

the printing of this monograph will prevent, for the present, anything more than the simple enumeration of their names.

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| Bombus elatus, | Fab. Syst. Piez, 352, N. A. |
| “ laboriosus, | “ “ “ 352, Car. |
| “ Marylandicus, | “ “ “ 346, N. A. |
| “ Arcticus, | Kirby, Parry's 1st Voy. App. 470. |
| “ Borealis, | “ Faun. Boreal. Am. 272, Arct. Am. |
| “ praticola, | “ “ “ “ 274. |
| “ sylvicola, | “ “ “ “ 272. |
| “ terricola, | “ “ “ “ 272. |
| “ Californicus, | Smith, Brit. Mus. Cat. II. 400, Calif. |
| “ frigidus, | “ “ “ “ II. 399, Huds. Bay. |
| “ ornatus, | “ “ “ “ II. 398, Huds. Bay. |
| “ Kirbiellus, | Curtis, Ross, 2d Voy. App. Arct. Am. |

The following are doubtful :—

Bombus nidulans, an *Anthophora*? see Fab. Piez, 349, N. A.

“ Virginicus, Fab. Piez, p. 349, is *Apis Virginicus*.

“ derhamellus, Kirby, Faun. Bor. A. 273, N. A.

Doubtful. This is an European variety.

For this list I am indebted to Mr. E. Norton.

XXII.—*Notes on North American CRUSTACEA, in the Museum of the Smithsonian Institution. No. II.*

BY WILLIAM STIMPSON, M.D., CORRESPONDING MEMBER.

Read April 16th, 1860.

IN this second part of our contributions to North American Carcinology we had intended to treat of the Macrurous Crustacea, having published, in the first part, the notes then in

our possession upon the Brachyura and Anomura; but our knowledge of the development of these two sub-orders upon this continent has been so greatly increased by recent investigations, that it is found necessary to review them in this second part, in order to include the results. As will be seen below, these rich materials have been chiefly accumulated by Mr. John Xantus, in the course of his most successful researches into the fauna of Cape St. Lucas, at the southern extremity of the peninsula of Lower California. We have also added a number of interesting species collected in the West Indies by Mr. A. H. Riise of St. Thomas.

The type-specimens of all the species herein described are in the Museum of the Smithsonian Institution.

MAIOIDEA.

Pelia mutica.

Pisa mutica Gibbes; Proc. Am. Assoc. 1850, p. 171.

This species belongs to *Pelia* of Bell, an American genus, species of which are found on both sides of the continent. It differs widely from *Pisa* in the want of a præorbital spine, in the long narrow basal joint of the external antennæ seen from above along the side of the rostrum, and in the compressed feet with unarmed terminal joints.

It was found in Charleston Harbor by Prof. Gibbes and myself. It has also occurred to me in Beaufort Harbor, N. C., and in Holmes' Hole, Martha's Vineyard. It most commonly occurs among ascidians on the piles of wharves, below low tide mark.

***Thoe sulcata*, nov. sp.**

Allied to *T. erosa* Bell, Trans. Zool. Soc. of London, ii. 48, pl. ix. f. 4,—a Gallapagos species. But the carapax is generally more triangular, with the sides and subhepatic regions granulated. Rostrum less deeply bifid. Frontal region with two

longitudinal rows of sharp tubercles, three in each row. The basal joint of the external antennæ is exposed from above, and separated from the fronto-orbital region by a deep suture or pit, and there is also a deep pit on the spine of its exterior angle, which spine is beneath separated from the rest of the joint by a deep groove continuous with the superior pitted suture; beneath, also, the basal joint is channelled along its external margin, where it forms the lower floor of the orbit. The moveable part of the external antennæ is shorter and broader than in *T. erosa*, and ciliated on both sides; the third and fourth joints are broad and pitted, the fifth and terminal ones very slender. The meros-joint of the endognath in the external maxillipeds, is more prominent and less rounded at its external angle. In the chelipeds the tips of the fingers are excavated, and the tooth of the dactylus is not bifurcated. Meros of ambulatory feet deeply bi-sulcated longitudinally, and armed with a series of short strong spines along the superior margin.

Length nine-tenths of an inch.

Found at Cape St. Lucas, Lower California, by John Xantus, Esq., tidal observer for the U. S. Coast Survey.

It is difficult to decide, without comparison of specimens, whether this species be identical with *T. erosa* or not. We have named it because we consider it far better for the interest of science to admit a slight risk of adding a synonym, than to refer a species to a locality at which it does not exist, which would tend to confuse our ideas upon geographical distribution, a knowledge of which constitutes one of the most important aims in our investigation of species.

***Thoe puella*, nov. sp.**

Carapax as in *T. erosa* protuberant, but broader at the eyes, and with the antero-lateral sides straight or even a little concave. Two protuberances on the intestinal region, and two longitudinal ridges on the frontal. Rostrum acute, deeply

fissured. In the chelipeds there are no excavations on the superior side of the meros, but this joint, with the carpus and base of the hand, is granulated; hand elsewhere smooth and polished, with the fingers less gaping than in *T. erosa*, and the dactylus one-toothed within. Ambulatory feet depressed, angular or dentated; meros in the first three pairs longitudinally ridged and greatly dilated posteriorly, the dilated portion with two deep concavities, sometimes confluent; penult joint unidentate on the superior margin. Color bright red, with yellow patches on the carapax.

Length of the carapax 0.32; breadth 0.27 inch.

Found at the Tortugas Is., Florida, by Dr. Whitehurst.

Hyas araneus.

Hyas araneus Leach, Mal. Pod. Brit., pl. 21, A.

We are enabled to announce this species as an inhabitant of our coast, having dredged several specimens off the coast of Maine on a cruise in the summer of 1858.

Milnia, nov. gen.

We propose this name for a section of *Pericera* with less completely tubular orbits, the species of which have been placed in *Pisa* by some authors. The type is *Pisa bicornuta* Latr. (*Pericera bicorna* M. Edw.) It is very different in aspect from those sharply triangular forms, with the moveable part of the antenna slender and concealed, which constitute the true *Pericerae*, and approaches *Pisa* and *Tiarinia* in shape. The horns of the rostrum are divergent, and the moveable part of the antenna is exposed from above, as well as the spiniform process of its basal joint. From *Pisa* it differs in its orbits, which are nearly as tubular as in *Tiarinia*, from which latter

genus this differs in the divergence of the rostral horns. *Pisa styx* and *P. aculeata* will be here included.

Milnia bicornuta.

Pisa bicornuta Latr.

Pericera bicorna M. Edw. ; Hist. Nat. des Crust. i. 337.

Pisa bicorna Gibbes.

Pericera bicornis Sauss, Crust. nouv. de la Mexique, etc. p. 12, pl. i. f. 3.

We do not know why M. Edwards changed Latreille's name *bicornuta* to *bicorna*. The latter is probably a misprint for *bicornis*, but has been in common use since the publication of Milne Edwards' work.

This is a common West Indian species, and has been received in abundance from the coral-reefs of Florida, from all who have made collections there for the Smithsonian Institution.

Milnia platysoma, nov. sp.

Allied to *Pisa aculeata* Bell, but presents the following differences. Carapax depressed, but of less breadth, and sparsely granulated. There are only two laminiform processes on the antero-lateral margin,—one on the hepatic region, and the other on the branchial, which latter does not project in an imbricated manner. Between these processes and below their level there is a spine. There are only two spines on the branchial region, and these are scarcely more than sharp tubercles. There is a row of bead-like tubercles on the superior edge of the posterior margin. The rostrum is more flattened than in *M. aculeata*, the orbits more tubular, and the præorbital teeth sharper. The basal joint of the external antennæ is very broad, and is armed with two teeth or spines on the surface near the postero-exterior angle. The feet are short and depressed, and armed with spines as in *aculeata*; penult joint with a broad, rounded, lamelliform process for the articulation of the

dactylus, which is very much curved and sharp. The posterior feet are broadest.

Length of the carapax, 0.44; breadth, 0.33 inch.

Found at Cape St. Lucas, by Mr. Xantus.

Pericera laevigata, nov. sp.

Carapax elongated, convex; surface pubescent and partly hairy, hair crispate; back and sides smoothly rounded, with no spines or tubercles except a minute one on the intestinal region. Orbital tubes rather large; post-orbital teeth more prominent than the praeorbital, the distance between their tips equalling five-sixths of the greatest breadth of the carapax. The rostrum forms between a fourth and a fifth of the length of the carapax; it is deflexed, curving downward, bifid, with the horns united at base for one-third their length, then divergent. The moveable part of the external antennæ is longer than the rostrum; the spine of the basal joint is large, prominent, exposed from above, divergent from the rostrum, and much nearer to the orbital tubes. In the chelipeds, the meros-joint is armed above with obtuse spines; the hands are rather compressed, crimson in color; fingers with the distal half black, except the tips, which are white.

Length of the carapax in the male, 0.88; greatest breadth (posteriorly) 0.49 inch.

Inhabits St. Thomas, West Indies. A. H. Riise.

Pericera fossata, nov. sp.

Surface everywhere covered with a uniform short, dense, closely-adhering pubescence. A few curled setæ on the rostrum, and on the concave antero-lateral slopes of the carapax. Lateral processes long, blunt, and a little curved forward. The regions of the carapax are protuberant and separated by very deep sinuous pits or channels, appearing somewhat as if eaten out; but the protuberances themselves are not vermiculated. The rostrum is as long as the distance between the eyes;—the horns diverge, the distance between their tips equalling about two-thirds that between the orbits. The spine of the basal joint of the

antennæ is slender, and reaches considerably beyond the præorbital tooth. The abdomen in the female shows a deep, vermiculated furrow on each side of the median rounded ridge;—also channelled sutures. Color dark buff, inclining to brownish. Length of the carapax in the female, 1.32; breadth, 1.20 inch.

It resembles *P. trispinosa* in form. It differs from *P. villosa* Bell, in the concave outline of its antero-lateral margin, the character of the dorsal surface, and the less divergent horns of the rostrum.

Cape St. Lucas. J. Xantus.

Pericera subparallela, nov. sp.

Body covered with short tough pubescence. Carapax triangular, shaped somewhat as in *P. trispinosa*, but much narrower, and with the antero-lateral sides not concave. Lateral spines or processes subtriangular, but sharp, and connected with each other by a nearly straight row of short spines or sharp tubercles crossing the back. A tubercle on the posterior part of the gastric, and one on the intestinal region; both very small. The rostrum forms one-fourth of the length of the carapax, with the horns nearly parallel, being scarcely farther apart at their extremities than at the base, where they are connected for one-third their length by a web-like expansion of the front. The distance between the tips of the horns of the rostrum equals three-fifths that between the tips of the præorbital spines; the upper sides of these horns are clothed with curled hairs or crispate setæ, which extend posteriorly in the same longitudinal lines as far as the branchial regions, and also clothe the sides of these and the hepatic regions. The median concavity of the front between these two lines—continuous on the gastric region—is destitute of crispate setæ. The moveable part of the external antennæ is concealed beneath the rostrum; the anterior spine of the basal joint is small and slender, but exposed from above. Orbital tubes prominent. Chelipeds in the male a little shorter than the carapax. Ambulatory feet rather short. Length of the carapax in the male, 1.02; breadth, 0.8 inch; (spines included.)

St. Thomas. A. H. Riise.

Pericera diplacantha, nov. sp.

Body pubescent and provided with curled hairs above as in *P. subparallela*. Carapax subtrigonal, narrow; back protuberant. Lateral process or spine rather long, and double, seeming to consist of two spines, one above the other, connected nearly to their tips by a web-like connecting lamina, concave anteriorly, convex posteriorly. Antero-lateral margin concave, unarmed except with a small hepatic tubercle. There are five conical tubercles on the posterior half of the back, and a few minute ones interspersed. Gastric region strongly inclined anteriorly, with the frontal region. The rostrum forms nearly one-third the length of the carapax; horns very long, slender, cylindrical, acute, divergent, but at base connected by a web-like lamina for one-fifth their length. The anterior spine of the basal joint of the antennæ is very minute, not seen from above. Orbital tubes moderately protuberant; præorbital tooth obtuse and not prominent. Length of the carapax in a female, 1.08; breadth, spines included, 0.8, spines not included, 0.55 inch.

It is similar in general character to *P. subparallela*, but easily distinguished by the greater length of the rostrum, and the duplex character of the lateral spines.

St. Thomas. A. H. Riise.

Pericera cornuta.

Pericera cornuta M. Edw., Hist. Nat. des Crust., ii. 355. Illust. Cuv. Regne Anim., pl. xxx. f. i. Gibbes, Proc. Am. Assoc. 1850, p. 172.

This species is probably generically distinct from the triangular *Pericera*. It was found at Key Biscayne, Fla., by Dr. Cooper.

Anaptychus,* nov. gen.

Carapax triangularis, latior quam longior; marginibus lateralibus antero-lateralibusque laminiformibus, supra bases pedum expansis ut in

* 'Αναπτύχος, expansus.

genere *Huenia*, et maxime dentatis; lateribus sublaminis perpendicularibus. Orbitæ completæ, parvæ et profundæ, sed non tubulares. Oculi retractiles et sese latentes. Rostrum et antennæ externæ eis generis *Microphrys* similia. Rostrum longulum, bifidum. Antennarum externarum spina articuli basalis longa acuta, cornum rostri valde simulans; pars mobilis aperta. Spina præorbitalis saliens acuta; angulus orbitæ externus dentiformis, minutus; fissuræ orbitales superiores apte clausæ, inconspicuæ. Maxillipedum externorum endognathi merus latior quam longior, angulo externo acute prominens, angulo interno sinuatus ad palpum recipiendum; exognathus latus, intus dente valido aperto armatus.

Anaptychus cornutus, nov. sp.

Plate II. fig. 1.

The upper surface of the carapax is nearly level, but the gastric, cardiac, and inner part of the branchial region are slightly protuberant. There are also nine low tubercles on the gastric region. Surface covered with minute tufts of very short setæ. Antero-lateral margin with three large triangular sub-laminiform teeth behind the orbits, separated from each other by regularly curved sinuses. Posterior margin with a crest, interrupted on each side; the middle portion being arcuated and fimbriated with four pencils of stout longish setæ. Rostrum forming nearly one-fourth the length of the carapax, and cleft nearly to its base; horns acute. Chelipeds a little longer than the first pair of ambulatory feet, but scarcely thicker; meros with five or six blunt, somewhat laminiform spines; carpus tuberculated above; hand unarmed, minutely granulated; fingers scarcely gaping, minutely toothed within, tips not spoon-shaped. Inferior surface with stout setæ. Abdomen as in allied forms, widened near the base. Length of carapax in a male, 1.00; breadth, 1.24 inch.

