168-34. Academy Bay, Indefatigable Island, shore, Jan. 20, 1934, 2 males.

194-34. Post Office Bay, Charles Island, coral from Onslow Island crater, Jan. 27, 1934, 6 males, 3 females.

202-34. Gardner Bay, Hood Island, shore, Jan. 31, 1934, 6 males, 3 females.

313-35. Black Beach, Charles Island, shore, Dec. 6, 1935, 8 females, 2 young.

315-35. Opposite Gordon Rocks, Indefatigable Island, coral, Dec. 8, 1934, 6 males, 2 females, 12 young.

333-35. James Bay, James Island, shore, Dec. 11, 1934, 1 male, 7 females.

343-35. Sulivan Bay, James Island, shore, Dec. 12, 1934, 1 male, 2 young.

350-35. South Seymour Island, shore, Dec. 13, 1934, 1 male, 1 female.

357-35. Gardner Bay, Hood Island, coral, Dec. 17, 1934, 3 males, 4 females, 8 young.

359-35. Osborn Island in Gardner Bay, Hood Island, shore, Dec. 19, 1934, 9 males, 19 females.

784-38. Darwin Bay, Tower Island, shore, Jan. 17, 1938, 10 males, 10 females, 6 young.

789-38. South Seymour Island, shore, Jan. 19, 1938, 8 males, 6 females.

796-38. Sulivan Bay, James Island, shore, Jan. 21, 1938, 2 males, 4 females (1 ovig.).

800-38. Cartago Bay, Albemarle Island, shore, Jan. 22, 1938, 1 female.

804-38. Onslow Island, near Charles Island, coral, Jan. 23, 1938, 2 young.

-38. Academy Bay, Indefatigable Island, no date, 1938, Karl Kübler, collector, 1 young.

Measurements.—A large female: length 31.0 mm, width 44.0 mm, cheliped 38.0 mm, chela 23.7 mm, dactyl 12.0 mm.

Color in life.—Uniform rich chocolate brown. Eyes and under side prune purple. (Garth)

Habitat.—Under rocks and in *Pocillopora* coral.

Depth.—Shore to 3 fms.

Remarks.—In view of the fact that *D. americana* was the first brachyuran encountered by the Hancock Expedition of 1933 and one of the most abundant thereafter, it seemed incredible that it had not previously been taken in the Galapagos Islands. The ship's crew, with a little instruction, could be relied upon to bring back this species among the half dozen which they learned to recognize by sight, aided no doubt by its chocolate-brown color and the distinctive rounded nodules of the carapace.

Genus **LIPAESTHESIUS** Rathbun, 1898

Lipaesthesius leeanus Rathbun

Plate 75, Figs. 3, 4

Lipaesthesius leeanus Rathbun, Proc. U.S. Nat. Mus., vol. 21, p. 585, pl. 42, figs. 4 and 5, 1898; Bull. 152, U.S. Nat. Mus., p. 272, pl. 112, text fig. 43, 1930.

Medaeus rugosus Boone, Zoologica, vol. 8, p. 201, fig. 70, 1927.

Type locality.—Southern part of the Gulf of California, 10 fms.

Type.—USNM No. 21581.

Range.—East of La Paz, Gulf of California *(Albatross);* Galapagos *(Arcturus)* (as *Medaeus rugosus*); 4-10 fms.

Diagnosis.—Anterolateral margins running obliquely downward and forward to the buccal cavity, instead of to the orbits. Antennal flagellum completely concealed by large basal article bordering the orbit.

Material examined (13 specimens from 5 stations).—

69a-33. Albemarle Point, Albemarle Island, 12 fms, bottom sample, Feb. 11, 1933, 2 specimens.

167-34. Post Office Bay, Charles Island, 15 fms, Jan. 19, 1934, 4 males.

177-34. Sulivan Bay, James Island, 5-20 fms, Jan. 23, 1934, 2 males, 1 female.

196-34. Post Office Bay, Charles Island, 8-10 fms, Jan. 29, 1934, 1 male, 1 female.

795-38. Sulivan Bay, James Island, 35-40 fms, Jan. 21, 1938, 2 females (1 photographed).

Measurements.—Largest female: length 5.6 mm, width 8.0 mm.

Habitat.—The character of the bottom, where noted, was "very rocky" or "rock with sand patches." In two instances the dredge brought up a pair.

Depth.—4-40 fms.

Remarks.—The writer has examined the type of *Medaeus rugosus* Boone in the collection of the New York Zoological Society and agrees with Rathbun (1930) that it is identical with *L. leeanus.*

The aptness of the name *Lipaesthesius,* which means "to lack perception by feeling," vanishes with the discovery that a small but complete antennal flagellum exists, although hidden from view by the basal antennal article.

The vertical range of the species has been extended to 40 fms.

Genus MEDAEUS Dana, 1851

KEY TO THE GALAPAGOS SPECIES OF THE GENUS *Medaeus*

A¹ Carapace and chelipeds areolate; legs with lobate crests . . . . . *M. lobipes*

A² Carapace and chelipeds spinulous; legs spinulous also . . . . . *M. spinulifer*

Medaeus lobipes Rathbun

Plate 77, Fig. 2

Medaeus lobipes Rathbun, Proc. U.S. Nat. Mus., vol. 21, p. 583, pl. 44, fig. 1, 1898; Bull. 152, U.S. Nat. Mus., p. 275, pl. 114, text fig. 44, 1930. Crane, Zoologica, vol. 22, no. 3, p. 70, 1937.

Type locality.—Panama Bay, 33 fms.

Type.—USNM No. 21580.

Range.—From Santa Inez Bay, Gulf of California *(Zaca),* to Panama *(Albatross);* Galapagos Islands *(Albatross);* 5½-33 fms (Crane).

Atlantic analogue.—*M. spinimanus* (Milne Edwards).

Diagnosis.—Carapace coarsely areolate. Anterolateral margin cut into 4 prominent teeth. Carpus and propodus of walking legs cristate. Manus with a superior crest of lobules.

Material examined (55 specimens from 18 stations).—

55-33. Lat. 1° 03′ 30″ S, Long. 90° 17′ 30″ W, 60 fms, Feb. 5, 1933, 1 carapace.

143-34. Wenman Island, 100-150 fms, Jan. 11, 1934, 7 males, 5 females (1 ovig.).

147-34. Tagus Cove, Albemarle Island, 30 fms, Jan. 13, 1934, 2 males.

155-34. Tagus Cove, Albemarle Island, 50-60 fms, Jan. 15, 1934, 1 male, 1 female.

156-34. Tagus Cove, Albemarle Island, 80-100 fms, Jan. 15, 1934, fragments.

170-34. East of Wreck Bay, Chatham Island, 32 fms, Jan. 21, 1934, 1 male.

171-34. East of Wreck Bay, Chatham Island, 35-40 fms, Jan. 21, 1934, 1 ovig. female.

182-34. James Bay, James Island, 30 fms, Jan. 24, 1934, 1 young male.

183-34. James Bay, James Island, 50-70 fms, Jan. 24, 1934, 3 males, 1 ovig. female.

201-34. Gardner Bay, Hood Island, 25-35 fms, Jan. 31, 1934, 7 males.

324-35. Tagus Cove, Albemarle Island, 45 fms, Dec. 10, 1934, 5 males (1 photographed), 5 ovig. females.

345-35. South Seymour Island, 30 fms, Dec. 13, 1934, 1 female.
346-35. Between South Seymour and Daphne Islands, 55 fms, Dec. 13, 1934, 1 female.
788-38. SE of Daphne Major Island, 55 fms, Jan. 19, 1938, 1 female.
795-38. Sulivan Bay, James Island, 35-40 fms, Jan. 21, 1938, 3 females (1 ovig.).
810-38. (D-1) Barrington Island, 48 fms, Jan. 26, 1938, 3 males, 1 female.
810-38. (D-2) Barrington Island, 73 fms, Jan. 26, 1938, 1 male, 1 young.
816-38. North of Hood Island, 50-100 fms, Jan. 29, 1938, 1 female.

Measurements.—Largest male: length 16.4 mm, width 22.7 mm, cheliped 27.0 mm, chela 15.7 mm, dactyl 8.7 mm; largest female: length 12.7 mm, width 18.4 mm.

Color in life.—Ground color of carapace orange chrome. Granules dark grenadine red, giving carapace a bright orange-red color. Frontal, intestinal, and anterolateral areas bright ox-blood red. Marginal teeth and hepatic region white with yellowish tint. Chela same color as carapace externally. Dactyls dark Indian red, tips almost white. Ambulatory legs like carapace but granules a shade darker, bands white. (Petersen)

Habitat.—Rock, rock and sand, rock and shell, rock and coral, rock and nullipore; sand, sand and coralline; mud and shell.

Depth.—5½-150 fms.

Remarks.—*M. lobipes* was taken in many of the same dredge hauls as *Actaea crosslandi* (Finnegan). The two species have much in common but may always be distinguished by the cristate legs of *M. lobipes,* those of *A. crosslandi* being spiny granulate.

Medaeus spinulifer (Rathbun)

Plate 75, Figs. 5, 6

Pilumnus spinulifer Rathbun, Proc. U.S. Nat. Mus., vol. 21, p. 585, pl. 42, figs. 6-8, 1898; Proc. Washington Acad. Sci., vol. 4, p. 281, 1902. Boone, Zoologica, vol. 8, no. 4, p. 217, fig. 79, 1927. Finnegan, Journ. Linn. Soc. London, vol. 37, p. 643, 1931.

Medaeus spinulifer Rathbun, Bull. 152, U.S. Nat. Mus., p. 276, text fig. 45, 1930.

Type locality.—Off Cape San Lucas, 31 fms.

Type.—USNM No. 21582.

Range.—Cape San Lucas, Lower California *(Albatross);* Galapagos Islands (Hopkins-Stanford Expedition); 2½-31 fms.

Diagnosis.—Carapace and chelipeds rough and spinulous. Anterolateral margins with 4 compound spines and a subhepatic cluster of spinules. Legs spinulous. Tip of male abdomen concave.

Material examined (39 specimens from 19 stations).—

47-33. Barrington Island, 2 fms, Feb. 2, 1933, 1 young male.

59-33. Off Cormorant Bay, Charles Island, 13 fms, Feb. 6, 1933, 1 young.

148-34. Tagus Cove, Albemarle Island, 12-15 fms, Jan. 13, 1934, 1 male (photographed), 3 females, 1 young.

149-34. Tagus Cove, Albemarle Island, 20 fms, Jan. 13, 1934, 1 male.

155-34. Tagus Cove, Albemarle Island, 50-60 fms, Jan. 15, 1934, 1 female.

157-34. Tagus Cove, Albemarle Island, 10-18 fms, Jan. 15, 1934, 1 male, 1 female.

162-34. Black Beach, Charles Island, shore, Jan. 18, 1934, 1 female.

167-34. Post Office Bay, Charles Island, 15 fms, Jan. 19, 1934, 1 female.

177-34. Sulivan Bay, James Island, 5-20 fms, Jan. 23, 1934, 1 young male.

187-34. Cartago Bay, Albemarle Island, 8-10 fms, Jan. 25, 1934, 1 young.

197-34. Off Post Office Bay, Charles Island, 35-40 fms, Jan. 29, 1934, 1 specimen.

311-35. Marchena Island, 20 fms, Dec. 3, 1934, 1 large male, 3 young.

322-35. Tagus Cove, Albemarle Island, 10 fms, Dec. 10, 1934, 1 male.

330-35. Tagus Cove, Albemarle Island, 12 fms, Dec. 12, 1934, 1 male.

346-35. Between South Seymour and Daphne Islands, 55 fms, Dec. 13, 1934, 1 male, 1 young.

352-35. East of Wreck Bay, Chatham Island, 30 fms, Dec. 15, 1934, 1 specimen.

795-38. Sulivan Bay, James Island, 35-40 fms, Jan. 21, 1938, 5 males, 4 females, 3 young.

807-38. Academy Bay, Indefatigable Island, 10-25 fms, Jan. 24, 1938, 1 male.

810-38. Barrington Island, 48-73 fms, Jan. 26, 1938, 1 male.

Measurements.—Largest male: length 9.0 mm, width 12.7 mm, cheliped (rigid) coxa to elbow 6.0 mm, elbow to tip of dactyl 10.0 mm, chela 9.3 mm, dactyl 5.8 mm; largest female: length 8.2 mm, width 11.5 mm.

Habitat.—Rock, rock with sand patches, rock with coral and nullipore; sand, sand and shell; mud and shell.

Depth.—Shore to 73 fms.

Remarks.—Although referred by Rathbun (1930) to the genus *Medaeus* because of certain structural peculiarities, the appearance of this crab is that of a *Pilumnus.*

Genus **CYCLOXANTHOPS** Rathbun, 1897

Cycloxanthops vittatus (Stimpson)

Plate 79, Fig. 5

Xantho vittata Stimpson, Ann. Lyc. Nat. Hist. New York, vol. 7, p. 206 (78), 1860.

Cycloxanthops vittatus Rathbun, Mem. Mus. Comp. Zool., vol. 35, p. 70, 1907; Bull. 152, U.S. Nat. Mus., p. 291, pl. 133, figs. 3 and 4; pl. 134, fig. 3, 1930. Boone, Zoologica, vol. 8, no. 4, p. 197, fig. 68, 1927. Sivertsen, Med. fra det Zool. Mus., Oslo, nr. 38, p. 15, 1933.

Type locality.—Panama and Cape San Lucas.

Types.—Cotypes from Cape San Lucas in MCZ, No. 1260.

Range.—From Cape San Lucas (Xantus), to Panama (Dow); Galapagos Islands *(Arcturus).*

Diagnosis.—Front advanced, truncate, separated from orbit by a notch. Carapace narrow, anterolateral margins arcuate, broken into 9 sharp teeth. A denticle on inner slope of orbit.

Material examined (44 specimens from 21 stations).—

27-33. Gardner Bay, Hood Island, shore, Jan. 25, 1933, 2 males.

33-33. Black Beach, Charles Island, shore, Jan. 27, 1933, 1 large female.

73-33. Cartago Bay, Albemarle Island, shore, Feb. 13, 1933, 1 male, 1 female.

76-33. Cartago Bay, Albemarle Island, shore, Feb. 14, 1933, 1 male.

80-33. Duncan Island, coral, Feb. 15, 1933, 1 young.

98-33. Darwin Bay, Tower Island, shore, Feb. 25, 1933, 1 male, 1 ovig. female.

154-34. Reef north of Tagus Hill, Albemarle Island, reef, Jan. 15, 1934, 1 female.

166-34. Black Beach, Charles Island, shore, Jan. 19, 1934, 1 female.

167-34. Post Office Bay, Charles Island, 15 fms, Jan. 19, 1934, 1 male.

202-34. Gardner Bay, Hood Island, shore, Jan. 31, 1934, 2 males.

204-34. Gardner Bay, Hood Island, 30 fms, Jan. 31, 1934, 2 males, 2 females.

314-35. Academy Bay, Indefatigable Island, shore, Dec. 7, 1934, 2 specimens.

315-35. Opposite Gordon Rocks, Indefatigable Island, coral, Dec. 8, 1934, 1 female.
333-35. James Bay, James Island, shore, Dec. 11, 1934, 7 specimens.
343-35. Sulivan Bay, James Island, shore, Dec. 12, 1934, 2 males, 2 ovig. females.
354-35. Wreck Bay, Chatham Island, shore, Dec. 15, 1934, fragment.
782-38. Darwin Bay, Tower Island, shore, Jan. 16, 1938, 1 male.
796-38. Sulivan Bay, James Island, shore, Jan. 21, 1938, 3 males.
800-38. Cartago Bay, Albemarle Island, shore, Jan. 22, 1938, 1 male.
811-38. Barrington Island, coral, Jan. 26, 1938, 2 males, 1 female, 2 young.
811a-38. Barrington Island, *Pavona* coral, Jan. 26, 1938, 1 young male.

