however, being somewhat broader. Second antero-lateral tooth half as large as the third. Front deflexed, in a curve; lobes broadly convex, smooth. There is a slight, straight, acute transverse ridge crossing the frontal region just above the margin. Chelipeds rather large; carpus

with a small spine at the inner angle; hand compressed, smooth. Ambulatory feet pubescent, the dactyli in particular being covered with short hairs on all sides.

Dimensions of a male: Length of carapax, 0.28; greatest breadth, at tips of the fourth antero-lateral teeth, 0.43 inch; proportion, 1:1.54; length of ambulatory feet of the second pair, 0.60 inch.

Dredged between East and Middle Keys, Tortugas, in from 5 to 7 fathoms.

## LEUCOSOIDEA.

### FAMILY CALAPPIDAE.

#### SUBFAMILY CALAPPINAE.

#### *Cyclois Balguerii* STM.

*Mursic Balguerii* DESBONNE et SCHRAMM, Crust. de la Guadeloupe, p. 52, pl. iv, fig. 20.

The specimens agree in all respects with the description and figure quoted, except in the proportions of the carapax, which is narrower than in the Guadeloupe specimens, being fully as long as broad.

Key West, 2 to 5 fathoms.

Between East and Middle Keys, Tortugas, 5 to 7 fathoms.

|                          |                 |             |            |
|--------------------------|-----------------|-------------|------------|
| Off Orange Key, Bahamas, | April 1, 1869.  | Cast No. 2. | 9 fathoms. |
| Off the Tortugas,        | March 4, 1868.  | Cast No. -  | 13 "       |
| Off Pacific Reef,        | May 13, 1869.   | Cast No. 1. | 30 "       |
| Off Carysfort Reef,      | March 21, 1869. | Cast No. 8. | 35 "       |
| Off Carysfort Reef,      | March 21, 1869. | Cast No. 7. | 40 "       |
| Off French Reef,         | March 21, 1869. | Cast No. 2. | 45 "       |

#### *Acanthocarpus* nov. gen.

Body regularly ovate, strongly convex in its antero-posterior dorsal outline. Carapax as broad as long, broadest in front. Antero-lateral continuous with the postero-lateral margin; the latter armed with a strong tooth at about the middle. Fronto-orbital region very broad, occupying more than half the width of the carapax. Eyes large. External maxillae not reaching to the anterior extremity of the buccal area; ischium truncate in front, without projecting at the inner angle, which, like the outer one, is a right angle; meros shorter and broader than the ischium, and narrowed in front, with the palpus attached at the antero-interior angle; exognath reaching to the tip of the meros. Chelipeds with a great spine on the carpus placed in a horizontal plane and pointing outward in a direction exactly transverse to the axis of the body. The ambulatory feet all have slender dactyli, as in *Calappa* and *Mursia*.

This genus differs from *Calappa* in the want of lateral expansions of the carapax, and from *Mursia* in the want of lateral spines. From all the genera of the family hitherto described it differs in its great facial width.

***Acanthocarpus Alexandri* nov. sp.**

Carapax regularly convex, with uneven surface, the protuberances being arranged obscurely in five longitudinal rows anteriorly, the middle ones of which form centrally and posteriorly three conspicuous ridges, the lateral ridges terminating in the teeth of the postero-lateral margin. The surface is uniformly, but not thickly, covered with minute, equal granules, the interspaces between which are wider than the granules themselves. The posterior margin is regularly arcuate, and bears a slightly prominent tooth at the middle, and a slight wave in the outline on either side. The lateral margin is unarmed, except by two or three slight tuberculiform teeth near the orbit. The orbits are large, without fissures, except the inner superior one, which is itself nearly obsolete; orbital margin ciliated. The front is of moderate width, a little convex, but not toothed, and is separated from the orbit by its lateral angle simply, and not by any notch. The spine on the carpus of the cheliped is nearly half as long as the carapax; and above it, on the same joint, there is another spine, stouter, but only one fourth as long as the first. Both these spines are granulated. The hand is provided with a seven-toothed crest above, and another, oblique, six-toothed crest on the outer surface, extending from the base of the dactylus to the postero-inferior angle. On the latter crest the posterior tooth is largest, and forms by itself a short crest, separated from the other teeth by a considerable interval. Between the upper and lower crests of the hand there are four or five tubercles scattered upon the surface. Ambulatory feet naked, unarmed, with smooth polished surface.