Found in Pinacate Bay, near Guaymas, Gulf of California, by Capt. C. M. P. Stone.

Herbstia parvifrons.

Herbstia parvifrons Randall, Jour. Acad. Nat. Sci. Philad. viii. 107.

Our specimen is an adult male, in which the carapax is 0.67 inch in length, the chelipeds 1.17, and the first pair of ambulatory feet 0.93 inch. It agrees pretty well with Randall's description, except that the carapax is naked, and the hands entirely destitute of spines, with a strong tooth on the dactylus in the gape of the fingers. All the spines are blunt at the tip.

It was taken at Cape St. Lucas by Mr. Xantus.

An attentive consideration of the characters of the rostrum, orbits, and antennæ, as well as of the excavated fingers, leads us to refer the genus *Herbstia* to the vicinity of *Mithrax*, rather than to that of *Pisa* and *Hyas*, where it has hitherto been placed.

Herbstia depressa, nov. sp.

Carapax much depressed, generally covered with sordes adhering to a slight pubescence easily detached, beneath which the surface is glabrous, and less tuberculose than in *H. condyliata*. A median protuberance on the gastric, and one on the cardiac region; two tubercles on the intestinal region in a transverse row. Lateral and posterior margins armed with small subspiniform tubercles. A stout spine on the hepatic region. Rostrum rather short and broad, cleft for one half its length; horns triangular, acute. Frontal region and surface of the rostrum with a median longitudinal sulcus between two short prominent ridges. Præorbital teeth, orbits, and antennæ, nearly as in *H. condyliata*. Basal spine of external antennæ long, projecting almost as far as the horns of the rostrum. Exognath of external maxillipeds broad, fusiform, almost angular at middle of the external margin. Chelipeds shorter than the first pair of ambulatory feet; meros armed with one row of spines, and elsewhere smooth; carpus with numerous very short spines on the upper surface; hand glabrous. Ambulatory feet slender, hairy above;—those of the second pair two-thirds longer than the carapax; meros-joint

in all armed with spines above, and sometimes below. Length of carapax in a male, 0.38 ; breadth, 0.3 inch.

It differs from *H. condyliata* in its broader carapax, and in the armature of the more compressed meros-joint of the ambulatory feet.

It resembles much more closely the Lower Californian species noticed above, but is very much smaller (supposing our specimens to be adult), with fewer and more acute spines, and much longer and more slender ambulatory feet.

Found at St. Thomas by Mr. Riise.

Mithraculus coronatus.

Cancer coronatus Herbst, Naturg. d. Krabben und Krebse, i. 184, pl. xi. f. 63.

This species is remarkable for its triangular shape and great breadth, the carapax being one-third broader than long. It is allied to *M. sculptus*, but is differently sculptured, the oblique furrows being deeper and the tubercles less numerous. The gastric region also is more convex and much less smooth. Front narrower. Antero-lateral margin straight, with three tuberculiform teeth, the posterior one forming the sharply prominent lateral angle. Meros-joint of the cheliped tuberculose above, with two teeth on the inner margin, very short, and not spiniform. Fingers less gaping than in *M. sculptus*. Length of the carapax in the male, 0.76 ; breadth, 1.05 ; proportion, 1 : 1.39.

Found at the Tortugas, Fla., by Mr. Wurdemann and Dr. Whitehurst, and at Aspinwall, Central America, by the Rev. J. Rowell.

Mithraculus cinctimanus, nov. sp.

Carapax subovate, nearly as broad as long, depressed, and resembling that of *M. sculptus* in sculpture ; furrows of the surface, however, very

shallow ; protuberant parts somewhat tuberculated, but not prominently so. Surface minutely granulated, particularly near the margin ; frontal region sparsely hairy. Horns of the rostrum small but rather prominent, projecting beyond the præorbital teeth or angles, and beyond the spine of the basal joint of the antennæ. Lateral margin armed with four teeth, besides the angle of the orbit ; teeth minute, acute. Orbits deep ; inner and outer angles prominent. The anterior margin of the very broad basal joint of the antennæ is bidentate, the inner tooth minute, the outer somewhat unciform, curving inward at tip. Chelipeds of moderate size ; meros unarmed within ; carpus with three or four minute tubercles ; hand smooth, white, encircled with a broad median ring or band of mahogany-color ; fingers stout, also annulated ; dactylus armed with one tooth within ; no tooth on the pollex or immoveable finger. Feet pilose with capillary setæ. Length of carapax in the male, 0.63 ; breadth, 0.62 inch.

Found at the Tortugas by G. Wurdemann, and at St. Thomas by A. H. Riise.

Mithraculus denticulatus.

Mithrax denticulatus Bell, Trans. Zool. Soc. ii. 54, pl. xi. f. 2.

Mithraculus denticulatus White, Cat. Brit. Mus. Crust. 1847, p. 7.

Found at Cape St. Lucas by Mr. Xantus. Bell's specimens were from the Gallapagos Is.

Mithrax verrucosus.

Mithrax verrucosus M. Edwards, Mag. de Zool. 1832, pl. iv. Hist. Nat. des Crust. i. 321.

Horns of the rostrum very short, blunt. Carapax naked, closely covered with flattened granules ; marginal spines blunt, tuberculiform. Basal joint of the external antennæ three-spined, spines blunt, tuberculiform. Notch of the meros-joint of the outer maxillipeds very broad and shallow. Hands smooth above.

Found at Key Biscayne by Mr. Wurdemann, and at the Tortugas by Dr. Whitehurst.

Mithrax aculeatus.

Cancer aculeatus Herbst, Nat. d. Krabben und Krebse, pl. xix. f. 104.

Mithrax aculeatus M. Edw., Hist. Nat. des Crust. i. p. 321.

This is a setose species, to which the name *hispidus* would apply much better than to the species called by that name. It is shorter and broader than *M. spinosissimus*, and belongs to the same group with *M. verrucosus*, having the basal joint of the antennæ three-spined; the spines sharp. Carapax covered with depressed granules, much crowded; marginal spines sharp, sometimes armed with a supplementary spinule or two near their tips. Hands more or less spinose above near the base.

It has been found at the Tortugas, at Aspinwall, at St. Thomas, and at Barbados.

Mithrax spinosissimus.

Maia spinosissima Lamk. An. sans Vert. v. 241.

Mithrax spinosissimus M. Edw., Mag. de Zool., i. 321, pl. 2, 3.
Gibbes, Proc. Am. Assoc. 1850, p. 372.

This is the largest species of the genus. The carapax is margined with spines bifurcated at their tips. Basal joint of the antennæ broad, two-spined. Horns of the rostrum rather longer than in other species. Superior margin of the hand spinulose towards the base.

It is very abundant on the Florida Keys, from Key Biscayne southward.

Mithrax hispidus.

Cancer hispidus Herbst., Nat. d. Krabben und Krebse, pl. xviii., f. 100.

Maia spinicincta Lamk.

Mithrax spinicinctus Desm., p. 150, pl. xxiii., f. 1, 2.

Mithrax hispidus M. Edw., Hist. Nat. des Crust., i. 322.

Gibbes, Proc. Am. Assoc. 1850, p. 172.

Carapax naked, punctate, not granulated, broadly triangular. Marginal spines tuberculiform, excepting the posterior ones, which are spiniform. Basal joint of the external antennæ narrower than in allied species, and armed with only two spines, which are tuberculiform. Hands smooth above.

Found at Key Biscayne, Fla., by Mr. Wurdemann, and at the Tortugas by Capt. Woodbury.

Mithrax tuberculatus, nov. sp.

Carapax naked, tuberculated; tubercles more or less prominently granulated, most so in the young. Margin armed on each side with a strong unguiform spine or tooth curved forward. Between this lateral spine and the orbit, there are two large, well-rounded tubercles, whose distance from each other about equals their diameter; the posterior one is largest and most prominent. On each side of the lateral spine (before and behind it) there is also a smaller marginal spine or sharp tooth. Front narrow; horns of the rostrum short, blunt, scarcely more prominent than the anterior tooth of the basal joint of the antennæ. This joint is triangular, narrowing before, and is armed on the under side of the orbit with another, a lateral tooth, very small. A small tooth, posterior to this, scarce belongs to the antennal joint. Pterygostomian ridge or margin tuberculated. Meros-joint of the external maxillipeds with a right-angled notch at the inner apex for the insertion of the palpus. Chelipeds naked; meros tuberculated; carpus sparsely granulated; hand smooth; fingers scarcely gaping, and unarmed within, except that there is a tooth on the dactylus in old specimens. Ambulatory feet thick, subcylindrical, nearly naked, short-spinose or granulated above, tomentose below. Dried specimens are cream-colored, mottled with carmine. In old specimens the carmine predominates. In a large male, the carapax measures 1.37 inch in length, and 1.67 in greatest breadth.

It approaches nearest to *M. hispidus*, with which it agrees nearly in the front, orbits, antennæ, etc., but it is easily recognised by the granulated tubercles of the carapax.

It inhabits the shores of Cape St. Lucas, L. California, where it is very abundant, according to Mr. Xantus.

Teleophrys.

Teleophrys Stimpson, Silliman's Am. Jour. Sci. 2nd ser., xxix. p. 133.

This genus is allied to *Mithrax* proper, but is distinguished by the character of its orbits, which have the superior and exterior margins entire, and not armed with tubercles or spines. There is sometimes an indication of a superior fissure entirely closed up, but there is no trace of an exterior one. The basal joint of the external antennæ is rather narrow for the group to which this genus belongs, tapering anteriorly, armed with a slight tooth at the antero-exterior angle, and another still smaller at the middle of the outer margin. Meros-joint of the external maxillipeds broader than the ischium, and three-fourths as long, and notched at the internal angle, for the reception of the palpus.

Teleophrys cristulipes, nov. sp.

Pl. II. fig. 2.

Carapax triangular in front, laterally and posteriorly rounded. Gastric and cardiac regions moderately protuberant; the former crossed at the middle by a transverse row of four small tubercles. Branchial region deeply separated from the hepatic, sparsely tuberculated, with one high tubercle near the lateral extremity, and four short spines, curving forward, on the lateral margin. Front narrow; rostrum very short, slightly bifid. External antennæ two-thirds as long as the carapax. Feet rather broad, naked above, and covered with lamelliform spines or short, leaf-like crests, often somewhat imbricated. Chelipeds with the

crests on the meros and carpus less developed than on the ambulatory feet; hands compressed, smooth, cristate above and below; fingers gaping, with excavated tips; pollex or immoveable finger with two minute teeth on the inner margin; dactylus one-toothed within. Length of carapax in a male, 0.3; breadth 0.32 inch.

Cape St. Lucas. J. Xantus.

Eucinetops,* nov. gen.

Rostrum parvum, bifidum, parum deflexum. Oculi longissimi, margines carapacis multo superantes. Orbitæ parvæ, basin pedunculi oculorum solumque includentes; angulo externo acuto spiniformi; margine superiore unifisso, dentibus spinisque destituto. Fossæ antennulariæ non profundæ, marginibus obtuse rotundatæ. Antennarum externarum articulus basalis parvus, angulo externo dente uno minuto armatus; pars mobilis depressa, articulis primo secundoque perlatis. Epistoma perbreve vel nullum. Maxillipedes externi eis *Micippæ* vix diversi, sed meri angulo externo prominentiore, angulo interno minus sinuato; palpo basi turgido; exognatho antrorsum endognathum superante.

This genus is allied to *Micippa*. It is remarkable for the great length and mobility of its eyes, which may be thrown forward, upward, or even backward over the carapax.

Eucinetops lucasii, nov. sp.

Pl. II. fig. 3.

Body and feet hairy above. Carapax oblong, subquadrate, with very uneven surface, not granulated, much depressed between the branchial and hepatic regions; gastric region strongly prominent, with three small tubercles in a transverse row across the middle. Protuberant parts of frontal region clothed with curled hairs. Horns of the rostrum bluntly rounded at the extremities. Lateral margins of the carapax without teeth or spines. Feet moderate, cylindrical, unarmed. Inferior surfaces short-pubescent, not densely so.

* *Εὐκίνητος*, facile mobilis; *ὠψ*, oculus.

The specimen above described is a female, in which the length of the carapax is 0.36 ; the breadth, 0.27 inch.

With the above there are certain male specimens which may belong to a different species, being smaller and narrower, with the horns of the rostrum acutely pointed, and the external antennæ narrower, with the external angle of the first moveable joint considerably produced. The chelipeds are large, much compressed, and crested ; carpus with two slight crests confluent posteriorly in a projecting angle or point ; hand rather broad, flat, tapering to the slender fingers, which are not gaping. Dactyli of the ambulatory feet much shorter than in the female. It is difficult to ascertain the color ; it is apparently pale orange ; but there is a distinct red patch on the dactyli of the ambulatory feet at the middle.

The specimens were all collected at Cape St. Lucas by Mr. Xantus.

Othonia sexdentata.

Othonia sexdentata Bell, Trans. Zool. Soc., ii. 56, pl. xii., f. 1.

This species has been hitherto known only from the Gallapagos Islands. Our specimens were collected at Cape St. Lucas by Mr. Xantus. They agree in all respects with Bell's description and figure. *O. sexdentata* is the analogue of *O. aculeata* of the east coast, from which it differs in the numerous granules on the posterior part of the carapax, etc.

Inachoides laevis, nov. sp.

Carapax mostly smooth, and covered with a soft pubescence easily removed. Gastric and branchial regions protuberant, rounded, glabrous ; cardiac with a single median tubercle. Rostrum rather long, with a styliform extremity as long as the thicker, tapering, basal half. Post-ocular spine very small, blunt. Hepatic region conical, armed at the

apex with a short, deflexed spine. There are two or three tubercles on the infero-lateral regions, in front of the bases of the chelipeds. Outer maxillipeds with a sharp longitudinal denticulated ridge on the ischium-joint; antero-interior corner of the meros sharply projecting forwards. Dactyli of the posterior three pairs of feet falciform, equal. Length of the carapax in the male, 0.45; breadth, 0.32 inch.

It differs from *I. microrhynchus* in the smoothness of its carapax.

Found at Panama, by the Rev. J. Rowell.

Collodes,* nov. gen.

Carapax ovato-triangularis; rostro brevi, bifido, cornibus approximatis. Oculi mediocres, ad processum post-ocularem vel marginem posteriorem orbitæ retractiles, non sese latentes. Antennarum articulus basalis angustus, paullo contortus, antrorsum bidentatus, dente uno sub altero sito; pars mobilis longa, aperta. Maxillipedes externi eis *Microrhynchi* fere similes, mero quam ischium non angustiore, antrorsum profunde inciso, angulo interno sub basin palpi valde prominente acuto. Chelipedes mediocres. Pedes ambulatorii breves, toti prehensiles, dactylis valde gracilibus, longitudine articulum penultimum adequantibus et ad eum retractilibus. Segmenta quintum ad septimum abdominis feminarum coalita.

