THE BRACHYURA COLLECTED BY THE U. S. FISH COMMISSION STEAMER ALBATROSS ON THE VOYAGE FROM NORFOLK, VIRGINIA, TO SAN FRANCISCO, CALIFORNIA, 1887–1888.

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The *Albatross* left Norfolk, Virginia, November 20, 1887, and arrived at San Francisco, California, May 15, 1888. The principal shore stations visited were as follows: Port Castries, St. Lucia; Bahia and the Abrolhos Islands, Brazil; Montevideo, Uruguay; seven places in Magellan Strait; five places on the west coast of Patagonia, or Magallanes territory, Chile; Lota and Tome, Chile; Panama; eight of the Galapagos Islands; Acapulco, Mexico; Pichilinque Harbor, in La Paz Bay, Magdalena Bay, Abreojos Point, and Cerros Island, Lower California; and San Clemente Island, California. During the voyage, 91 hauls of the trawl and dredge were made and 31 casts of the tow net.

Prof. Leslie A. Lee, of Bowdoin College, was assistant in charge of the scientific staff during the expedition. It was his intention to report upon the Brachyura collected, but the pressure of other duties has delayed his studies on this group from year to year until in the autumn of 1897 he kindly transferred the collection to the writer.

The Brachyura number 151 species, of which 31 are new. Twenty-four other species were undescribed at the time of the expedition, but have been made known from other cruises during the past ten years. With one exception the new forms are from the Pacific, and nearly all are from the coasts of Lower California.

The range of many West Indian shallow-water forms is extended southward to Cape St. Roque, Brazil; while from station 2762, in the latitude of Rio de Janeiro, and at a depth of 59 fathoms, we have the uncommon species, *Tetraxanthus bidentatus* (A. Milne-Edwards), *Micropanope xanthiformis* (A. Milne-Edwards), and *Chasmocarcinus typicus* Rathbun, known otherwise only from the West Indian region. At station 2763, 671 fathoms, latitude 24° 17′ south, occur *Geryon quinquedens* Smith and *Ethusina abyssicola* Smith, species inhabiting the deep waters off the eastern coast of the North American continent.

Another fact in the distribution of the Brachyura which needs to be emphasized is the increasing number of species common to western America and Japan. In a former paper I have alluded to the existence of *Chorilia longipes* Dana off the coast of Japan. Dr. Calman has recently recorded *Philyra pisum* De Haan from Puget Sound. In the U. S. National Museum there is a large specimen of *Chionœcetes opilio*, supposed to be Japanese. Dr. Walter Faxon says that in the Museum of Comparative Zoology are examples from Japan of *Telmessus cheiragonus* (Tilesius), which is distinct from *T. acutidens* Stimpson. To these may be added two Japanese species of *Cancer* (=*Trichocarcinus*), *C. gibbosulus*, and *C. amphiatus*, as noted below. The former stretches, on the American side, from Lower California to Alaska, while the latter has not yet been collected north of San Diego Bay.

The intimate relationship existing between the Caribbean and west American faunas is accented by the discoveries made on this voyage. The subspecies, *Ethusa mascarone americana*, is found to be common to both coasts. Among the new species described are many which have close relatives on the Atlantic side of the continent. They are arranged in the following list approximately according to the degree of resemblance between the allied species:

Pacific coast.	*Atlantic coast.*
Osachila levis.	Osachila tuberosa Stimpson.
Hemus analogus.	Hemus cristulipes A. Milne-Edwards.
Collodes tumidus.	Collodes inermis A. Milne-Edwards.
Medæus lobipes.	Medæus spinimanus (Milne-Edwards).
Lissa aurivillinsi. / Lissa tuberosa.	Lissa bicarinata Aurivillius.
Actæa angusta	Actæa bifrons Rathbun.
Thyrolambrus erosus.	Thyrolambrus astroides Rathbun.
Palicus lucasii.	Palicus dentatus (A. Milne-Edwards). / Palicus faxoni Rathbun. / Palicus alternatus Rathbun.
Calappa saussurei.	Calappa angusta A. Milne-Edwards.
Portunus (Achelous) angustus.	Portunus (Achelous) ordwayi (Stimpson).
Chasmocarcinus latipes.	Chasmocarcinus typicus Rathbun.

In this report only the general localities and depths are given. Full details in regard to the dredging stations may be found in the Report of the U. S. Fish Commissioner for 1887 [1891], pp. 422–424.

MAIIDÆ.

1. STENORYNCHUS DEBILIS (Smith).

Leptopodia debilis Smith, Ann. Rept. Peabody Acad. Sci. for 1870, 1871, p. 87.

Magdalena Bay, Lower California; off Cape St. Lucas; southern part of Gulf of California; Panama Bay; 7 to 31 fathoms (stations 2798, 2799, 2823, 2824, 2825, 2826, 2828, 2829, 2831). In a male from station 2798, Panama Bay, the rostrum is about $1\frac{2}{3}$ times the length of the carapace; in specimens from all other stations the rostrum is short.

2. PODOCHELA HEMPHILLII (Lockington).

Microrhynchus hemphillii LOCKINGTON, Proc. Cal. Acad. Sci., February 7, 1876, 1877, VII, p. 30. Bay of San Diego.

Inachoides (*Microrhynchus*) *hemphillii* LOCKINGTON, Proc. Cal. Acad. Sci., July 17, 1876, 1877, VII, p. 75 (13).

Podochela tenuipes RATHBUN, Proc. U. S. Nat. Mus., 1893, XVI, p. 224.

Southern part of Gulf of California; off Cape St. Lucas and Magdalena Bay, Lower California, 10 to 31 fathoms (stations 2828, 2829, 2831).

Mr. Samuel J. Holmes has examined the type of *Microrhynchus hemphillii* Lockington and pronounces it the same as *Podochela tenuipes*.

3. COLLODES GRANOSUS Stimpson.

Collodes granosus STIMPSON, Ann. Lyc. Nat. Hist. N. Y., 1860, VII, p. 194, pl. II, fig. 4.

Southern part of the Gulf of California, 10 fathoms, station 2828.

4. COLLODES ROSTRATUS A. Milne-Edwards.

Collodes rostratus A. MILNE-EDWARDS, Crust. Rég. Mex., 1878, p. 179; 1879, pl. XXXII, fig. 2.

Off the Rio de la Plata, 10½ fathoms, and off the Gulf of San Matias, Argentina, 52 fathoms (stations 2766 and 2767).

5. COLLODES TENUIROSTRIS Rathbun.

Collodes tenuirostris RATHBUN, Proc. U. S. Nat. Mus., 1893, XVI, p. 230.

Magdalena Bay, 51 fathoms, and off Abreojos Point, Lower California, 48 fathoms (stations 2833 and 2834).

6. COLLODES TUMIDUS, new species.

(Plate XLI, fig. 1.)

Allied to C. inermis; *carapace with four elevated tubercles forming a cross near the middle.*

This species is the Pacific representative of *C. inermis*, from which it differs only slightly, and with the type of which it has been compared. The carapace bears near its middle four tubercles, of which two are on the median line, one gastric and one cardiac, and the other two are at the inner angles of the branchial regions. These tubercles are at the most elevated portions of the carapace, the gastric region being intermediate in height between the cardiac and branchial. In the female, the cardiac tubercle is longer and appears like the base of a stout spine which has been broken off. In *C. inermis* the inner angle of the branchial region is depressed. In *tumidus* the granulation of the posterior and lateral regions is less extensive than in *inermis*, there being almost no granules on the cardiac region.

The front, like that of *inermis*, is furnished with two blunt teeth near together. The postorbital tooth is subtriangular and slightly curved.

The basal joint of the antenna is wider than in *inermis;* the lobes of the outer margin are larger. The sternum of the male is granulated; the abdomen of both sexes is nearly smooth; the first segment has a median tubercle.

Chelipeds smooth; fingers gaping widely to near the tips; dactylus with a short truncate tooth near its base; pollex with a large tooth at one-third the distance from the proximal end. Ambulatory legs stouter and shorter than in *C. inermis.*

Dimensions.—Male: Length, 11.6 mm.; width, 9.5 mm. Female: Length, 10.3 mm.; width, 8 mm.

Type.—No. 21571, U.S.N.M. One male from Magdalena Bay, Lower California, 12 fathoms, station 2831.

Additional specimen.—A female of this species was taken in the southern part of the Gulf of California, 10 fathoms, station 2828.

7. BATRACHONOTUS NICHOLSI Rathbun.

Batrachonotus nicholsi RATHBUN, Proc. U. S. Nat Mus , 1894, XVII, p. 55.

Off the west coast of Lower California, from Cape St. Lucas to Abreojos Point, 12 to 51 fathoms, stations 2829, 2831, 2833, and 2834.

This species was founded on two small dried females. The present specimens are larger, show both sexes, and indicate that the species is very closely related to *B. fragosus* Stimpson of the West Indies. It differs chiefly in the longer postorbital tooth, which is as long as the eye; in the more elevated preorbital border, which at its highest point forms a tooth, or in some specimens a spine; in the coarser granulation of that part of the sternum of the male between the chelipeds; and in the evenly toothed fingers of the male, while in *fragosus* the pollex has a larger tooth at its middle. The female is narrower than the male. The tuberculated portions of the different regions are more extensive than in the types.

Dimensions.—Male: Length, 9 mm.; width, 7.9 mm. Female: Length, 6.5 mm; width, 5.4 mm.

8. DASYGYIUS DEPRESSUS (Bell).

Microrhynchus depressus BELL, Proc. Zool. Soc. London, 1835, III, p. 88.

Southern part of the Gulf of California, 21 and 26½ fathoms, stations 2822 and 2823.

9. DASYGYIUS TUBERCULATUS (Lockington).

Inachus tuberculatus LOCKINGTON, Proc. Cal. Acad. Sci., February 7, 1876, 1877, VII, p. 30.

Microrhynchus (Inachus) tuberculatus LOCKINGTON, Proc. Cal. Acad. Sci., July 17, 1876, 1877, VII, p. 64.

Neorhynchus mexicanus RATHBUN, Proc. U. S. Nat. Mus., 1893, XVI, p. 233.

Panama Bay, 7 and 16 fathoms, stations 2800 and 2802.

The identity of my species and that of Lockington has been determined by Mr. S. J. Holmes, who has examined the types of both.

10. INACHOIDES MAGDALENENSIS Rathbun.

Inachoides magdalenensis RATHBUN, Proc. U. S. Nat. Mus., 1893, XVI, p. 228.

Southern part of Gulf of California, and off west coast of Lower California, from Cape St. Lucas to Abreojos Point, 5½ to 66 fathoms, stations 2823, 2824, 2830, 2831, 2832, and 2835.

11. EURYPODIUS LATREILLII Guérin.

Eurypodius latreillii GUÉRIN, Mém. Mus. Hist. Nat. Paris, 1828, XVI, p. 351, pl. XIV.

From off Gulf San Matias, Argentina, to Magellan Strait, 10 to 61 fathoms, stations 2768, 2770, 2771, 2773 to 2779; also at Gregory Bay and Sandy Point, in Magellan Strait, and Mayne Harbor and Latitude Cove in Magallanes Territory, Chile.

12. ANAMATHIA CORNUTA, new species.

(Plate XLI, fig. 2.)

Rostrum longer than the postfrontal portion of the carapace; lateral margin with two long spines; dorsal surface with nine short spines.

Surface closely covered with tuberculiform cutaneous vesicles, among which are a few curved hairs. Tubercles and spines of the carapace as follows: Gastric region with three short, one median, the lateral in advance of the median; cardiac and intestinal regions each with one, short and conical; branchial region with two short, the posterior smaller and nearer the median line; hepatic and branchial regions each with a long, slender marginal spine directed outward, upward, and forward. Rostral horns very long and slender, nearly equaling or exceeding one-half the entire length of the carapace, and extending nearly to the base of the rostrum; they are slender, widely divergent, slightly arched. Preorbital spine short, slender, not reaching the base of the rostral horns; postorbital tooth rounded. Basal joint of antenna with a short tooth or spine at the antero-lateral angle. Pterygostomian ridge with three or four tubercles. A blunt rounded tooth at the angle of the buccal cavity.

Chelipeds slender. Merus triangulate; outer face with a low blunt ridge; upper margin with a sharp terminal spine, and a broad subacute tooth near the proximal end. Carpus with a superior longitudinal uneven crest, and a tubercle on the outer surface near the distal end. Propodus compressed, with a thin upper edge; dactylus more than one-half the superior length of the propodus. Fingers with a narrow gape along their basal third; prehensile edges crenate. Meral joints of ambulatory legs with a short spine, which decreases in size and acuteness from the first to the fourth pair, where it is a blunt lobiform prominence.

Dimensions of Anamathia cornuta.

Sex.	Length from tip of horns to middle of posterior margin.	Length from base of horns.	Length of horns.	Width exclusive of spines.	Length of branchial spine.
	mm.	*mm.*	*mm.*	*mm.*	*mm.*
Male	35.9	19	17.8	14.5	6.2
Female (ovig.)	50.2	25	26.5	20.2	9.0

Types.—No. 21572, U.S.N.M.; five males and two females, from northeast of Indefatigable Island, Galapagos Islands, 392 fathoms, station 2818.

13. CHORILIA LONGIPES Dana.

Chorilia longipes DANA, Amer. Jour. Sci., 1851, 2d ser., XI, p. 269; Crust. U. S. Expl. Exped., 1852, I, p. 91; 1855, pl. I, fig. 5.

Hyastenus longipes MIERS, RATHBUN.

North of San Clemente Island, California, 414 fathoms, station 2839.

14. LEUCIPPA PENTAGONA Milne-Edwards.

Leucippa pentagona MILNE-EDWARDS, Ann. Soc. Entom. France, 1833, II, p. 517, pl. XVIII, B, figs. 1, 2 (*pantagona*). Chile.

Leucippa ensenadæ MILNE-EDWARDS and LUCAS, D'Orbigny's Voy. l'Amér. Mérid., 1843, VI, Pt. 1, p. 9; 1847, IX, pl. V, fig. 3. Patagonia.

Leucippa lævis DANA, Amer. Jour. Sci., 1851, 2d ser., XI, p. 273; Crust. U. S. Expl. Exped., 1852, I, p. 135; 1855, pl. VI, fig. 5. Rio de Janeiro.

I believe that *L. pentagona*, *ensenadæ*, and *lævis* are one and the same species, as a large series of specimens in the collection from off the Rio de la Plata (10½ to 11½ fathoms, stations 2764–2766) and from off the Gulf of San Matias, Argentina (52 fathoms, station 2767), show a great amount of variation in the breadth of the carapace, prominence of the lateral teeth, and in the acuteness and divergence of the rostral horns. The average individuals are similar to that figured as *L. ensenadæ* by Milne-Edwards and Lucas. A single small specimen is labeled "Station 2833," which is in Magdalena Bay, Lower California, 51 fathoms.

15. EPIALTUS DENTATUS Milne-Edwards.

Epialtus dentatus MILNE-EDWARDS, Hist. Nat. Crust., 1834, I, p. 345.

Port Otway, Magallanes Territory, Chile.

16. EPIALTUS NUTTALLII Randall.

Epialtus nuttallii RANDALL, Jour. Acad. Nat. Sci. Phila., 1839, VIII, p. 109, pl. III (*Libinia nuttallii*).

Ballenas Bay, Lower California.

17. TYCHE LAMELLIFRONS Bell.

Tyche lamellifrons BELL, Proc. Zool. Soc. London, 1835, III, p. 173; Trans. Zool. Soc. London, 1836, II, p. 58, pl. XII, fig. 3.

Southern part of the Gulf of California, 7 fathoms, station 2825.

18. TYCHE EMARGINATA White.

Tyche emarginata WHITE, Ann. Mag. Nat. Hist, 1847, XX, p. 206.

Off Cape St. Roque, Brazil, 20 fathoms, station 2758.

19. LEUROCYCLUS TUBERCULOSUS (Milne-Edwards and Lucas).

Salacia tuberculosa MILNE-EDWARDS and LUCAS, D'Orbigny's Voy. l'Amér. Mérid., 1843, VI, Pt. 1, p. 13; 1847, IX, pl. 11.

Off the Rio de la Plata, 10½ to 11½ fathoms, stations 2764, 2765, 2766.

20. CHIONŒCETES TANNERI Rathbun.

Chionœcetes tanneri RATHBUN, Proc. U. S. Nat. Mus., 1893, XVI, p. 76, pl. IV, figs. 1-4.

North of San Clemente Island, California, 414 fathoms, station 2839.

21. HEMUS ANALOGUS, new species.

Outer margin of first movable joint of antenna strongly arcuate.

This species is so closely allied to *Hemus cristulipes* A. Milne-Edwards of the Caribbean region that the differences are only comparative. The carapace is higher at the cardiac region and slopes more abruptly down toward the front. The hollow in *cristulipes* on the posterior part of the branchial region on either side of the cardiac region is replaced in *analogus* by a slightly convex surface. The side margins of the rostrum are convex; in *cristulipes* straight. The rostral teeth are nearer together in *analogus* and terminate in a sharp spinule; in *cristulipes* they terminate in a stout tubercle. The preorbital angle is rounded, with sides rectagular; in *cristulipes* the anterior margin of this angle is oblique. The outer margin of the first movable joint of the antenna is curved, while in *cristulipes* it is straight, or nearly so, being parallel to the sides of the rostrum. The meral joints of the ambulatory legs are narrower and their marginal denticles stronger than in the Atlantic species.

Dimensions.—Female: Length, 8.2 mm; width, 6.5 mm.

Type.—No. 21573, U.S.N.M. An adult female from the southern part of the Gulf of California, 10 fathoms, station 2828.

Additional specimen.—One immature female was taken at the same locality.

22. PELIA ROTUNDA A. Milne-Edwards.

Pelia rotunda A. MILNE-EDWARDS, Crust. Rég. Mex., 1875, p. 74, pl. XVI, fig. 4.