Measurements.—Largest specimen, male: length 16.3 mm, width 21.6 mm, cheliped 23.0 mm, chela 12.8 mm, dactyl 7.0 mm.

Color in life.—Carapace white overcast with tiny pale orange to red spots more intense in grooves separating areolations and more numerous on gastric and intestinal regions. Cheliped white, fingers dull clay color. Ambulatory legs white. Eyestalks streaked with pale orange, eye very light. (Petersen) A young specimen: carapace grayish olive with lavender tint. Chelae show more lavender. Fingers yellowish dusky drab. (Garth)

Habitat.—In coarse gravel at high tide level; larger individuals under rocks at low tide level.

Depth.—Shore; occasionally to 30 fms.

Remarks.—Small specimens of the "Cameo Crab," as *C. vittatus* is called, were encountered in coarse gravel near the high tide line in company with *Leptodius cooksoni* Miers and *Lophoxanthus lamellipes* (Stimpson). Larger individuals were found among the bright coralline- and bryozoan-encrusted rocks of the low tide level. In each case the crab matched the coloration of its surroundings.

Genus **LEPTODIUS** A. Milne Edwards, 1863

KEY TO THE GALAPAGOS SPECIES OF THE GENUS *Leptodius*

A¹ Anterolateral margins of carapace thick and lobed *L. cooksoni*
A² Anterolateral margins of carapace thin and denticulate
  B¹ Hand with external transverse ridges . *L. snodgrassi*
  B² Hand without external transverse ridges . *L. occidentalis*

Leptodius occidentalis (Stimpson)

Chlorodius occidentalis Stimpson, Ann. Lyc. Nat. Hist. New York, vol. 10, p. 108, 1871.

Leptodius occidentalis A. Milne Edwards, Crust. Reg. Mex., p. 269, 1880. Rathbun, Proc. U.S. Nat. Mus., vol. 21, p. 589, 1898; Bull. 152, U.S. Nat. Mus., p. 301, pl. 137, figs. 3-4; pl. 138, fig. 2 and synonymy, 1930.

Xanthodius occidentalis Boone, Zoologica, vol. 8, no. 4, p. 195, figs. 67A-B, 1927.

Type locality.—Panama and Manzanillo, Mexico.

Type.—Not extant.

Range.—From Magdalena Bay, Lower California (Orcutt), and Guaymas, Sonora, Mexico *(Albatross),* to Manzanillo, Mexico (Orcutt), Galapagos Islands *(Albatross).*

Atlantic analogue.—*L. floridanus* (Gibbes).

Diagnosis.—Anterolateral margin thin, 5-toothed, including orbital tooth. Carapace with transverse ridges. Outer surface of palm without longitudinal furrows.

Material examined.—None from the Galapagos taken by Hancock Expeditions. Through the courtesy of Miss Jocelyn Crane of the New York Zoological Society the specimen taken at Gardner Bay, Hood Island, by the *Arcturus* Expedition and recorded as *Xanthodius occidentalis* Boone (1927) was made available for examination and was found to agree substantially with Hancock specimens of *Leptodius occidentalis* from the Gulf of California.

Remarks.—Like its congeners, *L. cooksoni* and *snodgrassi, Leptodius occidentalis* is an intertidal species and would scarcely be taken "while diving in fifteen feet of water," as reported by an earlier expedition.

Leptodius snodgrassi Rathbun

Plate 83, Fig. 1

Leptodius snodgrassi Rathbun, Proc. Washington Acad. Sci., vol. 4, p. 279, 1902; Bull. 152, U.S. Nat. Mus., p. 303, pl. 139, text fig. 47a and b, 1930. Finnegan, Journ. Linn. Soc. London, Zool., vol. 37, p. 631, 1931. Hult, Arkiv för Zoologi, Band 30A, no. 5, p. 13, 1938.

Type locality.—Black Bight, Albemarle Island.

Type.—USNM No. 24831.

Range.—Known only from the type locality and a nearby reef, (Hopkins-Stanford Expedition), and from Conway Bay, Indefatigable Island (Crossland).

Diagnosis.—Anterolateral margin thin, 5-toothed, including orbital tooth. Carapace with numerous transverse ridges. Outer surface of palm with longitudinal carinae.

Material examined (32 specimens from 7 stations).—

49-33. Academy Bay, Indefatigable Island, shore, Feb. 3, 1933, 11 specimens.

153-34. NE point of Narborough Island, shore, Jan. 14, 1934, 1 fragment.

168-34. Academy Bay, Indefatigable Island, shore, Jan. 20, 1934, 1 male, 3 females (1 ovig.).

314-35. Academy Bay, Indefatigable Island, shore, Dec. 7, 1934, 10 specimens.

811-38. Barrington Island, coral, Jan. 26, 1938, 1 male, 3 females.

811a-38. Barrington Island, *Pavona* coral, Jan. 26, 1938, 1 young male.

-38. Academy Bay, Indefatigable Island, shore, no date, collected by Karl Kübler, 1 male (photographed).

Measurements.—Largest specimen, broken male: length 13.7 mm, width 21.5 mm, cheliped (detached) 24.6 mm, chela 14.2 mm, dactyl 7.7 mm.

Color in life.—Carapace a patchwork of 4 distinct colors: rose, yellow green, purplish black, and light blue. Chelipeds rich Mars brown continued on fingers, tips of dactyls white. Ambulatory legs opalescent, predominately lavender, blue, brown, and yellow green. Dactyls bright lemon yellow. (Petersen)

Habitat.—Lower levels of rocky beach under lava boulders.

Depth.—Shore.

Remarks.—This species may be readily distinguished from the following *L. cooksoni* Miers by the carinate chelae, the areolate carapace, and the well-defined anterolateral teeth. Repeated searching has failed to reveal its presence in more than one locality, Academy Bay, in even moderate numbers. It is found at a considerably lower level of the beach than is *L. cooksoni.*

Leptodius cooksoni Miers

Plate 77, Fig. 3; Plate 79, Fig. 3

Leptodius cooksoni Miers, Proc. Zool. Soc. London, p. 73, pl. 12, figs. 1-1d, 1877. Rathbun, Proc. U.S. Nat. Mus., vol. 21, p. 589, 1898; Bull. 152, U.S. Nat. Mus., p. 310, pl. 142, and synonymy, 1930. Boone, Zoologica, vol. 8, no. 4, p. 188, fig. 65, 1927. Sivertsen, Med. fra det Zool. Mus., Oslo, nr. 38, p. 14, 1933. Schmitt, Smithsonian Misc. Col., vol. 98, no. 6, p. 25, 1939.

Xanthodius lobatus Rathbun, Zoologica, vol. 5, no. 14, p. 158, 1924. Boone, Zoologica, vol. 8, no. 4, p. 191, fig. 66, 1927.

Type locality.—Charles Island, Galapagos Islands.

Type.—In Brit. Mus.

Range.—Clarion Island, Mexico (Anthony); Galapagos Islands *(Albatross);* Chile (A. Milne Edwards).

Atlantic analogue.—*L. parvulus* (Fabricius).

Diagnosis.—Anterolateral margin thick, lobed. Inner surface of palm making an abrupt angle with upper outer surface. Fingertips slightly spoon shaped.

Material examined (1,263 specimens from 53 stations).—

11-32. Conway Bay, Indefatigable Island, shore, Jan. 12, 1932, 3 males, 1 female.

13-32. Darwin Bay, Tower Island, shore, Jan. 20, 1932, 7 males, 8 females.

24-33. Gardner Bay, Hood Island, shore, Jan. 24, 1933, 5 specimens.

27-33. Gardner Bay, Hood Island, shore, Jan. 25, 1933, 18 males, 22 females (3 ovig.), 7 young.

30-33. Gardner Bay, Hood Island, shore, Jan. 26, 1933, 12 males, 8 females (7 ovig.), 1 young.

33-33. Black Beach, Charles Island, shore, Jan. 27, 1933, 2 specimens.

38-33. SE of Cormorant Point, Charles Island, shore, Jan. 29, 1933, 5 males, 2 females (1 ovig.).

42-33. Chatham Island, opposite Kicker Rock, shore, Jan. 31, 1933, 6 specimens.

48-33. Barrington Island, shore, Feb. 2, 1933, 36 males, 47 females (28 ovig.), 1 young.

49-33. Academy Bay, Indefatigable Island, shore, Feb. 3, 1933, 27 males, 32 females (21 ovig.).

52-33. Academy Bay, Indefatigable Island, shore, Feb. 4, 1933, 32 males, 55 females (38 ovig.), 7 young.

56-33. Flamingo Bay, Charles Island, shore, Feb. 5, 1933, 27 males, 44 females, (22 ovig.), 12 young.

58-33. Cormorant Bay, Charles Island, shore, Feb. 6, 1933, 4 males, 4 females (2 ovig.).

62-33. Black Bight, Albemarle Island, shore, Feb. 8, 1933, 24 males, 19 females (10 ovig.), 1 fragment.

65-33. Reef north of Tagus Hill, Albemarle Island, reef, Feb. 9, 1933, 1 specimen.

69-33. Albemarle Point, Albemarle Island, shore, Feb. 11, 1933, 2 males, 3 females.

71-33. James Bay, James Island, shore, Feb. 12, 1933, 6 males, 11 females.

76-33. Cartago Bay, Albemarle Island, shore, Feb. 14, 1933, 6 specimens.

82-33. Conway Bay, Indefatigable Island, shore, Feb. 17, 1933, 49 males, 42 females, 10 young.

85-33. North Seymour Island, shore, Feb. 18, 1933, 10 males, 7 females, 2 young.

88-33. South Seymour Island, shore, Feb. 19, 1933, 110 specimens.

93-33. Darwin Bay, Tower Island, shore, Feb. 22, 1933, 33 specimens.

96-33. Darwin Bay, Tower Island, shore, Feb. 24, 1933, 5 males, 9 females (1 young).

98-33. Darwin Bay, Tower Island, shore, Feb. 25, 1933, 6 specimens.

101-33. Darwin Bay, Tower Island, shore, Feb. 26, 1933, 1 specimen.

146-34. Albemarle Point, Albemarle Island, shore, Jan. 12, 1934, 12 males, 14 females (4 ovig.), 7 young.

153-34. NE point of Narborough Island, shore, Jan. 14, 1934, 4 specimens.

161-34. Black Beach, Charles Island, 3 fms, Jan. 17, 1934, 1 specimen.

163-34. Black Beach, Charles Island, shore, Jan. 18, 1934, 1 specimen.

168-34. Academy Bay, Indefatigable Island, shore, Jan. 20, 1934, 12 males, 9 females (2 ovig.).

174-34. South Seymour Island, shore, Jan. 22, 1934, 5 males (1 photographed), 8 females (6 ovig.).

175-34. North Seymour Island, shore, Jan. 22, 1934, 14 males, 15 females (7 ovig.), 5 young.

179-34. Bartholomew Island near James Island, shore, Jan. 23, 1934, 17 males, 20 females, 1 young.

184-34. James Bay, James Island, shore, Jan. 24, 1934, 4 specimens.

188-34. Cartago Bay, Albemarle Island, shore, Jan. 25, 1934, 6 males, 3 females.

199a-34. Post Office Bay, Charles Island, shore, Jan. 30, 1934, 4 specimens.

202-34. Gardner Bay, Hood Island, shore, Jan. 31, 1934, 22 males, 17 females, 1 young.

306-35. Marchena Island, shore, Dec. 2, 1934, 28 males, 22 females (9 ovig.).

312-35. Black Beach, Charles Island, shore, Dec. 5, 1934, 8 males, 17 females (12 ovig.).

314-35. Academy Bay, Indefatigable Island, shore, Dec. 7, 1934, 23 males, 30 females (19 ovig.), 2 young.

333-35. James Bay, James Island, shore, Dec. 11, 1934, 6 males, 5 females (3 ovig.).

342-35. Bartholomew Island near James Island, shore, Dec. 12, 1934, 6 males, 3 females (2 ovig.).

343-35. Sulivan Bay, James Island, shore, Dec. 12, 1935, 3 specimens.
351-35. South of Black Beach, Charles Island, shore, Dec. 14, 1934, 2 specimens.
354-35. Wreck Bay, Chatham Island, shore, Dec. 15, 1934, 12 specimens.
358-35. Gardner Bay, Hood Island, shore, Dec. 17, 1934, 8 males, 4 females.
359-35. Osborn Island in Gardner Bay, Hood Island, shore, Dec. 19, 1934, 21 males, 21 females, 3 young.
782-38. Darwin Bay, Tower Island, shore, Jan. 16, 1938, 19 specimens.
789-38. South Seymour Island, shore, Jan. 19, 1938, 1 male, 1 female.
796-38. Sulivan Bay, James Island, shore, Jan. 21, 1938, 4 males.
800-38. Cartago Bay, Albemarle Island, shore, Jan. 22, 1938, 6 specimens.
803-38. Black Beach, Charles Island, shore, Jan. 23, 1938, 2 males.
808-38. Academy Bay, Indefatigable Island, shore, Jan. 25, 1938, 7 males, 8 females.

Measurements.—Largest specimen, male: length 17.6 mm, width 28.6 mm, cheliped 34.0 mm, chela 19.6 mm, dactyl 10.4 mm.

Habitat.—High tide level, under small rocks among pebbles.

Depth.—Shore to 3 fms.

Remarks.—*L. cooksoni* and *Mithrax (Mithraculus) nodosus* Bell, the first a cancroid, the second a spider crab, could be taken plentifully at high tide, when most other species were under several feet of water. While, with the exception of the *Pocillopora*-dwelling *Trapezias, L. cooksoni* exceeded all other Galapagos brachyurans in number of specimens obtained, three other species were collected at a greater number of stations. The reason would seem to be that, whereas *Teleophrys cristulipes* Stimpson, *Eriphia granulosa* A. Milne Edwards, and *Mithrax (Mithraculus) nodosus* Bell occur in more than one habitat, *L. cooksoni* is closely restricted to the intertidal zone.

Genus **LOPHOXANTHUS** A. Milne Edwards, 1879

Lophoxanthus lamellipes (Stimpson)

Plate 77, Fig. 5

Xantho lamellipes Stimpson, Ann. Lyc. Nat. Hist. New York, vol. 7, p. 205 (77), 1860.

Lophoxanthus lamellipes A. Milne Edwards, Crust. Reg. Mex., p. 256, pl. 46, figs. 3 and 3a, 1879. Rathbun, Bull. 152, U.S. Nat. Mus., p. 317, pl. 148, figs. 3 and 4, 1930. Hult, Arkiv för Zoologi, Band 30A, no. 5, p. 13, 1938.

Type locality.—Cape San Lucas, Lower California.

Type.—Cotypes in MCZ, No. 1254.

Range.—From La Paz, Lower California (Belding), to Salinas, Ecuador (Schmitt); Galapagos Islands (Hult).

Diagnosis.—Carapace flat, octagonal, anterolateral margin very thick between orbit and first of 3 laterally placed teeth. Ambulatory legs compressed, crested, eroded.

Material examined (129 specimens from 32 stations).—

27-33. Gardner Bay, Hood Island, shore, Jan. 25, 1933, 2 males, 2 females (1 ovig.).

30-33. Gardner Bay, Hood Island, shore, Jan. 26, 1933, 3 males, 1 female.

33-33. Black Beach, Charles Island, shore, Jan. 27, 1933, 8 males, 1 female.

38-33. SE of Cormorant Point, Charles Island, shore, Jan. 29, 1933, 1 male, 1 female.