The orbit in this genus is incomplete; the postero-superior limb is, however, present, and is formed by the strong post-ocular process, which is separated from the præorbital arch by a deep, open marginal fissure. The genus differs from *Microrhynchus* in its feet, orbits, and rostrum; from *Achæus*, in its post-ocular or orbital process, and in its external maxillipeds; from *Achæopsis*, in its prehensile anterior ambulatory feet, and in the broader meros-joint of the external maxillipeds, with sharply projecting internal angle; from *Eurypodius* and *Ore-*

* From *κολλώδης*, tenax, in allusion to the tenacity with which the animal adheres to submarine objects with its strongly prehensile or ancoral feet.

gonia, in its short rostrum and feet; from *Podochela*, in its short feet, and its post-ocular process.

Collodes granosus, nov. sp.

Pl. II. fig. 4.

Carapax nearly naked, conspicuously granulated, especially on the branchial regions; granules rather large and distinctly prominent. An erect obtuse spine on the gastric region, one on the cardiac, and one on the basal joint of the abdomen. The anterior half of the cardiac region and the sulci or depressed parts of the carapax generally, are smooth and glabrous. Rostrum subtriangular, fissured; tip minutely bifid. A minute tooth on the superior arch of the orbit. Chelipeds weak. Ambulatory feet rather depressed, ciliated, dactyli hairy. Margin of sternum raised around the egg-cavity in the female, in which sex the abdomen is strongly indurated, with the outer surface covered with closely-set granules.

The only specimen in our possession is a female, in which the length of the carapax is 0.36; the posterior breadth, 0.32; the length of the first pair of ambulatory feet, 0.5 inch.

Found at Cape St. Lucas, by Mr. Xantus.

Podochela,* nov. gen.

Carapax depressus, elongato-triangulatus, antrorsum valde productus. Regio gastrica angusta, tumida. Rostrum breve integrum, triangulatum vel arcuatum. Oculi non retractiles, transversim porrecti, longe salientes. Antennarum externarum articulus basalis angustus, medio longitudinaliter sulcatus, apice angustatus simplex, dente non armatus; pars mobilis gracilis, aperta. Maxillipedum externorum merus quam ischium multo brevior, plerumque eo quoque angustior, latitudine vero admodum variabilis, apicibus obtusis vel productis, apice interno plus minusve inciso; palpo prosarthroideo. Epistoma prælongum. Chelipedes mediocres; mero curvato, marginibus ciliatis. Pedes prælongi, robusti vel graciles, subprehensiles, manu sub-cheliformi plus minusve instructi interdum

* Πούς, pes; χηλη, chela.

valida, ei *Oncinopi* simili. Dactyli pedum ambulatoriorum primi paris gracillimi, uncinati; reliqui falciformes. Feminae sternum concavum, profundum, marginibus elevatis, laminato-dilatatis,—capsulam efficiens; abdominis segmentum primum sat grandis; secundum, tertium quartumque brevissima; quintum, sextum, septimumque coalita.

This genus is allied to *Achæus*, but the rostrum is entire, and the first two pairs of ambulatory feet are sub-prehensile. It appears to be peculiar to the West Indies, as four species are known, all of which are found only in that province.

Podochela grossipes, nov. sp.

Pl. II. fig. 5.

Body everywhere short-pubescent; feet setose. Rostrum acute, regularly triangular, very little longer than broad at base, setose. Meros-joint of the external maxillipeds oblong, much narrower than the ischium, with the apices obtusely rounded, inner one very slightly incised, incision broad and shallow. Chelipeds with the hand much inflated; fingers much shorter than the palm, slender, gaping, and annulated with crimson near their tips. First pair of ambulatory feet very robust, with a single series of very short small tufts of curled hair along the upper side; penult joint very thick, and armed on the inferior edge with a distinct tooth or thumb-process, against which the extremity of the dactylus closes. The rest of the feet become progressively shorter and more slender posteriorly, and have much shorter hands. In the penult and the last pair, the penult joint is scarce longer than the dactylus, much curved, and concave within, with the thumb-process at the base;—the dactylus is almost always closed against this process, and can be opened only to a limited extent; so that the last two joints are transformed into a strongly subcheliform or ancoral hand, which projects at a right angle from the preceding joint, and resembles, in every respect, that of the posterior feet of *Oncinopus*.

This description is drawn up from a male specimen in which the length of the carapax is 0.56; its posterior breadth 0.41; length of first ambulatory feet, 1.39; of posterior pair of feet, excluding dactylus, 0.68 inch.

This species, which we regard as the type of the genus, was taken at the Island of St. Thomas, W. I., by Mr. Riise.

Podochela macrodera, nov. sp.

This species has considerable resemblance to *P. grossipes*, but differs in the following particulars. Rostrum shorter. Meros-joint of external maxillipeds much shorter and broader, with the anterior angles prominent and laminate. Chelipeds with less inflated hands; fingers neither gaping nor annulated with pink. Ambulatory feet more slender; the penult joint in the first pair especially much longer and more slender, and with no distinct thumb-process on its inferior edge; hands of the posterior two pairs more pedunculated and less geniculated, the thumb-process being nearer the middle of the penult joint, and thickly setose. Length of the carapax in a male, 0.421; posterior breadth, 0.30 inch.

The specific name is suggested by the great length of the neck, or peduncle of the summit upon which the eyes and antennæ are supported; although this is almost equally long in all the other species.

It was found at St. Thomas, by Mr. Riise, and at Key Biscayne, Fla., by G. Wurdemann, Esq.

Podochela riisei, nov. sp.

Pl. II., fig. 1.

Of this species we have but a single example, a female. The carapax is narrow anteriorly, but depressed and broadly expanded posteriorly at the bases of the ambulatory feet. Gastric region very tumid, with a few setigerous tubercles: setæ crispate. Cardiac region sharply prominent, tuberculiform. Hepatic region with a strong, deflexed, almost laminiform lateral tooth. Frontal region protuberant, setigerous. Rostrum depressed much below the level of the frontal region, broader than long, nearly horizontal, sub-laminiform, naked, with a slight median carina; margin regularly arcuated, semicircular, entire. Basal joint of the external

antennæ with a high laminiform crest on each margin, the intervening surface being deeply concave;—these crests converge and join each other at the anterior extremity of the joint, and the moveable part is inserted above the point of juncture. Meros-joint of the external maxillipeds with the anterior angles expanded and prominent as in *P. macrodera*. Chelipeds with slender hand and long fingers not gaping. Ambulatory feet slender, very hirsute on the exterior half of their length; first pair stouter than the others, especially in the meros-joint. The erect laminiform expansions of the sternum, which form the sides of the egg-cavity, are high and overlapped by the abdomen when shut down;—at the anterior extremity the lamina is deeply incised in the base, forming two triangular points between the bases of the chelipeds. Length of the carapax in our specimen, 0.7; breadth posteriorly, 0.58; length of first pair of ambulatory feet, 2.05; of the posterior pair, 1.28 inch.

This species and the next depart widely from the type in the great slenderness of the ambulatory feet, which, also, are not distinctly prehensile, the thumb-process of the penult joint, even in the posterior pairs, being almost or entirely obsolete, and when present situated below the middle of the joint. These characters render the group at first sight so distinct that we had described it in manuscript as a genus under the name of *Podonema*, but we are now inclined to doubt the propriety of such a separation and to regard the differences as only those of degree. *P. macrodera* is in fact a species intermediate in character between the two groups.

P. riisei was found at the Island of St. Thomas, by A. H. Riise, Esq., after which indefatigable investigator of West Indian Natural History we have named the species.

Podochela deflexifrons, nov. sp.

Front and rostrum deflexed; rostrum not as long as broad. Neck much constricted. Eyes very large. Hepatic tooth abruptly prominent downward. Chelipeds moderate; lower edge of meros and ischium

fringed with long, parallel, incurving pairs. Ambulatory feet thread-like, thin, and flexible; the first pair more than three times as long as the carapax, and with a very minute dactylus; posterior pairs becoming progressively shorter, with a compressed dactylus one-fourth the length of the penult joint. Length of the carapax, 0.28; breadth, 0.2; distance between tips of eyes, 0.18; length of first pair of ambulatory feet, 2 inches.

It is very closely allied to *P. riisei*, and is perhaps only a variety, but the deflexed front and filiform feet seem to be good distinctive characters.

Metoporhaphis,* nov. gen.

Carapax triangularis, superficie inæqualis, ei *Stenorhynchi* similis. Rostrum integrum, longum, exile. Antennæ externæ longæ, parte mobili aperta. Antennulæ ut in *Leptopodia*, basi non cochleariformes. Maxillipedes externi eis *Leptopodiæ* fere similes. Pedum ambulatoriorum dactyli fere recti, ciliati.

The type of this genus is the *Leptopodia calcarata* of Say, which we have found upon examination to differ generically from *Leptopodia* in its uneven or protuberant carapax, exposed external antennæ, etc.

Metoporhaphis calcarata.

Leptopodia calcarata Say, Jour. Acad. Nat. Sci. Philad. i. 455.

Gibbes, Proc. Am. Assoc. 1850, p. 169.

We have dredged this species off the mouth of Beaufort Harbor, N. C., in seven fathoms, shelly bottom.

Epialtus sulcirostris, nov. sp.

Body and ambulatory feet smooth and naked. The carapax is widest at the posterior of the two lateral teeth, which are rather acute at their

* Μέτωπον, frons; ράφης, acus.

tips. Præorbital tooth small but distinct and rather prominent. The rostrum in the outline of its upper side, is oblong, in length about equalling the distance between the tips of the præorbital teeth, with sides slightly converging to a place near the extremity, where they abruptly run to a triangular point. In its other characters, the rostrum is thick, with its upper and lower surfaces a little concave; the lower surface is triangular in shape, narrower than the upper, and separated from it by a deep lateral groove. Chelipeds pubescent; carpus acutely carinated externally; hand broad, compressed, with the upper margin acute or crested, crest laminiform, very prominent above the insertion of the dactylus. Ambulatory feet slender, with no vestige of a thumb-process on the penult joint, excepting in the first pair. Length of the carapax in a male, 0.36; breadth, 0.27; length of first pair of ambulatory feet, 0.5 inch.

It is allied to *E. affinis* and *E. bituberculatus*, but wants the two gastric tubercles, and also differs in the character of the rostrum.

Found at Cape St. Lucas, by John Xantus, Esq.

Epialtus longirostris, nov. sp.

Allied to *E. affinis*, but distinguished by the length of its rostrum, which forms more than one-fourth the entire length of the carapax, and is slender with parallel sides and truncate tip. The two gastric tubercles are distinct. Post-gastric and cardiac regions rather prominent. Chelipeds as long as the first ambulatory feet, and rather slender; hand much more elongated than in *E. affinis*. Ambulatory feet slender, with no tooth or process on the penult joint except a very slight one in the first pair. Length of the carapax in the male, 0.34; breadth, 0.22 inch.

St. Thomas. A. H. Riise.

Mimulus. nov. gen.

Carapax planulatus, plus minusve subpentagonus, margine anterolaterali valde expansus, laminatus et bilobatus, lobis arcte approximatis.

Rostrum horizontale, breve, bifidum. Orbitæ inferne incompletæ, superne dente præorbitali et postorbitali præditæ. Oculi retractiles, non sese latentes. Epistoma mediocre. Maxillipedum externorum merus brevis, angulo externo obtusus, angulo interno incisus; exognathus extus dilatatus. Chelipedum manus valde compressa, laminato-cristata. Pedum ambulatoriorum articulus penultimus dente setoso inferne ad medium armatus. Pedes ambulatorii primi paris prælongi.

This genus is near *Epialtus*, with lamellar expansions of the sides of the carapax as in some *Huenicæ*. The exognath of the outer maxillipeds has a strong angular dilatation of the outer margin near its extremity, so that this margin between the angle and the tip is concave.

Mimulus foliatus, nov. sp.

Pl. III., fig. 1.

The projecting lateral laminae form more than one-third the width of the carapax. The posterior one is the larger, and it generally overlaps the anterior one at the lateral fissure; its posterior angle projects, especially in young specimens, giving a concave outline to the lateral margin. The anterior side of the anterior lamina is transverse, and forms a prominent angle with the outer side. There is a post-orbital tooth, at base separated by an open fissure from the superior margin of the orbit. Upper side of the carapax somewhat flattened, with the lateral expansions a little reflexed, the gastric region a little convex, and the surface smooth, covered and concealed by a thin reddish coat of minute pubescence easily removed. Rostrum partly clothed with crispate setæ. Pterygostomian ridge (or branchiostegian margin) armed with three or four low tuberculiform teeth. Chelipeds large; meros and carpus angular but unarmed; inner margin of carpus projecting, laminiform, arcuated; hand and fingers much compressed; fingers gaping in their basal half. Ambulatory feet of the last three pairs naked, angular, not compressed; penult joint obtusely crested above. Ambulatory feet of the first pair compressed, especially in the young, and angular; ischium and meros armed with tubercles or spines below, most prominent in the young;

penult joint lamelliform, acute above; dactylus long and broad, sublamelliform. Length of the carapax in a male, 1.1; breadth, 1.33.

In general appearance and character of the feet, this species has some resemblance to *Huenia heraldica* of De Haan, but is easily distinguished by the bifid rostrum destitute of a vertical lamina, by the post-orbital tooth, the different maxillipeds, etc.

It is a rare species, taken from the stomachs of percoid fishes, ("Cabesones") caught off Monterey, Cal., by A. S. Taylor, Esq.

Lambrus crenulatus.

Lambrus crenulatus Sauss., Crust. nouv. des Antilles et du Mexique, p. 13, pl. i. f. 4.

Found at the Tortugas, Fla., by Capt. Woodbury.

Lambrus triangulus, nov. sp.

The carapax is of the shape of an equilateral triangle, the posterior margin being nearly straight, and scarcely exceeding the antero-lateral sides in length. This results from the strong projection of the dentated posterior corners of the branchial regions, which almost conceal the ambulatory feet. Antero-lateral margin with about twelve very small granulated teeth, of which three are on the small rounded hepatic region. Surface ornamented with conical tubercles variable in number and size. Rostrum prominent, obtuse, triangular. The base of the movable part of the external antennæ is protected on each side by an over-arching tooth, one arising from the lower margin of the orbit, the other from the anterior corner of the epistome. In the outer maxillipeds the ischium is granulated, the meros tuberculated. Chelipeds rather short, strongly angular and dentated; hand granulated below, but nearly smooth above between the crests, which are high, and unevenly eight- or nine-toothed; the teeth denticulated, the middle one largest. Ambulatory feet perfectly smooth and glabrous; dactyli pubescent. Length of the carapax in a female, 0.55; breadth, 0.69 inch.