Dimensions of a male: Length of carapax, 0.31 inch; breadth the same.

Off the Quicksands, January 23, 1869. Cast No. 2. 74 fathoms.

***Calappa marmorata* FABR.**

*Cancer marmoratus* FABRICIUS, Ent. Syst., II, 450 (1793).

*Cancer flammeus* HERBST, Naturg. d. Krabben und Krebse, II, 161; pl. xl, fig. 2.

*Calappa marmorata* FABRICIUS, Suppl. Ent. Syst., p. 346. II. MILNE-EDWARDS, Hist. Nat. des Crust., II, 104. DESBONNE et SCHRAMM, Crust. de la Guadeloupe, p. 51.

Found at Key West, in from 2 to 5 fathoms.

***Calappa galloides* STM.**

*Calappa galloides* STIMPSON, Notes on N. American Crustacea, p. 25.

Found at Key West, in 4 to 5 fathoms.

## FAMILY MATUTIDAE.

The Matutidae may conveniently be divided into two subfamilies, Matutinae and Hepatinae. The latter group differs from the former in having a broader carapax, a narrow facial region, and short orbits and eyes.

## SUBFAMILY HEPATINAE.

*Osachila* nov. gen.

This genus is allied to *Hepatus* in all essential characters, but differs considerably in the shape of the carapax, which is nearly as long as broad, and has the front much produced, so much so as to form a true rostrum in one species. The carapax is also more or less depressed and expanded at the sides, and its surface is very uneven, having six chief protuberances.

Species of this genus are found in the seas of both sides of Tropical America. The name is that of a Florida Cacique.

*Osachila tuberosa* nov. sp.

Carapax somewhat octagonal, very slightly broader than long; surface very uneven, deeply pitted on the protuberances, and finely, densely punctate on the depressed parts. Three of the protuberances are on the gastric region, and correspond to the metagastric and urogastric lobes, the protuberance of the latter being much the smallest, and continued anteriorly in the form of a slight ridge in the furrow between the metagastric lobes, reaching, with the furrows, nearly to the frontal region. The cardiac protuberance is rounded and smaller than the metagastric ones. The mesobranchial lobes are strongly protuberant and larger than the metagastric, and there is a small, elongated, longitudinal protuberance between them and the cardiac protuberance. The front is projecting, and bilobed, with the lobes very obtuse and separated by a deep furrow. No protuberance on the concave hepatic region. Antero-lateral margin straight or slightly concave anteriorly, but quickly curving backward and becoming parallel to the axis of the body in the greater, posterior part of its length; it is armed with numerous small irregular teeth, and is pitted above like the protuberant parts of the carapax; and the posterior tooth, which forms part of the branchial protuberance, is larger than the others. Postero-lateral margin nearly straight, obtuse, rugose, and armed with two or three tuberculiform teeth, of which one, separated from the posterior extremity of the carapax by a concavity, is the largest. Posterior extremity of the carapax narrow, with a rugose and much-thickened margin concealing the base of the abdomen. Beneath, the entire surface of the carapax, maxillipeds, sternum, abdomen, and of the bases of the feet, is densely covered with rather large pits, giving it a vermiculated or reticulated appearance.

Chelipeds rather stout; outer surface strongly rugose with punctate tubercles and pits; hand with four teeth on the superior crest. Ambulatory feet (except dactyli) naked, compressed, and crested above and below; crest of meros-joint with a row of pits along the posterior side, giving it a plicated appearance; last three joints with another crest on the postero-superior surface; dactyli stout, densely pubescent below.

Dimensions of a male: Length of carapax, 0.56; breadth, 0.59 inch; proportion, 1 : 1.054.

|                     |                   |              |             |
|---------------------|-------------------|--------------|-------------|
| West of Tortugas,   | January 16, 1869. | Cast No. 4.  | 36 fathoms. |
| Off Conch Reef,     | March 21, 1869.   | Cast No. 1.  | 40 "        |
| Off French Reef,    | March 21, 1869.   | Cast No. 2.  | 45 "        |
| Off Carysfort Reef, | March 21, 1869.   | Cast No. 5.  | 60 "        |
| West of Tortugas,   | January 16, 1869. | Cast No. 13. | 68 "        |

## FAMILY LEUCOSIDAE.

### SUBFAMILY ILLIINAE.

No attempt has yet, I believe, been made to separate the Leucosidae into subfamilies. The existence of the group which I have here named Illiinae seems to be sufficiently well indicated by tangible characters, such as the long, slender chelipeds, and the two-notched extremity of the pterygostomian channel.