42-33. Chatham Island, opposite Kicker Rock, shore, Jan. 31, 1933, 1 male.

47-33. Barrington Island, 2 fms, Feb. 2, 1933, 1 specimen.

48-33. Barrington Island, shore, Feb. 2, 1933, 1 ovig. female.

69-33. Albemarle Point, Albemarle Island, shore, Feb. 11, 1933, 4 males, 3 females.

71-33. James Bay, James Island, shore, Feb. 12, 1933, 1 male, 1 female.

73-33. Cartago Bay, Albemarle Island, shore, Feb. 13, 1933, 1 female.

76-33. Cartago Bay, Albemarle Island, shore, Feb. 14, 1933, 3 males, 2 females.

80-33. Duncan Island, shore, Feb. 15, 1933, 1 male, 1 female.

88-33. South Seymour Island, shore, Feb. 19, 1933, 1 female.

96-33. Darwin Bay, Tower Island, shore, Feb. 24, 1933, 1 female.

101-33. Darwin Bay, Tower Island, shore, Feb. 26, 1933, 2 males.

166-34. Black Beach, Charles Island, shore, Jan. 19, 1934, 1 female.

168-34. Academy Bay, Indefatigable Island, shore, Jan. 20, 1934, 1 female.

179-34. Bartholomew Island near James Island, shore, Jan. 23, 1934, 1 large male.

199-34. Black Beach, Charles Island, shore, Jan. 30, 1934, 1 male.

202-34. Gardner Bay, Hood Island, shore, Jan. 31, 1934, 4 males, 4 females.

313-35. Black Beach, Charles Island, shore, Dec. 6, 1934, 1 female.

314-35. Academy Bay, Indefatigable Island, shore, Dec. 7, 1934, 1 male, 3 females (1 ovig.).

315-35. Opposite Gordon Rocks, Indefatigable Island, coral, Dec. 8, 1934, 1 ovig. female.

333-35. James Bay, James Island, shore, Dec. 11, 1934, 10 males (1 photographed), 5 females (2 ovig.).

343-35. Sulivan Bay, James Island, shore, Dec. 12, 1934, 6 males, 1 ovig. female.

350-35. South Seymour Island, shore, Dec. 13, 1934, 3 males, 2 females.

351-35. South of Black Beach, Charles Island, shore, Dec. 14, 1934, 1 male.

359-35. Osborn Island in Gardner Bay, Hood Island, shore, Dec. 19, 1934, 15 males, 10 females.

782-38. Darwin Bay, Tower Island, shore, Jan. 16, 1938, 1 male.

789-38. South Seymour Island, shore, Jan. 19, 1938, 2 males, 2 females.

796-38. Sulivan Bay, James Island, shore, Jan. 21, 1938, 6 males, 2 females.

800-38. Cartago Bay, Albemarle Island, shore, Jan. 22, 1938, 1 male, 1 female.

Measurements.—Largest specimen, male: length 8.3 mm, width 11.8 mm, cheliped (rigid) coxa to elbow 6.5 mm, elbow to tip of dactyl 10.0 mm, chela 10.0 mm, dactyl 5.8 mm.

Color in life.—Gastric, cardiac, and intestinal regions pale yellow ochre. Branchial area pale pinkish white. Frontal and anterolateral margins pale red orange. Chelipeds pale orange to white with a few reddish-orange spots on carpus and hand. Fingers a rich dark hazel brown with dull yellow tips. Ambulatory legs dull yellow shaded with Van Dyke red. (Petersen)

Habitat.—In coarse gravel near high tide level.

Depth.—Shore to 3 fms.

Remarks.—*L. lamellipes* is found with *Leptodius cooksoni* Miers and *Cycloxanthops vittatus* (Stimpson) in coarse gravel near high tide level. These three species appear to require less moisture than most of the Xanthidae.

Genus **LOPHOPANOPEUS** Rathbun, 1898

Lophopanopeus maculatus Rathbun

Plate 78, Figs. 3, 4

Lophopanopeus maculatus Rathbun, Proc. U.S. Nat. Mus., vol. 21, p. 588, pl. 40, figs. 10 and 11, 1898; Bull. 152, U.S. Nat. Mus., p. 330, text fig. 51, 1930.

Type locality.—Southern part of Gulf of California, 8 fms.

Type.—USNM No. 21585.

Range.—Magdalena Bay, Lower California *(Albatross);* Gulf of California *(Albatross);* 7-17 fms.

Diagnosis.—Chelipeds smooth, unequal. Carapace with 5 blunt teeth, the second depressed. Upper margins of meri of ambulatory legs spinulous. Tip of male abdomen broadly rounded.

Material examined (32 specimens from 9 stations).—

46-33. Barrington Island, 4-10 fms, Feb. 2, 1933, 1 ovig. female.

47-33. Barrington Island, 2 fms, Feb. 2, 1933, 1 ovig. female.

59-33. Off Cormorant Bay, Charles Island, Feb. 6, 1933, 2 males, 1 ovig. female.

69a-33. Albemarle Point, Albemarle Island, 12 fms, mud sample, Feb. 11, 1933, 1 female.

167-34. Post Office Bay, Charles Island, 15 fms, Jan. 19, 1934, 2 males (1 photographed).

341-35. Sulivan Bay, James Island, 20 fms, Dec. 12, 1934, 2 males, 1 female.

355-35. West of Gardner Island, Hood Island, 12 fms, Dec. 17, 1934, 1 male, 1 young.

783-38. Darwin Bay, Tower Island, 40-70 fms, Jan. 16, 1938, 9 males.

785-38. Darwin Bay, Tower Island, 20-40 fms, Jan. 17, 1938, 10 males.

Measurements.—Largest specimen, male: length 7.0 mm, width 9.2 mm, cheliped 11.0 mm, chela 7.1 mm, dactyl 4.0 mm.

Habitat.—Sand and coral, sand and rock; rock, rock and algae.

Depth.—2-70 fms.

Remarks.—The Barrington Island and Charles Island specimens were compared with the type female, USNM No. 21585, and agree so closely that the name is applied without hesitation to Galapagos specimens. The female type is more ornamented throughout, the ornamentation consisting of a more spinulous orbit with a definite outer, as well as inner, notch. In the type specimen the third anterolateral tooth appears more prominent; in Hancock specimens, the fourth. The remainder of the *Albatross* specimens exhibit sufficient latitude in variation to encompass these slight discrepancies.

L. maculatus is now recorded from the Galapagos Islands.

Genus **HEXAPANOPEUS** Rathbun, 1898

Hexapanopeus cartagoensis Garth

Plate 78, Figs. 5, 6

Hexapanopeus cartagoensis Garth, Allan Hancock Pac. Exped., vol. 5, no. 2, p. 17, pl. 6, figs. 1-4, 1939.

Type locality.—Cartago Bay, Albemarle Island, Galapagos Islands; 15-18 fms.

Type.—AHF no. 384.

Range.—Known only from the type locality.

Diagnosis.—Front oblique, lateral lobes prominent. First and second teeth fused, their combined width equal to that of third; fifth tooth reduced, almost postlateral. Major chela of adult male without superior crest.

Material examined (14 specimens from 3 stations).—

74-33. Cartago Bay, Albemarle Island, 3-6 fms, Feb. 14, 1933, 3 females (2 ovig.).

187-34. Cartago Bay, Albemarle Island, 8-10 fms, Jan. 25, 1934, 3 males, 7 females (4 ovig.).

799-38. Cartago Bay, Albemarle Island, 15-18 fms, Jan. 22, 1938, 1 male (holotype, AHF no. 384).

Measurements.—Male holotype: length 5.4 mm, width 7.3 mm, chela 6.4 mm; female allotype: length 3.9 mm, width 5.4 mm.

Habitat.—Sand bottom with occasional rock patches.

Depth.—3-18 fms.

Remarks.—One of the most localized members of the Galapagos brachyuran fauna, this tiny panopeid crab has been found only on the extensive flat bottom of Cartago Bay, the indentation from the east which separates Albemarle Island into two halves at Perry Isthmus. The only representative of its genus in the archipelago, it finds its nearest affinity in *H. costaricensis* Garth (1940) of the Central American mainland coast. Both species have the first and second anterolateral teeth fused.

Genus EURYPANOPEUS A. Milne Edwards, 1880

Eurypanopeus transversus (Stimpson)

Panopeus transversus Stimpson, Ann. Lyc. Nat. Hist. New York, vol. 7, p. 210 (82), 1860.

Eurypanopeus transversus A. Milne Edwards, Crust. Reg. Mex., p. 319, pl. 59, figs. 1-1f, 1880. Boone, Zoologica, vol. 8, no. 4, p. 211, text fig. 76, 1927. Rathbun, Bull. 152, U.S. Nat. Mus., p. 407, pl. 172, figs. 5-7, 1930.

Type locality.—Panama.

Type.—Not extant.

Range.—From Mexico (A. Milne Edwards) to Paita, Peru (Jones); Galapagos Islands *(Noma)*.

Diagnosis.—Carapace somewhat depressed posteriorly, curving downward anteriorly, front double edged. Anterolateral margin cut into 5 shallow lobes, the first two completely fused. A basal tooth on major dactyl; color of fingers continued on palm.

Material examined.—None from the Galapagos Islands. The Hancock collections contain a number of specimens collected at Callao and at the bays of San Juan and San Nicolas, Peru.

Genus **EURYTIUM** Stimpson, 1859

Eurytium affine (Streets and Kingsley)

Plate 83, Fig. 2

Panopeus affinis Streets and Kingsley, Bull. Essex Inst., vol. 9, p. 106, 1877.

Eurytium affine A. Milne Edwards, Crust. Reg. Mex., p. 334, pl. 60, figs. 1-1c, 1880. Boone, Zoologica, vol. 8, no. 4, p. 213, fig. 77, 1927. Rathbun, Bull. 152, U.S. Nat. Mus., p. 425, pl. 177, figs. 1 and 2, 1930.

Type locality.—Not designated; one of Lockington's.

Type.—Not extant.

Range.—From Magdalena Bay, Lower California (Orcutt), and Gulf of California *(Albatross)* to Ecuador (?); Galapagos Islands *(Noma)*.

Diagnosis.—Carapace broad, nearly flat, without transverse ridges. Anterolateral margins cut into 5 shallow teeth, the first two coalesced. Carapace widest opposite fifth pair of teeth. Frontal lobes with truncate outer lobules.

Material examined.—

49-33. Academy Bay, Indefatigable Island, shore, Feb. 3, 1933, 1 female (photographed).

Measurements.—Female: length 10.0 mm, width 15.0 mm, cheliped 18.7 mm, chela 10.2 mm, dactyl 5.5 mm.

Habitat.—Rocky shore.

Depth.—Shore.

Remarks.—Repeated searching over the same territory at Academy Bay has failed to reveal more specimens of this species, which belongs to the Gulf of California fauna.

Genus **MICROPANOPE** (Stimpson), 1871

KEY TO THE GALAPAGOS SPECIES OF THE GENUS *Micropanope*

A[1] Carapace granulate, granules mostly in transverse lines

B[1] Chelae granulate; 3 prominent grooves on superior margin of manus . . . . . *M. xantusii*

B² Chelae spinulous; manus without grooves, outer distal two-thirds smooth and bare . . . . . *M. fraseri*

A² Carapace smooth and punctate posteriorly, granulate anteriorly. Chelae smooth, dissimilar; fingers of minor manus strongly deflexed . . . . . *M. polita*

Micropanope xantusii (Stimpson)

Plate 77, Fig. 6

Xanthodes xantusii Stimpson, Ann. Lyc. Nat. Hist. New York, vol. 10, p. 105 (15), 1871.

Micropanope xantusii Rathbun, Bull. 152, U.S. Nat. Mus., p. 438, pl. 179, figs. 1-4, 1930. Crane, Zoologica, vol. 22, no. 3, p. 72, 1937.

Pilumnus beebei Boone, Zoologica, vol. 8, no. 4, p. 219; *not* fig. 80, which is a *Micropanope* of another species.

Xanthias serrulata Finnegan, Journ. Linn. Soc. London, vol. 37, p. 634, fig. 6, 1931.

Type locality.—Cape San Lucas, Lower California.

Type.—Not extant.

Range.—Arena Bank, Lower California *(Zaca);* Clarion Island (Hanna and Jordan); Galapagos Islands *(Arcturus).*

Atlantic analogue.—*M. truncatifrons* Rathbun.

Diagnosis.—Carapace covered with granulations arranged in transverse lines. Chelipeds coarse granulate, 3 prominent sulci on superior margin of manus. Five anterolateral teeth, the last plainly discernible.

Material examined (497 specimens from 38 stations).—

24-33. Gardner Bay, Hood Island, shore, Jan. 24, 1933, 7 males, 3 females.

27-33. Gardner Bay, Hood Island, shore, Jan. 25, 1933, 16 males, 17 females (7 ovig.).

28-33. Gardner Bay, Hood Island, 2 fms, Jan. 25, 1933, 2 males.

30-33. Gardner Bay, Hood Island, shore, Jan. 26, 1933, 17 males, 15 females.

33-33. Black Beach, Charles Island, shore, Jan. 27, 1933, 5 males, 2 females (1 ovig.).

38-33. SE of Cormorant Point, Charles Island, shore, Jan. 29, 1933, 3 males, 1 ovig. female.

46-33. Barrington Island, 4-10 fms, Feb. 2, 1933, 1 female.

47-33. Barrington Island, 2 fms, Feb. 2, 1933, 1 male.

69-33. Albemarle Point, Albemarle Island, shore, Feb. 11, 1933, 20 males, 16 females.

71-33. James Bay, James Island, shore, Feb. 12, 1933, 1 male, 1 female.

73-33. Cartago Bay, Albemarle Island, shore, Feb. 13, 1933, 9 males, 13 females.

80-33. Duncan Island, shore, Feb. 15, 1933, 5 males, 8 females.

94-33. Darwin Bay, Tower Island, coral, Feb. 22, 1933, 38 males, 25 females (11 ovig.).

96-33. Darwin Bay, Tower Island, shore, Feb. 24, 1933, 1 male.

97-33. Darwin Bay, Tower Island, coral, Feb. 24, 1933, 23 males, 18 females.

98-33. Darwin Bay, Tower Island, shore, Feb. 25, 1933, 3 males, 5 females.

101-33. Darwin Bay, Tower Island, shore, Feb. 26, 1933, 7 males, 7 females.

101a-33. Darwin Bay, Tower Island, coral, Feb. 26, 1933, 4 males, 5 young.

163-34. Black Beach, Charles Island, shore, Jan. 18, 1934, 5 females (2 ovig.).

166-34. Black Beach, Charles Island, shore, Jan. 19, 1934, 3 males, 1 ovig. female.

168-34. Academy Bay, Indefatigable Island, shore, Jan. 20, 1934, 1 male, 2 females.

194-34. Post Office Bay, Charles Island, coral, from Onslow Island crater, Jan. 27, 1934, 13 males, 4 females.

197-34. Off Post Office Bay, Charles Island, 35-40 fms, Jan. 29, 1934, 1 male.

202-34. Gardner Bay, Hood Island, shore, Jan. 31, 1934, 11 males, 13 females (1 ovig.).

313-35. Black Beach, Charles Island, shore, Dec. 6, 1934, 1 female.

315-35. Opposite Gordon Rocks, Indefatigable Island, coral, Dec. 8, 1934, 18 males, 19 females (1 ovig.).

333-35. James Bay, James Island, shore, Dec. 11, 1934, 3 ovig. females.

343-35. Sulivan Bay, James Island, shore, Dec. 12, 1934, 8 males, 3 females (1 ovig.).