Cape St. Lucas. J. Xantus.

Cryptopodia granulata.

Cryptopodia granulata Gibbes; Proc. Am. Assoc. 1850, p. 173
and Proc. Elliott Soc. i. 25. (wood-cut.)

In addition to the locality (Charleston Harb.) mentioned by Gibbes, we have this species from Beaufort, N. C. and from St. Thomas, W. I.

CANCROIDEA.

Atergatis lobatus.

Cancer lobatus M. Edw., Hist. Nat. des Crust. i. 375. (?)

Our specimen is a small one, the carapax being less than half an inch in length, and not "fortement bosselée." The areolets of the carapax are granulated, and the ambulatory feet are not altogether smooth, but granulated above on the penult and antepenult joints. In other characters it agrees well with the description of Milne Edwards.

It was found at Aspinwall, by Rev. J. Rowell.

Atergatis rotundatus, nov. sp.

Carapax less broad than is usual in the genus, equally convex anteriorly and posteriorly, areolated and granulated. Antero-lateral margin crested, indistinctly quadrilobate, the lobes being separated by very slight notches, not fissures;—the marginal crest granulated like the rest of the carapax. Postero-lateral side very short. Hand of the chelipeds short, with a high lamelliform superior crest; outer surface granulated above, and ornamented with four or five granulated costæ. Length of the carapax, 0.25; breadth, 0.32 inch.

It differs from *A. limbatus* in having a narrower limb or crest of the antero-lateral margin. It is the analogue or represen-

tative of *A. lobatus* of the Atlantic side of the continent, but differs in being more convex and granulated posteriorly, having higher crests to the hands, etc.

Found at Cape St. Lucas, by Mr. Xantus.

Actaea nodosa, nov. sp.

Carapax broad, and deeply areolated both anteriorly and posteriorly; the areolets forming prominent granulated nodes, mostly of nearly equal size, and in number about forty, including those constituting the antero-lateral teeth. These nodes are strongly convex in the anterior, but flattened in the posterior regions of the carapax. The furrows separating them are wide and deep, and more or less thickly pubescent. The median gastric areolet, which in this genus is usually long and slender, reaching far forward, is in the present species almost obsolete, being represented only by its tuberculiform posterior extremity. The feet are nodose and granulated like the carapax. The outer surface of the hand is tuberculated, the tubercles being arranged, inferiorly, in three longitudinal rows. Length of the carapax in a female, 0.64; breadth, 0.97 inch.

Found at the Tortugas, Fla., by Dr. Whitehurst.

Actaea sulcata, nov. sp.

Upper surface of the carapax divided into thirty flattened and granulated lobules (besides the small ones around the orbits), separated by deep pubescent sulci. The posterior lobules are less prominent, more distinctly granulated, and sometimes concealed by pubescence. Chelipeds above nodose like the carapax; hands and fingers, at base, strongly granulated externally. Ambulatory feet longitudinally sulcated, but not granulated. Color bright-red, somewhat maculated or mottled with white. Length of the carapax in a female, 0.37; breadth, 0.56 inch.

It is somewhat nearly allied to *A. nodosa*, but the lobules or nodes of the carapax are less prominent and less distinctly granulated.

In this species there is some approach to excavation in the tips of the fingers, that would perhaps require its removal to the section *Actaeodes* of Dana, which, however, we can scarcely consider a distinct generic group.

Found at Cape St. Lucas, by Mr. Xantus.

Actaea labyrinthica, nov. sp.

This species is very closely allied to the Atlantic species, *A. erosa* Stm., differing only in being less minutely eroded or vermiculated, the prominent parts between the principal furrows of erosion being flattened and smooth; while in *A. erosa* these prominences are sharp and themselves eroded. On the outer surface of the hands the prominences are smooth, mammilliform tubercles.

In color this crab is variegated with yellow and carmine. Length of the carapax in a female, 1.0; breadth, 1.42 inch.

Found at Panama, by the Rev. J. Rowell. For additional specimens I am indebted to Mr. W. H. Edwards.

Xantho bella, nov. sp.

Pl. III., fig. 2.

Carapax rather broad; proportion of length to breadth about 1:1.50. It is somewhat octagonal in shape, the antero-lateral margin being angular at the middle, where it is divided into two equal portions;—the anterior one straight, oblique, and entire, with the exception of a small lobe scarcely projecting near its anterior extremity; and the posterior portion nearly longitudinal, and armed with three strong triangular teeth, the middle one being most prominent. The postero-lateral margin is longer than the antero-lateral. Surface distinctly areolated, smooth, and glabrous, except near the anterior margins, where it is minutely rugose or granulated. Front moderately projecting, deeply fissured at the middle. The infero-external fissure of the orbit is as well marked as in *X. florida*, or as in some *Panopei*. Chelipeds smooth

and glabrous; hand short, with a basal tooth on the superior margin of the palm, projecting inward. Ambulatory feet mostly smooth and glabrous (rarely pubescent); penult and antepenult joints compressed, obtusely cristate above, with an undulated margin; dactyli with rather long pubescence. Color crimson or beet-red; carapax sometimes lighter in color, or yellowish, maculated with deep red. Length of the carapax in a male, 0.54; breadth, 0.80 inch. In another, length, 0.56; breadth, 0.89.

Northern specimens are more transverse, rougher, more pubescent, and more sober in coloration than those found in warmer latitudes.

Found at Monterey, Cal., by Mr. A. S. Taylor, and at Ft. Townsend, Puget Sound, by Dr. Suckley.

Xantho planissima, nov. sp.

Carapax perfectly flat above, smooth and glabrous, excepting near the frontal margins, where it is somewhat punctate in transverse rugæ. Regions moderately well defined, but not themselves areolated, excepting the gastric in its anterior part. Antero-lateral margin four-toothed, teeth moderate. Chelipeds unarmed (excepting the tooth at the inner angle of the carpus); surface smooth, punctate above; meros minutely granulated above, near the apex; hand compressed, broad; fingers black, with light-colored tips; pollex broad, with its black patch extending some distance on the palm. Ambulatory feet smooth, compressed, pubescent toward their extremities. Color a very dark bluish-grey, marbled posteriorly. Length of the carapax in a full grown male, 0.3; breadth, 0.46 inch.

Cape St. Lucas. J. Xantus.

Xantho lamellipes, nov. sp.

Carapax smooth, flattened, and somewhat octagonal in outline, the antero-lateral margin having a strong angle or shoulder on the hepatic region, just before the indistinct cervical suture. The broadest part of

the carapax is at this shoulder, and between it and the orbit, the margin is thick, obtuse, perfectly straight and smooth. Behind the shoulder-tooth there are two small teeth on the antero-lateral margin, rather sharp and crested. Front deflexed, with a reticulated surface. Sub-hepatic regions also reticulated, that is, covered with minute cavities the parietes of which form a fine network. Chelipeds angular, with reticulated surface; upper side of carpus somewhat dilated, with a strong outer, inner, and posterior tooth or angle. Ambulatory feet very much compressed, almost laminiform, with sharp, smooth, lamelliform crests above. In the penult and antepenult joints of the first two pairs of ambulatory feet, there is also a longitudinal crest on the side of the feet, the spaces between the crests being deep cavities. Sternum and inferior side of feet pubescent.

It is slate-colored, with the antero-lateral margins and chelipeds reddish-white. Length of the carapax in a male, 0.25; breadth, 0.34 inch.

Cape St. Lucas. J. Xantus.

Xantho vittata, nov. sp.

Carapax depressed, rather narrow, anteriorly rather convex, and with a produced front. Dorsal surface distinctly divided into regions by sufficiently deep furrows; the gastric region subdivided into three lobules; and the branchial into two by the transverse sulcus arising at the lateral angle. Surface naked, somewhat punctate, and transversely rugulose anteriorly. Lateral and posterior margins ciliated beneath. Antero-lateral margin eight-toothed; teeth small, sharp, narrower than their interspaces at the base. Anterior tooth situated at a double interval from the angle of the orbit. External marginal lobes of the orbit prominent. Front horizontal, much projecting; margin slightly convex, not toothed, but sparsely ciliated. Chelipeds somewhat rugose above. Ambulatory feet ciliated. Abdomen in the male narrow; terminal joint scarcely longer than broad, with rounded extremity. Color yellowish-grey; carapax with eleven longitudinal stripes of red. Length of carapax in a male, 0.5; breadth, 0.67 inch.

It is allied to *X. sexdecem-dentatus*, but the dorsal surface is distinctly areolated, and the antero-lateral teeth do not touch

each other at base as in that species. *X. sexdecem-dentatus* has been referred by some to the genus *Paraxanthus* of Lucas, but we cannot perceive that it is generically distinct from *X. planus*; in the front is equally prominent.

Our species was found at Panama by the Rev. J. Rowell; also abundantly at Cape St. Lucas by Mr. Xantus. The northern specimens differ from those of Panama only in their smaller size.

Xantho denticulata, nov. sp.

Carapax sufficiently broad, naked, very deeply areolated anterior to the transverse furrow, the extra-medial gastric lobules being partially divided. An oblique furrow crosses the postero-lateral slope and margin, arising from the transverse furrow half way between the middle and the lateral extremity. Antero-lateral margin armed with nine small but prominent teeth, the anterior one being situated at a lower level than the others (belonging rather to the sub-hepatic region), and separated from the angle of the orbit by a rather deep sinus. Front quadridentate; middle teeth much the largest. The lobes between the fissures of the external orbital margins are rather prominent. Præorbital tooth prominent. Latero-inferior regions granulated. Basal joint of the external antennæ rather short, but joining a process from the front. In the chelipeds, the carpus and hand are tuberculated above. Ambulatory feet smooth; a slight tooth at the superior extremity of the carpus-joint. Length of carapax in a male, 0.31; breadth, 0.44 inch.

From the character of the external antennæ this species would probably be more properly arranged in *Xanthodes*, but the carapax is broad as in the true *Xanthos*.

Found at Cape St. Lucas by Mr. Xantus, who has been particularly fortunate in collecting new species of a genus the name of which approximates so closely to his own.

Xanthodes taylori, nov. sp.

Pl. III, fig. 3.

Carapax areolated; areolets anteriorly embossed; margins of the transverse protuberances often crenulated. Front deeply quadridentate; teeth widely separated; their interspaces coarsely crenulated. There is also a crenulated transverse ridge above and parallel with the front, interrupted at the middle by the deep median sulcus of the frontal and gastric regions. Three prominent teeth on the antero-lateral margin, the anterior one bifid, the posterior one with a supplementary tooth behind it. Between the anterior tooth and orbit, the margin is obtuse or flattened, and armed with four or five tubercles. In the chelipeds the carpus and hand, above and exteriorly, are uniformly covered with rather closely-set, prominent, subglobular, rose-colored tubercles. There is a slight tendency to excavation in the tips of the fingers. Ambulatory feet spinose and setose above, setæ stiff. In the alcoholic specimen the carapax is rose-colored, like the tubercles of the chelipeds, which are set on a bluish ground; fingers black, the black not spreading upon the hand. Length of the carapax in a female, 0.72; breadth, 1.09 inch.

This pretty species was found at Monterey, Cal., in March, 1859, by Mr. Alex. S. Taylor, who writes:—"The crab is new to us here, never having been seen before;—it was found on the sand-beach after a heavy storm, and lives, very likely, in deep water among sea-weeds." It is probably, like other species of the genus, an inhabitant of the laminarian zone.

Xanthodius hebes, nov. sp.

Body and feet naked with the exception of the pubescent dactyli of the ambulatory feet. Carapax smooth, moderately but not deeply areolated; surface conspicuously punctated. Antero-lateral margin smooth, obtusely rounded, obscurely quadrilobate. Front obtuse, straight when seen from above, but deeply sinuous in its margin seen from before. Subhepatic region deeply punctated or minutely vermiculated behind

the orbit. Chelipeds rather short and stout, rugulose above and externally. Length of carapax, 0.52; breadth, 0.82 inch.

It approaches nearly to *X. sternberghii* in its smooth carapax, but may be easily distinguished by its obtuse antero-lateral margin.

Found at Cape St. Lucas, where it is extremely abundant, according to Mr. Xantus.

Xanthodius americanus.

Chlorodius americanus Sauss.; Crust. nouv. des Antilles et du Mexique, p. 14, pl. i. f. 5.

In a criticism of M. De Saussure's "Memoires" (Silliman's Am. Jour. Sci., 2nd Ser. xxvii. 446), we have considered this species identical with *C. floridanus* Gibbes. Having recently, however, secured numerous specimens of it, we are enabled to acknowledge the error. It is entirely distinct;—the carapax is much broader and more rounded at the lateral angle, the lobules are more protuberant, the surface is punctate, not transversely striated, the lateral teeth are less acute, and the body and feet generally, are much less hairy. The frontal margin is transversely canaliculated as in *C. floridanus*.

As this species has a strong ridge upon the palate, I have arranged it above in *Xanthodius*.

Found at the Tortugas, Fla., Capt. Woodbury; and at Barbadoes, T. Gill.

Chlorodius floridanus.

Chlorodius floridanus, Gibbes; Proc. Am. Assoc. 1850, p. 175.

This species has much resemblance to the Pacific *C. exaratus*, with which it is confounded by Dana (U. S. Expl. Exped.,

Crust. ii. 1554). It is, however, distinguished by the character of the frontal margin, which is grooved so as to appear double.

Very common on the Florida Keys.

Chlorodius maculatus, nov. sp.

The following description is drawn up from a single female specimen, the only one yet received. Carapax yellowish, with numerous brown spots;—narrow, evenly convex, areolated; lobules rather prominent anteriorly and antero-laterally, with nearly smooth surfaces. No transverse ridges. Surface posteriorly glabrous. Antero-lateral teeth four in number (excluding angle of orbit) equal, small but sharply prominent; interspaces broad, concave. Front prominent, sublaminiform, four-toothed; middle teeth broad; orbital teeth prominent. A tooth on the subhepatic region just beneath the first of the four antero-lateral teeth. Chelipeds short and stout, spotted with red; meros spinulose above; fingers short and stout, with large apices deeply spoon-shaped. Ambulatory feet with the last three joints very spinulose and hairy above. Length of carapax, 0.625; breadth, 0.84 inch.

It is much narrower in proportion than any other *Chlorodius* of the West Indian province.