Off Cape St. Roque, Brazil, 20 fathoms, and off the Rio de la Plata, 10½ to 11½ fathoms, stations 2758, 2764, 2765, 2766.

23. PELIA PACIFICA A. Milne-Edwards.

Pelia pacifica A. MILNE-EDWARDS, Crust. Rég. Mex., 1875, p. 73, pl. XVI, fig. 3.

Magdalena Bay, Lower California, 12 fathoms, station 2831.

24. LIBINIA SETOSA Lockington.

Libinia setosa LOCKINGTON, Proc. Cal Acad. Sci., July 17, 1876, 1877, VII, p. 68.

Magdalena Bay, 12 to 51 fathoms, and off Abreojos Point, Lower California, 5½ fathoms, stations 2831, 2832, 2833, and 2835.

All the specimens are young. The four branchial spines forming a rhomboid are rather long, as are also three of the median spines, namely, the posterior of the gastric spines, the anterior cardiac and intestinal. The posterior gastric spine of adults is wanting in the young and the tubercle on either side of the anterior cardiac spine is much reduced.

25. LIBINIA SPINOSA Guérin.

Libinia spinosa GUÉRIN, Icon. R. Anim., Crust., pl. IX, fig. 3.—MILNE-EDWARDS, Hist. Nat. Crust., 1831, I, p. 301.

Off the Rio de la Plata, 10½ fathoms, station 2766.

26. LIBINIA COCCINEA (Dana).

Libidoclea coccinea DANA, Amer. Jour. Sci., 1851, 2d ser., XI, p. 268; Crust. U. S. Expl. Exped., 1852, I, p. 88; 1855, pl. I, fig. 3.

Libinia coccinea MIERS, Challenger Rept., Zool., 1886, XVII, p. 73.

Off Gulf of San Matias, Argentina, 52 fathoms, station 2767.

27. LIBINIA SMITHII Miers.

Libinia smithii MIERS, *Challenger* Rept., Zool., 1886, XVII, p. 73, pl. IX, fig. 1.

Libinia hahni A. MILNE-EDWARDS, Miss. Sci. Cap Horn, 1891, VI, Crust., p. 5, pl I, figs. 1-6.

Magellan Strait, 369 fathoms, and off Magallanes Territory, Chile, 61 to 1,050 fathoms, stations 2780, 2783, 2784, 2787, and 2788.

28. LISSA TUBEROSA, new species.

(Plate XLI, fig. 3.)

Branchial region with two large protuberances; postlateral margin sinuous; two crests on the carpal joints of the ambulatory legs.

Carapace with two median tuberculated prominences, the gastric higher than the cardiac, the latter continued backward along the median line to the posterior margin. A ridge running obliquely backward from the gastric prominence is almost entirely occupied by two protuberances, one at its middle and one at the postero lateral angle of the carapace, which presents a rounded or obliquely truncate outline. The sinus of the postero lateral margin is more shallow than in *L. bicarinata* Aurivillius. Margin of hepatic region with a tubercle; of branchial region with several tubercles and a blunt tooth at its middle. Hepatic region nearly vertical. Front with a shallow median emargination, from which the margin slopes obliquely backward or is almost transverse; outer corners with a slight tooth, most produced in young specimens. Preorbital tooth subacute or obtuse.

Chelipeds heavy in the male. Ischium with a tooth on its inner margin; merus with a tridentate crest on the superior margin. Carpus with surface uneven, a tubercle at the inner angle. Hands broad, compressed, widening distally, inner surface tuberculate; lower margin of propodus with a sinus near its middle. Dactylus with an acute upper margin. Fingers gaping for their basal half. Chelipeds of female much smaller than of male.

Ambulatory legs cristate as in *bicarinata*. The crest on the meral joints has a thin triangular tooth at the distal end; carpal joints with two triangular crests side by side, divergent from each other, and forming a cup on the upper surface. Propodal joints with a single triangular superior crest, a tubercle on the anterior and posterior surfaces, and with swellings at the articulation with the dactylus.

The surface of this crab is covered with a dense, short, vascular pubescence.

Dimensions.—Male, station 2828: Length, 13.6 mm.; width, 13 mm. Male, station 2824: Length, 16.9 mm.; width, 15.8 mm. Female, station 2825: Length, 14.1 mm.; width, 14.5 mm. Female, station 2828: Length, 12.3 mm.; width, 11.5 mm.

This species is distinguished from *L. bicarinata* by the wider rostrum, with a median emargination instead of a deep cut, by the shallower postlateral sinuses, by the large protuberance at the middle of the branchial ridge, and by the double crest on the carpal joints of the ambulatory legs.

Types.—No. 21574, U.S.N.M. Two males, station 2824, 8 fathoms.

Distribution.—This species was taken at four stations in the southern part of the Gulf of California in 7 to 10 fathoms, stations 2824, 2825, 2826, and 2828.

At two stations outside the Gulf of California were taken two specimens of *Lissa*, which appear specifically distinct from the above and are more closely allied to *L. bicarinata*. These I have named—

29. LISSA AURIVILLIUSI, new species.

(Plate XLI, fig. 4.)

Branchial ridge narrow; postlateral margin concave; carpal joints of first three pairs of ambulatory legs with one crest.

In this species the male and female are wider than long. The gastric prominence is small and angular; the oblique ridges leading from it are sharp and finely tuberculate, with only a shallow tooth at the middle in place of the round knob in *tuberosa*, and terminate in a raised tooth at the postlateral angle. The cardiac hump is small, and the median ridge extending back from it is narrow. Lateral margins tuberculate, with a shallow tooth at the middle and one farther back. Postlateral margin not sinuous as in the other two American species, but presenting a single shallow sinus extending the entire length of the margin. Median notch of the front shallow; outer teeth prominent. The cheli-

peds present no distinctive characters. The ambulatory legs are most like those of *bicarinata* in having only one crest, the posterior, on the carpus of the first three pairs of ambulatory legs, the anterior crest of *tuberosa* being represented by a tooth.

Dimensions.—Male: Length, 12.5 mm.; width, 13 mm. Immature female: Length, 9.8 mm.; width, 10 mm.

Type.—No. 21575, U.S.N.M. One male from off Cape St. Lucas, 31 fathoms, station 2829.

Additional specimen.—An immature female was taken in Magdalena Bay, 12 fathoms, station 2831.

This species resembles *L. bicarinata*, and differs from *L. tuberosa* in its narrow ridges and in the single crest of the carpus of the ambulatory legs. It differs from both in its greater width and in the outline of the postero-lateral margin.

30. LEPTOPISA SETIROSTRIS Stimpson.

Tiarinia setirostris STIMPSON, Bull. Mus. Comp. Zool., 1871, II, p. 114.
Leptopisa setirostris STIMPSON, Bull. Mus. Comp Zool., 1871, II, p. 114, in text.
Macrocœloma tenuirostra RATHBUN, Proc. U. S Nat. Mus , 1892, XV, p. 252, pl. XXXIII, fig. 1.

Off Cape St. Roque, Brazil, 20 fathoms, station 2758.

31. MACROCŒLOMA TRISPINOSUM (Latreille).

Pisa trispinosa LATREILLE, Encyc. Méth., Hist. Nat., Entom., 1825, X, p. 142.
Macrocœloma trispinosa MIERS, Jour. Linn. Soc. London, 1879, XIV, p. 665.

Port Castries, St. Lucia.

32. MACROCŒLOMA DIACANTHUM (A. Milne-Edwards).

Pericera dicantha A. MILNE-EDWARDS, Crust. Rég. Mex , 1875, p. 57 (*dicantha*), pl. XV, fig. 3 (*diacantha*).
Macrocœloma diacantha MIERS, Jour. Linn. Soc. London, 1879, XIV, p. 665.

Off Cape St. Roque, Brazil, 20 fathoms, station 2758.

33. MACROCŒLOMA HEPTACANTHUM (Bell).

Pericera heptacantha BELL, Proc. Zool. Soc. London, 1835, III, p. 173; Trans. Zool. Soc. London, 1836, II, p. 61, pl. XII, fig. 6.
Macrocœloma heptacantha MIERS, *Challenger* Rept., Zool., 1886, XVII, pp. 79, 81.

Panama Bay, 18 fathoms, station 2798; off Cape St. Lucas, 31 fathoms, station 2829.

34. MACROCŒLOMA CONCAVUM Miers.

Macrocœloma concava MIERS, *Challenger* Rept., Zool., 1886, XVII, p. 81, pl. X, fig. 2.

Off Cape St. Roque, Brazil, 20 fathoms, station 2758, one female, intermediate between the type as figured by Miers and the specimen

referred by me to *M. eutheca*.[1] The true *M. eutheca* (Stimpson) is, I believe, distinct from *M. concavum*.[2]

35. STENOCIONOPS CONTIGUA Rathbun.

Pericera contigua RATHBUN, Proc. U. S. Nat. Mus., 1892, XV, p. 247, pl. XXXII, fig. 2.

Southern part of Gulf of California, 8 to 10 fathoms, stations 2824, 2826, 2827, and 2828.

36. STENOCIONOPS TRIANGULATA Rathbun.

Pericera triangulata RATHBUN, Proc. U. S. Nat. Mus., 1892, XV, p. 246, pl. XXXII, fig. 1.

Panama Bay, 51½ fathoms, station 2805; off Abreojos Point, Lower California, 48 fathoms, station 2834.

37. MICROPHRYS BICORNUTUS (Latreille).

Pisa bicornuta LATREILLE, Encyc. Méth., Hist. Nat., Entom., 1825, X, p. 141.
Microphrys bicornutus A. MILNE-EDWARDS, Nouv. Archiv. Mus. Hist. Nat. Paris, 1872, VIII, p. 247.

Abrolhos Islands, Brazil.

38. MICROPHRYS BRANCHIALIS, new species.

(Plate XLI, fig. 5.)

Microphrys, species, RATHBUN, Proc. U. S. Nat. Mus., 1892, XV, p. 254.

Postero-lateral angle with one spine; antero-lateral margin unarmed; anterior branchial region swollen.

Carapace triangular. Anterior portion of the branchial region covered by an oblique oblong protuberance, highest in its posterior portion, sloping gradually downward anteriorly and covered with tubercles. Gastric region with three tubercles on the median line, a cluster of three on each side anteriorly, and a transverse row at the posterior end. One tubercle on the genital region; ten on the cardiac, of which two are median. Posterior branchial region with several tubercles, the chief of which are arranged in two longitudinal rows; postero-lateral angle with a spine curving upward. A row of blunt tubercles above the posterior margin. Margin of the hepatic region with only a small tubercle; vertical side of the branchial region with scattered tubercles, and two lines of tubercles continued to the pterygostomian region. Anterior and lateral regions hairy. Rostrum deflexed, with two flattened, triangular, acute horns, pointing directly forward, and separated by a V-shaped sinus reaching one-half the length of the rostrum. Preorbital tooth blunt, denticulate. Two superior orbital fissures on either side of a rounded lobe; postorbital tooth blunt. The basal antennal joint bears at its antero-lateral angle a long, broad, blunt spine or

[1] Proc. U. S. Nat. Mus., 1892, XV, p. 251.
[2] Bull. Labor. Nat. Hist. State Univ. Iowa, 1898, IV, p. 257.

tooth, curved inward and upward and with crenulated outer margin; a short, blunt tooth at the base of the second joint; a tooth on the outer margin, forming part of the wall of the orbit, and two laminate teeth between the outer sinus and the buccal cavity.

Chelipeds one and one-third times the length of the carapace in the male. Upper surface of the merus and carpus with some scattered tubercles; outer surface of merus with a longitudinal row; also two or three tubercles at the proximal end of the outer lower margin. Palm long and narrow, margins parallel, superior length twice the width and more than one and a half times the length of the dactylus. Pollex not bowed downward as in *M. platysoma* Stimpson. The chelipeds of the female differ in being more slender and about nine-tenths the length of the carapace. First pair of ambulatory legs reaching half the length of the palm of the chelipeds in the male and equaling the chelipeds in the female. Meral joints of ambulatory legs armed with spines and tubercles on the superior and outer or posterior surfaces; carpal joints with two or three spines; margins hairy.

Dimensions.—Male: Length, 15.3 mm.; width, including spines, 14 mm.; excluding spines, 11.8 mm. Female: Length, 15 mm.; width, including spines, 14 mm.; excluding spines, 11.5 mm.

Types.—No. 21576, U.S.N.M. One male, two females, Magdalena Bay, Lower California, 12 fathoms, station 2831.

Additional localities.—Off Abreojos Point, Lower California, 48 fathoms, station 2834; Gulf of California, northwest of Guaymas, 22 fathoms, station 3012.

39. MICROPHRYS TRIANGULATUS (Lockington).

Mithraculus triangulatus LOCKINGTON, Proc. Cal. Acad. Sci., July 17, 1876, 1877, VII, p. 73.

Mithrax triangulatus KINGSLEY, Proc. Boston Soc. Nat. Hist., 1879, XX, p. 149.

Southern part of the Gulf of California, 7 to 10 fathoms, stations 2824 to 2828, inclusive.

This species, according to the structure of the orbits and antennæ, is a *Microphrys*. The shape and protuberances of the carapace are also similar to species of that genus. The rostrum is short, as in many species of *Mithrax*.

40. PITHO QUINQUEDENTATA Bell.

Pitho quinquedentata BELL, Proc. Zool. Soc. London, 1835, III, p. 172.

Southern part of Gulf of California, 10 fathoms, station 2828.

41. PITHO LHERMINIERI (Schramm).

Othonia lherminieri SCHRAMM, Crust. Guadeloupe, 1867, p. 20.

Pitho lherminieri RATHBUN, Ann. Inst. Jamaica, 1897, I, p. 8.

Off Cape St. Roque, Brazil, 20 fathoms, station 2758.

42. MITHRAX HEMPHILLI Rathbun.

Mithrax hemphilli RATHBUN, Proc. U. S. Nat. Mus., 1892, XV, p. 263, pl. XXXVII, fig. 2.

Abrolhos Islands, Brazil.

43. MITHRAX HISPIDUS (Herbst).

Cancer hispidus HERBST, Natur. Krabben u. Krebse, 1790, I, p. 247, pl. XVIII, fig. 100.

Mithrax hispidus MILNE-EDWARDS, Mag. Zool., 1832, II, Cl. VII.

Abrolhos Islands; off Cape St. Roque, Brazil, 20 fathoms, station 2758.

44. MITHRAX SINENSIS[1] Rathbun.

Mithrax sinensis RATHBUN, Proc. U. S. Nat. Mus., 1892, XV, p. 266, pl. XXXVIII, fig. 2.

Southern part of Gulf of California, 7 to 10 fathoms, stations 2824 to 2828, inclusive.

45. MITHRAX FORCEPS (A. Milne-Edwards).

Mithraculus forceps A. MILNE-EDWARDS, Crust. Rég. Mex., 1875, p. 109, pl. XXIII, fig. 1.

Mithrax forceps MIERS, *Challenger* Rept., Zool., 1886, XVII, pp. 87, 88.

Abrolhos Islands, Brazil.

46. MITHRAX CORYPHE (Herbst).

Cancer coryphe HERBST, Natur. Krabben u. Krebse, 1801, III, Pt. 2, p. 8.

Mithrax coryphe RATHBUN, Ann. Inst. Jamaica, 1897, I, p. 11.

Abrolhos Islands, Brazil.

47. MITHRAX NODOSUS Bell.

Mithrax nodosus BELL, Proc. Zool. Soc. London, 1835, III, p. 171; Trans. Zool. Soc. London, 1836, II, p. 53, pl. XI, fig. 1.

Charles Island, Hood Island, and Duncan Island, all of the Galapagos group.

PARTHENOPIDÆ.

48. THYROLAMBRUS EROSUS, new species.

(Plate XLII, fig. 1.)

Surface tuberculate and eroded; posterior margin transverse and bordered by blunt teeth or lobes; hand dentate or lobate, not spinate.

This species, although possessing a strong resemblance to *T. astroides*, differs noticeably in the shape of the carapace and the character of the surface. The carapace is longer, the outline more pentagonal; the lateral and posterior margins, instead of being thin and

[1] From "*sinus*," a gulf or bay, not "*Sina*," China.

acutely dentate as in *astroides*, are thick, and the posterior margin is bordered by small but prominent lobes. This margin is almost transverse, the posterior border of the branchial expansion not being inclined forward as in *astroides*. The lateral margin of the branchial region is much longer than in *astroides*, and the hepatic region is much more prominent. The general elevations and depressions of the carapace are similar to those of *astroides*. The surface is covered with small irregular pits, separated by low, smooth, reticulating ridges. The higher portions of the carapace bear at intervals tubercles covered with depressed granules. Under the lens the entire surface is seen to be densely and finely punctate.

The merus of the chelipeds is less thick than in *astroides*, and is armed with blunt tubercles or spines, as follows: A large tubercle on the distal third of the posterior margin; three or four rather slender blunt spines on the proximal half of the same margin; three prominent tubercles on the proximal half of the anterior margin; three low tubercles on the inferior margin; one tubercle on the superior surface. The hands are broader than in *astroides*, and broader at the base of the fingers than elsewhere, the upper margin of the outer surface being concave. The fingers are thick, especially the pollex. The armature is less striking than in *astroides;* instead of the elongated spines in that species, there are triangular, acute, and spinulous teeth. Of these there are five or six on the lower margin of the propodus, three being on the pollex; they are directed obliquely inward. The upper surface is deeply concave, and is bordered inwardly by three teeth, the median large and rounded. Dactylus with three small spines on the superior border of the inner surface. The surface of the chelipeds is similar to that of the carapace, except that the hands are rougher and more spinulous. The meral joints of the ambulatory legs are bordered by spinulous lobes or teeth; the propodi and dactyli are covered with spinules; surface of meri and carpi relatively smooth.

Dimensions of three specimens of Thyrolambrus crosus from station 2829.