344-35. Bartholomew Island near James Island, shore, Dec. 12, 1934, 6 males, 3 females (2 ovig.).

350-35. South Seymour Island, shore, Dec. 13, 1934, 3 males, 2 females (1 ovig.).

357-35. Gardner Bay, Hood Island, coral, Dec. 17, 1934, 1 male.

359-35. Osborn Island in Gardner Bay, Hood Island, shore, Dec. 19, 1934, 1 female.

782-38. Darwin Bay, Tower Island, shore, Jan. 16, 1938, 4 males, 2 females, 1 young.

784-38. Darwin Bay, Tower Island, shore, Jan. 17, 1938, 3 males, 8 females, (2 ovig.).

789-38. South Seymour Island, shore, Jan. 19, 1938, 7 males, 9 females.

804-38. Onslow Island, near Charles Island, coral, Jan. 23, 1938, 4 males, 4 females.

811-38. Barrington Island, coral, Jan. 26, 1938, 12 males (1 photographed), 19 females (10 ovig.).

811a-38. Barrington Island, *Pavona* coral, Jan. 26, 1938, 3 young males.

Measurements.—Large male: length 8.4 mm, width 11.9 mm, cheliped (rigid) coxa to elbow 5.3 mm, elbow to tip of dactyl 9.8 mm, chela 8.8 mm, dactyl 4.5 mm.

Habitat.—*Pocillopora* colony.

Depth.—Shore and shoal water; occasionally to 40 fms.

Remarks.—While at the laboratories of the New York Zoological Society in 1937 the writer examined 3 male and 1 female specimens labeled "cotypes of *Pilumnus beebei,* Sta. 54, Hood Island, *Arcturus* Expedition, identified by L. Boone." These also carry the label "*Micropanope xantusii* (Stimpson), identified by M. J. Rathbun," which is unquestionably correct. A specimen in a separate bottle labeled "Sta. 54 *Arcturus.* Photo. Iden. Boone" (but not designated cotype) is of another species of *Micropanope.* In view of the fact that Boone's written description is based upon the specimens of *Micropanope xantusii* and these are the designated types, the writer follows Rathbun (1930) in considering *Pilumnus beebei* a synonym of Stimpson's species. The photographed specimen is described on page 462.

Through the courtesy of Dr. Isabella Gordon of the British Museum, a paratype of *Xanthias serrulata* Finnegan (1931) was examined and proved also to be identical with *Micropanope xantusii* (Stimpson).

Micropanope polita Rathbun

Plate 77, Fig. 4

Micropanope polita Rathbun, Proc. U.S. Nat. Mus., vol. 16, p. 238, 1893; Bull. 152, U.S. Nat. Mus., p. 440, pl. 180, figs. 3 and 4, text fig. 40, and synonymy, 1930. Crane, Zoologica, vol. 22, no. 3, p. 71, 1937.

Panopeus tanneri Faxon, Bull. Mus. Comp. Zool., vol. 24, p. 154, 1893; Mem. Mus. Comp. Zool., vol. 18, p. 19, pl. 3, figs. 4 and 4a, 1895.

Xanthias politus Boone, Zoologica, vol. 8, no. 4, p. 210, fig. 75, 1927.

Type locality.—Off Magdalena Bay, Lower California; 36 fms.

Type.—Cotypes: USNM No. 17397; MCZ No. 4252.

Range.—Magdalena Bay, Lower California *(Albatross);* Galapagos Islands *(Albatross);* 20-66 fms.

Atlantic analogue.—*M. granulimanus* (Stimpson).

Diagnosis.—Front double edged, edges granulate, a small tooth at outer angle. Chelae smooth, the larger with a strong tooth at base of dactyl. Carapace smooth and punctate posteriorly, granulate anteriorly. Five anterolateral teeth. Legs spinulous above.

Material examined (722 specimens from 36 stations).—

143-34. Wenman Island, 100-150 fms, Jan. 11, 1934, 4 males, 2 females (1 ovig.).

147-34. Tagus Cove, Albemarle Island, 30 fms, Jan. 13, 1934, 7 males, 13 females (3 ovig.).

148-34. Tagus Cove, Albemarle Island, 12-15 fms, Jan. 13, 1934, 13 males, 40 females (8 ovig.).

149-34. Tagus Cove, Albemarle Island, 20 fms, Jan. 13, 1934, 16 males, 17 females (7 ovig.), 4 young.

155-34. Tagus Cove, Albemarle Island, 50-60 fms, Jan. 15, 1934, 39 males, (1 photographed), 20 females.

157-34. Tagus Cove, Albemarle Island, 10-18 fms, Jan. 15, 1934, 4 males, 7 females (1 ovig.).

161-34. Black Beach, Charles Island, 3 fms, Jan. 17, 1934, 1 male.

167-34. Post Office Bay, Charles Island, 15 fms, Jan. 19, 1934, 59 males, 32 females (14 ovig.), 9 young.

168a-34. Academy Bay, Indefatigable Island, coral, Jan. 20, 1934, 1 young.

169-34. Academy Bay, Indefatigable Island, 15-25 fms, Jan. 20, 1934, 16 males, 12 females (4 ovig.), 45 young.

170-34. East of Wreck Bay, Chatham Island, 32 fms, Jan. 21, 1934, 1 male, 1 female.

171-34. East of Wreck Bay, Chatham Island, 35-40 fms, Jan. 21, 1934, 12 females.

177-34. Sulivan Bay, James Island, 5-20 fms, Jan. 23, 1934, 39 males, 16 females.

182-34. James Bay, James Island, 30 fms, Jan. 24, 1934, 4 males, 9 females (3 ovig.), 22 young.

183-34. James Bay, James Island, 50-70 fms, Jan. 24, 1934, 12 males, 5 females, 4 young.

190-34. Lat. 0° 55′ S, Long. 90° 30′ W, 58-60 fms, Jan. 26, 1934, 25 males, 20 females (6 ovig.).

193-34. Post Office Bay, Charles Island, 8-10 fms, Jan. 27, 1934, 60 males, 22 females (2 ovig.).
197-34. Off Post Office Bay, Charles Island, 35-40 fms, Jan. 29, 1934, 3 males, 4 young.
201-34. Off Gardner Bay, Hood Island, 25-35 fms, Jan. 31, 1934, 8 males, 15 females (8 ovig.).
317-34. Off Gordon Rocks, Indefatigable Island, 25-30 fms, Dec. 8, 1934, 1 male.
324-35. Tagus Cove, Albemarle Island, 45 fms, Dec. 10, 1934, 3 males, 4 females.
328-35. Tagus Cove, Albemarle Island, 14 fms, Dec. 10, 1934, 1 female.
336-35. Sulivan Bay, James Island, 20 fms, Dec. 12, 1934, 7 specimens.
339-35. Sulivan Bay, James Island, 10 fms, Dec. 12, 1934, 1 male.
340-35. Sulivan Bay, James Island, 8 fms, Dec. 12, 1934, 1 male, 2 females (1 ovig.).
341-35. Sulivan Bay, James Island, 20 fms, Dec. 12, 1934, 1 male.
346-35. Between South Seymour and Daphne Islands, 55 fms, Dec. 13, 1934, 2 young.
352-35. Wreck Bay, Chatham Island, 35 fms, Dec. 15, 1934, 1 male, 4 females.
355-35. Gardner Bay, Hood Island, 12 fms, Dec. 17, 1934, 1 young.
356-35. Gardner Bay, Hood Island, 12-15 fms, Dec. 17, 1934, 1 female.
788-38. SE of Daphne Major Island, 55 fms, Jan. 19, 1938, 1 young.
795-38. Sulivan Bay, James Island, 35-40 fms, Jan. 21, 1938, 16 males, 24 females.
795a-38. Sulivan Bay, James Island, 50-60 fms, Jan. 21, 1938, 4 males.
807-38. Academy Bay, Indefatigable Island, 10-25 fms, Jan. 24, 1938, 1 male.
810-38. (D-1) Barrington Island, 48 fms, Jan. 26, 1938, 1 male.
816-38. North of Hood Island, 50-100 fms, Jan. 29, 1938, 2 males.

Measurements.—Large male: length 7.5 mm, width 10.4 mm, cheliped 14.4 mm, chela 8.0 mm, dactyl 4.5 mm.

Color in life.—Ground color of carapace ivory yellow overcast with cadmium orange. Granules on frontal area bright red. Cheliped like carapace, but a little more red. Fingers light clay color with reddish tint; dark red at base of movable finger fading to light at tip. Eyes black. (Petersen)

Habitat.—Bottom rock, coral, nullipore, bryozoa, and, in one case, mud.

Depth.—3-150 fms.

Remarks.—Almost infinite variation is exhibited by the exhaustive series of this species obtained at a great range of depths and on a variety of bottoms. Only a few of them are as well developed as the type of *Panopeus tanneri* Faxon (USNM No. 20606), a synonym of *M. polita,* from 66 fms, Cocos Island, with which they were compared. Distinct beads on the carapace and chelipeds are characteristic. It is perhaps significant that these are Wenman Island specimens, also deep water, and nearest to Cocos Island. A second careful sorting under the binocular of the 800 specimens revealed a number of the very similar young of *Lophopanopeus maculatus* Rathbun, a new record for the archipelago.

Micropanope fraseri, new species

Plate 57, Figs. 1-4

Pilumnus beebei Boone, Zoologica, vol. 8, no. 4, 1927, p. 220, text fig. 80 only; not pp. 219-221, exclusive of text-fig. 80, which is *Micropanope xantusii* (Stimpson).

Type.—Male, holotype, and female, allotype, AHF no. 331, Allan Hancock Foundation, The University of Southern California, from Black Beach Anchorage, Charles Island, Galapagos Islands, shore; January 27, 1933; collected by Allan Hancock Expedition of 1933 at *Velero* station 33-33. The remaining specimens, paratypes, are considered under *Material examined.*

Measurements.—Male holotype: length of carapace 7.4 mm, width 11.1 mm, length of major cheliped 13.5 mm, of major chela 8.3 mm, of major dactyl 4.6 mm; female allotype: length 7.0 mm, width 10.0 mm.

Diagnosis.—Five anterolateral spines, including the postorbital, the second existing as a cluster of spinules. A similar cluster on the subhepatic region. Granules of the manus of the major chela terminating in an oblique line, leaving the outer distal two-thirds smooth and bare.

Description.—Carapace one-third wider than long, smooth, flat, regions faintly indicated, microscopically pubescent anteriorly, completely naked posteriorly, front visible in dorsal view. Frontal lobes obliquely truncate, bordered with acute granules, a shallow sulcus extending from the mesogastric region to the well-defined median V. Orbits spinulous above and below; two well-marked sulci above. Five anterolateral spines, including the postorbital, the second existing as a cluster of spinules, the posterior three largest, anteriorly directed, and with outer edges serrate, their interspaces U-shaped, the greatest distance between spines 3 and 4. A cluster of subhepatic spinules.

Chelipeds clothed with short, soft hairs, interspersed occasionally with longer hairs. Upper surface of major carpus and manus covered with acuminate granules, which become flattened distally and terminate in an oblique line across the manus, leaving the outer distal two-thirds of the hand smooth and bare. Fingers stout, slightly gaping, pollex somewhat deflexed, an enlarged tooth at base of dactyl, a prominent lobe at basal two-fifths of fixed finger; color of fingers not continued on palm. Minor carpus and manus covered with hairs and acuminate granules extending onto the pollex, fingers slender, deflexed, grooved, acuminate, their tips crossing when closed.

Merus of ambulatory legs spinulous, carpus grooved and spinulous, carpus, propodus, and dactylus with long hairs; dactyli with incurving, horny tips.

Segments 3-4-5 of male abdomen coalesced, sixth segment broadly rectangular, seventh triangular with a rounded tip.

Merus of outer maxilliped roughly rectangular, anterolateral angle broadly rounded, almost lobate, inner margin minutely spinulous, antero-internal angle with a shallow notch for insertion of the 3-jointed palpus.

Material examined (469 specimens from 37 stations).—

24-33. Gardner Bay, Hood Island, shore, Jan. 24, 1933, 4 males, 6 females.

28-33. Gardner Bay, Hood Island, 2 fms, Jan. 25, 1933, 3 males, 3 females.

30-33. Gardner Bay, Hood Island, shore, Jan. 26, 1933, 1 female.

33-33. Black Beach, Charles Island, shore, Jan. 27, 1933, 3 males, 2 females.

38-33. SE of Cormorant Point, Charles Island, shore, Jan. 29, 1933, 1 young.

47-33. Barrington Island, 2 fms, Feb. 2, 1933, 2 males, 1 female.

48-33. Barrington Island, shore, Feb. 2, 1933, 1 male, 1 female.

69-33. Albemarle Point, Albemarle Island, shore, Feb. 11, 1933, 5 males, 2 females.

73-33. Cartago Bay, Albemarle Island, shore, Feb. 13, 1933, 29 specimens.

76-33. Cartago Bay, Albemarle Island, shore, Feb. 14, 1933, 43 males, 19 females (1 ovig.) 19 young.

80-33. Duncan Island, shore, Feb. 15, 1933, 14 males, 7 females, 11 young.

94-33. Darwin Bay, Tower Island, coral, Feb. 22, 1933, 2 females.

96-33. Darwin Bay, Tower Island, shore, Feb. 24, 1933, 1 male, 1 female.

98-33. Darwin Bay, Tower Island, shore, Feb. 25, 1933, 2 males, 3 females.

101-33. Darwin Bay, Tower Island, shore, Feb. 26, 1933, 1 male, 2 females.

163-34. Black Beach, Charles Island, shore, Jan. 18, 1934, 2 males.

168-34. Academy Bay, Indefatigable Island, shore, Jan. 20, 1934, 6 males, 5 females.

175-34. North Seymour Island, shore, Jan. 22, 1934, 1 female.

194-34. Post Office Bay, Charles Island, coral from Onslow Island crater, Jan. 27, 1934, 5 males.

199-34. Black Beach, Charles Island, shore, Jan. 30, 1934, 1 male.

202-34. Gardner Bay, Hood Island, shore, Jan. 31, 1934, 5 males, 5 females (3 ovig.).

313-35. Black Beach, Charles Island, shore, Dec. 6, 1934, 3 males, 2 females.

314-35. Academy Bay, Indefatigable Island, shore, Dec. 7, 1934, 2 males, 6 females (3 ovig.).

315-35. Opposite Gordon Rocks, Indefatigable Island, coral, Dec. 8, 1934, 5 males, 4 females (2 ovig.), 7 young.

343-35. Sulivan Bay, James Island, shore, Dec. 12, 1934, 4 males, 7 females (3 ovig.), 4 young.

350-35. South Seymour Island, shore, Dec. 13, 1934, 1 male, 1 ovig. female.

351-35. South of Black Beach, Charles Island, shore, Dec. 14, 1934, 2 young males.

357-35. Gardner Bay, Hood Island, coral, Dec. 17, 1934, 3 males, 2 females.

358-35. Gardner Bay, Hood Island, shore, Dec. 17, 1934, 2 males, 3 females (2 ovig.), 2 young.

359-35. Osborn Island in Gardner Bay, Hood Island, shore, Dec. 19, 1934, 22 males, 16 females, 2 young.

784-38. Darwin Bay, Tower Island, shore, Jan. 17, 1938, 1 male.

789-38. South Seymour Island, shore, Jan. 19, 1938, 6 males, 7 females.

796-38. Sulivan Bay, James Island, shore, Jan. 21, 1938, 4 males, 7 females.

800-38. Cartago Bay, Albemarle Island, shore, Jan. 22, 1938, 2 males, 2 females.

804-38. Onslow Island, near Charles Island, coral, Jan. 23, 1938, 1 male, 1 female, 1 young.