Found at the Tortugas, Fla., by Capt. Woodbury.

Panopeus transversus, nov. sp.

Carapax very broad, moderately convex, naked, smooth except near the margins anteriorly, where it is minutely rugulose transversely, or granulated. Regions scarcely defined. Surface not uneven near the antero-lateral teeth. Front wide, scarcely at all prominent; margin somewhat undulated, the two lobes being curved and not straight or truncate. Antero-lateral margin divided by slight incisions into four teeth as in *P. crenatus*;—the first tooth, composed of the angle of the orbit coalesced with the second normal tooth, is entire and slightly convex in outline. Chelipeds minutely granulated or rugulose above; a tooth on the inner edge of dactylus at the base. Feet and inferior surfaces of the body pubescent. Terminal joint of the male abdomen small,

not dilated laterally. Color a very dark brown; fingers black with white tips,—the black spreading a little upon the palm. Length of carapax in a male, 0.5; breadth, 0.75 inch.]

It is allied to *P. crenatus* of the west coast of S. America, but the carapax is broader, and less convex, with a less prominent front, etc.

Found at Panama, by the Rev. J. Rowell.

Panopeus abbreviatus, nov. sp.

Carapax broad, transversely rugose; regions well-defined but not protuberant. Front rather narrow, and but little projecting; margin seen from above, nearly straight; and obliquely truncated or bevelled, the bevelled surface being granulated. Supra-orbital fissure distinct. Antero-lateral teeth normal in number, and rather prominent. Sub-hepatic regions granulated; a slight tuberculiform prominence beneath the first antero-lateral tooth. Chelipeds smooth; surface microscopically punctated. Color yellowish or brownish; chelipeds and front margin of carapax roseate; fingers black with paler tips, the black not spreading. Length of carapax in a male, 0.525; breadth, 0.82 inch.

Found at Barbados, by Theo. Gill, Esq.

Ozius verreauxii.

Ozius verreauxii Sauss.; Rev. et Mag. de Zoologie, 1853, p. 359, pl. xii. f. 1.

Found at Cape St. Lucas, by Mr. Xantus. A large specimen, three inches broad.

Ozius perlatus, nov. sp.

Very broad, and depressed; anterior part of carapax and upper side of chelipeds rugose, the raised portions reticulating, the pits and channels deep, as if eroded. Carapax flat and smooth posteriorly, anteriorly

well areolated, the anterior branchial lobule being circumscribed. Latero-inferior regions granulated. Front depressed and transversely channelled, nearly straight in a view from above, but strongly bidentate at the middle in a front view; teeth obtuse. Basal joint of the external antennæ narrow and projecting, being jammed in the inner angle of the orbit. External maxillipeds more or less pubescent; meros rather deeply bisulcated, and conspicuously notched anteriorly at the efferent aperture. Color dark reddish. Length of carapax, 1.65; breadth, 1.1 inch.

It has some resemblance to *O. verreauxii*, but is broader, more deeply areolated, and rugose, almost vermiculated anteriorly. The basal joint of the antennæ also, in *O. verreauxii*, is much broader and more flattened.

It was found in considerable numbers at Cape St. Lucas, by Mr. Xantus.

A species closely allied, and if not identical with this, is found at the island of Jamaica. It has, however, a more acute antero-lateral margin.

Daira americana, nov. sp.

Closely allied to *D. perlata*, differing only in the fingers, which in our species are not spoon-shaped but acuminate, and in the existence of tufts of setæ between the tubercles of the carapax. Length of the carapax in the male, 0.8; breadth, 1.15 inch.

This species affords another instance of the slight value of the degree of excavation of the finger tips as a distinguishing character. It should scarcely be used for families, when in this and some other instances it is not even of generic importance.

We have here removed the genus *Daira* from the vicinity of *Chlorodius* to that of *Pilumnus*, in view of the strong ridge upon the palate, and some other characters of nearly equal importance. *Daira* is especially characterized by the notch of

the anterior margin of the meros-joint in the outer maxillipeds, and by the basal joint of the external antennæ not being soldered to the carapax.

Daira americana was found at Cape St. Lucas, by Mr. Xantus. The only other species known is an inhabitant of the Indo-Pacific region.

***Pilumnus xantusii*, nov. sp.**

Carapax narrow, moderately convex, anteriorly hairy, but posteriorly short-pubescent like the abdomen. Gastric region and its principal lobules well circumscribed. Two or three very short spines on the hepatic and branchial region in a row parallel to the antero-lateral margin. Surface elsewhere either smooth or sparsely roughened with sharp grains. Front rather broad, deeply incised at the middle, but without lateral incisions; its margin armed with six small spines. Superior margin of orbit straight, ciliated, but not armed with spines; inferior margin with two or three spines toward the inner angle. Antero-lateral margin armed with five spines, regularly placed and nearly equidistant, but diminishing in size forward; the anterior one at the external angle of the orbit. Meros-joint of the external maxillipeds longer than is usual in the genus, being nearly square, and less incised at the internal angle. Chelipeds short and thick; greater hand above and externally hairy, and sparsely armed with spines; surface between the spines smooth and glabrous except toward the fingers, where it becomes granulated, the spines disappearing or becoming tubercles; lower margin and inner side near the fingers granulated. Fingers tuberculated at base. Ambulatory feet not spinous but clothed above with very stiff hairs. Color reddish; spines black; fingers black. Length of carapax in a male, 0.6; breadth, spines excluded, 0.68.

It is the western analogue of *P. aculeatus*, but differs considerably from that species in its narrower carapax, five-spined antero-lateral margin, and in the want of spines on the feet.

Found at Cape St. Lucas, abundantly, by Mr. Xantus.

Pilumnus gemmatus, nov. sp.

Surface of body and feet above covered with a cream-colored, velvet-like pubescence. Carapax distinctly areolated, and ornamented with scattered granules or small tubercles, from three to six on each areolet. Spines or teeth of antero-lateral margin very short. Two or three tubercles on the superior margin of the orbit, not acute. Lobes of the front prominent, rounded, granulated; a transverse series of long hairs above the margin. Lower margin of orbit not spinous. In the chelipeds, both hands are tuberculated above, and granulated on the outer surface. Ambulatory feet long-hairy, pubescent, and studded above with scattered granules smaller and sharper than those of the carapax and hands. The granules and spines are all of a bright ruby color, and present an elegant appearance from contrast with the whitish or cream-colored velvet in which they are embedded like gems. Length of carapax, 0.36; breadth, 0.49.

Inhabits St. Thomas; A. H. Riise. Also the Tortugas; Capt. Woodbury.

Pilumnus reticulatus, nov. sp.

In this species the carapax is less convex than is usual in the genus; both it and the feet are clothed above with short clavate setæ, closely arranged in reticulating lines enclosing small, naked, polygonal areolæ, which, on the anterior half of the carapax and on the chelipeds, are mostly each occupied by a tubercle projecting forward, but flattened on its superior and posterior surface. There are about twelve tubercles on the carapax, excluding marginal ones, and about thirteen on each cheliped. On the ambulatory feet the naked areolæ form deep cavities not occupied by tubercles; about two areolæ occupy the width of the foot. A few much longer and larger clavate setæ are dispersed among the short ones which clothe the general surface. Antero-lateral margin distinctly four-toothed, not including the external angle of the orbit; the anterior tooth is situated rather on the sub-hepatic region. A tooth on the sub-branchial region beneath the penult tooth of the antero-

lateral margin. Three projecting teeth on the inferior margin of the orbit, the inner one very large, flattened on its outer surface. External antennæ long. Fingers and infero-exterior surface of hands smooth and naked; the naked part sharply defined by an oblique line on the outer surface. Length of carapax in a male, 0.25; breadth, 0.36 inch.

Inhabits St. Thomas; A. H. Riise.

Pilumnus ceratopus, nov. sp.

Body above clothed with very short tufts of pubescence, somewhat irregularly arranged, leaving many open spaces; feet much more thickly covered, with a longer hairy coat. Carapax much less convex than usual, and even flattened posteriorly, but anteriorly moderately sloping toward the margins. Regions sufficiently distinct, but neither lobulated nor tuberculated. A transverse ridge on the frontal region, interrupted at the middle. Surface naked along the anterior margins, which are obtuse and thickened. Three long, acute spines on the antero-lateral margin. Front nearly horizontal, very little projecting, and strongly sinuated at the middle. Superior margin of the orbit unarmed, but fissured at the middle; outer angle tuberculiform, projecting laterally. Inferior margin of the orbit deeply bi-lobate; lobes large, triangular, projecting; external hiatus well-marked, and armed with a tooth at the bottom. Chelipeds above, and externally, covered with short spines; anterior half of palm of hand naked, and of a bright red or purplish color. Ambulatory feet compressed, densely hairy; meros with a spine at the superior extremity; carpus with a large, smooth, procumbent, horn-like process lying upon its upper side, in front of which are three spines along the anterior margin; dactylus of the usual length. Length of carapax in a male, 0.3; breadth, excluding the spines, 0.4 inch.

This pretty little species, very peculiar in the armature of its ambulatory feet, was found at Key Biscayne, Fla., by the late Gustavus Wurdemann, Esq.

Pilumnus lunatus.

Pilumnus lunatus M. Edw. et Lucas; Voy. dans l'Am. Merid.
(D'Orbigny) Crust. 20, pl. ix. f. 2.

Distinguished by its thickened, naked, anterior margins, and by the peculiar sharp lunated process on the superior margin of the carpus joint of the ambulatory feet. It has no ridge upon the palate, and should probably, with the preceding species, be separated generically from *Pilumnus*.

Found at Cape St. Lucas by Mr. Xantus, and on the west coast of Central America by Capt. Dow.

Metopocarcinus,* nov. gen.

Carapax laevis, glaber, orbiculatus, antice truncatus; regionibus non circumscriptis; margine antero-laterali fere integro, quam postero-lateralis brevior, paullo cristato, crista postice introrsum curvata, ut in *Pilumnoide*. Frons grandis, perlata, dimidiam carapacis lat. fere superans, prominens, margine recta, integra. Orbita parva, margine superne integra, subtus unifissa. Antenna externa hiatum internum orbitae occupans, articulo basali frontem non attingente. Maxillipedes externi eis *Xanthus*, etc. similes. Pedes mediocres. Abdominis maris segmenta tertium, quartum quintumque coalita.

Metopocarcinus truncatus, nov. sp.

Pl. V., fig. 4.

Carapax somewhat convex, naked, smooth and even, except that the anterior gastric lobules and two oblong longitudinal lobules on the frontal region are slightly raised. Antero-lateral margin obscurely three- or four-toothed; teeth to be seen only in a side view. Distance between inner angles of the orbits equalling more than half the width of the

* Μέτωπον, frons; κάρκινος, cancer.

carapax. Inferior side of frontal margin transversely sulcate or channelled, and granulated. External antennæ very short, reaching scarcely beyond the frontal margin. Chelipeds and ambulatory feet smooth, naked, and unarmed; fingers acuminate; dactyli pubescent, with long, slender, acute unguicles. Color, pale orange; postero-lateral surfaces, above bases of feet, black; fingers of the chelipeds and dactyli of the other feet, dark colored. Length of carapax in a male, 0.18; breadth, 0.18 inch.

Cape St. Lucas. J. Xantus.

Eriphia gonagra.

Cancer gonagra Fabr.

Eriphia gonagra M. Edw.; Hist. Nat. des Crust. i. 426. Dana, U. S. Expl. Exped. Crust. i. 250.

Found at the Tortugas by Capt. Woodbury and others; at Aspinwall and at Panama by the Rev. J. Rowell.

We cannot distinguish the Panama specimens from those found on the east side of the isthmus.

A variety (?) is found at Key Biscayne, at the Tortugas, and at Aspinwall, in which the chelipeds are much more tuberculated than in the typical forms, there being strong tubercles on the carpus and on the lower half of the outer side of the hand.

Dr. Cooper makes an interesting statement with regard to the habits of this species:—that they build nests of mud upon the branches and roots of the mangrove at the edge of the water, into which they retire for concealment. The old world species, observed by myself (*E. Smithii*, *levimana*, *spinifrons*, etc.), hide in small cavities of the rocks, from which it is extremely difficult to extract them uninjured.

Eriphia squamata.

Eriphia squamata Stimpson; Ann. Lyc. Nat. Hist. N. Y., vii. 56.

This species is further distinguished from *E. gonagra* by hav-

ing generally one or two more spiniform teeth on the antero-lateral margin. It has been received from the following additional localities, viz.: Cape St. Lucas, J. Xantus; Panama, Rev. J. Rowell; Peru, C. H. Raymond.

***Eriphia hispida*, nov. sp.**

Body and feet everywhere covered above with short, stiff, black setæ, mostly arising from tubercles. Carapax rather flattened above, indistinctly areolated, rugose with low tubercles, from the front edges of which the setæ arise. Antero-lateral margin with about eight small teeth mostly armed with one or two denticles near their tips. Front broad, short-spinous; spines numerous, small, with obtuse tips. Orbit removed from the antennæ to a much greater distance than is usual in the genus;—its margin spinous, especially beneath, where there is a deep open fissure or hiatus near the external angle. Meros-joint of external maxillipeds with a slight sinus or emargination of its anterior margin near the summit, corresponding to the efferent aperture; ischium denticulated on its inner margin. Chelipeds unequal; hands tuberculated and granulated on both sides, the granules often crowding upon the tubercles; fingers in smaller hand spoon-excavated. Ambulatory feet short and stout, mostly smooth beneath the hispid covering; meros crenulated above; dactyle very short. Color purplish beneath the black setæ. Length of carapax in a female, 1.72; breadth, 2.35 inch.

Found on the west coast of Central America, by Captain J. M. Dow.

***Domecia hispida*.**

Domecia hispida Soul., Voy. au Pole sud, pl. vi., f. 3, 7.

We have specimens, found at St. Thomas by Mr. Wise, which are of this species, or of one so closely allied, that the published figures do not enable us to distinguish it.

Trapezia maculata.

Trapezia maculata Dana, U. S. Expl. Exped. Crust. i. 256, pl. xv. f. 4.

Mr. Xantus has sent a specimen of this species, collected at the Island of Socoro, off the west coast of Mexico. It was originally found at the Sandwich Islands, and is one of the very few species common to the American coast and the eastern outskirts of the great Indo-Pacific region.

Trapezia nigro-fusca, nov. sp.