Sex.	Length.	Posterior width.	Width at anterior angles of branchial region.
	mm.	*mm.*	*mm.*
Male	17.9	24.7	22
Male	14.2	19.2	17
Female	18.4	25	23.5

Types.—No. 21577, U.S.N.M. Two males, two females, from off Cape St. Lucas, 31 fathoms, station 2829.

Distribution.—Southern part of Gulf of California and off Cape St. Lucas, 8 to 31 fathoms, stations 2824, 2828, 2829.

49. LAMBRUS EXILIPES Rathbun.

Lambrus (*Parthenolambrus*) *exilipes* RATHBUN, Proc. U. S. Nat. Mus., 1893, XVI, p. 234.

Lambrus hassleri FAXON, Bull. Mus. Comp. Zool., 1893, XXIV, p. 152; Mem. Mus. Comp. Zool., 1895, XVIII, p. 14, pl. III, figs. 1, 1*a*.

Panama Bay, 51½ fathoms, station 2805; off Charles Island, Galapagos Islands, 78½ fathoms, station 2816; off Cape St. Lucas, 31 fathoms, station 2829.

50. MESORHŒA GILLI Rathbun.

Mesorhœa gilli RATHBUN, Proc. U. S. Nat. Mus., 1893, XVI, p. 235.

Panama Bay, 51½ fathoms, station 2805; southern part of Gulf of California, 21 fathoms, station 2822; Magdalena Bay, 12 fathoms, station 2831; and off Abreojos Point, Lower California, 48 fathoms, station 2834.

51. HETEROCRYPTA MACROBRACHIA Stimpson.

Heterocrypta macrobrachia STIMPSON, Ann. Lyc. Nat. Hist. N. Y., 1871, X, p. 103.—A. MILNE-EDWARDS, Crust. Rég. Mex., 1878, p. 167, pl. XXIX, fig. 3.

Magdalena Bay, Lower California, 12 and 51 fathoms, stations 2831 and 2832.

CANCRIDÆ.

52. CANCER PLEBEJUS Poeppig.

Cancer plebejus POEPPIG, Arch f. Nat., 1836, II, Pt. 1, p. 134.

Lota, Chile; Port Otway, Magallanes Territory, Chile.

53. CANCER POLYODON Poeppig.

Cancer dentatus BELL, Proc. Zool. Soc. London, 1835, III, p. 87; Trans. Zool. Soc. London, 1836, I, p. 339, pls. XLV, XLVII, figs. 4, 5; not *C. dentatus* HERBST, Natur. Krabben u. Krebse, 1785, I, p. 186, pl. XI, fig. 66.

Cancer polyodon POEPPIG, Arch. f. Natur., 1836, II, Pt. 1, p. 133.

Lota, Chile.

54. CANCER GIBBOSULUS (De Haan).

Corystes (*Trichocera*) *gibbosula* DE HAAN, Faun. Japon., 1835, p. 45, pl. II, fig. 4; pl. XIII, fig. 3.

Trichocarcinus gibbosulus MIERS, Proc. Zool. Soc. London, 1879, p. 34.

Magdalena Bay, Lower California, 51 fathoms, station 2833.

There are specimens in the U. S. National Museum from Granite Cove, Port Althorp, Alaska (W. H. Dall); off Cape Orford, Oregon, 35 fathoms (station 3094); San Francisco, California (D. S. Jordan); Monterey (Dr. C. A. Canfield); Monterey Bay, 13 and 19 fathoms (stations 3138 and 3142); Catalina Harbor, 30 to 40 fathoms (W. H. Dall); San Diego, 10 fathoms (H. Hemphill); San Diego Bay, 6½ fathoms (station 3621); San Geronimo Island, Lower California, 7 fathoms (A. W. Anthony); and from Japan (H. Loomis).

55. CANCER AMPHIŒTUS, new name.

Trichocarcinus dentatus MIERS, Proc. Zool. Soc. London, 1879, p. 34.

Magdalena Bay, Lower California, 12 fathoms, station 2831; off Cerros Island, 44 fathoms, station 2838. Three specimens, too young to be identified with certainty, were taken off Abreojos Point, in 5½ fathoms, station 2835.

In subsequent cruises of the *Albatross*, this species has been taken at four stations in the Gulf of California, 12 to 36 fathoms (stations 3012, 3018, 3032, 3033); in San Diego Bay, California, 4½ fathoms (station 3591); in Hakodate Bay, Japan, 11½ and 15½ fathoms (stations 3656 and 3659); and in the Gulf of Tokio, 169 fathoms (station 3661). The species was also collected at Fusan, Korea, by Mr. P. L. Jouy.

56. ACTÆA ANGUSTA, new species.

(Plate XLII, fig. 2.)

Carapace narrow, posteriorly lobulated; lateral lobes dentiform; fingers rough.

Carapace narrow, slightly convex, lobulate on the posterior as well as the anterior half; lobules granulous. The posterior half of the mesogastric region is long, and its sides are distinctly convergent backward; the depressions which form its lateral borders are continued posteriorly in divergent lines, thus forming a figure the shape of an hour-glass. On either side of this there is a large branchial lobule, not distinctly limited posteriorly. Front slightly deflexed, its margin visible in a dorsal view; lobes oblique, nearly straight, separated by a broad V-shaped notch. Lateral lobes four, besides the orbital, dentiform, the first very short, the second twice as long, the third much the longest. Inner suborbital lobe rounded, prominent.

Chelipeds covered with spiniform tubercles, the carpus deeply grooved, the tubercles on the hands arranged in longitudinal rows. Fingers deeply grooved, the intervening ridges rough with spiniform tubercles. Ambulatory legs granulate.

Dimensions.—Female: Length, 4.5 mm.; width, 6 mm.

Type.—No. 21578, U.S.N.M. One immature female, off Hood Island, Galapagos Islands, 20 fathoms, station 2812.

This species resembles *A. setigera* (Milne-Edwards) and *A. dorii* Stimpson in the ornamentation of the carapace and in the chelipeds; it differs from them in being narrower and posteriorly areolated, and having dentiform lateral lobes. It resembles *A. bifrons* Rathbun in its proportions and lateral lobes, and differs in its front, posterior areolations, and roughened and grooved fingers.

57. ACTÆA INORNATA, new species.

(Plate XLII, fig. 3.)

Carapace narrow, granulate, pubescent, not lobulate.

Carapace rather narrow for the genus; very convex antero-posteriorly, slightly so transversely; entire surface of crab covered with a short, dense pubescence, which must be removed to see the character of the surface beneath. The regions of the carapace are faintly outlined, and are not lobulated as in typical *Actæa*, although there are traces of shallow furrows on the branchial region. The surface is sparsely ornamented with fine granules, most numerous along the lateral margins. These margins are cut by three shallow notches into four lobes. A median furrow extends from the gastric region down to the front, which is divided by a slight emargination into two slightly sinuous and oblique lobes. The basal joint of the antenna does not reach as far forward as the inner angle of the orbit.

The chelipeds are nearly equal. The carpus and manus are covered with depressed granules larger than those of the carapace. The fingers are furrowed, granulate, and white; their prehensile teeth are irregular. The dactylus is longer than the superior margin of the propodus; the pollex is not deflexed. The single specimen taken is a female, apparently adult.

Dimensions.—Female: Length, 4.3 mm.; width, 5.6 mm.

Type.—No. 21579, U.S.N.M. One female, from off Cape St. Roque, Brazil, 20 fathoms, station 2758.

58. OZIUS VERREAUXII Saussure.

Ozius verreauxii SAUSSURE, Rev. Mag. Zool., 1853, 2d ser., V, p. 359, pl. XII, fig. 1.

James Island, Chatham Island, and Indefatigable Island, of the Galapagos.

59. OZIUS AGASSIZII A. Milne-Edwards.

Ozius agassizii A. MILNE-EDWARDS, Crust. Rég. Mex., 1880, p. 279, pl. LV, fig. 1.

Duncan Island, Galapagos.

60. MEDÆUS LOBIPES, new species.

(Plate XLIV, fig. 1.)

Ambulatory legs with lobate crests.

Carapace shorter and broader than in *M. spinimanus* Milne-Edwards; lobules similar in shape and position to those of that species. In the largest specimen the tuberculation of the lobules is less extensive than in smaller specimens, and also less extensive than in the somewhat larger individual of *M. spinimanus*, with which it is compared. Posterior half of mesogastric region divided by a median sulcus into two lobules. Cardiac region also distinctly divided in the same way. Front less advanced, and lobes less oblique than in *M. spinimanus*. The lateral teeth and the chelipeds offer no differences worthy of note. The

ambulatory legs are, however, very distinct. They are shorter than in *M. spinimanus*. The meral joints are armed on the upper or anterior margin with spiniform teeth, as in that species; the tubercles of the upper surface of the last pair are more depressed. The carpal and propodal joints are ornamented with lobate crests, of which there are three on the carpal joints of the first, second, and third pairs, and two on the propodal joints and on the carpal joint of the fourth pair. The middle crest of the carpal joints (the anterior crest in the last pair) is most prominent, and is composed of three rounded lobes, the interspaces as wide as the lobes. Ambulatory legs hairy, the dactyli densely so.

Abdomen of male with the first three segments tuberculous; anterior margin of each segment, including the coalesced segments, marked by a transverse band of pubescence. Posterior half of sternum tuberculous; anterior half punctate or pitted.

Dimensions.—Male, type: Length, 17 mm.; width, 25.6 mm. Female with eggs, station 2812: Length, 8.5 mm.; width, 12.3 mm.

Type.—No. 21580, U.S.N.M. One male, from Panama Bay, 33 fathoms, station 2796.

Additional specimens.—Panama Bay, 5½ fathoms, station 2805, two small males; off Hood Island, Galapagos, 20 fathoms, one female; off Cape St. Lucas, 31 fathoms, station 2829, one male.

LIPÆSTHESIUS, new genus.

(*Λειπω*, to be wanting; *αισθησις*, perception by feeling.)

Allied to Glyptoxanthus, Medæus, *and* Carpoporus. *Basal antennal joint excluded from the orbit; flagellum and peduncular joints wanting; antero-lateral margin of the carapace terminating at the angle of the buccal cavity.*

Carapace in shape resembling *Glyptoxanthus*; that is, the antero-lateral margin is arcuate, the postero-lateral is deeply concave, the anterior half of the carapace is very convex longitudinally, the posterior half is flattened. The antero-lateral margin, however, is thinner than in *Glyptoxanthus*, and runs obliquely downward to the angle of the buccal cavity, as in *Medæus*. Front deflexed, forming a projecting hood over the antennulæ. Orbits circular. Basal antennal joint less advanced than the orbital angle; its anterior margin articulates with the lower corner of the front, as does also the inner corner of the lower orbital margin (Plate XLII, fig. 5). The antennæ proper, including the peduncular joints and the flagellum, are absent. Only the flat lower surface of the basal joint is exposed to view, and there is no socket to hold an antenna. Epistome with a deep transverse invagination through its entire width. Abdomen of male with the third, fourth, and fifth segments anchylosed. Chelipeds concave on their inner side to fit closely against the carapace. Last pair of ambulatory legs fitting into the postero-lateral sinus of the carapace.

61. LIPÆSTHESIUS LEEANUS, new species.

(Plate XLII, figs. 4, 5.)

Surface granulate and eroded; color of pollex running back on the hand.

Carapace with mesogastric and cardiac regions depressed. Protogastric region forming an elevated protuberance; a similar but smaller protuberance is at the middle of the branchial region; in front of this, two tubercles. Hepatic region inclined. Antero-lateral margin subacute, with about four tubercles at intervals. Surface covered with coarse granules arranged to form a network or an eroded surface; gastric sutures smooth. Front strongly deflexed, thin, emarginate, and with a short closed median fissure; lobes oblique, sinuous, bent down at the outer angles to meet the antennal joint. The inferior surface of the crab, excepting the abdomen and the portions against which the legs are applied, is granulous and eroded. Abdomen almost smooth. The palpus of the endognath is folded above the preceding joint, and is only slightly visible in a ventral view.

Chelipeds subequal, thick, outer surface eroded. Fingers gradually curved downward, very rough with granulation; prehensile edges toothed, not gaping; color brown, that of the pollex running back on the hand, further on the inner surface than on the outer. Dactylus longer than the superior margin of the palm. The ambulatory legs are short and are ornamented with granulations similar to those of the carapace.

Dimensions.—Male: Length, 8.4 mm.; width, 11.4 mm.

Types.—No. 21581, U.S.N.M. Two males, from the southern part of the Gulf of California, 10 fathoms, station 2828.

Named in honor of Prof. L. A. Lee, of Bowdoin College, who was chief naturalist of the *Albatross* during the cruise around the Horn.

62. PILUMNUS SPINULIFER, new species.

(Plate XLII, figs. 6–8.)

Carapace rough, nearly naked; larger hand half smooth; smaller hand entirely rough outside; a subhepatic tooth or spine.

Carapace wide, convex, deeply areolated, surface nearly naked, having only a short, scattered pubescence, not concealing the spiniform granules covering the surface. These granules are very small posteriorly, but anteriorly they are larger and along the antero-lateral margin many of them are developed into spinules. Median sinus of the front very large and V-shaped, forming the inner margins of the two large lobes; the outer margins are also oblique but longer; outer angles of front rectangular; margin thin and granulate. Superior margin of orbit spinulous, inferior margin armed with slender spines; inner suborbital tooth prominent, spinulous, and sharp. Antero-lateral margin

with four spines, bordered by smaller spines or spinules; the greatest interval is between the second and the first or orbital; below this space may be seen a subhepatic spine, similar in character but less produced than the marginal spines. Lower surface of carapace rough and similar to the upper.

Meral joints of chelipeds granulate on outer surface; margins armed with spines and spinules, those of the upper surface increasing in size distally. Carpi spinous. The upper and proximal half of the outer surface of the palm of the larger cheliped is covered with stout spinules, which have a tendency to form longitudinal rows and become smaller and more granuliform toward the lower and distal margins; the spinules cover the upper surface and extend a little on the inner surface. The smaller palm is roughened on the entire outer surface with spinules or spiniform granules; upper surface with two rows of spines; inner face granulous, except near the fingers. Dactyli of both chelipeds a little roughened near the base. Meral joints of ambulatory legs armed on the anterior margin with a row of slender spines; posterior margin spinulous; carpal and propodal joints armed above, below, and anteriorly with a row of spines. Legs sparingly pubescent.

Dimensions.—Male: Entire length, 8.8 mm.; width, including spines, 12.5 mm.

Types.—No. 21582, U.S.N.M. Two males, off Cape St. Lucas, 31 fathoms, station 2829.

63. PILUMNUS, species.

One young specimen, undetermined, from Magdalena Bay, Lower California, 51 fathoms, station 2832.

64. PILUMNOIDES PERLATUS (Poeppig).

Hepatus perlatus Poeppig, Arch. f. Natur., 1836, II, Pt. 1, p. 135, pl. IV, fig. 2.
Pilumnoides perlatus Milne-Edwards and Lucas, D'Orbigny's Voy. l'Amér. Mérid., 1843, VI, Pt. 1, p. 21; 1847, IX, pl. IX, fig. 1.

Off the Rio de la Plata, 10½ to 11½ fathoms, stations 2764 to 2766; Magellan Strait, 29½ fathoms, station 2775.

65. XANTHO GAUDICHAUDII Milne-Edwards.

Xantho gaudichaudii Milne-Edwards, Hist. Nat. Crust., 1834, I, p. 396.

Port Otway, Magallanes Territory, Chile.

66. HOMALASPIS PLANA (Milne-Edwards).

Xantho planus Milne-Edwards, Hist. Nat. Crust., 1834, I, p. 397.
Homalaspis planus A. Milne-Edwards, Ann. Sci. Nat., 1863, 4th ser., XX, p. 279.

Port Otway, Magallanes Territory, Chile.

67. XANTHIAS POLITUS Rathbun.

Micropanope polita RATHBUN, Proc. U. S. Nat. Mus., 1893, XVI, p. 238.
Xanthias politus RATHBUN, Bull. Labor. Nat. Hist. State Univ. Iowa, 1898, IV, p. 271.

Off Hood Island, Galapagos, 20 fathoms, station 2812; off Cape St. Lucas, Lower California, 31 fathoms, station 2829.

68. MICROPANOPE XANTHIFORMIS (A. Milne-Edwards).

Panopeus xanthiformis A. MILNE-EDWARDS, Crust. Rég. Mex., 1880, p. 353, pl. LIII, fig. 4.
Micropanope xanthiformis RATHBUN, Bull. Labor. Nat. Hist. State Univ. Iowa, 1898, IV, p. 274.

Off Cape Frio, Brazil, 59 fathoms, station 2762.

69. MICROPANOPE NITIDA, new species.

(Plate XLII, fig. 9.)

General appearance smooth; frontal lobes rounded; second and fifth lateral teeth reduced; color of pollex not running back on hand.

Carapace broad, convex in both directions; regions very faintly indicated; surface minutely granulate or almost smooth, covered with very minute punctæ, with here and there a larger one. Front inclined, granulate; edge thin, median sinus V-shaped; lobes sinuous, convex for their inner two-thirds. Orbits with two V-shaped sinuses on the superior margin. Lateral teeth five; the first or orbital small and dentiform, the second low and rounded and connected with the first by a shallow sinus; third and fourth large, with arcuate outer and concave inner margins and acute curved tips; fifth very small and postero lateral. The outer suborbital fissure is deep, narrow at the base, with convex sides; the inner tooth is low and blunt. The second segment of the abdomen of the male is wide, and at its outer distal corners leaves exposed a very small piece of the sternum. The third segment has a very broad base with angular corners, reaching the coxæ of the fifth pair of feet. The penultimate segment is short and widens distally. Terminal segment triangular and blunt.

Chelipeds strong and unequal, with surfaces finely granulate; upper margin of merus granulate or denticulate. Carpus with a short sharp inner tooth or spine, with a blunt tooth beneath it, and an anterior groove; granules having a tendency to form slight rugæ. Large hand strong, with convex margins; upper surface broad and flattened; in smaller specimens having two blunt crests; fingers bent downward, slightly gaping, with punctate impressed lines; prehensile teeth low. Smaller hand resembling the larger, but about two-thirds as wide. Color of fingers dark brown, the color line on the pollex running obliquely downward from the proximal end of the prehensile margin and parallel to the proximal end of the palm. Ambulatory legs long

and narrow; meral joints with anterior margins spinulous; last two joints with pubescent margins.