811-38. Barrington Island, coral, Jan. 26, 1938, 55 males, 42 females, 16 young.

811a-38. Barrington Island, *Pavona* coral, Jan. 26, 1938, 1 young male.

Color in life.—Ground color of carapace pale vinaceous russet with pale violet purple tint on intestinal and branchial areas, gradually blending into very strong violet purple on other areas. Tips of marginal teeth light. Numerous small and a few large blotches of bluish white. Cheliped like carapace but violet purple color much more intense. Fingers black; tips brownish white. Ambulatory legs with pale blue and white blotches more in evidence, almost in bands. Dactyl white, nail yellow. (Petersen)

Habitat.—Shore, under rocks; *Pocillopora* coral.

Remarks.—The largest male from the first Charles Island shore station (the type) was compared with the specimen figured as *Pilumnus beebei* Boone (1927, fig. 80) and agrees with it in every particular. Since the photographed specimen was not the type, and since the written description is of a different species and has page precedence over the figure, the writer follows Rathbun (1930) in considering the Boone species a synonym of *Micropanope xantusii* (Stimpson). (See also remarks under this species.)

This distinctive species is named for Dr. C. McLean Fraser.

Genus **TETRAXANTHUS** Rathbun, 1898

Tetraxanthus rathbunae Chace (tentative)

Plate 80, Fig. 1

Not *Xanthodes bidentatus* A. Milne Edwards, Crust. Reg. Mex., p. 353, pl. 53, figs. 5-5b, 1880.

Tetraxanthus bidentatus Rathbun, Bull. Lab. Nat. Hist. State Univ. Iowa, vol. 4, p. 275, 1898; Bull. 152, U.S. Nat. Mus., p. 458, pl. 184, 1930.

Tetraxanthus rathbunae Chace, Mem. de la Soc. Cubana de Hist. Nat., vol. 13, no. 1, p. 52, 1939. Torreia, no. 4, p. 37, 1940.

Type locality.—Old Bahama Channel due north of Punta Caldera, Camaguey Province, Cuba, 150-180 fms.

Type.—MCZ No. 10213.

Range.—From off Cape Lookout, North Carolina *(Albatross),* to off Cape Frio, Brazil *(Albatross);* 15-260 fms. (Chace)

Diagnosis.—Carapace very convex, regions not indicated. Four lateral teeth, of which the first two are inconspicuous, the last two wide and blunt. Front not sharply demarcated from internal orbital angles. A lobe on carpus of cheliped at inner angle. Legs spindly. Tips of fingers crossing.

Material examined.—

58-33. Cormorant Bay, Charles Island, not over 13 fms, Feb. 6, 1933, 1 young female (photographed).

Measurements.—Female: length 6.3 mm, width 7.8 mm, cheliped 9.5 mm, chela 5.0 mm, dactyl 3.0 mm.

Depth.—The Galapagos specimen was dredged in not over 13 fms.

Remarks.—The sending of this unique specimen in Hancock collections to Dr. Fenner A. Chace for comparison with the type of *Xanthodes bidentatus* A. Milne Edwards resulted in a complete review of the Atlantic species of *Tetraxanthus* by Dr. Chace, involving the suppression of *T. rugosus* Rathbun (1930) and the establishment of *T. bidentatus* Rathbun (1898) as *T. rathbunae* Chace with recent *Atlantis* material for types.

The Galapagos specimen, though differing in minor particulars, is tentatively referred to the latter species until more material is available on which to base a Pacific species of *Tetraxanthus*.

Genus **ECTAESTHESIUS** Rathbun, 1898

Ectaesthesius bifrons Rathbun

Plate 58, Figs. 1-7

Ectaesthesius bifrons Rathbun, Proc. U.S. Nat. Mus., vol. 21, p. 591, pl. 42, figs. 12-14, 1898; Bull. 152, U.S. Nat. Mus., p. 460, text fig. 76a-c, 1930.

Type locality.—Off Chatham Island, Galapagos Islands; 45 fms.

Type.—USNM No. 21586.

Range.—Known only from the type locality.

Diagnosis.—Carapace smooth and glabrous, anterior margins bidentate, posterior margins strongly converging. Orbits completely closed. Fingers long and tapering. Legs with last three segments hairy; dactyls as long as propodi.

Material examined (9 specimens from 4 stations).—

346-35. South Seymour Island, 55 fms, Dec. 13, 1934, 1 male.

795-38. Sulivan Bay, James Island, 35-40 fms, Jan. 21, 1938, 2 males (1 illustrated), 1 female (illustrated in part), 2 young.

795a-38. Sulivan Bay, James Island, 50-60 fms, Jan. 21, 1938, 1 female, 1 young.

814-38. North of Hood Island, 20-40 fms, Jan. 28, 1938, 1 female.

Measurements.—Largest male: length 9.3 mm, width 12.9 mm, cheliped 19.0 mm, chela 11.8 mm, dactyl 6.4 mm; female: length 8.2 mm, width 11.4 mm.

Habitat.—Sand and rock, sand and shell, mud and shell.

Depth.—20-60 fms.

Remarks.—This *Trapezia*-like xanthid was not encountered by the earlier Allan Hancock Expeditions, and it remained for the cruise of 1938 to turn it up in any numbers. The finding of 2 males, 2 females, and 3 young in Sulivan Bay, James Island, proves that it must occur with some frequency on the right type of bottom, which in this case was sand with some rock.

E. bifrons is now known to occur at two localities, James and Seymour, other than the type locality, Chatham. The first male specimen has also been found.

Description of the male.—The description of *Ectaesthesius bifrons* as given by Rathbun for the female is applicable to the male with the following exceptions:

1. In the female, the major and minor chelae are apparently alike and are similar to the minor chela of the male. The major chela of the male is higher than the minor and more swollen. The dactylus is considerably shorter than the superior margin of the palm. The inferior margin is less sinuous than that of the minor chela and is almost straight. The pollex is short and thick, bearing on its inner margin a raised ridge which may represent 2 low teeth worn down to their bases. The tips of the fingers are blunt, incurving, that of the fixed finger having a hooked appearance.

2. The male abdomen has 7 free segments, as has the female, a fact which should be mentioned in the generic description. The first two segments are narrow, the third is widest, its edges broadly convex, the fourth and fifth segments narrowing anteriorly, the sixth rectangular, almost square, and the seventh broadly rounded. All 7 segments are fringed with hair.

3. There is a tiny papilla on the inner distal margin of the merus of the cheliped.

Genus **PARAXANTHIAS** Odhner (part), 1925

Paraxanthias insculptus (Stimpson)

Plate 78, Figs. 1, 2

Xanthodes insculpta Stimpson, Ann. Lyc. Nat. Hist., New York, vol. 10, p. 105 (15), 1871.

Pilumnoides pusillus Rathbun, Proc. Washington Acad. Sci., vol. 4, p. 281, pl. 12, figs. 9 and 10, 1902. Boone, Zoologica, vol. 8, no. 4, p. 215, fig. 78, 1927.

Xanthias insculpta Rathbun, Zoologica, vol. 5, p. 157, fig. 38, 1924. Boone, Zoologica, vol. 8, no. 4, p. 207, figs. 74A and B, 1927. Finnegan, Journ. Linn. Soc. London, vol. 37, p. 634, 1931.

Paraxanthias insculptus Rathbun, Bull. 152, U.S. Nat. Mus., p. 468, pl. 189, fig. 4, text fig. 77a-b, 1930. Sivertsen, Med. fra det Zool. Mus., Oslo, nr. 38, p. 16, 1933.

Type locality.—Cape San Lucas, Lower California.

Type.—Not extant.

Range.—Cape San Lucas, Lower California; Galapagos Islands (Hopkins-Stanford Expedition).

Diagnosis.—Carapace subhexagonal, areolate, anterolateral margins with 4 lobes. Chelipeds nodulous, color of fingers continued on palm of adult male.

Material examined (156 specimens from 39 stations).—

24-33. Gardner Bay, Hood Island, shore, Jan. 24, 1933, 2 males.

25-33. Gardner Bay, Hood Island, dredged, Jan. 24, 1933, 3 males, 2 females (1 ovig.).

27-33. Gardner Bay, Hood Island, shore, Jan. 25, 1933, 7 males, 8 females (5 ovig.), 3 young.

28-33. Gardner Bay, Hood Island, 2 fms, Jan. 25, 1933, 1 male, 1 female, 2 young.

30-33. Gardner Bay, Hood Island, shore, Jan. 26, 1933, 1 male.

33-33. Black Beach, Charles Island, shore, Jan. 27, 1933, 10 males (1 photographed), 8 females (5 ovig.), 1 young.

46-33. Barrington Island, 4-10 fms, Feb. 2, 1933, 9 young.

47-33. Barrington Island, 2 fms, Feb. 2, 1933, 4 young.

49-33. Academy Bay, Indefatigable Island, shore, Feb. 3, 1933, 1 specimen.

59-33. Off Cormorant Bay, Charles Island, 13 fms, Feb. 6, 1933, fragment.

66-33. Tagus Cove, Albemarle Island, 10-20 fms, Feb. 9, 1933, 1 young.

68-33. South of Cape Berkeley, Albemarle Island, shore, Feb. 10, 1933, 1 young.

69-33. Albemarle Point, Albemarle Island, shore, Feb. 11, 1933, 1 male.

73-33. Cartago Bay, Albemarle Island, shore, Feb. 13, 1933, 2 males.

76-33. Cartago Bay, Albemarle Island, shore, Feb. 4, 1933, 3 males.

80-33. Duncan Island, shore, Feb. 15, 1933, 3 males and a fragment.

94-33. Darwin Bay, Tower Island, coral, Feb. 22, 1933, 1 male.

98-33. Darwin Bay, Tower Island, shore, Feb. 25, 1933, 1 male.

101-33. Darwin Bay, Tower Island, shore, Feb. 26, 1933, 1 female.

152-34. Tagus Cove, Albemarle Island, coral, Jan. 14, 1934, 2 males.

161-34. Black Beach, Charles Island, 3 fms, Jan. 17, 1934, 1 male, 1 ovig. female.

163-34. Black Beach, Charles Island, shore, Jan. 18, 1934, 1 ovig. female.

166-34. Black Beach, Charles Island, shore, Jan. 19, 1934, 2 males, 1 female.

169-34. Academy Bay, Indefatigable Island, 15-25 fms, Jan. 20, 1934, 1 young.

170-34. East of Wreck Bay, Chatham Island, 32 fms, Jan. 21, 1934, 2 specimens.

173-34. South Seymour Island, 5 fms, Jan. 22, 1934, 1 male.

202-34. Gardner Bay, Hood Island, shore, Jan. 31, 1934, 4 males.

313-35. Black Beach, Charles Island, shore, Dec. 6, 1934, 1 male, 1 ovig. female.

315-35. Opposite Gordon Rocks, Indefatigable Island, coral, Dec. 8, 1934, 20 males, 8 females (6 ovig.).

329-35. Tagus Cove, Albemarle Island, 10 fms, Dec. 10, 1934, 1 young.

343-35. Sulivan Bay, James Island, shore, Dec. 12, 1934, 4 males, 5 females (4 ovig.), 4 young.

350-35. South Seymour Island, shore, Dec. 13, 1934, 1 ovig. female.

357-35. Gardner Bay, Hood Island, shore, Dec. 17, 1934, 1 specimen.

359-35. Osborn Island in Gardner Bay, Hood Island, shore, Dec. 19, 1934, 4 males, 1 female.

789-38. South Seymour Island, shore, Jan. 19, 1938, 3 males, 2 females, 1 young.

796-38. Sulivan Bay, James Island, shore, Jan. 21, 1938, 1 female.

804-38. Onslow Island, near Charles Island, coral, Jan. 23, 1938, 1 male, 2 females.

807-38. Academy Bay, Indefatigable Island, 10-25 fms, Jan. 24, 1938, 1 young female.

811-38. Barrington Island, coral, Jan. 26, 1938, 3 males, 3 females.

Measurements.—Largest specimen, male: length 10.4 mm, width 15.0 mm, cheliped 16.0 mm, chela 11.0 mm, dactyl 6.1 mm.

Color in life.—General appearance of crab light ochre red. Chelipeds light purplish mineral red. Fingers dark sorghum brown fading toward almost white tips. Frontal, gastric, cardiac, and intestinal areas a tone darker than branchial areas. A few bluish white spots scattered over carapace, especially along regional grooves. Ambulatory legs with ground color of chelae but speckled with bluish white spots. Dactyl yellow, nail dark yellow. (Petersen)

Habitat.—Rocky shore.

Depth.—Shore; occasionally to 32 fms.

Remarks.—This series is remarkable for the small size of the ovigerous females as compared to the adult males. Females less than 6 mm long were found with the full complement of eggs. The conspicuous extension of the black on the fingers backwards on the palm, given by Boone (1927) as diagnostic of *Xanthias insculpta,* appears from Hancock series to occur only in large males. In females and smaller males it is chopped off abruptly at the base of the fingers or extends but slightly on the palm. A large male examined by the writer checks exactly with the proportions given for the type of *X. insculpta.*

The young of this species is difficult to distinguish from the young of *Xanthodius stimpsoni* (A. Milne Edwards), of the mainland coast; in fact, one Galapagos specimen so labeled was found in the collections of the U.S. National Museum. Since it is altogether possible that *X. stimpsoni* may occur in the Galapagos area, future collectors should examine with particular care their series of *P. insculptus.*

Genus **MENIPPE** de Haan, 1833

Menippe obtusa Stimpson

Plate 82, Figs. 3, 4

Menippe obtusa Stimpson, Ann. Lyc. Nat. Hist. New York, vol. 7, p. 53 (7), 1860. Rathbun, Bull. 152, U.S. Nat. Mus., p. 478, pl. 197; pl. 198, figs. 1 and 2, 1930. Sivertsen, Med. fra det Zool. Mus., Oslo, nr. 38, p. 16, 1933.

Type locality.—Panama.

Type.—USNM No. 2050.

Range.—Pacific side of Costa Rica and Panama (Sternbergh); Floreana (Charles) Island, Galapagos (Sivertsen).

Diagnosis.—Anterolateral borders strongly arched; 5 broad teeth, including orbital; second tooth bilobate. Chelipeds massive, a stridulating ridge on inner surface of chela. But one lobule on frontal margin adjoining each submedian lobe.

Material examined (19 specimens from 8 stations).—

30-33. Gardner Bay, Hood Island, shore, Jan. 26, 1933, 4 females.

38-33. SE of Cormorant Point, Charles Island, shore, Jan. 29, 1933, 2 males, 1 female.

71-33. James Bay, James Island, shore, Feb. 12, 1933, 4 females.

73-33. Cartago Bay, Albemarle Island, shore, Feb. 13, 1933, 1 male.

166-34. Black Beach, Charles Island, shore, Jan. 19, 1934, 1 female.

174-34. South Seymour Island, shore, Jan. 22, 1934, 2 females.

359-35. Osborn Island in Gardner Bay, Hood Island, shore, Dec. 19, 1934, 2 males, 1 young.

789-38. South Seymour Island, shore, Jan. 19, 1938, 1 large male (photographed).

Measurements.—Largest specimen, male: length 40 mm, width 59 mm, cheliped (rigid) coxa to elbow 41 mm, elbow to tip of dactyl 57 mm, chela 52 mm, height 29 mm, dactyl 27.5 mm.

Habitat.—Under rocks at low tide.

Depth.—Shore.

Remarks.—A specimen from Hood Island was compared with the type (USNM No. 2050) collected by Sternbergh. Stridulating ridges on the inner side of the palm are a remarkable characteristic of the genus. They play upon certain of the anterolateral teeth and appear capable of producing sound. (See illustration.)