Carapax broad, naked, slightly convex, very smooth and glabrous, with a few scattered punctæ surrounding the gastric region, though scarcely defining it. A very slight marginal tooth on either side, at the usual position. Front slightly convex, entire, not denticulated. Outer maxillipeds fitting neatly in the buccal area, and not gaping; basal margins in a transverse line. Chelipeds with the meros short, as in *Tetralia*; carpus almost bilobate within; hand very broad and depressed. Ambulatory feet short, naked; dactyli with obtuse unguiculi sufficiently conspicuous, bent inward at an angle with the main part of this terminal joint. Color uniform dark-brown, almost black. Length of carapax in a male, 0.37; breadth, 0.46 inch.

Cape St. Lucas. J. Xantus.

Neptunus.

This genus was instituted by De Haan for a small group of *Lupae*, species mostly pelagic in their habits, as *L. pelagica* and *L. sanguinolenta*, which are the two mentioned by that author as examples. It has been rejected by succeeding carcinologists, and re-united to *Lupa*; but I believe it to be well characterized by the great breadth of the carapax, the little-prominent front, the short meros-joint of the outer maxillipeds, which is not produced beyond the base of the palpus, and is obtuse at

its outer angle, and by the broad, lamelliform dactyles of the first three pairs of ambulatory feet.

In the dismemberment of the genus *Lupa*, the old name should strictly have been retained for this group called *Neptunus* by De Haan. But as that author had a right to restrict the name as he did, to *Lupa forceps*, it can scarcely now be changed.

Neptunus sayi.

Lupa pelagica Say, Jour. Acad. Nat. Sci. Philad. i. 97.

Lupa sayi Gibbes, Proc. Am. Assoc. 1850, p. 178.

Found among floating sargassum in the North Atlantic Ocean, and not unfrequently washed ashore in considerable numbers on the Florida Reefs.

Callinectes.*

Under this generic name we propose to distinguish the common American *Lupa diacantha*. It cannot be placed in any group yet indicated without violence to its characters. With the broad carapax, low front, and general habit of *Neptunus*, the genus now proposed is quite distinct in its external maxillipeds, the meros-joint of which, though short, is sharply prominent and curved outward at its antero-external angle. Also, the male abdomen in the narrowness of its terminal half, has a form found in no other genus of Lupidae, except perhaps *Euctenota* Gerst., a genus characterized by its narrow front and dentated orbits.

Callinectes diacanthus.

Lupa diacantha (Latr.) M. Edw.; Hist. Nat. des Crust. i. 451.

We have been unable to find constant differences between

* Καλός, strenuus; νήκτης, natator.

the northern and southern varieties of this species, which ranges from Cape Cod to Rio Janeiro. It is also found on the west coast of America, as we have received an unmistakable specimen from Mr. Xantus, collected at Cape St. Lucas. This circumstance throws a doubt upon the distinctness of *L. belliosa*, described in our last number.

Acheloüs.

A genus founded by De Haan. He refers to it but one species, the *Portunus spinimanus* of Latreille. This species has been placed in *Lupa* by subsequent writers, but it appears to be quite distinct in its narrower and pubescent carapax, its anteriorly-produced meros-joint of the outer maxillipeds, and its narrow dactyli of the ambulatory feet. We have, therefore, found it necessary to retain the genus, and to place in it several species usually referred to *Amphitrite*, a heterogeneous group of De Haan's, in which he placed *L. gladiator*, *hastatoides*, *diacantha*, and, with a query, *cribraria*, *rubra*, and *pelagicus* of Bosc (*sayi* Gibbes). This genus can scarcely be retained, even were its name acceptable, which it is not, being pre-occupied.

The genus *Acheloüs*, as now constituted, is chiefly characterized by the shape of the meros-joint of the external maxillipeds, which is greatly produced anteriorly beyond the base of the palpus, with its outer margin usually straight, but sometimes a little projecting at the antero-exterior angle. The carapax varies considerably in width, and in the length of the lateral spine or posterior antero-lateral tooth. The terminal joints of the first three pairs of ambulatory feet are sulcated, and usually narrow, but sometimes rather broad and flattened, although never approaching so much as those of the true swimming *Lupas*.

All the American species (except *Lupa rubra*) usually referred to *Amphitrite* are here included. The East Indian

Amphitrites probably form a distinct genus, with their large eyes, prismatic hands, etc.; but this point we have not yet investigated.

Achelous gibbesii.

Lupa gibbesii Stimpson, An. Lyc. Nat. Hist. of N. Y., vii. 57.

An important distinctive character in this species, which we overlooked in the previous description, consists in the existence of one or two shallow oblong pits or little depressed spaces, with a smooth, iridescent surface, near the antero-lateral margin at the penult or antepenult marginal tooth. At least one of these pits is always present, and will always distinguish this species from the varieties of *A. spinimanus*, some of which approach it quite nearly, being similar in coloration. They are, also, almost always found together.

It is found as far north as Beaufort, N.C.

Achelous xantusii, nov. sp.

Carapax pubescent; front and antero-lateral margins meeting in an angle. Front four-toothed; teeth equally prominent; the two middle ones less broad and more acute than the outer ones, and separated from them by a wider space than from each other. Antero-lateral margin nine-toothed, including the angle of the orbit, which is prominent, protruding forward nearly as far as the frontal teeth; posterior tooth (or lateral spine) nearly three times as long as the one anterior to it. Eyes of moderate size, and in great part concealed by the orbit when retracted; cornea rather less thick than the peduncle. The entire lower margin of the orbit may be seen from above when the eyes are retracted. Meros-joint of external maxillipeds with the anterior extremity produced, rectangular. Chelipeds slender, pubescent; meros depressed, with the pubescence arranged on slight transverse ridges on the upper surface, and the anterior margin five- or four-spined; carpus and hand each two-spined. Ambulatory feet slender; dactyli of first three pairs rather narrower than in *A. spinimanus*, but similarly sulcate

and ciliated. Length of carapax in a female, 0.54; breadth, 1.05 inch.

Very common on the beaches of Cape St. Lucas. J. Xantus.

Achelöus tuberculatus, nov. sp.

Carapax inconspicuously pubescent, surface uneven, with the protuberant parts granulated. There are from four to six small tubercles on the gastric region, two on the cardiac, and two on the inner part of each branchial region. Front rather prominent, convex, four-toothed; teeth subequal, the median ones most projecting and more greatly separated from each other than from the lateral ones. Eyes of moderate size, with the cornea but little thicker than the peduncle. Anterolateral margin nine-toothed, with the posterior tooth or spine very long, as long as the space occupied by the next five teeth in front of it. Posterior angle of the carapax armed with a hooked spine, directed upward and forward. Meros-joint of external maxillipeds rather less produced than usual. Chelipeds slender, with spines as in the preceding species; hand very slender. Dactyli of ambulatory feet as in *A. xantusii*. Length of the carapax in a female, 0.52; breadth, 1.20 inch.

Common at Cape St. Lucas. J. Xantus.

Achelöus depressifrons.

Amphitrite depressifrons Stimpson, An. Lyc. Nat. Hist. N. Y., vii. 58.

We have received a large number of fine specimens of this species from the officers stationed at the Tortugas, Fla., which enable us to amend the specific character previously published, and to add further remarks. The largest of these specimens is an inch and a half in width. The carapax is pretty uniformly mottled and clouded with purplish-grey, but is lighter at the middle. There is always a dark median spot on the intestinal region. Front very little prominent. Hand remarkably short and compressed, with the spine of the superior margin situated

near to the base of the dactylus, which is ciliated above with long reddish hairs; hinge-tubercle, and most of the teeth on the inner sides of the fingers, bright carmine. Dactyli of the first three pairs of ambulatory feet very broad and flat for the genus, but with the sulci not entirely obscured.

This species is easily distinguished by the shortness of its lateral spine or posterior tooth of the antero-lateral margin, which is no larger than that in front of it.

Achelous ordwayi, nov. sp.

Carapax pubescent, sparsely granulated toward the antero-lateral margins; granules acute and of a red color. Front very prominent, and rather narrow, with four very sharp and prominent teeth. Antero-lateral margin nine-toothed, the posterior tooth twice as long as the next before it. Meros-joint of the external maxillipeds more prominent at its antero-exterior angle than is usual in the genus. Chelipeds with long and sharp spines, in the usual positions; hand rather short, with the supero-exterior surface in parts smooth, bare of pubescence, and highly iridescent; fingers long and narrow, deeply sulcated. The dactyli of the first three pairs of ambulatory feet in this species are very long and slender, subcylindrical, much narrower than in any other known species of Portunidae, and deeply sulcated. Color of the crab, pale reddish or brownish, mottled; gastric region usually deep crimson. Length of the carapax in a female, 1.45; breadth, 2.235.

This cannot be the *Lupa sebae* of M. Edwards, as that author states that in his species the posterior feet are armed with a spine on the meros-joint as in *L. rubra*.

Key Biscayne, Fla., Wurdemann; Tortugas, Woodbury; St. Thomas, Riise.

We have named it after our friend Mr. Albert Ordway, of Cambridge, a rising carcinologist of much promise, who is, we learn, engaged upon a monograph of the Portunidæ.

Cronius,* nov. gen.

This genus is founded on the *Lupa rubra* of M. Edwards, which forms the connecting link between the old genus *Lupa*, and *Charybdis*. It is allied to *Charybdis* in the shape of the front, and the movable part of the external antenna is somewhat remote from the orbit; but the process from the basal joint of this antenna does not quite join the præorbital tooth; leaving a narrow chink through which the movable part might perhaps have access to the orbit. The basal joint of the antenna is also armed with a short sharp spine beneath the articulation of the movable joint. The antero-lateral margin is nine-toothed, but the teeth are unequal, showing an approach to *Thalamita*. Endostome as in allied genera. Meros-joint of the outer maxillipeds very little produced anteriorly; external angle rather prominent, projecting a little over the tip of the exognath. Dactyli of ambulatory feet narrow and sulcated. Abdomen of the male subtriangular, sides a little concave.

Cronius ruber.

Lupa rubra (Lam'k.) M. Edwards, Hist. Nat. des Crust. i. 454.

This is one of the species common to both sides of the continent, specimens having been found at St. Thomas, by Mr. Riise, and at Panama, by Mr. Sternbergh.

Euphylax,† nov. gen.

Carapax transversus, ovalis, convexus; margine antero-laterali brevi, rotundato, parce dentato; regione faciei (inter angulos orbitarum externos), carapace vix quarta parte angustiore. Orbitae grandes, praelongae,

* Κρόνιος, nomen Neptuni.

† Εὐ, bene, φύλαξ, vigil.

extus profundae ; angulo externo sat prominente ; lobo suborbitali valido, prominente, superficie laevi, margine crenulato. Oculi magni, pedunculis gracilibus valde elongatis, compressis ; corneis sat validis. Frons inter bases oculorum perangusta, antice multo dilatata, margine undulata, breviter cristata. Antennae et antennulae eis *Podophthalmi* similes. Maxillipedes externi eis *Luparum* vix diversi, necnon mero oblique quadrato, vix longiore quam latiore, marginibus non incisis, angulo externo late rotundato. Chelipedes longi, manu forte compressa. Pedes postici toti natatorii ; dactylis primi secundi tertiique paris late lanceolatis, quarti paris ovatis.

This very distinct and interesting new genus appears to be nearest allied to *Podophthalmus*, which it resembles in the characters of the front, antennæ, etc., and in the great development of the eye peduncles, which is the most striking feature. But the orbits are shorter than in that genus, and closed externally, well surrounding the eye-bulbs when retracted. The carapax also is very different in its rounded sides and want of spines. In fact the general form resembles more that of some *Lupidae*, while the character of the antero-lateral margin and feet recalls *Polybius*.

This is one of the very peculiar forms now so rapidly turning up from the west coast of America. But one species is yet known.

Euphylax dovii, nov. sp.

Pl. V. fig. 5.

Carapax transversely oval, one half broader than long, smooth and glabrous, but minutely punctate, unevenly convex ; cardiac region more protuberant than the gastric. Antero-lateral margin much shorter than the postero-lateral, undulated and obscurely five-toothed, including the angle of the orbit, which is much larger and more prominent than either of the other teeth ; posterior tooth minute, subspiniform ; intermediate ones very minute, indistinct, and unequally distant. Margins of orbit crenulated. Suborbital lobe large and very prominent, with polished

superior surface; distance between its anterior and posterior margins much exceeding width of eye-peduncle. Front nearly three times as wide at its anterior extremity as at its base between the eyes; with a supra-marginal crest interrupted at the middle. Inter-antennular septum or median process from epistome, armed with a strong sharp tooth projecting forward. Chelipeds rather large, nearly smooth above; meros broad, armed with three or four very small spines anteriorly: carpus one-spined within, and with a crenulated outer margin indistinctly one-toothed; hands ornamented with slight longitudinal ridges sparsely granulated or short-spinulated, also with two or three elongated tubercles on inner side of palm, behind base of dactylus; fingers much compressed, not gaping, strongly toothed within, and with crenulated exterior margins. Color of alcoholic specimen purplish. Length of carapax in a female, 1.8; breadth, 2.8 inch.

Found on the western coast of Central America, by Captain J. M. Dow, of the Steamer "Guatemala," to whom we have dedicated the species.

CORYSTOIDEA.

Pliosoma, nov. gen.

Corpus rotundato-ovatum, longius quam latius, valde inflatum. Regio faciei valde angustata, tumida. Frons vix rostrata, rostro fisso. Oculi parvi, retractiles, longitudinaliter porrecti. Orbitae profundae, antrorsum directae, angulo externo prominentes; margine superiore unifisso. Antennae externae articulus basalis hiatum internum orbitae apte implens; pars mobilis mediocris, orbita exclusa, basi aperta. Antennulae in fossis. Epistoma brevissimum, fere obsoletum, apicibus maxillipedum tectum. Maxillipedes externi elongati, eis Maioidaeorum plus minusve similes, ischii apice interno antrorsum producto, palpo endarthroideo; exognatho magno, versus apicem contracto et dente intus armato. Chelipedes valde debiles, parvi. Pedes ambulatorii primi paris longiores, extremitate graciles, cylindrici; tertii quartique paris versus extremitatem compressi et ciliati; quarti paris dactylus lanceolatus fere natatorius. Sternum antice perlatum, retrorsum angustatum.

The single species upon which the genus above described is established, seems to belong to the *Corystoidea* rather than to any other tribe of Brachyura, notwithstanding the small development of the antennae, which are no larger than in many Maioids or Cancroids. The tribe named is by no means well constituted, and, as far as understood, it seems to rest upon general rather than particular characters. And, though our genus approximates to none of those hitherto referred to this tribe, yet in general habit, want of a distinct rostrum, epistome covered by the narrow outer maxillipeds, compressed posterior feet, etc., it shows so many of the characters found in different genera of Corystoids, that we have not hesitated to arrange it here.

Pliosoma parvifrons, nov. sp.

Pl. V. f. 6.