Dimensions.—Male: Length, 8.1 mm.; width, 11.5 mm.

Types.—No. 21583, U.S.N.M. Two males, eight females. Southern part of Gulf of California, 8 fathoms, station 2824.

Distribution.—Gulf of California, 7 to 10 fathoms, stations 2824 to 2828, inclusive.

70. MICROPANOPE AREOLATA, new species.

Carapace arcolate; frontal lobes rounded; second and fifth lateral teeth reduced; color of pollex running back on palm.

This species is closely allied to the preceding, and is associated with it. It is distinguished by its carapace being slightly narrower, areolate, more distinctly granulate, and slightly pubescent, by the greater roughness of the carpi of the chelipeds, and, above all, by the dark color of the pollex extending well backward and upward on the palm.

Dimensions.—Male: Length, 6.7 mm.; width, 8.9 mm.

Types.—No. 21584, U.S.N.M. Four males, one female. Head of Gulf of California, 11 fathoms, station 3024.

Distribution.—Gulf of California, 9½ to 11 fathoms, stations 2826, 2827, 2828, 3024.

71. LOPHOPANOPEUS MACULATUS, new species.

(Plate XLII, figs. 10, 11.)

Carpus slightly rough; ambulatory legs slightly cristate; meral joints spinulous; terminal segment of abdomen of male wider than the preceding joint.

Carapace hexagonal, moderately convex, deeply areolated. Surface covered with very fine, depressed, scabrous granules. Front narrow, advanced, thickened, emarginate, with a short, closed, median fissure; margin sinuous, granulate, the outer angle being truncate and obtuse. Lobe between the superior orbital fissures truncate, not produced. Exorbital tooth small; second tooth well marked, though not prominent, rounded; third, fourth, and fifth teeth dentiform, subacute, the fifth a little the smaller. Sinuses separating the second, third, fourth, and fifth teeth continued by grooves on the carapace. The inferior regions of the carapace are granulous and there is a suborbital tubercle. The inner tooth of the inferior orbital margin is produced, thickened, and obtuse; the outer fissure is large and V-shaped. Proximal angles of third abdominal segment of male acute and overlapping the coxæ of the fifth pair of feet. Penultimate segment nearly as long as wide, increasing in width distally. Last segment wider than the preceding and arcuate.

Chelipeds nearly equal, heavy. Merus trigonal, as broad as long, superior margin denticulate. Carpus slightly rugose, with an anterior groove and two blunt inner teeth, one above the other. The palm of

the larger cheliped is wider than its superior length, and the upper margin is somewhat flattened. The inferior margin of the propodus is slightly sinuous. The surface is punctate with large and small punctæ, and finely granulate, the granules becoming larger and rougher on the broad upper surface. The fingers are wide and gape slightly. They are crossed by a few impressed, punctate lines. The dactylus is arched and has a large basal tooth, followed by about seven small teeth. The pollex has about six large teeth. The lesser cheliped is missing in the type male. In a smaller specimen, however, this cheliped is seen to differ from the larger one in being a little narrower, with fingers bent down a little more. All the prehensile teeth are small. The meral joints of the ambulatory legs are narrow, with anterior margins spinulous. The next joint is subcristate, having a deep groove near its anterior margin; the propodi have convex margins."

Dimensions.—Type male: Length, 7.1 mm.; width, 9.9 mm. Ovigerous female, station 2831: Length, 4.4 mm.; width, 6 mm.

Color.—In alcohol, the carapace shows ten or twelve dark blue spots; chelipeds reddish, fingers with white tips and teeth; merus joints of ambulatory legs with a dark band at the center.

Types.—No. 21585, U.S.N.M. One male, one female. Southern part of Gulf of California, 8 fathoms, station 2824.

Distribution.—Gulf of California, 7 to 17 fathoms, and Magdalena Bay, Lower California, 12 fathoms, stations 2824, 2825, 2828, 2831, 3002.

72. XANTHODIUS LOBATUS (A. Milne-Edwards).

Leptodius lobatus A. MILNE-EDWARDS, Crust. Rég. Mex., 1880, p. 271, pl. XLIX, fig. 4.

Charles Island and Duncan Island, Galapagos.

73. LEPTODIUS FLORIDANUS (Gibbes).

Chlorodius floridanus GIBBES, Proc. Amer. Assoc. Adv. Sci., 1850, III, p. 175.
Leptodius floridanus A. MILNE-EDWARDS, Crust. Rég. Mex., 1880, p. 268, pl. XLIX, fig. 2.

Abrolhos Islands, Brazil.

74. LEPTODIUS OCCIDENTALIS (Stimpson).

Chlorodius occidentalis STIMPSON, Ann. Lyc. Nat. Hist. N. Y., 1871, X, p. 108.
Leptodius occidentalis A. MILNE-EDWARDS, Crust. Rég. Mex., 1880, p. 269.

Pichilinque Bay, Lower California; Galapagos Islands.

75. EURYTIUM AFFINE (Streets and Kingsley).

Panopeus transversus LOCKINGTON, Proc. Cal. Acad. Sci., September 4, 1876, 1877, VII, p. 102; not *P. transversus* Stimpson.
Panopeus affinis STREETS and KINGSLEY, Bull. Essex Inst., 1877, IX, p. 106.
Eurytium affine A. MILNE-EDWARDS, Crust. Rég. Mex., 1880, p. 334, pl. LX, fig. 1.

Pichilinque Bay, Lower California.

76. CYCLOXANTHOPS DENTICULATUS (White).

Xantho denticulatus WHITE, Ann. Mag. Nat. Hist., 1848, 2d ser., II, p. 285.
Cycloxanthops denticulatus RATHBUN, Ann. Inst. Jamaica, 1897, I, p. 14.

Abrolhos Islands, Brazil.

77. TETRAXANTHUS BIDENTATUS (A. Milne-Edwards).

Xanthodes bidentatus A. MILNE-EDWARDS, Crust. Rég. Mex., 1880, p. 353, pl. LIII, fig. 5.
Tetraxanthus bidentatus RATHBUN, Bull. Labor. Nat. Hist. State Univ. Iowa, 1898, IV, p. 275.

Off Cape Frio, Brazil, 59 fathoms, station 2762.

78. ERIPHIA GONAGRA (Fabricius).

Cancer gonagra FABRICIUS, Sp. Ins., 1781, p. 505.
Eriphia gonagra MILNE-EDWARDS, Hist. Nat. Crust., 1834, I, p. 426, pl. XVI, figs. 16, 17.

Abrolhos Islands and Bahia, Brazil.

79. ERIPHIA SQUAMATA Stimpson.

Eriphia squamata STIMPSON, Ann. Lyc. Nat. Hist. N. Y., 1859, VII, p. 56.

Pichilinque Bay, Lower California.

80. PSEUDERIPHIA HISPIDA (Stimpson).

Eriphia hispida STIMPSON, Ann. Lyc. Nat. Hist. N. Y., 1860, VII, p. 218.
Pseuderiphia hispida A. MILNE-EDWARDS, Crust. Rég. Mex., 1880, p. 340, pl. LVI, fig. 1.

Albemarle Island, Galapagos.

GRAPSILLIDÆ.

81. QUADRELLA NITIDA Smith.

Quadrella nitida SMITH, Proc. Boston Soc. Nat. Hist., 1869, XII, p. 288.

Off Cape St. Lucas, Lower California, 31 fathoms, station 2829, two males, two females, one bearing eggs.

Dimensions of Quadrella nitida.

Sex.	Total length.	Width.
	mm.	*mm.*
Male	8.9	9.6
Male	5.5	5.6
Female with eggs	7.4	8
Female	6.6	6.7

By Dr. Ortmann this species is united with *Q. coronata* Dana. I have not seen specimens of the latter. *Q. nitida* has only one carpal spine instead of the two in *coronata*. The sinuses separating the median from the next pair of frontal teeth are more shallow than represented in Dana's figure, and the lateral margins are much more convex.

ECTÆSTHESIUS, new genus.

(Ἐκτος, external, and αἰσθησις, perception by feeling.)

Allied to Grapsillus; *orbital fissure closed; sides two-toothed.*

Carapace smooth; wider and sides more arcuate than in *Grapsillus;* furnished with two large teeth on the antero-lateral margin, one at the lateral angle, and one between that and the orbital angle. Postero-lateral margins converging. Front broad, slightly bilobed. Orbits shallow, entire; inner fissure closed by the union of the lower orbital margin with the front (Plate XLII, fig. 13); orbit otherwise entire. Peduncular joints of antennæ short; the second joint just reaches the lower corner of the front; the third joint attains the frontal margin. Palatal ridge partially developed, anteriorly obsolete. The antero-external angle of the merus of the outer maxillipeds is laterally produced, and the antero-internal angle emarginate (Plate II, fig. 14). Chelipeds unequal, smooth, not enlarged; merus short, margins entire; carpus unispinous; fingers elongate, acute. Ambulatory legs short, last three joints setose; dactyli rather stout.

82. ECTÆSTHESIUS BIFRONS, new species.

(Plate XLII, figs. 12–14.)

Carapace slightly convex in both directions, about three-fourths as long as wide, antero-lateral margin arcuate, postero-lateral margins sinuous and rapidly converging. Surface smooth, except near the front and lateral teeth, where fine granulation may be detected with the lens. Front nearly half the width of the carapace, slightly arcuate, almost imperceptibly bilobed, edge thin, retreating at the outer angles. Just above, behind, and parallel to the margin, at a distance of about 0.2 of a millimeter, is a sharp ridge which is slightly interrupted at the median line. Orbit less than half the width of the front; outer angle inconspicuous, not advanced beyond the general outline of the orbital margin. The tooth at the lateral angle of the carapace is situated a little in front of the middle of the length of the carapace and is subacute. The first tooth of the antero-lateral margin is about one-third the distance between the orbital angle and the lateral tooth and is obtuse. The abdomen of the mature female is narrow; third, fourth, and fifth segments subequal in length as well as in width; sixth of the same width, but longer; seventh narrower, length and breadth subequal, extremity rounded. Peduncular joints of antennæ short.

Merus of chelipeds extending but little outside the carapace, trigonal, widest near the middle. Carpal tooth large and sharp. Manus with the inner surface swollen toward the proximal end, as in *Grapsillus;* margins smooth and rounded; superior margin slightly convex, inferior margin sinuous, that of the pollex being concave. Dactylus longer than the superior margin of the palm. Fingers not gaping, marked with a few lines of punctæ; dactylus without teeth; pollex of the larger cheliped

with one low tooth on basal half and two teeth and a few denticles on terminal half; in the smaller cheliped the teeth of the pollex are all on the terminal half. The ambulatory legs are of the same nature as those of *Grapsillus;* dactyli nearly as long as the propodi.

Dimensions.—Ovigerous female: Length, 7 mm.; width, 9.7 mm.; width of front, 4.4 mm.; exorbital width, 7.2 mm.

Type.—No. 21586, U.S.N.M. One ovigerous female. Off Chatham Island, Galapagos Islands, 45 fathoms, station 2809.

PORTUNIDÆ.

83. PORTUNUS SAYI (Gibbes).

Lupa sayi GIBBES, Proc. Amer. Assoc. Adv. Sci., 1850, III, p. 178.
Neptunus sayi A. MILNE-EDWARDS, Arch. Mus. Hist. Nat. Paris, 1861, X, p. 317, pl. XXIX, fig. 2.
Portunus sayi RATHBUN, Ann. Inst. Jamaica, 1897, I, p. 22.

Latitude 31° 16′ north, longitude 71° 50′ west, surface.

84. PORTUNUS PANAMENSIS (Stimpson).

Achelous panamensis STIMPSON, Ann. Lyc. Nat. Hist. N. Y., 1871, X, p. 112.
Neptunus panamensis A. MILNE-EDWARDS, Crust. Rég. Mex., 1879, p. 219; not *Amphitrite panicispinis* Lockington.

Panama Bay, 33 and 18 fathoms, stations 2797 and 2798.

85. PORTUNUS TRANSVERSUS (Stimpson).

Achelous transversus STIMPSON, Ann. Lyc. Nat. Hist. N. Y., 1871, X, p. 111.
Neptunus transversus A. MILNE-EDWARDS, Crust. Rég. Mex., 1879, p. 220.

One adult female and one small immature male were taken at station 2800, Panama Bay, 7 fathoms. The male is about the size of Stimpson's type from Manzanillo, which is not extant, and agrees with his brief description. The adult, however, possesses more strongly marked characters.

This species has, as Stimpson has remarked, the aspect of a *Callinectes.* The carapace is very broad, and the antero-lateral margins are little arched. The depressions separating the areolations are deep; the branchial ridge is oblique and slightly curved; the inner branchial lobes are very well marked. The front is little advanced, the four middle teeth are triangular, blunt, their tips equidistant, the median pair narrower and more advanced than the next pair. The two teeth above the antennæ are well separated from each other and equally advanced, although the outer is wider than the inner. The supra-orbital sinuses are open anteriorly. The eight lateral teeth are subequal, becoming gradually more acute from the first to the eighth. The first or orbital tooth is equally advanced with the outer of the four median frontal teeth. The lateral spine is directed obliquely forward, and is as long as the width of the four preceding teeth. The posterior margin is slightly concave at its middle in the adult. The inner sub-

orbital tooth is much more advanced than the front, and is separated by a notch from the adjacent orbital margin.

The merus of the left cheliped (the right is missing), is armed on the anterior margin with seven acuminate spines; the proximal is very small, the size increasing from the first to the fourth; the fourth, fifth, and sixth are subequal; the distal or seventh spine is longest, and is separated from the next by the greatest interval. In the young, the three proximal spines of the adult are absent. Outer margin terminating in a well-marked spine. The carpus is armed with two spines, a small outer, and an inner spine between two and three times the length of the outer. There are two propodal spines, the posterior in the customary position, and a spine near the distal end of the upper margin. The posterior distal angle of the merus of the last pair of feet is armed with a spine.

Dimensions.—Female: Length to tips of teeth, 34 mm.; width, 75.6 mm.; width between posterior sinuses of antero-lateral margin, 55.5 mm. Young male: Length, 11.5 mm.; width, 26.3 mm.; width between posterior sinuses, 18.8 mm.

86. PORTUNUS XANTUSII (Stimpson).

Achelous xantusii STIMPSON, Ann. Lyc. Nat. Hist. N. Y., 1860, VII, p. 222.
Neptunus xantusii A. MILNE-EDWARDS, Arch. Mus. Hist. Nat. Paris, 1861, X, p. 429.

From Abreojos Point to Magdalena Bay, Lower California, 5½ to 48 fathoms, stations 2831, 2834, 2835; Gulf of California.

87. PORTUNUS (ACHELOUS) BREVIMANUS (Faxon).

Achelous spinimanus FAXON, Mem. Mus. Comp. Zool., 1895, XVIII, p. 23 (not *Portunus spinimanus* Latreille).
Achelous brevimanus FAXON, Mem. Mus. Comp. Zool., 1895, XVIII, p. 23, in text.
Near Cocos Island, 66 fathoms.

The characters presented by a series of specimens from the Pacific seem to justify their specific separation from *P. spinimanus*. *P. brevimanus* is less pubescent and has a much more uneven surface; the anterior branchial ridge is more strongly arched forward and the two short branchial ridges are more oblique than in typical *spinimanus*. In *brevimanus* the median lobe of the superior orbital margin is strongly produced at its outer angle; in *spinimanus* this angle is advanced very little, if at all, beyond the inner. The inner carpal spine of the chelipeds is noticeably longer, and also the merus joint of the swimming feet, than in *spinimanus*. Some of the specimens collected are mature, but all are smaller than the type. None have the small spine at the distal end of the palm, and only one spine is present at the posterior distal corner of the merus of the swimming feet.

Off Hood Island, Galapagos, 20 and 40 fathoms, stations 2812 and 2813; Albemarle Island, Galapagos.

88. PORTUNUS (ACHELOUS) ANGUSTUS, new species.

(Plate XLIV, fig. 2.)

Front advanced, 8-toothed; lateral teeth alternately large and small; lateral spine only slightly longer than seventh tooth; a spine at posterior distal angle of merus of swimming feet.

Carapace narrow, pubescent except upon the transverse granulated lines; in shape resembling *P. ordwayi* (Stimpson). Front advanced; four middle teeth subacute, the outer pair broader at base than the inner, and separated from the inner pair by wider sinuses than the median sinus, and from the supra-antennal angle by a deep V-shaped sinus. Supra-antennal lobe bidentate; teeth acute. Antero-lateral teeth alternately large and small, the last tooth or lateral spine very little longer than the seventh. The inner suborbital tooth is acute and equally advanced with the second pair (reckoning from the middle) of frontal teeth; there are no teeth on either side of the outer orbital fissure.

The merus of the cheliped of the type specimen, a female, has four spines on its inner margin, graduated from a large one near the distal end to a small one near the ischium; a very small spine on the outer margin at the distal end. Carpus with a small external distal spine and a long inner spine reaching, when the arm is flexed, to the spine next to the smallest on the merus. The hand has two large spines, one next the carpus and one on the superior margin at one-third its length from the dactylus. The ridges on the carpus, propodus, and dactylus are very coarsely granulated with acorn-shaped granules. The depressions are pubescent. The extero-superior surface of the merus is crossed by a longitudinal ridge. The inferior margin of the merus of the left natatory foot is armed with a sharp spine near the distal end; on the right foot there are two smaller spines in the same position.

Color.—Although this crab has been for a long time in alcohol, it seems to be of a reddish hue. The basal half of the fingers is red, the next quarter is white, the remainder is brown, except the tips, which are white.