Genus **PILUMNUS** Leach, 1815

KEY TO THE GALAPAGOS SPECIES OF THE GENUS *Pilumnus*

A¹ Lateral margin with 5 spines, including orbital; size large . . . . . *P. xantusii*

A² Lateral margin with 5 teeth, including orbital; size minute . . . . . *P. pygmaeus*

Pilumnus xantusii Stimpson

Plate 59, Figs. 1-5; Plate 79, Fig. 4

Pilumnus xantusii Stimpson, Ann. Lyc. Nat. Hist. New York, vol. 7, p. 213 (85), 1860. Rathbun, Bull. 152, U.S. Nat. Mus., p. 486, pl. 201, figs. 1-3, 1930.

Eriphides hispida Boone, Zoologica, vol. 8, no. 4, p. 237, fig. 87B, 1927; (not fig. 87A, which is *E. hispida*).

Pilumnus crosslandi Finnegan, Journ. Linn. Soc. London, vol. 37, p. 643, 1931.

Type locality.—Cape San Lucas, Lower California.

Types.—Cotypes in Paris Mus. and MCZ, No. 1259.

Range.—Cape San Lucas, Lower California (Xantus); Galapagos Islands (as *P. crosslandi* Finnegan), (Crossland).

Atlantic analogue.—*P. sayi* Rathbun.

Diagnosis.—Five anterolateral spines including exorbital. Outer surface of major manus completely roughened. Meri of ambuatory legs entire. Carapace narrow; proportion of length to width 5:6. Carapace and chelipeds covered with long hairs.

Material examined (33 specimens from 9 stations).—

69-33. Albemarle Point, Albemarle Island, shore, Feb. 11, 1933, 3 males, 1 female.

94-33. Darwin Bay, Tower Island, coral, Feb. 22, 1933, 1 male, 2 ovig. females.

97-33. Darwin Bay, Tower Island, coral, Feb. 24, 1933, 3 males, 5 ovig. females.

101-33. Darwin Bay, Tower Island, shore, Feb. 26, 1933, 1 ovig. female.

101a-33. Darwin Bay, Tower Island, coral, Feb. 26, 1933, 1 ovig. female.

152-34. Tagus Cove, Albemarle Island, coral, Jan. 14, 1934, 4 males (1 illustrated in part), 6 females (1 illustrated), 1 young.

322-35. Tagus Cove, Albemarle Island, 10 fms, Dec. 10, 1934, 1 specimen.

344-35. Bartholomew Island near James Island, coral, Dec. 12, 1934, 1 male, 2 females.

796-38. Sulivan Bay, James Island, shore, Jan. 21, 1938, 1 male. Also a paratype of *P. crosslandi* Finnegan and the specimen identified as *Eriphides hispida* by Boone (photographed).

Measurements.—Largest specimen, female: length 17.6 mm, width 22.0 mm, cheliped 24.0 mm, chela 13.7 mm, dactyl 8.8 mm.

Habitat.—Shore, the *Pocillopora* colony, or dredged (10 fms).

Depth.—Shore to 10 fms.

Remarks.—A paratype of *Pilumnus crosslandi* Finnegan (1931) was examined through the courtesy of Dr. Isabella Gordon of the British Museum and later referred to Dr. Fenner A. Chace of Harvard MCZ for comparison with cotypes of Stimpson's *P. xantusii.* Dr. Chace finds agreement in all points but the degree of armature of the upper orbit, a character variable in the 8 cotypes at hand. In all other respects he reports the species indistinguishable.

Through the courtesy of Miss Jocelyn Crane of the New York Zoological Society, the specimen figured by Boone (1927, fig. 87B) as *Eriphides hispida,* young, has been examined and found to be a well-developed male specimen of *Pilumnus xantusii.*

Pilumnus pygmaeus Boone

Plate 80, Fig. 4

Pilumnus pygmaeus Boone, Zoologica, vol. 8, no. 4, p. 221, fig. 81, 1927. Rathbun, Bull. 152, U.S. Nat. Mus., p. 515, pl. 207, figs. 4 and 5, 1930.

Type locality.—Off Hood Island, Galapagos Islands; 15 ft.

Type.—In Mus. N.Y. Zool. Soc.

Range.—Hood and Tower Islands, Galapagos Islands *(Arcturus).*

Diagnosis.—Of minute size. Carapace and chelipeds granulate. Anterolateral margins toothed, not spinulous; teeth obscure. Major chela twice the size of minor, hairy.

Material examined (138 specimens from 28 stations).—

27-33. Gardner Bay, Hood Island, shore, Jan. 25, 1933, 1 male (photographed), 1 female.

28-33. Gardner Bay, Hood Island, 2 fms, Jan. 25, 1933, 1 male, 3 females (1 ovig.).

31-33. Gardner Bay, Hood Island, 4 fms, Jan. 26, 1933, 1 ovig. female.

38-33. SE of Cormorant Point, Charles Island, shore, Jan. 29, 1933, 3 females.

47-33. Barrington Island, 2 fms, Feb. 2, 1933, 2 males, 2 females.

59-33. Off Cormorant Bay, Charles Island, 13 fms, Feb. 6, 1933, 1 male, 8 females.

65-33. Reef north of Tagus Hill, Albemarle Island, reef, Feb. 9, 1933, 1 young.

69-33. Albemarle Point, Albemarle Island, shore, Feb. 11, 1933, 1 young.

76-33. Cartago Bay, Albemarle Island, shore, Feb. 14, 1933, 2 males.

94-33. Darwin Bay, Tower Island, 2-3 fms, Feb. 22, 1933, 1 young male.

97-33. Darwin Bay, Tower Island, coral, Feb. 24, 1933, 1 male.

101-33. Darwin Bay, Tower Island, shore, Feb. 26, 1933, 1 ovig. female.

101a-33. Darwin Bay, Tower Island, coral, Feb. 26, 1933, 1 ovig. female.

152-34. Tagus Cove, Albemarle Island, coral, Jan. 14, 1934, 1 young male.

161-34. Black Beach, Charles Island, 3 fms, Jan. 17, 1934, 2 females (1 ovig.).

168-34. Academy Bay, Indefatigable Island, shore, Jan. 20, 1934, 1 female.

169-34. Academy Bay, Indefatigable Island, 15-25 fms, Jan. 20, 1934, 15 males, 3 young.

193-34. Post Office Bay, Charles Island, 8-10 fms, Jan. 27, 1934, 1 specimen.

194-34. Post Office Bay, Charles Island, coral from Onslow Island crater, Jan. 27, 1934, 3 males, 6 females.
306-35. Marchena Island, shore, Dec. 2, 1934, 6 young.
315-35. Opposite Gordon Rocks, Indefatigable Island, coral, Dec. 8, 1934, 3 males, 1 female.
333-35. James Bay, James Island, shore, Dec. 11, 1934, 1 male, 1 ovig. female.
343-35. Sulivan Bay, James Island, shore, Dec. 12, 1934, 1 male.
357-35. Gardner Bay, Hood Island, coral, Dec. 17, 1934, 17 males, 13 females.
789-38. South Seymour Island, shore, Jan. 19, 1938, 1 female.
804-38. Onslow Island, near Charles Island, coral, Jan. 23, 1938, 10 males, 14 females.
811-38. Barrington Island, coral, Jan. 26, 1938, 4 males.
811a-38. Barrington Island, *Pavona* coral, Jan. 26, 1938, 1 male.

Measurements.—Length 2.5 mm, width 3.3 mm.

Color in life.—Carapace warm blackish brown with scattered small irregular patches of creamy white to pale blue. A large posterolateral area of white with an adjoining band of reddish ochraceous orange. Cheliped lighter than carapace and covered with small granules of light purplish vinaceous color. Outer surface covered with long courge green hair. Ground color of ambulatory legs same as carapace but almost covered with irregular patches of creamy white with pinkish tone. Hair on legs pale yellowish white. (Petersen)

Habitat.—Shore, *Pocillopora* colony, and shallow dredging.

Depth.—Shore to 13 fms.

Remarks.—While secured more abundantly in the *Pocillopora* coral, *P. pygmaeus* is also gathered in ordinary shore collecting, where it is likely to be overlooked because of its infinitesimal size. Those at Barrington were obtained by use of the diving helmet, those in Cormorant Bay by shallow dredging.

Genus **ACIDOPS** Stimpson, 1871

Acidops fimbriatus Stimpson

Plate 80, Fig. 3

Acidops fimbriatus Stimpson, Ann. Lyc. Nat. Hist. New York, vol. 10, p. 111 (21), 1871. Rathbun, Bull. 152, U.S. Nat. Mus., p. 534. 1930. (part: not the Australian specimen).

Type locality.—Cape San Lucas, Lower California.

Type.—Not extant.

Range.—Cape San Lucas, Lower California; also from Ecuador, if Rathbun's synonymy of *Ceratoplax ciliata* Cano be accepted.

Diagnosis.—Eyestalks elongate, compressed. Front fringed with long, golden hair. Four teeth including orbital; teeth not produced. Chelipeds hairy and with granulate ridges.

Material examined (6 specimens from as many stations).—

73-33. Cartago Bay, Albemarle Island, shore, Feb. 13, 1933, 1 large female.

101-33. Darwin Bay, Tower Island, shore, Feb. 26, 1933, 1 male (photographed).

170-34. East of Wreck Bay, Chatham Island, 32 fms, Jan. 21, 1934, 1 specimen.

783-38. Darwin Bay, Tower Island, 40-70 fms, Jan. 16, 1938, 1 male.

785-38. Darwin Bay, Tower Island, 20-40 fms, Jan. 17, 1938, 1 female.

811-38. Barrington Island, coral, Jan. 26, 1938, 1 female.

Measurements.—Largest specimen, male: length 11.0 mm, width 14.4 mm, cheliped (rigid) coxa to elbow 7.0 mm, elbow to end of dactyl 7.5 mm, chela 6.5 mm, dactyl 4.1 mm; female: length 10.0 mm, width 13.5 mm.

Color in life.—Ground color of carapace white with bluish tinge, densely covered with hair of a light, pale yellow tint. Scattered all over are long hairs of bright red color to vermilion with light yellow to white tips. An irregular spot of yellow orange on cardiac region, a vermilion spot on gastric region, and a darker spot on branchial region. Cheliped overcast with vermilion spots and covered with long hairs like those of carapace. Carpus of ambulatory legs with tiny spots like those of cheliped; legs clothed with hair similar to that of carapace. Dactyls pale yellow. (Petersen)

Habitat.—Rocky shore; coral; sand bottom.

Depth.—Shore to 70 fms.

Remarks.—In the absence of Stimpson's type, or material from the Gulf of California, it is a moot question whether the Galapagos specimens are what Stimpson had. Certainly they are not the same as the Australian specimen which Rathbun (1930, p. 534, pl. 215) considered conspecific with the Stimpson specimen. Judging from the increasing number of species known to be common to both Gulf of California and Galapagos waters, the writer considers it much more probable that the above series represents the true *Acidops fimbriatus* than does the Australian specimen.

Genus **OZIUS** Milne Edwards, 1834

KEY TO THE GALAPAGOS SPECIES OF THE GENUS *Ozius*

A¹ Carapace less than 1½ times as wide as long . . *O. verreauxii*
A² Carapace more than 1½ times as wide as long
  B¹ Chelae not strikingly dissimilar. Anterolateral margins broadly arched . . . . . *O. peraltus*
  B² Fingers of minor chela extremely attenuate. Anterolateral margins almost straight . . . . . *O. tenuidactylus*

Ozius verreauxii Saussure

Plate 81, Fig. 3; Plate 82, Figs. 5, 6

Ozius verreauxii Saussure, Rev. Mag. Zool., ser. 2, vol. 5, p. 359 (6), pl. 12, fig. 1, 1853. Faxon, Mem. Mus. Comp. Zool., vol. 18, p. 21, 1895. Rathbun, Bull. 152, U.S. Nat. Mus., p. 540, pl. 219; pl. 220, fig. 5, and synonymy, 1930. Boone, Zoologica, vol. 8, no. 4, p. 223, fig. 82, 1927. Sivertsen, Med. fra det Zool. Mus., Oslo, nr. 38, p. 17, 1933.

Type locality.—Mazatlan, Mexico.

Type.—Not extant.

Range.—From Magdalena Bay, Lower California (Orcutt), to Ecuador (Nobili); Galapagos Islands (Habel).

Diagnosis.—Carapace less than one and one-half times as wide as long, first three lateral teeth broad and shallow, last two small but well defined. Front with 4 well-marked, equal lobules. A strong tooth at base of dactyl of large chela.

Material examined (45 specimens from 19 stations).—

11-32. Conway Bay, Indefatigable Island, shore, Jan. 12, 1932, 1 male.

27-33. Gardner Bay, Hood Island, shore, Jan. 25, 1933, 2 males, 1 female.

30-33. Gardner Bay, Hood Island, shore, Jan. 26, 1933, 1 male, 3 females (1 ovig.).

42-33. Opposite Kicker Rock, Chatham Island, Jan. 31, 1933, 1 female.

49-33. Academy Bay, Indefatigable Island, shore, Feb. 3, 1933, 1 male.

52-33. Academy Bay, Indefatigable Island, shore, Feb. 4, 1933, 2 males, 1 female.

56-33. Flamingo Bay, Charles Island, shore, Feb. 5, 1933, 6 males, 2 females.

58-33. Cormorant Bay, Charles Island, shore, Feb. 6, 1933, 2 males, 2 females (1 ovig.).
62-33. Black Bight, Albemarle Island, shore, Feb. 8, 1933, 3 females.
76-33. Cartago Bay, Albemarle Island, shore, Feb. 14, 1933, 1 male.
82-33. Conway Bay, Indefatigable Island, shore, Feb. 17, 1933, 3 males, 2 females.
85-33. North Seymour Island, shore, Feb. 18, 1933, 1 male.
93-33. Darwin Bay, Tower Island, shore, Feb. 22, 1933, 2 males.
96-33. Darwin Bay, Tower Island, shore, Feb. 24, 1933, 1 male.
98-33. Darwin Bay, Tower Island, shore, Feb. 25, 1933, 2 specimens.
202-34. Gardner Bay, Hood Island, shore, Jan. 31, 1934, 1 large female.
306-35. Marchena Island, shore, Dec. 2, 1934, 2 males.
314-35. Academy Bay, Indefatigable Island, shore, Dec. 7, 1934, 1 male.
789-38. South Seymour Island, shore, Jan. 19, 1938, 1 large female.

Measurements.—Largest male: length 57 mm, width 86 mm, cheliped (rigid) coxa to elbow 45 mm, elbow to tip of dactyl 73 mm, chela 67 mm, dactyl 37 mm; large female: length 53.5 mm, width 82 mm, cheliped (rigid) coxa to elbow 38 mm, elbow to tip of dactyl 60 mm, chela 56 mm, dactyl 28 mm.

Habitat.—Shore, typically under large, columnar boulders of lava, which have to be pried apart with a crowbar.

Depth.—Shore.

Remarks.—Galapagos specimens of *O. verreauxii* attain large size. They are more secretive than other members of the genus, which accounts for their relative scarcity in collections.

Ozius perlatus Stimpson

Plate 81, Fig. 2

Ozius perlatus Stimpson, Ann. Lyc. Nat. Hist. New York, vol. 7, p. 211 (83), 1860. Rathbun, Bull. 152, U.S. Nat. Mus., p. 543, pl. 221, figs. 1 and 2, 1930. Boone, Zoologica, vol. 8, no. 4, p. 228, fig. 84, 1927. Sivertsen, Med. fra det Zool. Mus., Oslo, nr. 38, p. 17, 1933. Schmitt, Smithsonian Misc. Col., vol. 98, no. 6, p. 25, 1939.