Carapax convex, pubescent; median regions well separated from the hepatic and branchial ones. Upper surface armed with erect blunt spines, as follows; four large and seven small ones on the gastric region, the large ones on its posterior part; one on the cardiac, and one on the intestinal region, curved forward; two on the inner part of the branchial, and two longer ones on the anterior part of its lateral margin; three small ones on the hepatic region. There is also a spine on the middle of the pterygostomian ridge. The facial region occupies less than one-third the width of the carapax. Distance between the bases of the chelipeds about one-half the width of the carapax. First pair of ambulatory feet in the male about one and one-half times the length of the carapax. Color brownish or buff. Length of the carapax in a male, 0.61; breadth, excluding spines, 0.53; in a female, length, 0.81; breadth, 0.7 inch.

It was found in great abundance at Cape St. Lucas, by Mr. Xantus.

OCYPODOIDEA.

Gelasimus brevifrons, nov. sp.

A large species, allied to *G. palustris*, but the carapax is more convex and less narrowed behind, with the H-shaped impression in the middle deeper; the front very short, broad and more rounded; and the anterior superciliary margin more convex and projecting from the posterior one. On the inner side of the greater hand, the inferior oblique crest is much more prominent, while the superior one is nearly obsolete. Length of the carapax, 0.72; breadth, 1.07 inch.

Found in a lagoon at Todos Santos, near Cape St. Lucas, Lower California, by Mr. Xantus.

Ocypoda occidentalis, nov. sp.

Of the same size, and not easily distinguishable from the common *O. arenaria* of the eastern coast. But the ambulatory feet are less pilose, and the pubescence upon them is much shorter. The gastric region is more coarsely granulated. These being constant differences, observed in a large number of specimens, we have ventured to consider the western form specifically distinct.

Found in considerable numbers at Cape St. Lucas, by Mr. Xantus. Mr. X. gives an amusing account of his method of taking these crabs. His small dog finds their holes and digs them out, bringing them uninjured to the feet of his master.

Grapsus maculatus.

Grapsus maculatus (Catesby), M. Edw., Mel. Carcin. p. 132, pl. vi. f. 1.
Grapsus pictus Latr., Gibbes, etc.

Found at the Tortugas by Messrs. Wurdemann and Whitehurst, and is not uncommon on other parts of the Florida coast.

Grapsus altifrons, nov. sp.

Grapsus pictus Sauss., Rev. et Mag. de Zoölogie, v. 362. (non Latr.)

A large species intermediate between *G. maculatus* and *G. ornatus*, having the projecting front-margin, the narrow cardiac region, the circumscribed yellow spots on the carapax, and the robust feet of the latter, with the short blunt internal suborbital lobe of the former. The sides are more strongly arcuated than in any other species of the genus. The front is perpendicular, very high, with a concave surface, and a very prominent superior margin, the frontal lobules projecting forwards slightly beyond the inferior margin.

We have no specimens of the Chilian species, *G. ornatus*, for comparison with ours, but if M. Edwards' short description is correct, that species is quite distinct in its long, acute internal suborbital lobe, projecting beyond the frontal margin.

G. altifrons is found in great numbers on the rocks of Cape St. Lucas, by Mr. Xantus.

Geograpsus lividus.

Grapsus lividus M. Edw., Hist. Nat. des Crust. ii. 85; Mel. Carcin. 135.

The meros-joint of the ambulatory feet in this species is somewhat denticulated at the inferior extremity, and not completely unarmed as stated in the descriptions.

Found at the Tortugas by Dr. Whitehurst. Specimens have also been found at Cape St. Lucas, by Mr. Xantus, which we have referred to this species, although they are darker in color than West Indian examples, being more closely reticulated with purplish. Should they prove distinct, we propose to call the species *G. occidentalis*.

The crab under consideration has been found by Mr. Xantus and other observers at low water, on the rocks of the sea-

shore. On establishing the name *Geograpsus* for the group (Proc. Acad. Nat. Sci. Philad. April, 1858), our impression was that they were terrestrial in their habits, as the only species we had observed living (*G. rubidus*) was found in ravines nearly a mile from the sea. But from what we hear of *G. lividus*, we now infer that either the habits of the different species differ, or that they visit the land only at certain periods of the year,—perhaps at the breeding season.

An additional character for the genus is found in the non-excavated fingers of the large chelipeds.

Nautilograpsus minutus.

Nautilograpsus minutus M. Edw., Hist. Nat. des Crust. ii. 90.

Found at Cape St. Lucas, by Mr. Xantus. We are unable to distinguish the specimens from those collected from Gulf-weed in the North Atlantic.

Plagusia orientalis.

Plagusia squamosa M. Edw., Mel. Carcin. p. 144.

Plagusia orientalis Stm., Proc. Acad. Nat. Sci. Philad., April, 1858.
Prodromus etc. p. 49.

We have received from Mr. Xantus several specimens of a *Plagusia* from Cape St. Lucas, which we cannot distinguish from the common E. Indian species usually called *P. squamosa*, but which is not the true *Cancer squamosus* of Herbst, as may be seen from his figure. It is distinguished from the Atlantic species by the non-dentate superior lobe of the ischium-joint in the ambulatory feet, and by the septem-dentate margin of the epistome.

Plagusia depressa.

Plagusia depressa (Fabr.) Latr.; M. Edw., Hist. Nat. des Crust. ii. 93.

Found on the west coast of Central America, by Capt. Dow. It properly belongs to the Indo-Pacific fauna.

Acanthopus planissimus.

Cancer planissimus Herbst.

Plagusia clavimana Auct.; Gibbes, Proc. Am. Assoc. 1850, p. 180.

Acanthopus planissimus Dana.

Found at Key Biscayne, Fla., by Mr. Wurdemann, and at Cape St. Lucas, by Mr. Xantus.

Milne Edwards separates the West Indian *Acanthopus* from *A. planissimus*, under the name of *A. gibbesii* (Mel. Carcin. p. 146). They may be distinct, but we do not find the differences mentioned by that author to be constant.

We have but one specimen from Cape St. Lucas, in which the antero-lateral margin is slightly concave anteriorly. It may therefore belong to a distinct species from *A. planissimus*, but we do not venture to decide upon this question until the arrival of additional specimens which may enable us to observe whether the character be constant.

Aratus pisoni.

Sesarma pisoni M. Edw., Hist. Nat. des Crust. ii. 76; pl. xvii. f. 4, 5.

Gibbes, Proc. Am. Assoc. 1850, p. 181.

Aratus pisoni M. Edw., Mel. Carcin. 153.

Found at Key Biscayne, by Mr. Wurdemann, at the Tortugas, by Capt. Woodbury, and at Charlotte Harbor, West Fla., by Mr. E. B. Baker. The last-named gentleman informs me that this species lives much on land, and climbs trees, even to

their tops, where they are often found. They run with rapidity and are difficult to secure.

Gecarcinus [ruricola.

Gecarcinus ruricola Latr.

Found at Key Biscayne, by Mr. Wurdemann, and at Hayti, by Dr. Weinland. The Florida specimen is narrower and more convex than that from Hayti.

Gecarcinus quadratus.

Gecarcinus quadratus Sauss., Rev. et Mag. de Zool., 1853, v. 360. pl. xii. f. 2.

A specimen was found at Cape St. Lucas, by Mr. Xantus. It does not agree exactly with M. de Saussure's description and figure, as the lateral carina of the dactylus of the ambulatory feet is less spinous, approaching in character that of *G. lateralis*. The meros-joint of the external maxillipeds is short, and entire anteriorly, but not produced forward as in *G. ruricola*.

Gecarcinus lateralis.

Gecarcinus lateralis Guerin.

The terms of Milne Edwards' description of this species are not always strictly correct, for the meros-joint of the external maxillipeds has often a slight notch or concavity on the anterior margin. Also, the dactylus of the ambulatory feet has sometimes a few spines on the lateral carinæ toward the extremity.

Found at Key Biscayne, by Mr. Wurdemann, and at the Tortugas, by Capt. Wright.

Gecarcinus planatus, nov. sp.

Body depressed; carapax broad, flattened about the middle and posteriorly; median and lateral furrows of gastric region well-marked, the median one deep; longitudinal furrows of branchial region near gastric, obsolete; transverse cardiac furrow deep; no furrow separating genital region from the gastric. Hepatic, and anterior part of gastric regions granulated. Frontal margin thin and denticulated; not dilated within to the antennular fossae. Meros-joint of outer maxillipeds subquadrate, with a very deep notch on its antero-interior margin. Chelipeds rather small; carpus armed with small spines on the inner margin. Ambulatory feet of moderate length, very spinous toward their extremities; dactylus with six rows of spines. Length of carapax in a male, 1.37; breadth, 1.80 inch.

Found at Todos Santos, near Cape St. Lucas, Lower California, by Mr. John Xantus.

Epilobocera,* nov. gen.

Potamocarcino carapacem frontemque similis. Lobus suborbitalis internus fronti junctus, antennam externam tegens, sed non eam orbita excludens. Antennae pars mobilis parvus, in orbitae cantho interno situs. Maxillipedum externorum merus transversus, margine antico rotundatus; palpus goniarthroideus.

Though closely allied to *Potamocarcinus*, this genus is very peculiar in the position of its external antenna, which passes behind the internal suborbital lobe and enters the orbit, the moveable part appearing in the interior corner of that cavity.

Epilobocera cubensis, nov. sp.

Carapax flattened, glabrous; dorsal surface minutely granulated, with two minute lunate sutures or impressed lines at the middle; antero-

*'Επί, super; λοβός, lobus; κέρασ, cornu.

lateral margin with sixteen small teeth; superior frontal crest crenulated, and not projecting beyond the inferior one. Chelipeds rather long; meros with spinous edges; carpus with a large spine within; fingers slender, not gaping, much longer than the palm. Ambulatory feet nearly smooth, naked; dactyli with three rows of spines above and two below, spines few in the lower rows. Length of carapax in the male 1.34; breadth, 2.14 inch.

Found in fresh-water streams on the Island of Cuba, near Santiago, by Mr. Charles Wright.

Pinnixa cylindrica.

Pinnotheres cylindricum Say, Jour. Acad. Nat. Sci. Philad. i. 452.

Pinnixa cylindrica White, Cat. Brit. Mus. Crust. 1847, p. 33.

Pinnixa laevigata Stimpson, Ann. Lyc. Nat. Hist. N. Y., vii. 22.

Upon further study of the American species of *Pinnixa*, we find that the true *cylindrica* of Say is the species we described in the last number of these "Notes" under the name of *laevigata*, while the species we there considered as the *cylindrica* is a new species, which we describe below under the name of *P. chaetopterana*.

This species is found as far north as Beaufort, North Carolina.

***Pinnixa chaetopterana*, nov. sp.**

Pinnixa cylindrica Stimpson, Ann. Lyc. Nat. Hist. N. Y., vii. 22.

Carapax very broad, thickly hairy about the sides; surface uneven. There is a very acute transverse crest on the cardiac region, broadly interrupted at the middle, forming two prominent dentiform protuberances. Regions well defined by pubescent sulci. Front narrow, with a deep median groove; margin deflected at the middle to form the interantennular septum, so that the front, seen from below, forms two arches. Hepatic region broadly expanded, rather depressed in

front, but marked by no ridges. Chelipeds robust. Hand large in the male; palmar edge perpendicular; fingers strongly gaping; pollex very short, but acutely prominent and curved, with a tooth on its inner margin next the base of the dactylus; dactylus strongly hooked, smooth on both margins. In the female, fingers much compressed, not gaping, broad and oblique; pollex nearly as long as the dactylus, and armed with a tooth on the middle of its inner margin. Ambulatory feet stout, hairy, with a very short dactylus. Feet of the penult pair very much longer and stouter than the others, with a transverse groove next the summit of the meros; carpus and penult joint crested above; inferior margin of meros and penult joint denticulated; inferior surface thickly pubescent. Length of the carapax in a male at the middle, 0.19; breadth, 0.51 inch. Females are generally larger.

Found in the tubes of *Chaetopterus pergamentaceus*, on the muddy or clayey shores of Charleston Harbor, S. C.

Pinnixa sayana, nov. sp.

Carapax smooth, glabrous, depressed at the middle, and with a slight sharp transverse ridge parallel with and near to the posterior margin, not interrupted at the middle. Two similar ridges on the antero-lateral slope, distant but nearly parallel with each other, the superior one curving inward and defining the branchial region. External antennae about one-third the length of the carapax. Hands robust, compressed, scarce twice as long as broad, smooth, and of the monodactyle kind, the pollex being very short; dactylus curved to a right angle. No teeth on these fingers. Ambulatory feet smooth, rather slender, with dactyli rather long; penult pair larger than the others, but proportionally much less robust than in other species of the genus. Length of carapax in a male, 0.125; breadth, 0.24 inch.

This species approaches nearer to *P. monodactylus* Say, than any other species yet described, but it does not have the long antennæ and the teeth at the base of the fingers mentioned in Say's description. The carapax in our species is

nearly as in *P. cylindrica*, but the chelipeds are like those of *P. chaetoptera*.

Dredged in six fathoms, sandy mud, off the mouth of Beaufort Harbor, N.C.

CALAPPOIDEA.

Calappa xantusiana, nov. sp.

Allied to *C. marmorata* in its little-protruded front and in the character of the surface. It is, however, much narrower and more convex than that species, and the triangular teeth of the postero-lateral margins are carinated along the middle above, somewhat as in *C. gallus*, but more obliquely. Also, there are numerous short transverse crenulated carinae or ridges on the surface near the posterior margin. The upper surface is elsewhere naked and glabrous, although depresso-papillose and crowdedly granulated, the granules appearing as if covered with a kind of glazing which fills up their interstices. The frontal sinuated margin and teeth are obtuse, and there is no median denticle. The superior crests of the hands are six-toothed, the teeth being less acute and smoother, or more regularly crowdedly granulated than in *C. marmorata*. Length of carapax in a male, 1.15; greatest breadth (posteriorly), 1.46 inch.

Found at Cape St. Lucas by Mr. John Xantus.

Cyclois bairdii, nov. sp.

Carapax broader than long, regularly convex; surface more even than in *C. cristata*, but with the median regions sufficiently well defined. Young specimens are, however, more uneven, and sometimes tuberculated. Front tridentate. Antero-lateral margin minutely toothed; every third or fourth tooth being larger than the others; posterior tooth larger than the rest, but not projecting beyond the level of the convex portion of the lateral margin where the carapax is broadest. External crest of meros-joint in the chelipeds granulated, bidentate;—a short

crest on the base of the hand is continuous with it, and terminates anteriorly in a tooth. Hand on the outer surface granulated, and very sparsely low-tuberculated, with two or three longitudinal crests armed with larger granules, near the base; inferior margin denticulated; superior crest eight-toothed. Ambulatory feet as usual in the genus. Length of carapax in a male, 1.57; breadth, 1.68 inch. In young individuals the length and breadth are equal.