#### *Iliacantha* nov. gen.

Closely allied to *Ilia*, but having three spines (one median) at the posterior extremity of the carapax, instead of four tuberculiform teeth. From *Persephona*, *Myra*, and other allied genera of Leucosidae, it differs in the peculiar conformation of the hands, which are twisted, so that the fingers open in a vertical instead of a horizontal plane.

The pterygostomian channels at their anterior extremities project considerably beyond the orbits. The abdomen in a young male, the only specimen of that sex I have seen, is seven-jointed, none of the joints being soldered together.

The species of *Ilia*, the nearest ally of this new genus, are confined to the Mediterranean Sea.

#### *Iliacantha subglobosa* nov. sp.

Carapax subglobose, smoothly and evenly convex, and unarmed, except at the posterior extremity, where there are three spines, similar in position to those of the species of *Myra* and *Persephona*, the middle one being long (equalling in length one seventh that of the carapax) and curved upward, and the lateral ones flattened, triangular. The hepatic region is considerably swollen, but entirely unarmed, and is bounded posteriorly by a depres-

sion indicating the outer extremity of the cervical sulcus, which is entirely obsolete in its median portion. The margin of the carapax is distinct and somewhat acute on the hepatic region, and on the anterior part of the branchial, as far as a slight angular projection, posterior to which it ceases to be defined. Surface of the carapax minutely granulated. Chelipeds in the female two and a half times as long as the carapax, excluding the spine, and minutely granulated; meros more sharply granulated than carpus and hand; fingers very slender, much longer than the palm, and armed within with needle-like teeth. Ambulatory feet very slender and smooth, those of the first pair reaching to the middle of the palm of the chelipeds; meros-joint as long as the terminal three joints taken together.

The above description is that of a female. In the male the carapax is less smoothly rounded above, the regions being faintly indicated, and the intestinal region protuberant above the base of the posterior spine.

Dimensions of a sterile female: Length of carapax, including the posterior spine, 0.63; breadth, 0.52; length of cheliped, 1.38 inch.

Off Carysfort Reef, March 21, 1869. Cast No. 7. 40 fathoms.

Off French Reef, March 21, 1869. Cast No. 2. 45 "

Off Pacific Reef, May 13, 1869. Cast No. 3. 60 "

#### *Iliacantha sparsa* nov. sp.

Carapax oval; intestinal and hepatic regions only defined; surface sparsely granulated; granules scattered, sharply projecting, almost like short capitate spines; surface between the granules punctate, or, as near the margins, covered with smaller granules. Postero-lateral margin less convex than in *I. subglobosa*. Posterior spines large; lateral ones similar in shape to and more than one half as large as the middle spine. A spine on the hepatic region half as large as the lateral posterior ones. Depression between the frontal and gastric region very deep, giving great prominence to the facial projection; median sinus of front very deep; frontal teeth much projecting. External maxillipeds larger, more produced in front, and more coarsely granulated than in the preceding species; granules prominent, like those of the back of the carapax.

Dimensions of a sterile female: Length of carapax, posterior spine included, 0.30; breadth, 0.25 inch.

It is easily distinguished from *I. subglobosa* by its hepatic spine.

West of the Tortugas, January 16, 1869. Cast No. 1. 30 fathoms.

#### *Myropsis* nov. gen.

This genus differs from *Myra*, to which it is nearly allied, in its more globular form, in having five instead of three posterior spines, in the want of the median and hepatic ridges, and in having the outer margin of the



exognath of the outer maxillipeds straight instead of curved. From *Ilia* and *Iliacantha* it differs in its chelipeds, the fingers of which open in a horizontal plane. From *Persephona* it differs, among other characters, in the basal joint of the antennulæ, which is indurated and crested. The anterior extremity of the pterygostomian channel does not reach beyond the orbits. All the joints of the male abdomen are soldered together, except the terminal one.

The species of *Myra*, the nearest ally of the new genus, are all, as far as known, inhabitants of the East Indian and Australian seas.