Type locality.—Cape San Lucas, Lower California.

Types.—Cotypes in MCZ, No. 1256.

Range.—From Cape San Lucas, Lower California (Xantus), to Santa Elena, Ecuador (Schmitt); Galapagos Islands, *(Arcturus).*

Atlantic analogue.—*O. reticulatus* (Desbonne and Schramm).

Diagnosis.—Carapace more than one and one-half times as wide as long. Anterolateral margins broadly arcuate. Chelipeds not strikingly dissimilar.

Material examined (170 specimens from 20 stations).—

10-32. James Bay, James Island, shore, Jan. 10, 1932, 16 males, 21 females (4 ovig.).

12-32. South Seymour Island, shore, Jan. 14-18, 1932, 1 male, 1 female.

42-33. Opposite Kicker Rock, Chatham Island, shore, Jan. 31, 1933, 2 males, 2 females, 1 young.

49-33. Academy Bay, Indefatigable Island, shore, Feb. 3, 1933, 1 female.

56-33. Flamingo Bay, Charles Island, shore, Feb. 5, 1933, 3 males, 3 females (2 ovig.), 3 young.

58-33. Cormorant Bay, Charles Island, shore, Feb. 6, 1933, 9 males, 12 females (6 ovig.), 5 young.

62-33. Black Bight, Albemarle Island, shore, Feb. 8, 1933, 11 males (1 photographed), 14 females (2 ovig.), 8 young.

65-33. Reef north of Tagus Hill, Albemarle Island, reef, Feb. 9, 1933, 5 males, 8 females, (7 ovig.), 1 young.

69-33. Albemarle Point, Albemarle Island, shore, Feb. 11, 1933, 2 males.

82-33. Conway Bay, Indefatigable Island, shore, Feb. 17, 1933, 4 males.

85-33. North Seymour Island, shore, Feb. 18, 1933, 1 male, 1 female, 1 young.

93-33. Darwin Bay, Tower Island, shore, Feb. 22, 1933, 1 female.

175-34. North Seymour Island, shore, Jan. 22, 1934, 1 male.

179-34. Bartholomew Island near James Island, shore, Jan. 23, 1934, 5 males, 5 females (3 ovig.).

306-35. Marchena Island, shore, Dec. 2, 1934, 1 male, 1 female, 1 young.

312-35. Black Beach, Charles Island, shore, Dec. 5, 1934, 1 male, 1 female.

314-35. Academy Bay, Indefatigable Island, shore, Dec. 7, 1934, 5 males, 2 females.

333-35. James Bay, James Island, shore, Dec. 11, 1934, 2 young.

342-35. Bartholomew Island near James Island, shore, Dec. 12, 1934, 4 males, 2 females.

796-38. Sulivan Bay, James Island, shore, Jan. 21, 1938, 1 male, 1 female.

Measurements.—Largest specimen, female: length 20.0 mm, width 33.2 mm, cheliped 31.0 mm, chela 20.0 mm, dactyl 10.0 mm.

Color in life.—Cardiac and intestinal regions pansy purple, blending into a dusky aricula purple on other areas. Grooves between areolations white, with only a little of the color of the adjoining areas. Chelipeds dark pansy purple to middle of fingers. Fingers banded with light taupe brown, lighter toward tips. Ambulatory legs light pansy purple, dactyl lighter, nail yellow. (Petersen)

Habitat.—In crevices between large boulders, where they may be found by removing loose pebbles.

Depth.—Shore.

Remarks.—This species is not nearly so abundant or so continuously distributed as the following *O. tenuidactylus* (Lockington). Small colonies adhere closely to a few favorable localities, as at James Bay, where about 40 were removed in a few minutes from a single moist pocket filled with smooth, round pebbles.

Ozius tenuidactylus (Lockington)

Plate 81, Fig. 1

Xantho tenuidactylos Lockington, Proc. Calif. Acad. Sci., vol. 7, pt. 1, p. 98, 1877.

Ozius tenuidactylos Glassell, Trans. San Diego Soc. Nat. Hist., vol. 8, no. 14, p. 104, 1935.

Ozius tenuidactylus Schmitt, Smithsonian Misc. Col., vol. 98, no. 6, p 25, 1939.

Ozius agassizii A. Milne Edwards, Crust. Reg. Mex., p. 279, pl. 55, figs. 1-1d, 1880. Rathbun, Proc. U.S. Nat. Mus., vol. 21, p. 583, 1898; Bull. 152, U.S. Nat. Mus., p. 544, pl. 221, figs. 3 and 4, 1930. Boone, Zoologica, vol. 8, no. 4, p. 225, fig. 83, 1927. Sivertsen, Med. fra det Zool. Mus., Oslo, nr. 38, p. 17, 1933.

Type locality.—Unknown; one of Lockington's.

Type.—Not extant.

Range.—From the Gulf of California (Lockington) to Ecuador (Nobili); Galapagos Islands (*Hassler* Expedition).

Diagnosis.—Carapace much more than one and one-half times wider than long. Anterolateral and posterolateral margins nearly straight, meeting in two rounded lobes at lateral angles. Chelipeds dissimilar, dactyls of minor chela extremely attenuated.

Material examined (1,224 specimens from 49 stations).—

11-32. Conway Bay, Indefatigable Island, shore, Jan. 12-14, 1932, 2 young.

12-32. South Seymour Island, shore, Jan. 17, 1932, 2 females.
24-33. Gardner Bay, Hood Island, shore, Jan. 24, 1933, 3 males, 7 young.
27-33. Gardner Bay, Hood Island, shore, Jan. 25, 1933, 2 males.
28-33. Gardner Bay, Hood Island, 2 fms, Jan. 25, 1933, 2 males.
30-33. Gardner Bay, Hood Island, shore, Jan. 26, 1933, 1 male, 2 ovig. females, 3 young.
33-33. Black Beach, Charles Island, shore, Jan. 27, 1933, 1 male.
38-33. SE of Cormorant Point, Charles Island, shore, Jan. 29, 1933, 1 male.
42-33. Opposite Kicker Rock, Chatham Island, shore, Jan. 31, 1933, 4 males, 2 females.
48-33. Barrington Island, shore, Feb. 2, 1933, 23 males, 16 females (1 ovig.), 5 young.
49-33. Academy Bay, Indefatigable Island, shore, Feb. 3, 1933, 15 males, 15 females.
52-33. Academy Bay, Indefatigable Island, shore, Feb. 4, 1933, 40 males, 34 females, 1 young.
56-33. Flamingo Bay, Charles Island, shore, Feb. 5, 1933, 25 males, 26 females.
58-33. Cormorant Bay, Charles Island, shore, Feb. 6, 1933, 6 males, 9 females.
69-33. Albemarle Point, Albemarle Island, shore, Feb. 11, 1933, 1 male.
71-33. James Bay, James Island, shore, Feb. 12, 1933, 20 males, 12 females (1 ovig.).
76-33. Cartago Bay, Albemarle Island, shore, Feb. 14, 1933, 1 male, 2 females, 2 young.
82-33. Conway Bay, Indefatigable Island, shore, Feb. 17, 1933, 85 males, 77 females (61 ovig.), 16 young.
85-33. North Seymour Island, shore, Feb. 18, 1933, 56 males, 44 females (34 ovig.), 16 young.
88-33. South Seymour Island, shore, Feb. 19, 1933, 20 males, 14 females (13 ovig.), 6 young.
93-33. Darwin Bay, Tower Island, shore, Feb. 22, 1933, 7 males, 3 females (2 ovig.), 1 young.
96-33. Darwin Bay, Tower Island, shore, Feb. 24, 1933, 28 males, 27 females (21 ovig.), 1 young.
97-33. Darwin Bay, Tower Island, coral, Feb. 24, 1933, 1 male.
98-33. Darwin Bay, Tower Island, shore, Feb. 25, 1933, 1 male.

101-33. Darwin Bay, Tower Island, shore, Feb. 26, 1933, 5 males, 5 ovig. females.

146-34. Albemarle Point, Albemarle Island, shore, Jan. 12, 1934, 1 male.

153-34. Mangrove Point, Narborough Island, shore, Jan. 14, 1934, 1 male.

163-34. Black Beach, Charles Island, shore, Jan. 18, 1934, 1 male, 2 females.

168-34. Academy Bay, Indefatigable Island, shore, Jan. 20, 1934, 21 males, 20 females (10 ovig.).

174-34. South Seymour Island, shore, Jan. 22, 1934, 13 males, 25 females (6 ovig.).

175-34. North Seymour Island, shore, Jan. 22, 1934, 65 males, 70 females (15 ovig.).

179-34. Bartholomew Island near James Island, shore, Jan. 23, 1934, 20 males, 22 females.

188-34. Cartago Bay, Albemarle Island, shore, Jan. 25, 1934, 8 males, 6 females, 2 young.

199a-34. Post Office Bay, Charles Island, shore, Jan. 30, 1934, 4 males, 2 females.

202-34. Gardner Bay, Hood Island, shore, Jan. 31, 1934, 6 males, 5 females.

306-35. Marchena Island, shore, Dec. 2, 1934, 6 males, 6 females (1 ovig.), 2 young.

312-35. Black Beach, Charles Island, shore, Dec. 5, 1934, 26 males, 42 females.

314-35. Academy Bay, Indefatigable Island, shore, Dec. 7, 1934, 31 males, 43 females.

333-35. James Bay, James Island, shore, Dec. 11, 1934, 8 males, 14 females.

343-35. Sulivan Bay, James Island, shore, Dec. 12, 1934, 5 males.

350-35. South Seymour Island, shore, Dec. 13, 1934, 1 male.

358-35. Gardner Bay, Hood Island, shore, Dec. 17, 1934, 11 males, 6 females, 1 young.

359-35. Osborn Island in Gardner Bay, Hood Island, shore, Dec. 19, 1934, 1 male, 1 fragment.

782-38. Darwin Bay, Tower Island, shore, Jan. 16, 1938, 3 males, 4 females, 1 young.

784-38. Darwin Bay, Tower Island, shore, Jan. 17, 1938, 1 male.

789-38. South Seymour Island, shore, Jan. 19, 1938, 1 male.

796-38. Sulivan Bay, James Island, shore, Jan. 21, 1938, 2 males.

800-38. Cartago Bay, Albemarle Island, shore, Jan. 22, 1938, 1 male, 5 females (2 ovig.).

808-38. Academy Bay, Indefatigable Island, shore, Jan. 25, 1938, 4 males, 6 females (4 ovig.).

Measurements.—Largest specimen, female: length 16.5 mm, width 25.9 mm, cheliped 34.0 mm, chela 23.3 mm, dactyl 10.8 mm.

Color in life.—Carapace and chelipeds uniform heliotrope purple. Fingers black, lightening toward tips. Eggs magenta. (Garth)

Habitat.—Shore, under loose rocks and pebbles. Rarely found in coral.

Depth.—Shore.

Remarks.—This species is one of the most abundant of the Galapagos fauna and is exceeded in numbers of specimens collected only by *Leptodius cooksoni* Miers among free-living Xanthidae. It may be distinguished at once from its congeners and from all other Galapagos xanthids by the extremely tenuous dactyls of the minor chela, which suggested to Lockington the specific name *tenuidactylus*. The species has gone for many years under the name of *Ozius agassizii* A. Milne Edwards, and so appears in all publications dealing with Galapagos Brachyura with the exception of Schmitt (1939), and including the Rathbun monograph (1930).

Genus **ERIPHIA** Latreille, 1817

Key to the Galapagos Species of the Genus *Eriphia*

A¹ Frontal lobes and margins of orbit smooth and convex. Tubercles of wrist coalesced . . . . . *E. granulosa*

A² Frontal lobes and margins of orbit thin and granulate. Tubercles of wrist single . . . . . *E. squamata*

Eriphia squamata *Stimpson*

Plate 83, Figs. 5, 6

Eriphia squamata Stimpson, Ann. Lyc. Nat. Hist. New York, vol. 7, p. 56 (10), 1859. Rathbun, Zoologica, vol. 5, no. 14, p. 158, 1924; Bull. 152, U.S. Nat. Mus., p. 550, pl. 223; pl. 224, fig. 1; text fig. 84, and synonymy, 1930. Hult, Arkiv för Zoologi, Band 30A, no. 5, p. 13, 1938.

Type locality.—Mazatlan, Mexico.

Type.—Not extant.

Range.—From Magdalena Bay, Lower California (Orcutt), and Agua Verde Bay, Gulf of California *(Albatross)*, to Salinas, Ecuador (Schmitt); Galapagos Islands (Jones).

Atlantic analogue.—*E. gonagra* (Fabricius).

Diagnosis.—Front wide, lobes truncate, edges thin and granulate. Granules of gastric region arranged in short rows. Tubercles of wrist single, rounded, and ciliated anteriorly.

Material examined.—None from among Hancock Galapagos material. The W. H. Jones specimen, USNM No. 17783, male, has been examined and is definitely of this species. It was taken at Chatham Island, Galapagos, April 16-17, 1884, and is photographically reproduced herein. Two females from Eden Island, Galapagos, taken by the *Noma* Expedition in 1923 have also been examined through the courtesy of Miss Jocelyn Crane of the New York Zoological Society. A series of this species taken at Cocos Island by the Hancock Expeditions has been used in comparing the Galapagos material.

Eriphia granulosa A. Milne Edwards

Plate 80, Fig. 2

Eriphia granulosa A. Milne Edwards, Crust. Reg. Mex., p. 339, pl. 56, figs. 2-2b, 1880. Rathbun, Proc. Washington Acad. Sci., vol. 4, no. 8, p. 282, 1902; Bull. 152, U.S. Nat. Mus., p. 551, pl. 224, figs. 2-4, 1930. Boone, Zoologica, vol. 8, no. 4, p. 234, 1927 (part: the Galapagos specimens). Finnegan, Journ. Linn. Soc. London, vol. 37, p. 646, 1931. Sivertsen, Med. fra det Zool. Mus., Oslo, nr. 38, p. 18, 1933. Schmitt, Smithsonian Misc. Col., vol. 98, no. 6, p. 25, 1939.

Type locality.—Chile (?).

Type.—In Paris Mus.

Range.—Chile (?) (the holotype); Galapagos Islands (Jones); *not* Cocos Island (Boone).

Diagnosis.—Anterolateral margins spinate. Frontal lobes and margins of orbit smooth and convex, edges of front arching. Granules of gastric region single, not combined in rows. Tubercles of wrist coalesced.

Material examined (553 specimens from 58 stations).—

27-33. Gardner Bay, Hood Island, shore, Jan. 25, 1933, 3 males, 3 females (2 ovig.).

28-33. Gardner Bay, Hood Island, 2 fms, Jan. 25, 1933, 1 male, 1 young.

30-33. Gardner Bay, Hood Island, shore, Jan. 26, 1933, 9 males, 2 females, 1 fragment.

33-33. Black Beach, Charles Island, shore, Jan. 27, 1933, 3 males, 3 ovig. females.

38-33. SE of Cormorant Point, Charles Island, shore, Jan. 29, 1933, 2 males.

48-33. Barrington Island, shore, Feb. 2, 1933, 3 males, 2 females (1 ovig.).

49-33. Academy Bay, Indefatigable Island, shore, Feb. 3, 1933, 2 males.

52-33. Academy Bay, Indefatigable Island, shore, Feb. 4, 1933, 4 females (1 ovig.).

56-33. Flamingo Bay, Charles Island, shore, Feb. 5, 1933, 2 males, (1 photographed), 3 ovig. females.

58-33. Cormorant Bay, Charles Island, shore, Feb. 6, 1933, 2 males, 1 female.

65-33. Reef north of Tagus Hill, Albemarle Island, reef, Feb. 9, 1933, 5 males, 3 females, 1 young.