It differs from *C. granulosa* De H. in its broader carapax, and in having teeth on the exterior margin of the crest of the meros and hand in the chelipeds. These teeth are not spiniform as in *C. cristata* (*s. dentata*) Brullé.

Found in great abundance at Cape St. Lucas, by Mr. Xantus.

LEUCOSOIDEA.

Lithadia cariosa, nov. sp.

Body and feet everywhere tuberculated or granulated above and below. Carapax convex, subrhomboidal, with the anterior and posterior angles truncated, and the lateral angles obtuse, but not at all truncated. A small tooth on the postero-lateral margin, separated by a deep sinus from the posterior extremity or intestinal region, which is bilobate. The hepatic region projects scarcely at all beyond the antero-lateral margin, but is seen in a side view to project beneath, forming a triangular tooth on the inferior surface. On the upper surface, the cardiac, and the inner lobules of the branchial region are strongly protuberant. The front is also prominently elevated, and connected with the middle protuberances of the carapax by a narrow longitudinal ridge traversing the gastric region, which ridge, together with the frontal region, is much smoother than the rest of the surface. On either side of this ridge there is a deep and rather broad excavation of a darker color than the protuberant parts, which extends laterally over the anterior part of the branchial region, but is nearly divided in two by the slightly prominent hepatic region, which projects inward from the antero-lateral margin, with an arcuated inner edge armed with

prominent granules. There is also a deep sulcus of the same character, but very narrow, separating the cardiac from the branchial regions, and passing behind the former region, separating it from the thick intestinal lobes. A slight shallow depression on the branchial region, along the postero-lateral margin. On the protuberant middle and posterior parts of the carapax the granules are very large, and somewhat irregularly piled upon each other, leaving upon the cardiac numerous small eroded cavities. There is also a little pit on each of the median protuberances. The front is strongly prominent, with a concave margin fissured at the middle. The orbits are small, opening above so that the eyes may be seen. External maxillipeds granulated, most strongly so near the extremities, where the acute tips of the endognaths project considerably beyond the obtuse extremities of the exognaths. Chelipeds of moderate size, somewhat depressed; meros broader than the hand, with its outer margin convex and a little irregular, but not prominently tuberculated as in *L. cumingii*; hands rather small, uniformly granulated above and below, and tapering to rather slender fingers. Ambulatory feet cylindrical, covered with small granules, which upon the dactyli become very minute, crowded, and almost spinuliform. Sternum and abdomen covered with small, hard, smooth tubercles, and ornamented with seven or eight red dots. Abdomen armed with a backward-pointing tooth at the extremity of the penult joint. Length of carapax in a male, 0.42; breadth, 0.430 inch.

The genus was founded by Bell for a Central American species, *L. cumingii*, the only one hitherto known, from which ours differs in its less prominent marginal teeth of the carapax.

L. cariosa was dredged on a bottom of somewhat indurated ferruginous sand, in two fathoms, in one of the channels of the harbor of Beaufort, N.C.

DROMIOIDEA.

Dynomene ursula, nov. sp.

The whole upper surface is covered with stout thick setae of two kinds;—the first kind very short, clavate, or even pedicellate, and

densely crowded,—the second long (a tenth of an inch), and nearly as thick as the first, but fusiform, with pointed extremities, and sparsely distributed over the surface, generally in groups of three or four, of unequal lengths. Surface of the carapax beneath the setae crowdedly granulated; granules, however, not prominent; sulci defining the areolets not deep. Antero-lateral margin longer than the postero-lateral, regularly curved, not sinuated as in *D. hispida*, and armed with five small spines, not including that at the angle of the orbit. Front low-triangular; margin somewhat arched, and continuous with the superior margin of the orbit, which forms a low projection opposite the juncture of the cornea of the eye with its peduncle. In other characters this species bears great resemblance to *D. hispida*, except that the dactyli of the ambulatory feet are setose like the other joints, and have sharp, black, much-curved unguicles. The color is more or less reddish or crimson; setae of a light golden color. Length of carapax in a female, 0.5; breadth, 0.6 inch. Males are somewhat smaller.

This is an interesting addition to a genus, the species of which are very few and rarely seen. In this genus the first three pairs of ambulatory feet are alike, the third pair not being reduced in size, as in *Dromia*, but rather larger than smaller than the second pair. Those of the last pair are very small and weak, but not prehensile, since the animal does not cover itself with a foreign body like the *Dromiæ*; and they fill, apparently, no office in the economy of the animal, except that when in place, they fill up neatly the chink between the carapax and the stouter walking feet.

D. ursula was found at Cape St. Lucas by Mr. Xantus.

RANINOIDEA.

Ranilia angustata, nov. sp.

Very closely allied to *R. muricata*, but with the carapax conspicuously narrower, smoother, and more glabrous. Colors: carapax pale-red in alcoholic specimens, closely maculated with white, the spots being generally about one-fifteenth of an inch in diameter, but sometimes

larger, and so much crowded, that the carapax appears white, reticulated with red. Length of carapax in a male, 0.93; breadth, 0.66 inch.

Found at Cape St. Lucas by Mr. Xantus.

HIPPOIDEA.

Remipes pacificus.

Remipes pacificus Dana, U. S. Expl. Exped., Crust. i. 407, pl. xxv. f. 7.

Taken by Mr. Xantus at Cape St. Lucas. It was originally found at the Sandwich Islands.

Remipes strigillatus, nov. sp.

Body much depressed, broad. Front very broad, undulated, with an obtuse projecting point at the middle; margin entire, smooth. Sides toward the margin obliquely striated, the striated area being very broad, especially posteriorly, where it occupies on each side one-fourth the width of the carapax; striae sharp, minutely setose, and not interrupted, but extending quite to the margin. Antennulae robust; last joint of the peduncle nearly as broad as the penult. First pair of feet in the adult short, robust; terminal joint nearly half as broad as long; extremity blunt, with short setae, and with two strong, oblique, setose ridges on the extero-inferior side. Length of carapax in a female, 1.0; breadth, 0.83 inch.

Very different from all known species in its entire front and broad lateral striated areas.

Cape St. Lucas. J. Xantus.

Lepidops myops, nov. sp.

Carapax with the same markings on the surface as in *L. scutellata*, but stronger. Post-frontal transverse groove broad, with granulated surface. Median lobe of front rounded; margin armed with small teeth

like those of a comb, which become more conspicuous outwardly as far as the lateral lobes, where the margin becomes smooth. Ocular plates or scales obliquely oblong, rather thick, broader behind; antero-exterior angle prominent, subacute; inner angle rounded; eye-specks obsolete in most of our specimens, in others barely visible on the inferior side of the ocular plate near the exterior angle. In other characters this species approaches very near to *L. scutellata*. Length of carapax in a female, 0.41; breadth, 0.47 inch.

Cape St. Lucas. J. Xantus.

LITHODOIDEA.

Dermaturus hispidus, nov. sp.

Body depressed. Carapax moderately convex anteriorly, posteriorly flattened, and even. A depression at the anterior extremity of the branchial region. Cardiac transverse sulcus deep. Surface uniformly and thickly covered with very small setose tubercles or short spines. Lateral margins well defined but not at all projecting, and armed with spines a little longer than the rest. The latero-inferior or epimeral surface may be seen in a view from above, at the branchial regions. Rostrum rather large, prominent, tumid, reaching to the tips of the eyes, with a tri-spinose apex. Eye-peduncles hispid. In the external antennae both the acicle and the process at its base are armed with three or four spines, flexible in our specimen. The whole arrangement of the eyes and antennae shows more similarity to the Lithodina than to the Hapalogastrina. External maxillipeds of moderate size; ischium projecting within with a denticulated margin; last two joints subcylindrical, not dilated. Feet thickly beset with setose spines, longest on the margins, and more or less clothed with long hairs. Chelipeds not longer than the ambulatory feet; carpus and meros armed with two or three long spines within; fingers not gaping, and with cochleariform, black, corneous apices. Ambulatory feet not flattened; middle pairs one and two-thirds as long as the carapax. Abdomen hispid like the carapax, but more minutely; plates of the basal joint broad; right margin armed with a single close

series of soft spines setose on their sides. Length of carapax in a female, 0.85; breadth anteriorly, 0.43; breadth posteriorly, 0.90 inch.

In habit, this species has a general resemblance to *Phyllolithodes*, and differs much from *Hapalogaster*. It may be necessary to separate it generically from *Dermaturus*, but we have not seen the typical species of this genus of Brandt.

It was taken from the stomachs of fishes caught off Monterey, California, by Alex. S. Taylor, Esq.

Hapalogaster inermis, nov. sp.

Carapax longer than broad, smooth above except where some minute, transverse, setose scabrosities or minute squamae are sparsely distributed, occurring most abundantly toward the sides. Margins unarmed, smooth. No sinus at the juncture of the cervical suture with the lateral margin. Rostrum convex above, almost carinated; apex scarcely acute. Inner orbital tooth minute, inconspicuous. Outer orbital tooth (antero-exterior angle of the carapax) far less prominent than the rostrum. Acicle rather short and broad, irregularly somewhat dentated along the exterior margin. Feet subcylindrical, almost naked, rugose above with minute and somewhat setose tubercles; dactylus three-fourths as long as the penult joint and armed with a long unguiculus. Plates of the first joint of the abdomen narrow. Length of carapax, 0.4; breadth posteriorly, 0.38 inch.

Puget Sound.

PAGUROIDEA.

Eupagurus annulipes, nov. sp.

Carapax rather depressed, smooth, naked above. Eyes nearly as long as the front is broad, and nearly reaching the tips of the peduncles of the antennae; they are somewhat constricted about the middle, and the cornea is not dilated. External antennae longer than the carapax, but not reaching the tips of the ambulatory feet; flagella sparsely clothed

with long hairs. Feet pilose above, and of a pale orange color, annulated with dark purple; four or five rings on each ambulatory foot. Right cheliped very long, moderately and evenly granulated or scabrous above; carpus nearly twice as long as broad, and as long as the palm of the hand, spinulose along the inner margin; hand large, oblong-ovate, with long palm and short slender fingers. Beneath, the carpus and hand are convex, naked, and obsolete granulated. Left cheliped very small, scarce over-reaching the extremity of the carpus of the right one, slender, rather compressed, spinulose and hairy above; hand rather smaller and shorter than the carpus; fingers somewhat longer than the palm and slightly gaping. Ambulatory feet slender, compressed; those of the right side as long as the right cheliped; a small spine at the extremity of the carpus joint; dactylus much curved, a little longer than the penult joint, scarcely twisted, with smooth, unarmed, sparsely pilose margins. Usual length about an inch. Length of carapax, 0.19; breadth of front, 0.11; length of greater cheliped, 0.52; of carpus and hand together, 0.34 inch.

It is allied to *E. brevidactylus*, but has the right cheliped much more elongated and less prominently granulated above. Also, the dactyli of the ambulatory feet are rather longer.

It is common in small univalves dredged in Beaufort Harbor, N. C., and off the coast adjacent, in from two to eight fathoms on bottoms of shelly sand.

GALATHEOIDEA.

Munida caribaea, nov. sp.

The species of *Munida* have all great resemblance to each other, and the present species forms no exception to this rule. It has the usual characters of front, spinous gastric and hepatic regions, etc. The particulars in which it differs from other species are the following. The rather convex carapax is more narrowed anteriorly. The anterior two-thirds of the lateral margin is armed with six or seven equal and equidistant spines. Eye-peduncles longer, and cornea less dilated than usual. Chelipeds very long, cylindrical, uniformly scabrous; and armed

with very few spines sparsely scattered. Length of the carapax, 0.28 ; breadth, 0.16 ; length of cheliped, 0.77 inch.

It is the first species of the genus which has occurred upon the American shores. No true *Galathea* is found in the waters of the New World, notwithstanding the abundance of species and individuals in the Old.

Pleuroncodes, nov. gen.

We propose this new genus for the reception of the *Galathea monodon* of Milne Edwards, described in the "Histoire Naturelle des Crustacés," vol. ii. p. 276, and figured in the "Annales des Sciences Naturelles," Zool., t. xvi. pl. xi. f. 6. It is closely allied to *Munida* in the characters of the front, etc., but the sides or latero-inferior regions are greatly swollen, so that the epimeral sutures are seen from above. The insertion of the external antennae is also plainly seen from above, and not concealed beneath the antero-lateral angle of the carapax as in *Munida*. In the external maxillipeds the meros is unarmed, and the penult joint is slightly dilated, though much less so than in *Grimothea*.

Pleuroncodes planipes, nov. sp.

Very close to *P. monodon*, but with the ambulatory feet longer and more flattened than is represented in the figure of that species published by Milne Edwards. The penult joint of the ambulatory feet in our species is particularly flattened, and ciliated:—the upper surface is smooth except at the raised, granulated margins, and a slight obtuse median ridge. Length of carapax in a male, rostrum included, 0.95 ; greatest breadth, 0.54 ; length of cheliped, 1.90 inch.

It may prove identical with *P. monodon*. We have no opportunity of comparing specimens.

This species lives in the open ocean, and is sometimes found in vast quantities in the Pacific off the American Coast. It was taken by Mr. Grayson in N. lat. 24°, W. long. 130°. In March, 1859, it was thrown ashore in considerable numbers at Monterey, California, from which place specimens were forwarded to us by Alex. S. Taylor, Esq.

LIST OF FIGURES.

Plate II.

- Fig. 1. *Anaptychus cornutus* ♂ nat. size.
 “ 1a. External antenna and orbit of the same, from beneath.
 “ 1b. External maxilliped of the same.
 “ 2. *Teleophrys cristulipes* ♂ twice natural size.
 “ 3. *Eucinetops lucasii*, the male specimen referred to on p. 192,
 twice natural size.
 “ 4. *Collodes granosus* ♀ natural size.
 “ 5. *Podochela grossipes* ♂ nat. size.
 “ 6. *Podochela riisei* ♀ nat. size.

Plate V.

- Fig. 1. *Mimulus foliatus* ♂ nat. size.
 “ 2. *Xantho bella* ♂ nat. size.
 “ 3. *Xanthodes taylori* ♀ nat. size.
 “ 4. *Metopocarcinus truncatus* ♂ twice nat. size.
 “ 5. *Euphylax dovii*, frontal region, nat. size.
 “ 5a. Outer maxilliped of the same.
 “ 6. *Pliosoma parvifrons*, nat. size.