Dimensions.—Female: Total length of carapace, 25.5 mm.; total width, 37.2 mm.; width between the last sinuses, 33.5 mm.; exorbital width, 21 mm.

Type.—No. 21587, U.S.N.M. One female; off Hood Island, Galapagos, 20 fathoms, station 2812.

This species has considerable resemblance to *Charybdella* (=*Cronius*), but the basal antennal joint is not so strongly produced as in that genus. It can also be told by its narrower carapace and frontal teeth, and few spines on the hand.

89. PORTUNUS (ACHELOUS) ORDWAYI (Stimpson).

Achelous ordwayi STIMPSON, Ann. Lyc. Nat. Hist. N. Y., 1860, VII, p. 224.
Neptunus ordwayi A. MILNE-EDWARDS, Crust. Rég. Mex., 1879, p. 217, pl. XL, fig. 2.

Abrolhos Islands.

90. PORTUNUS (ACHELOUS) AFFINIS (Faxon).

Achelous affinis FAXON, Bull. Mus Comp. Zool., 1893, XXIV, p. 155; Mem. Mus. Comp. Zool., 1895, XVIII, p. 23, pl. IV, fig. 1.

Panama Bay, at station 2795, 33 fathoms; station 2803, 26 fathoms; and surface station 24 (young).

91. PORTUNUS (ACHELOUS) MINIMUS, new species.

(Plate XLIV, fig. 3.)

Front eight-toothed; second, fourth, and sixth lateral teeth reduced; lateral spine twice as long as eighth tooth; merus with four spines on anterior margin; spinules at posterior distal margin of swimming feet.

This is a very small species, as adults average about 15 mm. in width. Surface pubescent; ridges fairly well marked; the inner portion of the transverse branchial ridge is advanced to a point in line with the sixth lateral teeth. Front very wide; four median teeth, obtusely rounded, separated by rounded sinuses; the median pair of teeth narrower than the lateral and more advanced; the lateral sinuses as deep as the median and much wider. Supra-antennal teeth less advanced, two in number, subacute, separated by a shallow sinus. Of the superior orbital fissures, the inner is a narrow slit, the outer is V-shaped. The outer orbital tooth is less advanced than any of the frontal teeth, is rather large, and obtusely rounded. The other lateral teeth are acute. The second, fourth, and sixth are smaller than the others, and themselves diminish in size in the order named. The lateral spine is curved upward and forward and equals in length the width of the two preceding teeth. The inner suborbital tooth is produced to the line of the second pair of frontal teeth. Outer sinus of the suborbital margin V-shaped.

Merus of the chelipeds with three anterior spines, of which the proximal is the smaller, the others subequal; posterior margin terminating in a small spine. Carpus with a small outer spine and a large inner one about three times the length of the outer. Manus with two spines, one next the carpus and one near the distal end of the upper margin. Postero-distal margin of merus of swimming feet armed with fine spinules, but without a single long spine.

Dimensions.—Male, station 2827: Total length, 10.2 mm.; width, 17 mm.; width between last antero-lateral sinuses, 14.1 mm.; exorbital width, 10 mm. Female, station 2826: Total length, 9.4 mm.; width, 15.7 mm.; width between last sinuses, 12.8 mm.

Type.—No. 21588, U.S.N.M. One adult male, three adult females, one ovigerous. Station 2827, 10 fathoms.

Habitat.—Southern part of the Gulf of California, 9½ to 10 fathoms, at the following stations: 2826, one ovigerous female; 2827, type locality; 2828, one young male, six adult females (three ovigerous).

92. PORTUNUS (ACHELOUS) TUBERCULATUS (Stimpson).

Achelous tuberculatus STIMPSON, Ann. Lyc. Nat. Hist. N. Y., 1860, VII, p. 223.
Neptunus tuberculatus A. MILNE-EDWARDS, Crust. Rég. Mex., 1879, p. 221, pl. XXXIX, fig. 1.

Panama Bay, 18 and 29½ fathoms, stations 2798 and 2799.

93. ARENÆUS CRIBRARIUS (Lamarck).

Portunus cribrarius LAMARCK, Hist. Nat. Anim. sans. Vert., 1818, V, p. 259.
Arenæus cribrarius DANA, Crust. U. S. Expl. Exped., 1852, I, p. 290; 1855, pl. XVIII, fig. 2.

Port Castries, St. Lucia.

94. CALLINECTES ORNATUS Ordway.

Callinectes ornatus ORDWAY, Boston Jour. Nat. Hist., 1863, VII, p. 571.—RATHBUN, Proc. U. S. Nat. Mus., 1896, XVIII, p. 356, pls. XV; XXIV, fig. 3; XXV, fig. 2; XXVI, fig. 2; XXVII, fig. 2.

Port Castries, St. Lucia.

95. CALLINECTES DANÆ Smith.

Lupa dicantha DANA, Crust. U. S. Expl. Exped., 1852, I, p. 272; 1855, pl. XVI, fig. 7 (not *Lupea djcantha* Milne-Edwards, 1834).
Callinectes danæ SMITH, Trans. Conn. Acad. Sci., 1869, II, p. 7.

Port Castries, St. Lucia.

96. CALLINECTES ARCUATUS Ordway.

Callinectes arcuatus ORDWAY, Boston Jour. Nat. Hist., 1863, VII, p. 578.—RATHBUN, Proc. U. S. Nat. Mus., 1896, XVIII, p. 362, pls. XX; XXIII, fig. 1; XXIV, fig. 8; XXV, fig. 7; XXVI, fig. 7; XXVII, fig. 7.

Panama; off Taboga Island, Panama Bay.

97. CALLINECTES BELLICOSUS (Stimpson).

Lupa bellicosa (SLOAT MS.) STIMPSON, Ann. Lyc. Nat. Hist. N. Y., 1859, VII, p. 57.
Callinectes bellicosus ORDWAY, Boston Jour. Nat. Hist., 1863, VII, p. 577.

Pichilinque Bay, Lower California.

OVALIPES, new genus.

(From *ovalis*, oval, and *pes*, foot.)

Platyonichus LATREILLE, 1825, part, not *Platyonichus* Latreille, 1818. Type, *Platyonichus ocellatus* (Herbst) Latreille.

In 1897,[1] I showed that *Platyonichus* (Latreille, 1818) is synonymous with *Portumnus* (Leach, 1814), both having as type the species *Cancer latipes* Pennant. At the same time I suggested that *Xaiva* (Mac Leay, 1838) could be used for the species *ocellatus* and *bipustulatus*, which for many years have been included in or have represented the genus *Platyonichus*. It has since been brought to my attention that the type of *Xaiva*, *X. pulchella* Mac Leay, is more nearly related to *Portumnus* than it is to the species *ocellatus* and *bipustulatus*. For these last, therefore, I am obliged to propose a new name. *Ovalipes* differs from *Portumnus* and *Xaiva* in having the last joint of the fifth pair of feet broadly oval, rounded at the extremity, instead of lanceolate and acute; the basal joint of the antennulæ advanced and visible in a dorsal view between the frontal teeth; the chelipeds elongate; the abdomen of the male oblong instead of narrow triangular.

98. OVALIPES BIPUSTULATUS (Milne-Edwards).

Platyonichus bipustulatus MILNE-EDWARDS, Hist. Nat. Crust., 1834, I, p. 437, pl. XVII, figs. 7–10.

Tome, Chile; Lota, Chile.

99. CŒNOPHTHALMUS TRIDENTATUS A. Milne-Edwards.

Cœnophthalmus tridentatus A. MILNE-EDWARDS, Crust. Rég. Mex., 1879, p. 237, pl. XLII, fig. 2 (*Ctenophthalmus*).

Off the Rio de la Plata, 10½–11½ fathoms, stations 2764, 2765, 2766.

ACANTHOCYCLIDÆ.

Genus ACANTHOCYCLUS.

A study of the specimens of *Acanthocyclus* in the U. S. National Museum, collected by the *Albatross* and others, and in the Museum of Comparative Zoology, indicates that there are three distinct species on the west coast of South America. The first species and type of the genus is *A. gayi* Milne-Edwards and Lucas, 1843. The existence of a second species was first recognized by Strahl in 1862, who unluckily applied to it the name *A. gayi*, giving to the form which is the true *gayi* a new name, *A. villosus*, which therefore becomes a synonym. The second species—that is, the *A. gayi* of Strahl—was later taken by the *Magenta* on the west coast of Patagonia, and again named "*A. gay*" by Targioni-Tozzetti.

[1] Proc. Biol. Soc. Washington, XI, p. 158.

Specimens of *A. gayi* in the U. S. National Museum have been identified by comparison with a type in the museum of the Philadelphia Academy of Sciences. Professor Stnrany, of the nuseum in Vienna, has kindly determined as the same species the type specimen of *A. gayi* Heller, 1865 (=*Plagusctes clatus* Heller, 1862). The existence of a third species was discovered by Dr. Walter Faxon, who turned his notes and specimens over to me. The general appearance of the three species is much the same. The differences are constant and can best be expressed in the following table:

Characteristics of species of Acanthocyclus.

1. *A. gayi.*	2. *A. albatrossis.*	3. *A. hassleri.*
Narrow; width 1.05 to 1.08 times length.	Width intermediate, 1.08 to 1.12 times length.	Wide; width 1.16 times length.
Lateral teeth intermediate	Teeth prominent, acute.....	Teeth appressed.
Front entire	Front faintly bilobed	Front entire.
Dactyli of ambulatory legs short, much curved.	Dactyli long, little curved.....	Dactyli short, much curved.
End of basal antennal joint swollen in a wide, smooth, round protuberance curving over on to the front.	Antennal joint not swollen at the very end, but furnished with a blunt, projecting tooth, between which and the front a narrow furrow runs.	Antennal joint as in *albatrossis.*
Abdomen of male narrow; sides of fourth, fifth, and sixth segments subparallel.	Abdomen wide; sides of the sixth segment convex, of fifth concave, of third and fourth converging distally.	Abdomen intermediate; sides of the sixth segment convex, of fifth straight, of third and fourth converging distally (Plate XLIII, fig. 1).
Both carapace and legs very hairy.	Less hairy.....	Less hairy.
Carapace almost smooth	Carapace tuberculate	Carapace tuberculate.
Ischium joints of maxillipeds with inner margins subparallel, but leaving a wide hiatus.	Ischium joints with inner margins in contact.	Ischium joints with inner margins diverging anteriorly; gape less than in *gayi.*
Merus joints of maxillipeds with their outer margins subparallel and continuous with the outer margins of the ischium joints.	Merus joints divergent, i. e., their outer margins make quite an angle with the outer margin of the ischium joint.	Merus joints similar to those of *gayi.*
Orbit viewed from above less than twice as wide as deep.	Orbit viewed from above less than twice as wide as deep.	Orbit viewed from above more than twice as wide as deep.

The synonymy and distribution of the species are given below, so far as known. *A. albatrossis* is the only species represented in the collection which forms the subject of this paper.

ACANTHOCYCLUS GAYI Milne-Edwards and Lucas.

Acanthocyclus gayi Milne-Edwards and Lucas, D'Orbigny's Voy. l'Amér. Mérid., 1843, VI, Pt. 1, p. 30; 1847, IX, pl. xv, fig. 1. Valparaiso.

Acanthocyclus gayi Nicolet, in Gay's Hist. Chile, Zool., 1849, III, p. 176. (Translation and abbreviation, for the most part, of Milne-Edwards's description.) Valparaiso.

Acanthocyclus villosus Strahl, Monats. Akad. Wiss. Berlin, July 25, 1861, 1862, p. 713, plate.

Plagusctes clatus Heller, Verh. Ges. Wien, 1862, XII, Pt. 1, p. 522 [4]. Chile.

Acanthocyclus gayi Heller, Reise Fregatte *Novara*, 1865, II, Pt. 3, Crust., p. 70. Chile.

Acanthocyclus gayi DANA, Crust. U. S. Expl. Exped., 1852, I, p. 295; 1855, pl. XVIII, fig. 4. Valparaiso. KINGSLEY, Proc. Acad. Nat. Sci. Phila., 1880, p. 37.

? *Acanthocyclus gayi* CUNNINGHAM, Trans. Linn. Soc. London, 1871, XXVII, p. 491. Lota, Chile.

Distribution.—Chile and Peru: Valparaiso (type female and Dana's type female in Mus. Phila. Acad.; Mus. Comp. Zool.); Talcahuano (Mus. Comp. Zool.); Peru (Mus. Comp. Zool.); San Lorenzo Island, Peru (U.S.N.M.).

100. ACANTHOCYCLUS ALBATROSSIS, new name.

Acanthocyclus gayi STRAHL, Monats. Akad. Wiss. Berlin, July 25, 1861, 1862, p. 713, plate. Chile.

Acanthocyclus gay TARGIONI-TOZZETTI, Zool. *Magenta*, 1877, I, p. 95, pl. VII, fig. 1, *a–f.* West coast of Patagonia.

? *Acanthocyclus gayi* MIERS, Proc. Zool. Soc. London, 1881, p. 69. Isthmus Bay, Magellan Strait.

Distribution.—Chile (including Patagonia): Port Otway (types, No. 21589, U.S.N.M.), Latitude Cove (U.S.N.M.), Eden Harbor, and Mayne Harbor (Mus. Comp. Zool.); Talcahuano and San Carlos, Chiloe Island (Mus. Comp. Zool.). The specimens from Isthmus Bay, Magellan Strait, noted by Miers, and cited above, may belong to this species.

ACANTHOCYCLUS HASSLERI, new species.

(Plate XLIII, fig. 1.)

Type.—No. 4889, Mus. Comp. Zool. Valparaiso, U. S. Coast Survey steamer *Hassler*.

Additional locality.—Panama, Capt. John M. Dow (U.S.N.M.).

CORYSTIDÆ.

101. HYPOPELTARIUM SPINULOSUM (White).

Atelecyclus spinulosus WHITE, Ann. Mag. Nat. Hist., 1843, 1st ser., XII, p. 345.

Hypopeltarium spinulosum MIERS, *Challenger* Rept., Zool., 1886, XVII, p. 211.

Off Gulf of San Matias, Argentina, 43 fathoms, station 2768; Magellan Strait at Gregory Bay, Sandy Point, and Port Churruca, and in 17 to 77½ fathoms at stations 2774, 2776, 2778, and 2779; Port Grappler and off Port Otway, Magallanes Territory, Chile, 61 fathoms, station 2787.

102. TRACHYCARCINUS CORALLINUS Faxon.

Trachycarcinus corallinus FAXON, Bull. Mus. Comp. Zool., 1893, XXIV, p. 156; Mem. Mus. Comp. Zool., 1895, XVIII, p. 26, pl. A.

Off Chatham Island, Galapagos, 634 fathoms, station 2808.

103. BELLIA PICTA Milne-Edwards.

Bellia picta MILNE-EDWARDS, Ann. Sci. Nat., 1848, 3rd ser., IX, p. 192.

Lota, Chile.

POTAMONIDÆ.

104. PSEUDOTHELPHUSA DENTATA (Milne-Edwards).

Thelphusa dentata LATREILLE, Encyc. Méth., Hist. Nat., Entom., 1825, X, p. 561.
Pseudothelphusa dentata SMITH, Trans. Conn. Acad. Sci., 1870, II, p. 147

Port Castries, St. Lucia.

PALICIDÆ.

105. PALICUS ZONATUS Rathbun.

Cymopolia zonata RATHBUN, Proc. U. S. Nat Mus., 1893, XVI, p. 259.
Palicus zonatus RATHBUN, Proc. Biol. Soc. Washington, 1897, XI, p. 94.

Southern part of Gulf of California, 8 to 10 fathoms, stations 2824, 2827, 2828; off Cape St. Lucas, 31 fathoms, station 2829.

106. PALICUS LUCASII, new species.

(Plate XLIII, fig. 2.)

Length of second ambulatory leg less than twice the width of the carapace. Abdomen and sternum not conspicuously cristate. Antero-lateral teeth two, besides the orbital. Anterior margin of second and third ambulatory legs terminating in an acute or subacute tooth, not spiniform.

Allied to *P. dentatus*, *faxoni* and *alternatus* of the West Indian region.

Carapace broad, subquadrate. The clusters of tubercles on the surface are well marked and distinct from one another; those on the cardiac and intestinal regions have a short transverse crest. The surface between the clusters is covered with granules barely visible to the naked eye. Frontal lobes or teeth four, the median pair small and rounded and separated by a narrow rounded sinus more than twice as deep as those dividing the median from the lateral pair; these last have an oblique arcuate outer margin. The preorbital lobe is slightly bilobed by an indentation at its summit. The two supraorbital teeth are triangular and subacute. The postorbital tooth is directed forward; behind it, on the lateral margin, are two large acute teeth, with straight inner margins; outer margins slightly arcuate. These teeth are followed by one or more denticles. The crest above the posterior margin is cut into four long and three short transversely linear tubercles. Suborbital lobe truncate, not advanced, and separated on either side by a V-shaped fissure. The lobe at the angle of the buccal cavity is triangular, and in a ventral view only partially obscures the truncate inner suborbital lobe. Basal joint of the antenna cut by a deep U-shaped sinus into two lobes, the inner and inferior small and tuberculiform, the outer and superior broad and lobiform.

The right cheliped of the male is very heavy. Merus spinulous. Carpus with about four superior spines and a number of spinules, an inner spine, a spinulous antero-internal crest, a right-angled antero-

external crest. The propodus is very large; its width is nearly equal to its superior length, and its thickness is about half its superior length; it is surmounted by a double crest of irregular spinulous spines or tubercles; inner and outer surfaces granulous, the granules of the outer surface tending to collect in two longitudinal bands, one median, the other at the lower margin. Fingers gaping slightly, for two-thirds of their length deeply grooved, margins uneven but not dentate; pollex not deflexed. The left cheliped is missing in the adult males. In the immature male the right cheliped is much less strong than in the adult; the left propodus is about half as wide as the right. The same is true of the female; the fingers are proportionately longer than in the male, not gaping; pollex somewhat deflexed. Ambulatory legs of moderate length. Meral joints broad, coarsely granulate; terminal tooth of anterior margin in the first pair acute and spiniform, in the second and third pairs acute or subacute. Proximal lobe of anterior margin of carpal joints rounded; terminal teeth acute, excepting the one on the anterior margin of the first pair, which is obtuse. Dactyli with sinuous posterior margins. Last pair of feet reaching a little beyond the merus of the preceding pair.