***Myropsis quinquespinosa* nov. sp.**

Body and chelipeds everywhere granulated, above and below. Carapax subglobular, regularly and evenly convex, as in *Iliacantha subglobosa*; intestinal and cardiac regions only defined, and defined by rather deep furrows on either side; hepatic region not swollen; cervical sulcus obsolete; granules of the surface equal in size and distributed with great regularity, being distant from each other by a space equal in width to two or three times their diameter. Lateral margins of carapax regularly arched. Of the five posterior spines, the median one is situated on the intestinal region; the intermediate ones are but little smaller than the median one, and are placed at a lower level, occupying the postero-lateral angles of the carapax; the outer ones, placed on the branchial region over the insertion of the posterior feet, are small, only one third as long as the median spine. There is also a small spine at the middle of the lateral margin, and one on the hepatic region. The frontal teeth are obtuse, and not very prominent. Chelipeds cylindrical; meros more than two thirds as long as the carapax, and covered with granules as large as those of the carapax, but densely crowded; granules of hand smaller, but also densely crowded; fingers longer than the palm, and armed within with very minute and acute teeth varying in size. Ambulatory feet naked (except the dactyli), cylindrical, and partly microscopically granulated; those of the first pair one sixth longer than the carapax.

Dimensions of a male: Length of carapax, spines included, 0.72; breadth, 0.58; length of cheliped, 1.25 inch.

Off Tennessee Reef, May 7, 1869. Cast No. 1. 21 fathoms.

————— May 11, 1868. Cast No. 5. 82 “

***Callidactylus* nov. gen.**

Carapax rounded, nearly as broad as long, regularly convex, except near the anterior margins; hepatic region well defined, protuberant, and toothed; posterior extremity armed with three spines, as in *Persephona*, etc. Front short; basal joint of the antennulæ not indurated. Orbit

longitudinal, with three very distinct fissures on the outer side, which extend to the base of the orbital tube. Pterygostomian channel much narrower than in *Myra*, strongly tridentate in front, and extending beyond the orbit. External maxillipeds sharply granulated; exognath with a convex outer margin, but much less dilated than in *Myra*; meros-joint of endognath with a concave outer surface. Chelipeds of moderate length; hand much longer than the meros; palm short, pyriform, much swollen within toward the base, and somewhat twisted, though less so than in *Ilia*, so that the fingers move in an oblique plane; fingers much longer than the palm, very thin and delicate, laminate, curving upward and inward toward the tips, serrated on the outer edge, and armed within with numerous needle-shaped teeth. Ambulatory feet naked (except the dactyli of the posterior pair, which are sparsely pilose); penult joint compressed, with a laminiform crest above and below; dactyli lanceolate, those of the first three pairs three-edged, those of the posterior pair two-edged and shorter and broader than the others.

In the female there is a deep, smooth channel on the outer maxillipeds, in the median line, between and on the ischium joints, defined on either side by a strong ciliated ridge. This channel does not exist in the male, and has doubtless something to do with the flow of the water which bathes the eggs or young in the abdominal cavity.

In the male, all the joints of the abdomen, except the terminal one, are soldered together.

The genus resembles *Myrodex* somewhat in the character of the fingers, but differs from it as well as from *Myra* and the allied genera in the want of an indurated crest on the basal joint of the antennulæ, and in the character of the dactyli of the ambulatory feet. From *Persephona*, etc., it differs in the convex outer margin of the exognath of the outer maxillipeds.

#### *Callidactylus asper* nov. sp.

The following is a description of an adult female. Carapax convex in the middle and posteriorly, but somewhat depressed toward the anterior margins. The sulci separating the gastric, cardiac, and intestinal from the branchial regions are easily traceable, as well as that between the cardiac and the gastric; but there is none between the cardiac and the intestinal regions. The hepatic region is surrounded by rather profound depressions, and on its posterior part there is a strong tooth-like protuberance, occupying about one third its area. The upper surface of the carapax is ornamented with scattered, prominent granules, or short, capitate spinules, which become less prominent posteriorly and disappear altogether near the posterior extremity, where the surface is covered with smaller and more crowded and depressed granules. On the lateral parts

of the branchial region the two kinds of granules are found together. In the median line there are three or four short blunt spines on the posterior part of the gastric and the cardiac regions, the posterior one of which is rather remote from the others, and much larger than they, nearly as large as the median posterior spine. There is a strong, triangular tooth, pointing forward, on the subhepatic region, and a smaller tooth at the anterior extremity of the branchial region on the antero-lateral margin. On the postero-lateral margin there is also a small tooth, or short spine. The three posterior spines occupy the usual position (as in *Persephona*, *Myra*, etc.), and are short. The outer maxillipeds are granulated, like the upper surface of the carapax, and somewhat setose, the setæ arising between the granules. The fourth, fifth, and sixth joints of the abdomen are soldered together; the surface is smooth and glossy about the middle, but there is a transverse tuberculated ridge on the fourth joint, and the sixth joint is sparsely granulated.