Dimensions.—Male: Length, 13.5 mm.; width, 15.7 mm.; length of right propodus, measured on lower margin, 10 mm.; on superior margin, 6 mm.; width, 5.4 mm.; thickness, 3.2 mm. Female: Length, 11.3 mm.; width, 13.1 mm.

Types.—No. 21590, U.S.N.M. Three males, four females, from off Cape St. Lucas, 31 fathoms, station 2829.

OCYPODIDÆ.

107. EUCRATOPSIS MACROPHTHALMA, new species.

(Plate XLIII, figs. 3, 4.)

Carapace and orbits very wide; eyes long; three subequal antero-lateral teeth.

Carapace wider then in *E. elata* (A. Milne Edwards); regions distinct. Carapace very convex longitudinally; transversely nearly level for its middle two-thirds, deflexed toward the margins; marginal teeth directed obliquely upward. Front about one-third the width of the carapace; lobes slightly convex. Orbits wider and eyes longer than in *E. elata;* superior margin of orbit sloping backward and outward. Antero-lateral teeth three, including the orbital, acute, curved slightly forward; postero-lateral margin with a slight tooth or notch. The carapace has more the appearance of *Euryplax nitidus* Stimpson, but the antennæ are not excluded from the orbits, as in that genus.

The merus of the right cheliped (the left is wanting) is granulated toward the margins, which are unarmed. Carpus finely granulated, with an anterior submarginal sulcus and a short blunt inner tooth, which is continued inferiorly in a blunt prominence. The palm is slightly

margined above and below; the fingers are broad and flat, not gaping, with a narrow granulate border on the outer edges; prehensile margins crenate, with a slightly larger lobe near the base of the dactylus, and a three-lobed prominence at the base of the pollex. Lower margin of the propodus slightly sinuous.

Color.—In alcohol, the carapace is marked with patches of dark blue.

Dimensions.—Male: Length, 3 mm.; width, 5.1 mm.

Type.—No. 21591, U.S.N.M. One female, from Panama Bay, 51½ fathoms, station 2805.

This species is placed provisionally in *Eucratopsis*. It may represent a distinct genus, which it is perhaps not advisable to define until the male is known.

108. SPEOCARCINUS GRANULIMANUS Rathbun.

Speocarcinus granulimanus RATHBUN, Proc. U. S. Nat. Mus., 1893, XVI, p. 242.

Off Cerros Island, Lower California, 23 fathoms, station 2837. One young male.

109. GERYON QUINQUEDENS Smith.

Geryon quinquedens SMITH, Trans. Conn. Acad. Sci., 1879, V, p. 35, pl. IX, figs. 1, 1*a*, 1*b*, 2.

Off Cape Frio, Brazil, 671 fathoms, station 2763. One small male, which differs from North Atlantic specimens only in the larger median teeth of the front.

110. CHASMOCARCINUS TYPICUS Rathbun.

Chasmocarcinus typicus RATHBUN, Bull. Labor. Nat. Hist. State Univ. Iowa, 1898, IV, p. 285, pl. VII, figs. 3–5.

Off Cape Frio, Brazil, 59 fathoms, station 2762.

111. CHASMOCARCINUS LATIPES, new species.

(Plate XLIII, fig. 5.)

Orbits directed obliquely forward; sternum and abdomen of female smooth and punctate; ambulatory legs wide.

Length of carapace about two-thirds its posterior width. Front and orbits less than one-half the width of the carapace. Surface covered with large punctæ which tend to coalesce; granulate on the posterior half and toward the margins. The branchial region is separated by very deep longitudinal impressed lines from the cardiac and mesogastric regions, by shallow depressions from the intestinal region, and by two pits from the hepatic region. The antero-lateral margin is distinct, though blunt. Front very narrow and faintly bilobed; side margins oblique. Orbit nearly as wide as the front; the superior margin is slightly concave and directed obliquely forward and outward. The eye-stalk is stout and curved as seen from in front and tapers gradually to the cornea. The groove below the hepatic region is similar to that in *C. typicus*. The sternum and abdomen of the female are smooth and punctate.

The chelipeds resemble those of the female of *C. typicus*. The carpus, however, is nearly square, the propodus is less arched, and the fingers taper regularly to the tips. The propodus has a line of granules on its lower margin. The margins of the chelipeds are fringed with hair, which is longest on the upper margin of the merus, where there is a fringe on the proximal half and a tuft near the distal end. Ambulatory legs shorter and broader than in *C. typicus*, hairy, especially on the margins. The dactyli of the first three pairs are similar, broad and thin; in Plate XLIII, fig. 5, the full width of the dactyli of the first and second pairs is shown; those of the third pair are viewed obliquely; in the fourth pair the dactyli are narrow and recurved, as represented in the figure.

Color.—In alcohol the carapace is a bluish gray, chelipeds pale pink, ventral side of crab and ambulatory legs rust-colored.

Dimensions.—Female: Length, 12.5 mm.; width, 17.8 mm.

Type.—No. 21592, U.S.N.M. One female from Magdalena Bay, Lower California, 51 fathoms, station 2833.

112. OCYPODE ARENARIA Say.

Ocypode arenarius Say, Jour. Phila. Acad. Sci., 1817, I, p. 69.

Port Castries, St. Lucia; Bahia and Abrolhos Islands, Brazil.

113. OCYPODE GAUDICHAUDII Milne-Edwards and Lucas.

Ocypode gaudichaudii Milne-Edwards and Lucas, D'Orbigny's Voy. l'Amér. Mérid., 1843, VI, Pt. 1, p. 26; 1847, IX, pl. xi, fig 4.

Panama; Chatham Island, Galapagos.

114. UCA GRACILIS Rathbun.

Gelasimus gracilis Rathbun, Proc. U. S. Nat. Mus., 1893, XVI, p. 244.

Pichilinque Bay, Gulf of California.

It is possible that this species is identical with *Gelasimus crenulatus* Lockington, 1877, and this belief is held by Mr. S. J. Holmes, who has examined specimens labeled *G. crenulatus* in Lockington's collection; the types are probably not extant. In the absence of positive proof I hesitate to restore the earlier name. *Uca gracilis* is a very distinct species from *U. stenodactyla* (Milne-Edwards and Lucas) and from the various forms which have been united under the name *U. vocator*. Its nearest ally is *Uca speciosa* (Ives).

115. UCA STENODACTYLUS (Milne-Edwards and Lucas).

Gelasimus stenodactylus Milne-Edwards and Lucas, D'Orbigny's Voy. l'Amér. Mérid., 1843, VI, Pt. 1, p. 26; 1847, IX, pl. xi, fig. 2.

Gelasimus gibbosus Smith, Trans. Conn. Acad. Sci., 1870, II, pp. 115, 140, pl. ii, fig. 11; pl. iv, fig. 8.

Uca stenodactyla Ortmann, Zool. Jahrb., Syst., 1897, X, p. 356 (part).

Pichilinque Bay, Gulf of California.

GRAPSIDÆ.

116. GRAPSUS GRAPSUS (Linnæus).

Cancer grapsus LINNÆUS, Sys. Nat., 1758, 10th ed., I, p. 630.
Cancer (grapsus) grapsus LATREILLE, Règne Anim. Cuvier, 1817, III, p. 16.
Grapsus grapsus IVES, Proc. Acad. Nat. Sci. Phila., 1891, p. 190.

Port Castries, St. Lucia; Albemarle, Chatham, Duncan, Hood, Indefatigable, and James Island, Galapagos Islands; Margarita Island, Lower California.

117. GEOGRAPSUS LIVIDUS (Milne-Edwards).

Grapsus lividus MILNE-EDWARDS, Hist. Nat. Crust., 1837, II, p. 85.
Geograpsus lividus STIMPSON, Ann. Lyc. Nat. Hist. N. Y., 1860, VII, p. 230.

Port Castries, St. Lucia; James Island, Galapagos.

118. PACHYGRAPSUS CRASSIPES Randall.

Pachygrapsus crassipes RANDALL, Jour. Acad. Nat. Sci. Phila., 1839, VIII, p. 127.

San Clemente Island, California.

119. PACHYGRAPSUS TRANSVERSUS Gibbes.

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

Abrolhos Islands, Brazil; Pichilinque Bay, Gulf of California.

120. PLANES MINUTUS (Linnæus).

Cancer minutus LINNÆUS, Sys. Nat., 1758, 10th ed., I, p. 625.
Planes minutus WHITE, List Crust. Brit. Mus., 1847, p. 42.

Latitude 31° 16′ north, longitude 71° 50′ west, surface; surface station 18, latitude 1° 03′ north, longitude 80° 15′ west; Gulf of California.

121. HEMIGRAPSUS CRENULATUS (Milne-Edwards).

Cyclograpsus crenulatus MILNE-EDWARDS, Hist. Nat. Crust., 1837, II, p. 80.
Hemigrapsus crenulatus DANA, Crust. U. S. Expl. Exped., 1852, I, p. 319; 1855, pl. XXII, fig. 3.

Port Otway and Lota, Chile.

122. HEMIGRAPSUS AFFINIS Dana.

Hemigrapsus affinis DANA, Proc. Acad. Nat. Sci. Phila., 1851, V, p. 250; Crust. U. S. Expl. Exped., 1852, I, p. 350; 1855, pl. XXII, fig. 5.

Off the Rio de la Plata, 10½ to 11½ fathoms, stations 2764, 2765, 2766; off Gulf of San Matias, Argentina, 52 fathoms, station 2767.

123. SESARMA (HOLOMETOPUS) ROBERTI Milne-Edwards.

Sesarma roberti MILNE-EDWARDS, Ann. Sci. Nat., 1853, 3d ser., XX, p. 182 (148).

Port Castries, St. Lucia.

124. CHASMAGNATHUS GRANULATUS Dana.

Chasmagnathus granulatus DANA, Proc. Acad. Nat. Sci. Phila., 1851, V, p. 251; Crust. U. S. Expl. Exped., 1852, I, p. 364; 1855, pl. XXIII, fig. 6.

Montevideo, Uruguay.

125. PLAGUSIA TUBERCULATA Lamarck.

Plagusia tuberculata LAMARCK, Hist. Nat. Anim. sans Vert., 1818, V, p. 217.

Panama; one young male.

This specimen is a true *tuberculata;* the lobe above the bases of the ambulatory legs is not dentated, and the terminal segment of the abdomen is broadly semioval and rounded at its distal extremity.

PINNOTHERIDÆ.

126. PINNIXA CALIFORNIENSIS Rathbun.

Pinnixa californiensis RATHBUN, Proc. U. S. Nat. Mus., 1893, XVI, p. 249.

Magdalena Bay, Lower California, 51 fathoms, station 2833; one male, without feet.

127. PINNIXA BREVIPOLLEX, new species.

(Plate XLIII, fig. 6.)

Pollex a short spine; dactyl transverse; a transverse cardiac crest.

Carapace uneven, punctate, the gastric and hepatic regions bounded by very deep furrows; cardiac region high and crossed by a transverse crest, surmounted in the male by two triangular tubercles, compressed from before backward, and subacute; in the female the crest is lower, blunt, and divided in the middle by a very shallow sinus. Frontal and hepatic regions granulated. Subhepatic region with a small depressed area or tubercle surrounded by a deep groove. Antero-lateral margin of the branchial region armed with from four to six distant blunt spinules beginning at the lateral angle and followed near the hepatic region by smaller tubercles or granules. Inferior margin of the carapace granulated. The margins of the frontal lobes extend obliquely backward from the middle. The antennæ exceed the width of the front. The sides of the male abdomen from the third to the fifth segments, inclusive, converge regularly; those of the sixth joint are still more convergent, joint very short; terminal joint narrowest, broader than long, rounded. The last two joints of the palpus of the maxillipeds are oblong; the terminal joint is articulated near the base of the second joint, and overreaches it considerably, overlapping the sternum and touching the tip of the abdomen in the male.

Chelipeds wanting in the male; in the female they are monodactyl. Propodus very broad, flattened, increasing in width distally, its greatest width equaling the superior length; superior margin slightly convex; lower margin slightly convex for its proximal two-thirds;

deflexed for its distal third and terminating in a short digital spine which serves as the pollex; distal margin transverse and armed with two tubercles, one near the insertion of the dactylus and the other at the middle. Dactylus transverse, a tubercle at the middle of the prehensile margin which fits against the margin of the propodus. The first and second pairs of ambulatory legs are narrow, the second the longer and larger and reaching to the extremity of the propodus of the third pair. The merus of the third pair is very little dilated at the middle. The fourth pair reaches the middle of the carpus of the third pair.

The entire surface of the crab is covered with a dense pubescent coat.

Dimensions.—Male: Length, 5.5 mm.; width, 11 mm. Female: Length, 6.6 mm.; width, 12.5 mm.

Types.—No. 21593, U.S.N.M. One male, two females. Off Gulf of San Matias, Argentina, 43 fathoms, station 2768.

This species bears apparently considerable resemblance to the little-known *Pinnixa monodactylus* (Say),[1] which is a narrower species.

128. PINNIXA AFFINIS, new species.

(Plate XLIII, figs. 7–9.)

Lower margin of palm of female convex; pollex short; posterior margin of merus of third ambulatory leg armed with spinules or small spines.

Allied to *P. californiensis* Rathbun, with which it might easily be confounded.

Female.—Carapace broader than in *californiensis*, regions distinctly indicated, cardiac region crossed by a blunt, transverse, bilobed crest; surface punctate, the punctæ largest on the branchial regions. A granulate line marks the antero-lateral border of the branchial region. The front is not advanced beyond the line of the subhepatic region. The third joint of the palpus of the maxillipeds is articulated near the proximal end of the inner side of the second.

The chelipeds are smooth and pubescent; lower margin of palm convex; pollex short, very broad and deflexed, its prehensile edge irregularly dentate, terminating in a short, acute spine; the dactylus has a large tooth at one-third the distance from the base; the fingers when closed do not gape. The first two pairs of ambulatory legs are slender, the margins of the propodal joints subparallel; the first pair reaches to the end of the propodus of the second; the second to the end of the propodus of the third. The third leg is the broadest; the merus is very hairy along the margins; the posterior margin is armed with spinules, those near the middle being larger and spine-like; anterior margin granulous. The fourth pair of ambulatory legs reaches about

[1] Jour. Phila. Acad. Sci., 1818, I, p. 454.

to the end of the carpus of the third pair; the propodus is narrow, as in the first and second pairs.

Dimensions.—Female: Length, 3.4 mm.; width, 7.3 mm.

Type.—No. 21594, U.S.N.M. One female, with eggs. Panama Bay, 26 fathoms, station 2803.

129. PINNAXODES HIRTIPES Heller?

(Plate XLIII, figs. 10, 11.)

Pinnaxodes hirtipes HELLER, Reise *Novara*, Crust., 1865, p. 68, pl. VI, fig. 2.

Port Otway, Chile; one male.

This specimen agrees fairly well with Heller's description and figure, but it seems to me that this species is distinct from *P. chilensis* (Milne-Edwards) with which it has been united. In the *Albatross* specimen, which is the only one that I have seen, the carapace is very convex, broader than long, thin, but not soft and yielding, without the longitudinal sulci from the orbits, as figured in *P. chilensis* by Milne-Edwards and Lucas. On either side of the gastric region there is a very short longitudinal groove or dent (about half a millimeter in length). The second segment of the abdomen is more than twice as long as the first. The abdomen tapers regularly from the third to the fifth segment, inclusive; the sixth has concave lateral margins. The last three segments of the maxillipeds resemble those figured by Heller. The under surface of the body and also the legs are pubescent; and the latter are margined with long hair. The fingers of the chelipeds are wide and very little gaping. The ambulatory legs are narrow, much like those figured by Heller, but the meri are proportionately longer, which may be due to the difference in sex.

Dimensions.—Male: Length, 7 mm.; width, 7.6 mm.

TETRIAS, new genus.

Carapace transverse, hard; palpus of maxilliped with joints end to end; ambulatory legs of the second pair the longest.

Carapace transverse, subquadrilateral, with antero-lateral angles rounded; high, sides steep; posterior two-thirds flattened, anterior third deflexed. Abdomen of adult female suborbicular, at base only half the width of the sternum, tip advanced as far as the extremity of the ischium of the maxillipeds. Maxillipeds very large, with the ischium well developed, the merus enlarged at its middle; propodal joint oblong, broadening at the distal end; terminal joint similar and attached on the inner portion of the distal margin of the preceding. Chelipeds stout; fingers longitudinal. Ambulatory legs diminishing from the second to the fourth pair, which is very small; first and third pairs subequal.

This genus resembles *Parapinnixa*, *Pinnaxodes*, and *Pinnotherelia* in having the maxillipeds with a palpus of three joints placed end to end.

It differs from the first named in the very large size of the palpus and in the relative lengths of the ambulatory legs; from the second in the transverse flattened carapace, as well as in the larger palpus; from the third in the broader carapace and buccal cavity and narrower front.

130. TETRIAS SCABRIPES, new species.

(Plate XLIII, figs. 12–14.)

Carapace setose; legs rough with tubercles and spinules.

Carapace covered with a short, dense coating of coarse, dark setæ, beneath which the surface is punctate; regions indicated by impressed lines and pits, the deepest that between the cardiac and gastric regions; outer margin of hepatic region bearing a tubercle. Front projecting very slightly beyond the anterior margin of the carapace, and bent down to form the roof of the antennular cavities, as in *Pinnixa*. Abdomen of female fringed with long hair. Maxillipeds bearded with long silken hairs, most noticeable on the margins of the last two palpar joints, and in a transverse line on the merus.

The outer surface of the merus of the chelipeds is triangular and as broad as long; its upper and lower margins are rough with small spines or spinules. The inner angles of the carpus are rectangular; each angle is armed with two or three short spines. Palms broad, with convex subacute margins, and covered with sharp tubercles arranged in longitudinal lines. These tubercles extend to the tips of the fingers, which are finely dentate along their prehensile edges and fit closely together. The meri of the ambulatory legs are narrow, with subparallel margins. The first ambulatory leg reaches to the end of the propodus of the second pair; its merus has the inferior margin denticulate, the superior margin with three spinules at its proximal end; the carpus and propodus short and broad; the dactylus stout and half as long as the propodus. The second or longest ambulatory is a little longer than the width of the carapace; its merus has a spinule at the proximal end of the upper margin, and the lower margin is somewhat roughened; the carpus and propodus are proportionally narrower than in the first leg. The third ambulatory reaches about the middle of the propodus of the second, and the joints resemble those of the second pair, but are unarmed. The last leg is much reduced, and reaches a little beyond the middle of the merus of the preceding pair; the joints are proportionally rather broad; the lower margin of the ischium and merus is armed with spines and spinules; dactylus very small. The legs are covered with setæ like those on the carapace, and fringed with hair.

Dimensions.—Female: Length, 6 mm.; anterior width, 9.2 mm.; greatest width, 9.2 mm.

Type.—No. 21595, U.S.N.M. One egg-bearing female, southern part of Gulf of California, 9½ fathoms, station 2826.

131. DISSODACTYLUS NITIDUS Smith.

Dissodactylus nitidus SMITH, Trans. Conn. Acad. Sci., 1870, II, p. 173.

Off Abreojos Point, Lower California, 5½ fathoms, station 2835; two females, which agree pretty closely with Professor Smith's description of the male. The pollex has the tuft of hair beneath, as in the male.

132. HALICARCINUS PLANATUS (Fabricius).

Cancer planatus FABRICIUS, Sys. Ent., 1775, p. 403.

Halicarcinus planatus WHITE, Ann. Mag. Nat. Hist., 1846, XVIII, p. 178, pl. II, fig. 1.

Off Cape Virgins, Argentina, 10 fathoms, station 2773; Magellan Strait at stations 2775 and 2776, 29½ and 21 fathoms, and at Laredo Bay, Sandy Point, Borja Bay, and Port Churruca; Mayne Harbor, Latitude Cove, and Port Otway, Magallanes Territory, Chile.

CALAPPIDÆ.

133. CALAPPA GALLUS (Herbst).

Cancer gallus HERBST, Natur. Krabben u. Krebse, 1803, III, Pt. 3, pp. 18, 46, pl. LVIII, fig. 1.

Cancer (Calappa) gallus LATREILLE, Règne Anim. Cuvier, 1817, III, p. 24.

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

Bahia, Brazil.

134. CALAPPA SAUSSUREI, new species.

(Plate XLI, fig. 6.)

Carapace slightly broader than long, greatest width at the antepenult tooth of the lateral margin; tubercles prominent.

This species is analogous to *C. angusta* A. Milne-Edwards of the West Indies in its narrow carapace, but whereas in *C. angusta* the greatest width of the carapace is midway of its length, in *saussurei* the greatest width is between the antepenult teeth of the lateral margin. Carapace slightly broader than long, almost circular, exclusive of the postero-lateral limb, which has a subrectangular outline; two well-marked grooves form the lateral boundaries of the cardiac and gastric regions. Tubercles of the carapace conical, and disposed as follows: Gastric region with two large median and two smaller lateral in advance of these, and about eighteen very small; cardiac with one central larger surrounded by six smaller; branchial region with about fifteen large and more than that number of small; intestinal region with six in two lines diverging posteriorly; hepatic region with five or six very small depressed tubercles. The surface of the tubercles is densely granulated; the space between them is covered with isolated granules. Margins of the front slightly raised; only a shallow groove separates the superior border of the antennulary fossæ from that of the orbits. The lateral border of the carapace has five or six small tubercles on

the hepatic region; on the branchial region four to six larger tubercles; behind these are five broad, acute teeth, increasing successively in size, the third most produced outwardly. On the posterior margin there are two teeth next to the postero-lateral, followed by a tubercle; the innermost tooth is the smaller; they reach a little behind the level of the postero-lateral tooth, but not so far as the middle portion of the posterior margin.

The chelipeds have a surface similar to that of the carapace—that is, there are many large tubercles, irregular in size and disposition, and the intervening space is covered, though not crowded, with granules. The manus is considerably longer than high; the four distal teeth of the upper margin are about equally advanced; the immovable finger is very slightly deflexed.

Dimensions.—Male: Length, 20.5 mm.; width at middle, 23.6 mm.; greatest width, 24.4 mm.; width at postero-lateral angles, 22.9 mm.

Type.—No. 21596, U.S.N.M. One male. Southern part of Gulf of California, 26½ fathoms, station 2823.

Additional specimen.—One young specimen was taken near the type locality on a subsequent cruise, off San Josef Island, 40 fathoms, station 2998.

135. CYCLOES BAIRDII Stimpson.

Cyclois bairdii Stimpson, Ann. Lyc. Nat. Hist. N. Y., 1860, VII, p. 237.

Panama Bay, 33 fathoms, station 2796.

136. PLATYMERA GAUDICHAUDII Milne-Edwards.

Platymera gaudichaudii Milne-Edwards, Hist. Nat. Crust., 1837, II, p. 108.—Milne-Edwards and Lucas, D'Orbigny's Voy. l'Amér. Mérid., 1843, VI, Pt. 1, p. 28; 1847, IX, pl. xiii, fig. 1.

Platymera californiensis Rathbun, Proc. U. S. Nat. Mus., 1893, XVI, p. 253.

Panama Bay, 47 and 51½ fathoms, stations 2804 and 2805; off Abreojos Point, Lower California, 48 fathoms, station 2834.

MATUTIDÆ.

137. HEPATUS KOSSMANNI Neumann.

Hepatus kossmanni Neumann, Catalog Pod. Crust. Heidelberger Mus., 1878, p. 28.

Panama Bay, 7 and 14 fathoms, stations 2800 and 2801.

138. HEPATUS LINEATUS, new species.

(Plate XLIV, fig. 4.)

Carapace narrow and high; hepatic region smooth; front advanced, thick, truncate; first to sixth segments of abdomen of male tuberculate.

This species differs from all others in its narrower carapace, which is very strongly arched, the height being about one-third the width. As is customary in the genus, there are eight clusters of tubercles. The three posterior groups consist of one large tubercle and from eight to

twelve smaller ones, forming subtriangular patches, with the large tubercle on the anterior margin. The median gastric cluster is similar, with the addition of three small tubercles in front of the triangle. The anterior branchial cluster consists of two or three coalesced tubercles, anterior to which there is a line of from eleven to fourteen tubercles extending obliquely backward and outward. The lateral gastric clusters have a large central tubercle with about eight posterior and lateral smaller tubercles, and anteriorly a double arcuate row containing about fourteen tubercles. Hepatic region smooth. Antero-lateral margin edged with prominent tubercles, which form about thirteen shallow lobes. Postero-lateral margin very concave, the anterior portion thickened and bearing a double row of tubercles. The tooth near the posterior margin is much more pronounced than in *H. chilensis* of equal size.

Front advanced considerably beyond the outer orbital angles, truncate, thickened, having a double row of depressed tubercles and a short closed median fissure. The suborbital region is similar in shape to that of *H. chilensis*, although its lower margin in a front view is more strongly arched. The abdomen of the male is narrower than in *chilensis;* the second segment has a transverse row of five to seven tubercles, the third a transverse row of six tubercles, the fourth segment a row of four less prominent; on each of these segments there is a tubercle at the outer distal angle; fifth and sixth segments with a transverse ridge terminating at either end in a low tubercle. Although the third, fourth, and fifth segments of the abdomen are anchylosed, the divisions between them are indicated by deep grooves. Sternum coarsely tuberculate.

The five inferior rows of tubercles on the outer surface of the propodus of the chelipeds are composed of large tubercles, bringing the rows nearer together than in related species. On the superior margin there are four teeth, the two proximal being the larger. The propodal joints of the ambulatory legs are shorter and broader than in *H. chilensis* and *H. kossmanni;* dactyli densely pilose.

Color.—The color of the two specimens of this species differs markedly. In one there are red lines encircling round or oblong areas, which touch one another; in the other the lines border narrow stripes, forming transversely arcuate bands across the carapace, except on the posterior portion, where the patches are more irregular. The specimens have been too long in alcohol for one to determine whether the space inclosed by the red lines is the same color as that without or not.

Dimensions.—Male: Length, 17.6 mm.; width, 22 mm. Male: Length, 16.7 mm.; width, 20.2 mm.

Types.—No. 21597, U.S.N.M. Two males. Off Abreojos Point, Lower California, 5½ fathoms, station 2835.

139. OSACHILA LEVIS, new species.

Shape resembling O. tuberosa; *surface smooth.*

The shape of the carapace is almost exactly like that of *O. tuberosa* Stimpson. The character of the surface is, however, strikingly different. While the protuberances of the carapace are placed similarly to those of *tuberosa*, their surface is entirely smooth and punctate, without suggestion of tuberculation or erosion as in *tuberosa*. The lateral angle of the carapace is farther back in *levis* than in *tuberosa*, the postero-lateral margin is less concave, and the posterior portion of the carapace wider. The protuberances of the dorsal surface are also more depressed, especially noticeable in those of the gastric region. The inferior surface is roughened as in *tuberosa*, although the tubercles are less confluent than in that species. The same is true of the outer surface of the chelipeds. The ambulatory legs are shorter than in *tuberosa*.

Dimensions.—Female: Median length, 19.1 mm.; width, 21.4 mm.

Type.—No. 21598, U.S.N.M. One female with eggs. Off Cape St. Lucas, 31 fathoms, station 2829.

LEUCOSIIDÆ.

140. SPELŒOPHORUS ELEVATUS Rathbun.

Spelœophorus elevatus Rathbun, Bull. Labor. Nat. Hist. State Univ. Iowa, 1898, IV, p. 290, pl. III, fig. 1.

Off Cape St. Roque, Brazil, 20 fathoms, station 2758.

141. EBALIA CRISTATA, new species.

(Plate XLIV, fig. 5.)

Carapace octagonal, tuberculate, posteriorly bilobed; front entire; chelipeds cristate; third to fifth segments of abdomen coalesced; penultimate segment spined.

Carapace thick, octagonal; length and breadth subequal. A median ridge extends from the front backward to the intestinal region. Front truncate. Antero-lateral margin with two shallow lobes; below the margin are two teeth, one pterygostomian, the other branchial. Lateral angle of the carapace acute; from this point the postero-lateral margin is straight for half its length, the straight portion terminating in an acute angle. From this angle to the posterior margin the postero-lateral margin is concave. Posterior margin distinctly bilobed. In a side view the intestinal region is seen to have a perpendicular posterior margin. Anterior third of the carapace depressed. From the median gastric ridge an elevated area extends obliquely toward the anterior half of the postero-lateral margin; this is irregularly tumid. The entire surface of the body and legs is covered with tubercles. The third, fourth, and fifth segments of the abdomen of the male are coalesced. The sixth segment has parallel sides and is longer than wide, and

bears at its proximal end a strong acute spine projecting obliquely backward. Terminal segment long and narrow.

Merus of chelipeds cylindrical, length less than twice the thickness. Carpus, propodus, and dactylus with a thin, acute crest. Palm swollen, lower margin very convex; fingers as long as the palm, not gaping. Ambulatory legs armed above with small spinules.

Dimensions.—Male: Length on median line, 9.6 mm.; width, 10 mm.

Type.—No. 21599, U.S.N.M. One male. Off Abreojos Point, Lower California, 48 fathoms, station 2834.

142. LITHADIA CUMINGII Bell.

Lithadia cumingii BELL, Trans. Linn. Soc. London, 1855, XXI, p. 305, pl. XXXIII, figs. 6, 7.

Southern part of Gulf of California, 26½ fathoms, station 2823, one female; Magdalena Bay, Lower California, 51 fathoms, station 2833, one young female.

Bell's description and figures were made from males only. The females are much broader than long, but the elevations and depressions are arranged as in Bell's Plate XXXIII, fig. 7; the ridges are acute; the tubercles in the depressions are flat-topped.

Dimensions.—Adult female: Entire length, 11.7 mm; width 14 mm. Young female: Entire length, 7.5 mm; width, 8.6 mm.

143. PERSEPHONA TOWNSENDI Rathbun.

Myra townsendi RATHBUN, Proc. U. S. Nat. Mus., 1893, XVI, p. 255.

Panama Bay, 7 and 14 fathoms, stations 2800 and 2801.

Persephona and *Myra* are separated by too slight characters. There is every gradation between the curved outer margin of the maxilliped of *Myra fugax* and the nearly straight margin in *Persephona punctata*, and also between the elongated chelipeds of the former and the short, partly flattened chelipeds of the latter.

144. PERSEPHONA SUBOVATA Rathbun.

Myra subovata RATHBUN, Proc. U. S. Nat. Mus., 1893, XVI, p. 256.

Panama Bay, 33 and 51½ fathoms, stations 2795 and 2805; off Abreojos Point, Lower California, 48 fathoms, station 2834.

145. RANDALLIA ORNATA (Randall).

Ilia ornata RANDALL, Jour. Acad. Nat. Sci. Phila., 1839, VIII, p. 129.

Randallia ornata STIMPSON, Proc. Boston Soc. Nat. Hist., 1857, VI, p. 85; Jour. Boston Soc. Nat. Hist., 1857, VI, p. 471 [31], pl. XX, fig. 3.

Magdalena Bay and off Abreojos Point, Lower California, 5½ to 51 fathoms, stations 2833, 2834, and 2835.

146. RANDALLIA AMERICANA Rathbun.

Ebalia americana RATHBUN, Proc. U. S. Nat. Mus., 1893, XVI, p. 254.

Southern part of the Gulf of California, 9½ to 26½ fathoms, stations 2822, 2823, and between 2826 and 2828.

147. RANDALLIA BULLIGERA, new species.

(Plate XLIV, fig. 6.)

Large bead-like tubercles; five posterior protuberances; margin of efferent branchial channel three-lobed and produced.

Carapace slightly longer than broad, covered except the frontal region with large, smooth, rounded, bead-like tubercles of different sizes and distinctly separated from one another; intervening space pubescent. Intestinal region bounded by a deep suture and having on the median line and a little behind the middle a larger tubercle composed of two or three smaller ones. Hepatic region bounded posteriorly by a deep suture; shallower and less marked sutures divide the branchial from the cardiac and gastric regions. Posterior margin with two lobate projections; a similar projection on the posterior margin of each branchial region. Of these four lobes the middle two are farther from each other than they are from the lateral. Pterygostomian region with a prominent blunt tuberculated projection. Frontal region covered with depressed granules. Front moderately prominent (as in *ornata*), distinctly two-lobed. Sternum and abdomen covered with large tubercles. Maxillipeds with a longitudinal row of tubercles through the middle of the endognath and exognath; anterior half pubescent. Antero-lateral angles of the buccal cavity produced in front of the orbital margin and deeply three-lobed. Exognath not reaching beyond the base of the lobes.

Merus of chelipeds covered with large tubercles; intervening spaces granulate; length about three-fourths the width of the carapace in the male, one-half the width in the female; distal half slightly smaller than proximal. Carpus and propodus granulate. Hands shaped much as in *ornata;* fingers a little shorter than the outer margin of the palm. Ambulatory legs granulate; dactyli with pubescent margins.

Dimensions.—Male: Length on median line, 11.6 mm.; width, 11.5 mm. Ovigerous female: Length, 12.8 mm.; width, 12.6 mm.

Types.—No. 21600, U.S.N.M. One male, two females. Magdalena Bay, Lower California, 12 fathoms, station 2831.

148. RANDALLIA AGARICIAS, new species.

(Plate XLIV, figs. 7, 7*a*.)

Mushroom-like tubercles; four posterior protuberances; margin of efferent branchial channel entire, not produced.

Carapace slightly longer than broad. Posterior two-thirds convex and covered with large tubercles which have slightly convex surfaces

and are mounted on short thickened stalks like mushrooms (Plate XLIV, fig. 7*a*). On the anterior third there is a median ridge extending from the front across the gastric region; on either side is a hollow; surface covered with depressed granules. Hepatic region convex; pterygostomian region bluntly angular; neither is armed. Intestinal region distinctly outlined. Posterior margin with two broad rounded tuberculate lobes. Postero-lateral margin of the branchial region armed with a smaller tuberculate lobe. The front has a blunt tooth at either end. Abdomen and sternum covered with bead-like tubercles. The maxillipeds are covered with large and irregular tubercles. The anterior angles of the buccal cavity are about equally advanced with the orbital wall and are not incised as in *ornata* and *bulligera*.

Chelipeds covered with tubercles similar to those of the carapace; the largest ones are on the merus and the outer surface of the carpus and propodus. Length of merus about the width of the carapace. The dactylus is less than two-thirds the length of the outer margin of the propodus. The propodus is rather narrow, its width being less than half its exterior length. Ambulatory legs granulate, with marginal rows of mushroom-like granules.

Dimensions.—Male: Median length, 8.5 mm.; width, 8.3 mm. Male: Median length, 9.2 mm.; width, 9 mm. Female: Median length, 8.2 mm.; width, 8.1 mm.

Types.—No. 21601, U.S.N.M. Three males, two females. Off Cape St. Lucas, Lower California, 31 fathoms, station 2829.

DORIPPIDÆ.

149. ETHUSA MASCARONE AMERICANA (A. Milne-Edwards).

Ethusa mascarone ROUX, Crust. Médit., 1828, page without number, pl. XVIII.
Ethusa americana A. MILNE-EDWARDS, Bull. Mus. Comp. Zool., 1880, VIII, p. 30.

Off Cape St. Lucas, Lower California, 31 fathoms, station 2829.