Of the male sex I have but one half-grown example. The carapax is rather broader and more depressed than in the female, and the granules are smaller, less numerous, and more scattered. The posterior spines are longer. The sternum and abdomen are evenly covered with minute, depressed, crowded granules.

Dimensions of a female specimen: Length of carapax, spine included, 0.70; breadth, 0.61; length of meros-joint of cheliped, 0.42; length of hand, 0.65 inch. In the young male the length of the carapax is 0.39; breadth, 0.65 inch.

|                            |                   |             |             |
|----------------------------|-------------------|-------------|-------------|
| Lat. 24° N. Long., 83° W., | January 22, 1868. | Cast No. 3. | 16 fathoms. |
| Off Carysfort Reef,        | March 21, 1869.   | Cast No. 8. | 35 "        |
| West of Tortugas,          | January 16, 1869. | Cast No. 8. | 37 "        |

#### SUBFAMILY EBALIINAE.

The genera *Ebalia*, *Nursia*, *Lithadia*, *Oreophorus*, *Spelaeophorus*, etc., appear to form a natural group, to which the name Eballiinae may be applied.

#### *Lithadia cadaverosa* nov. sp.

The following description is that of a female, no males having occurred: Carapax broad, somewhat octagonal in shape, very little produced posteriorly, and very strongly convex; the branchial regions being more swollen than in any of the other known species of the genus, and occupying by far the greater portion of the carapax. These regions and the other protuberant parts of the carapax are more or less covered with depressed, often confluent granules, arranged in lines or groups with depressed spaces intervening, giving to the surface an eroded or vermiculated appearance.

The excavations between the regions are very deep, but those surrounding the cardiac region are broader and less abrupt than in other species of the genus; those surrounding the hepatic region and lying in front of the branchial are very narrow. In one of the two specimens there are several small, round, isolated tubercles in the depression between the cardiac and gastric regions; while in the other this space, as well as the entire gastric and part of the branchial region, is evenly covered with flat, translucent granules, giving the surface a finely reticulated appearance. The hepatic region is narrow, with a granulated ridge extending inward a short distance from the antero-lateral margin, which is here defined by a similar ridge. Behind the hepatic region, and separated from it by a deep transverse sinus below, there are on the margin two strong, triangular teeth pointing downward on the antero-lateral part of the branchial region. The posterior of these two teeth corresponds to the anterior lateral tooth of other species of the genus, but the tooth in front of it is the larger; the surface of both is flattened. The posterior lateral tooth of the branchial region is blunt. The intestinal region is broad, and the two marginal lobes are thickened, but very little projecting, and not at all dentiform. On the inferior surface of the branchial region there are one or two rows of small tubercles. The front is thick, the epistome and suborbital region ample, and the external maxillipeds bent nearly to a right angle in front, so that the anterior portion of the facial region is large and lies in a vertical plane. The frontal margin is slightly concave, but not notched. The chelipeds are rugose, with angular, granulated protuberances; meros not at all flattened, but nearly as thick as it is broad. Ambulatory feet armed above with short, thick spines, as in *L. Cumingii*; dactyli and penult joints somewhat setose. Color, bluish-white, with flake-white ridges and tubercles; frontal portion and feet, flesh-colored; a few blood-red spots on the abdomen and about the bases of the feet, particularly of the chelipeda.

Dimensions of the larger female: Length of carapax, 0.26; breadth, 0.30 inch.

This crab is well protected by its general appearance, and with its feet retracted would scarcely be taken for a living object. It differs from *L. cariosa* in its broader and more convex carapax, and in the much less prominent lobes of the intestinal region.

West of Tortugas, January 16, 1869. Cast No. 7. 35 fathoms.

Off Conch Reef, March 21, 1869. Cast No. 1. 40 "