150. ETHUSA LATA Rathbun.

Ethusa lata RATHBUN, Proc. U. S. Nat. Mus., 1893, XVI, p. 258.

Panama Bay, 26 to 62 fathoms, stations 2794, 2803, 2805; southern part of Gulf of California, 26½ fathoms, station 2823; from off Cape St. Lucas to Abreojos Point, Lower California, 48 to 66 fathoms, stations 2830, 2833, 2834.

151. ETHUSINA ABYSSICOLA Smith.

Ethusina abyssicola SMITH, Rept. Commr. of Fish and Fisheries for 1882, 1884, p. 349, [5], pl. II, figs. 1, 1*a*.

Off Cape Frio, Brazil, 671 fathoms, station 2763.

EXPLANATION OF PLATES.

PLATE XLI.

Fig. 1. *Collodes tumidus*, male, x 2.
2. *Anamathia cornuta*, male, x 1½.
3. *Lissa tuberosa*, male, x 1⅝.
4. *Lissa aurivillinsi*, male, x 1⅝.
5. *Microphrys branchialis*, male, x 1⅝.
6. *Calappa saussurei*, male, x 1½.

PLATE XLII.

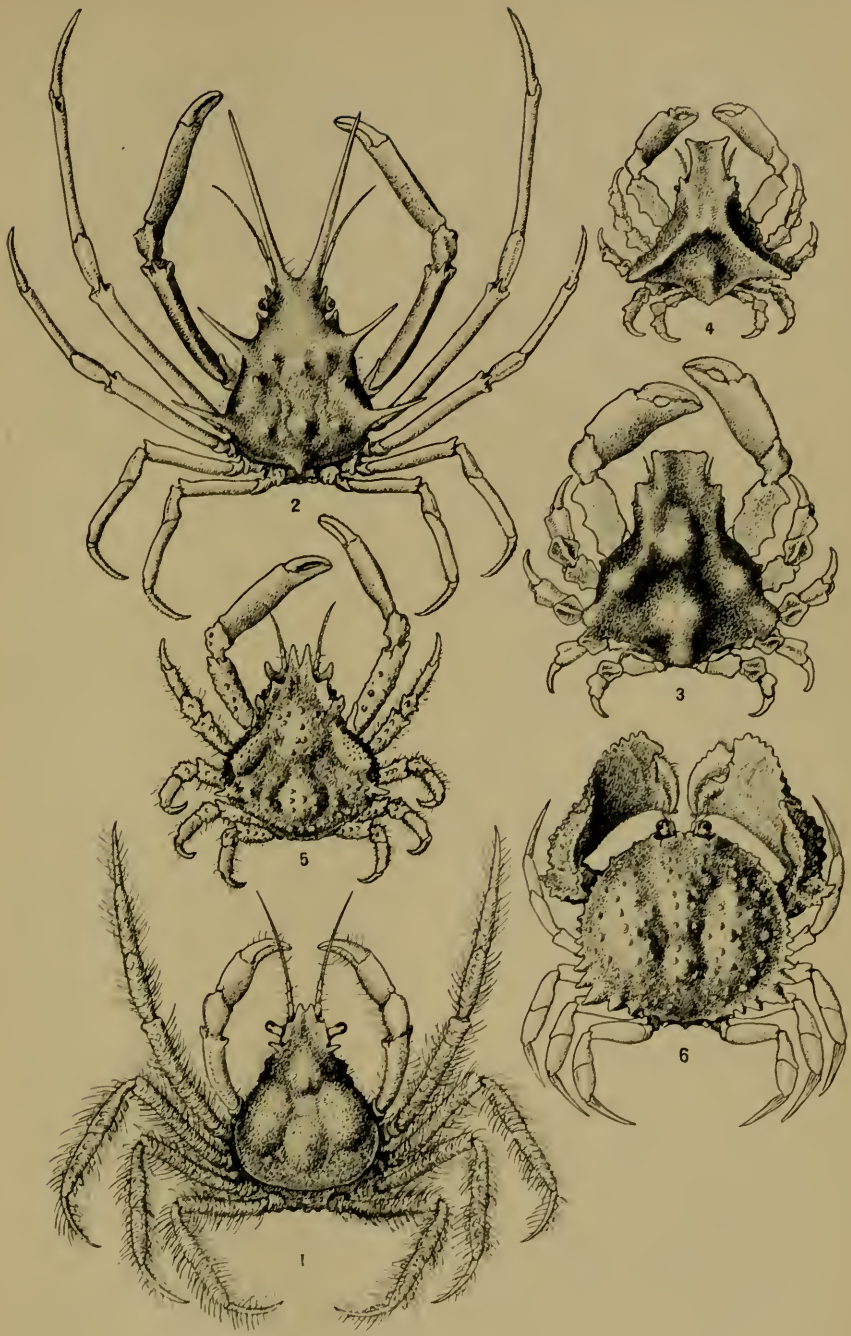
Fig. 1. *Thyrolambrus erosus*, female, x 1½.
2. *Actæa angusta*, male, x 4.
3. *Actæa inornata*, female, x 4.
4. *Lipæsthesius lecanus*, male, x 2½.
5. *Lipæsthesius lecanus*, male, front, x 4⅜.
6. *Pilumnus spinulifer*, male, x 1⅝.
7. *Pilumnus spinulifer*, male, right hand, x 2.
8. *Pilumnus spinulifer*, male, left hand, x 2.
9. *Micropanope nitida*, male, x 1⅝.
10. *Lophopanopeus maculatus*, male, x 2½.
11. *Lophopanopeus maculatus*, male, abdomen, x 4.
12. *Ectæsthesius bifrons*, female, x 2.
13. *Ectæsthesius bifrons*, female, front, x 6⅜.
14. *Ectæsthesius bifrons*, female, outer maxilliped, x 6⅜.

PLATE XLIII.

Fig. 1. *Acanthocyclus hassleri*, male, abdomen, x 2.
2. *Palicus lucasii*, male, x 1⅜.
3. *Eucratopsis macrophthalma*, female, x 4.
4. *Eucratopsis macrophthalma*, female, x 4⅜.
5. *Chasmocarcinus latipes*, female, x 1½.
6. *Pinnixa brevipollex*, female, x 2.
7. *Pinnixa affinis*, female, x 2.
8. *Pinnixa affinis*, female, right hand, much enlarged.
9. *Pinnixa affinis*, female, outer maxilliped, much enlarged.
10. *Pinnaxodes hirtipes* Heller, male, outer maxilliped, much enlarged.
11. *Pinnaxodes hirtipes* Heller, male, abdomen, x 2⅜.
12. *Tetrias scabripes*, female, x 2.
13. *Tetrias scabripes*, female, outer maxillipeds, x 4⅜.
14. *Tetrias scabripes*, female, right hand, x 3½.

PLATE XLIV.

Fig. 1. *Medaus lobipes*, male, x 1⅜.
2. *Portunus* (*Achelous*) *angustus*, female, x ⅜.
3. *Portunus* (*Achelous*) *minimus*, male, x 1⅜.
4. *Hepatus lineatus*, male, x 1½.
5. *Ebalia cristata*, male, x 2½.
6. *Randallia bulligera*, male, x 1⅜.
7. *Randallia agaricias*, male, x 2.
7*a*. *Randallia agaricias*, side view of two tubercles, enlarged.



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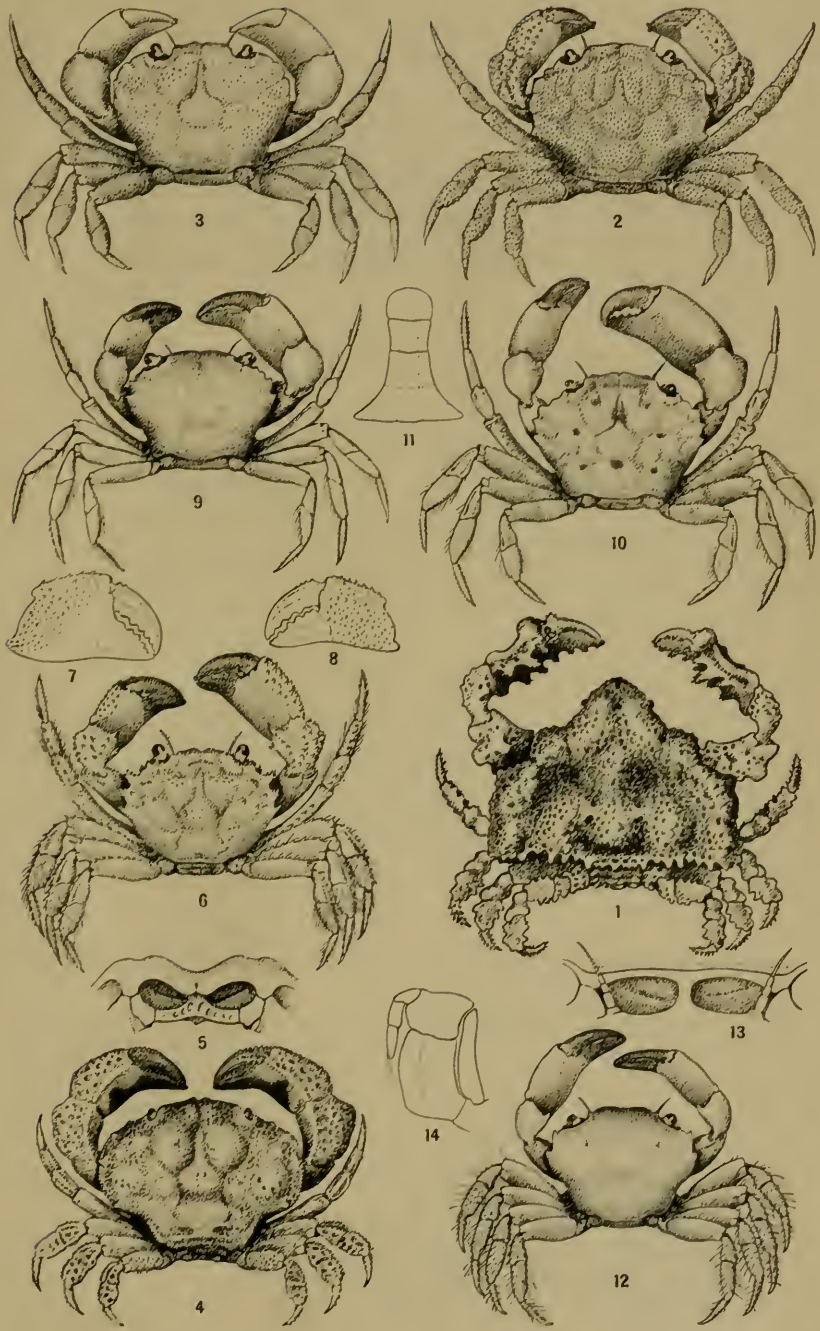
FOR EXPLANATION OF PLATE SEE PAGE 616.



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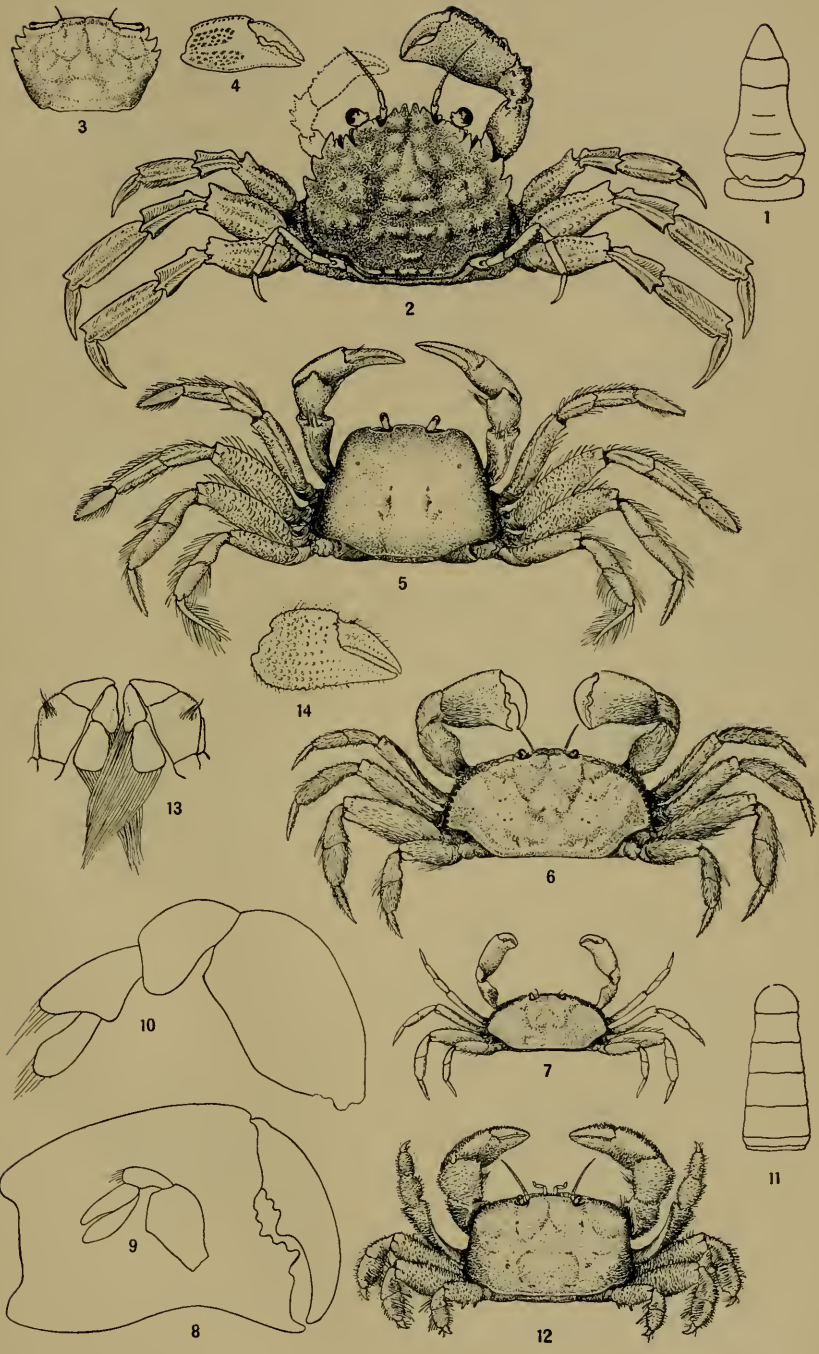

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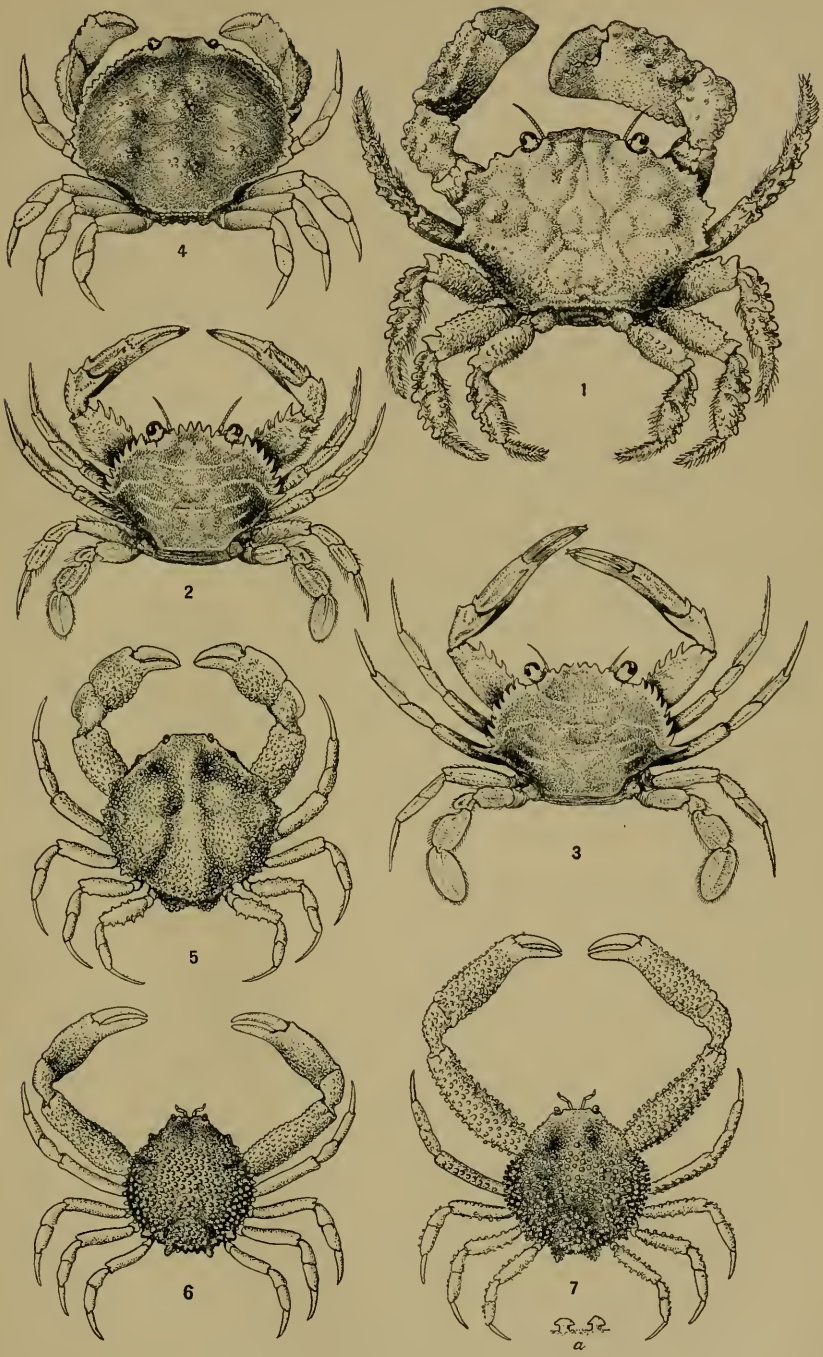

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