69-33. Albemarle Point, Albemarle Island, shore, Feb. 11, 1933, 25 males, 13 females, 6 young.

71-33. James Bay, James Island, shore, Feb. 12, 1933, 4 males, 5 females.

73-33. Cartago Bay, Albemarle Island, shore, Feb. 13, 1933, 4 males, 1 female.

76-33. Cartago Bay, Albemarle Island, shore, Feb. 14, 1933, 3 males, 1 female.

80-33. Duncan Island, shore, Feb. 15, 1933, 1 young.

82-33. Conway Bay, Indefatigable Island, shore, Feb. 17, 1933, 1 female, 1 young.

85-33. North Seymour Island, shore, Feb. 18, 1933, 7 males, 3 females.

88-33. South Seymour Island, shore, Feb. 19, 1933, 1 male, 2 females.

93-33. Darwin Bay, Tower Island, shore, Feb. 22, 1933, 1 male.

96-33. Darwin Bay, Tower Island, shore, Feb. 24, 1933, 9 males, 16 females (7 ovig.).

98-33. Darwin Bay, Tower Island, shore, Feb. 25, 1933, 4 males, 5 ovig. females.

101-33. Darwin Bay, Tower Island, shore, Feb. 26, 1933, 6 males, 13 females (8 ovig.).

146-34. Albemarle Point, Albemarle Island, shore, Jan. 12, 1934, 12 males, 6 females (3 ovig.).

152-34. Tagus Cove, Albemarle Island, coral, Jan. 14, 1934, 1 male, 1 female, 7 young.

154-34. Reef north of Tagus Hill, Albemarle Island, reef, Jan. 15, 1934, 4 males, 4 ovig. females.

161-34. Black Beach, Charles Island, 3 fms, Jan. 17, 1934, 2 males.

163-34. Black Beach, Charles Island, shore, Jan. 18, 1934, 2 males, 8 females (7 ovig.).

166-34. Black Beach, Charles Island, shore, Jan. 19, 1934, 2 males, 4 females (3 ovig.).

168-34. Academy Bay, Indefatigable Island, shore, Jan. 20, 1934, 9 males, 11 females (10 ovig.).

174-34. South Seymour Island, shore, Jan. 22, 1934, 2 males, 2 ovig. females.

175-34. North Seymour Island, shore, Jan. 22, 1934, 10 males, 6 females (5 ovig.).

179-34. Bartholomew Island near James Island, shore, Jan. 23, 1934, 2 males, 3 ovig. females.

188-34. Cartago Bay, Albemarle Island, shore, Jan. 25, 1934, 1 male, 1 ovig. female.

194-34. Post Office Bay, Charles Island, coral from Onslow Island crater, Jan. 27, 1934, 1 male, 1 small female.

199-34. Black Beach, Charles Island, shore, Jan. 30, 1934, 1 male.

202-34. Gardner Bay, Hood Island, shore, Jan. 31, 1934, 6 males, 5 females.

306-35. Marchena Island, shore, Dec. 2, 1934, 12 males, 3 females (1 ovig.), 1 fragment.

312-35. Black Beach, Charles Island, shore, Dec. 5, 1934, 11 males, 11 females (7 ovig.).

313-35. Black Beach, Charles Island, shore, Dec. 6, 1934, 1 male.

314-35. Academy Bay, Indefatigable Island, shore, Dec. 7, 1934, 20 males, 22 females (13 ovig.).

315-35. Opposite Gordon Rocks, Indefatigable Island, coral, Dec. 8, 1934, 16 males, 1 fragment.

316-35. Off Gordon Rocks, Indefatigable Island, 20 fms, Dec. 8, 1934, 1 male.

333-35. James Bay, James Island, shore, Dec. 11, 1934, 15 males, 9 females (5 ovig.).

343-35. Sulivan Bay, James Island, shore, Dec. 12, 1934, 27 males, 17 females (10 ovig.).

350-35. South Seymour Island, shore, Dec. 13, 1934, 3 males, 4 females (3 ovig.).

354-35. Wreck Bay, Chatham Island, shore, Dec. 15, 1934, 1 male, 1 female.

357-35. Gardner Bay, Hood Island, coral, Dec. 17, 1934, 14 males, 6 females (2 ovig.).

358-35. Gardner Bay, Hood Island, shore, Dec. 17, 1934, 2 males, 1 female.

359-35. Osborn Island in Gardner Bay, Hood Island, shore, Dec. 19, 1934, 23 males, 6 females.

782-38. Darwin Bay, Tower Island, shore, Jan. 16, 1938, 5 males, 5 females.
784-38. Darwin Bay, Tower Island, shore, Jan. 17, 1938, 2 males.
789-38. South Seymour Island, shore, Jan. 19, 1938, 3 females.
796-38. Sulivan Bay, James Island, shore, Jan. 21, 1938, 3 males, 1 female.
800-38. Cartago Bay, Albemarle Island, shore, Jan. 22, 1938, 1 male.
804-38. Onslow Island, near Charles Island, coral, Jan. 23, 1938, 1 female.
808-38. Academy Bay, Indefatigable Island, shore, Jan. 25, 1938, 2 males.
811a-38. Barrington Island, *Pavona* coral, Jan. 26, 1938, 1 young female.

Measurements.—A large male: length 14.0 mm, width 19.0 mm, cheliped (rigid) coxa to elbow 12 mm, elbow to tip of dactyl 16 mm, chela 15.0 mm, dactyl 8.0 mm.

Color in life.—Carapace and chelipeds purplish brown. Apple-green markings on cardiac region. Two longitudinal bands of purple on maxillipeds and three on subhepatic region. Last three rows of squamae on chelae (most ventral) white. Abdominal segments each marked with purplish brown transversely. Row of setae on hepatic region yellow. (Garth)

Habitat.—Shore, under rocks, and in *Pocillopora* coral.

Depth.—Shore to 3 fms.

Remarks.—After a careful individual examination of over 500 specimens of *Eriphia* from the Galapagos Islands in Hancock collections it appears that all are *E. granulosa.* The writer differs emphatically from Boone (1927, p. 234), who avers that this species may prove to be only a subspecies of *E. squamata* Stimpson and agrees with Rathbun (1930, p. 552) that it is very distinct from, and not to be confused with, the *gonagra-squamata* type. Her distinguishing features are borne out very nicely by a pair of Hancock specimens from Charles Island which were compared with Hopkins-Stanford material (USNM No. 25667). The front is entire, the granules of the carapace single, and the tubercles of the wrist tend to form bands (pl. 80, fig. 2).

That there has been confusion of these species, even among specialists, is amply demonstrated. A specimen in the National Museum identified by Rathbun as *squamata,* Pinchot Expedition, Daphne Island, A. K. Fisher, collector, is definitely *granulosa.* The specimens reported by Boone (1927) from Cocos Island as *granulosa* have been re-examined at the request of the writer by Miss Jocelyn Crane of the New York Zoological Society and have proved to be *squamata.*

The occurrence of *E. granulosa* at localities other than the Galapagos Islands is open to question. A footnote in Rathbun (1930, p. 552) states that an interrogation point follows the designation "Chili" on the label of the type specimen in the Paris Museum. Its reported occurrence on Cocos Island has been disposed of in the paragraph above. In conclusion, it would seem that *E. granulosa* is a Galapagos endemic species, and that *E. squamata,* found from Mexico to Ecuador occurs also at Cocos and sporadically in the Galapagos Islands (pl. 83, figs. 5, 6).

Genus **ERIPHIDES** Rathbun, 1897

Eriphides hispida (Stimpson)

Plate 83, Figs. 3, 4

Eriphia hispida Stimpson, Ann. Lyc. Nat. Hist. New York, vol. 7, p. 218 (90), 1860.

Eriphides hispida Rathbun, Proc. Washington Acad. Sci., vol. 4, p. 282, 1902; Bull. 152, U.S. Nat. Mus., p. 552, pls. 225 and 226, 1930. Boone, Zoologica, vol. 8, no. 4, p. 236, fig. 87A, 1927; (not fig. 87b, which is *Pilumnus xantusii* Stimpson). Sivertsen, Med. fra det Zool. Mus., Oslo, nr. 38, p. 18, 1933. Schmitt, Smithsonian Misc. Col., vol. 98, no. 6, p. 25, 1939.

Pseuderiphia hispida Rathbun, Proc. U.S. Nat. Mus., vol. 21, p. 590, 1898.

Type locality. West coast of Central America.

Type.—Not extant.

Range.—West coast of Costa Rica (Tristan) to Panama (A. Milne Edwards); Galapagos Islands *(Albatross).*

Diagnosis.—Carapace and chelipeds covered with short bristles and paved with sharp granules. Front very wide. Fingers of minor chela spoon shaped.

Material examined (133 specimens from 31 stations).—

10-32. James Bay, James Island, shore, Jan. 10, 1932, 1 male.

12-32. South Seymour Island, shore, Jan. 17, 1932, 1 male.

24-33. Gardner Bay, Hood Island, shore, Jan. 24, 1933, 1 specimen.

38-33. SE of Cormorant Point, Charles Island, shore, Jan. 29, 1933, 13 males, 16 ovig. females (1 photographed).

52-33. Academy Bay, Indefatigable Island, shore, Feb. 4, 1933, 4 specimens.

56-33. Flamingo Bay, Charles Island, shore, Feb. 5, 1933, 5 males, 6 females (2 ovig.), 1 young.

65-33. Reef north of Tagus Hill, Albemarle Island, reef, Feb. 9, 1933, 8 males, 4 young.

68-33. South of Cape Berkeley, Albemarle Island, shore, Feb. 10, 1933, 1 male.

69-33. Albemarle Point, Albemarle Island, shore, Feb. 11, 1933, 1 male.

71-33. James Bay, James Island, shore, Feb. 12, 1933, 3 specimens.

73-33. Cartago Bay, Albemarle Island, shore, Feb. 13, 1933, 5 specimens.

82-33. Conway Bay, Indefatigable Island, shore, Feb. 17, 1933, 1 specimen.

85-33. North Seymour Island, shore, Feb. 18, 1933, 2 males, 2 ovig. females, 2 young.

88-33. South Seymour Island, shore, Feb. 19, 1933, 1 young.

93-33. Darwin Bay, Tower Island, shore, Feb. 22, 1933, 1 male, 1 ovig. female, 2 young.

96-33. Darwin Bay, Tower Island, shore, Feb. 24, 1933, 2 males.

146-34. Albemarle Point, Albemarle Island, shore, Jan. 12, 1934, 3 males.

163-34. Black Beach, Charles Island, shore, Jan. 18, 1934, 1 male, 2 ovig. females.

168-34. Academy Bay, Indefatigable Island, shore, Jan. 20, 1934, 1 male, 2 females.

175-34. North Seymour Island, shore, Jan. 22, 1934, 6 males, 3 females.

179-34. Bartholomew Island near James Island, Jan. 23, 1934, 4 males, 1 female.

199a-34. Post Office Bay, Charles Island, shore, Jan. 30, 1934, 1 male.

306-35. Marchena Island, shore, Dec. 2, 1934, 9 males, 1 female, 1 young.

312-35. Black Beach, Charles Island, shore, Dec. 5, 1934, 8 males, 1 female.

314-35. Academy Bay, Indefatigable Island, shore, Dec. 7, 1934, 1 female.

333-35. James Bay, James Island, shore, Dec. 11, 1934, 3 males, 4 females, 1 young.

343-35. Sulivan Bay, James Island, shore, Dec. 12, 1934, 1 male.

359-35. Osborn Island in Gardner Bay, Hood Island, shore, Dec. 19, 1934, 11 specimens.

782-38. Darwin Bay, Tower Island, shore, Jan. 16, 1938, 1 female, 2 young.

796-38. Sulivan Bay, James Island, shore, Jan. 21, 1938, 1 male.

808-38. Academy Bay, Indefatigable Island, shore, Jan. 25, 1938, 1 female.

Measurements.—Large female: length 43.7 mm, width 59 mm, cheliped 67 mm, chela 38 mm, dactyl 21 mm.

Color in life.—Carapace dull violet black with a few cadmium orange patches showing on gastric and cardiac areas. Eyes garnet brown. Cheliped neutral red with tubercles violet black. Movable finger neutral red with purplish tint fading toward tip. Fixed finger very much darker, almost black, with white tip and teeth. Ventral side dull orange yellow with abdomen dull purplish red. Eggs scarlet. (Petersen)

Habitat.—Rocky shore; typically in burrows in sandstone.

Depth.—Shore.

Remarks.—The purple bristle crab is one of the most formidable members of the Galapagos crustacean fauna, and one of the very few species capable of inflicting a painful wound. The massive claws maintain their viselike grip even after being severed from the body. A ledge of soft rock southeast of Cormorant Point, Charles Island, was riddled with burrows of this species.

Genus **DOMECIA** Eydoux and Souleyet, 1842

Domecia hispida Eydoux and Souleyet

Plate 81, Fig. 5

Domecia hispida Eydoux and Souleyet, Voy. Bonite, vol. 1, Crust., p. 235, 1842. Rathbun, Bull. 152, U.S. Nat. Mus., p. 554, pl. 227, and synonymy, 1930. Finnegan, Journ. Linn. Soc. London, vol. 37, p. 647, 1931. Crane, Zoologica, vol. 22, no. 3, p. 73, 1937.

Type locality.—Sandwich Islands.

Type.—In Paris Mus.

Range.—From Arena Bank, Gulf of California *(Zaca),* to Gorgona Island, Colombia (Crossland); Eastern Atlantic, Indian, and Pacific Oceans.

Diagnosis.—Carapace transversely oval, flat, smooth. Front and anterolateral margins profusely spinulous, posterolateral margins converging rapidly. Chelipeds covered with black spines. Merus of third maxilliped of no great length. Legs spiny.

Material examined (250 specimens from 20 stations).—

30-33. Gardner Bay, Hood Island, shore, Jan. 26, 1933, 2 females (1 ovig.).

47-33. Barrington Island, 2 fms, Feb. 2, 1933, 1 ovig. female.

59-33. Off Cormorant Bay, Charles Island, 13 fms, Feb. 6, 1933, 1 male.

69-33. Albemarle Point, Albemarle Island, shore, Feb. 11, 1933, 20 males, 26 females (12 ovig.).

73-33. Cartago Bay, Albemarle Island, shore, Feb. 13, 1933, 3 males, 18 females (12 ovig.), 1 young.

76-33. Cartago Bay, Albemarle Island, shore, Feb. 14, 1933, 9 males, 11 females (7 ovig.).

80-33. Duncan Island, coral, Feb. 15, 1933, 14 males, 18 females (9 ovig.), 5 young.

82-33. Conway Bay, Indefatigable Island, shore, Feb. 17, 1933, 1 male, 2 females.

94-33. Darwin Bay, Tower Island, coral, Feb. 22, 1933, 33 specimens.

97-33. Darwin Bay, Tower Island, coral, Feb. 24, 1933, 18 males, 24 females (16 ovig.).

101a-33. Darwin Bay, Tower Island, coral, Feb. 26, 1933, 5 males, 2 ovig. females.

168a-34. Academy Bay, Indefatigable Island, coral, Jan. 20, 1934, 1 female.

189-34. Cartago Bay, Albemarle Island, coral, Jan. 25, 1934, 2 females (1 ovig.).

194-34. Post Office Bay, Charles Island, coral from Onslow Island crater, Jan. 27, 1934, 1 male, 1 female.

202-34. Gardner Bay, Hood Island, shore, Jan. 31, 1934, 1 female.

309-35. Marchena Island, 8 fms, Dec. 3, 1934, 1 specimen.

311-35. Marchena Island, 20 fms, Dec. 3, 1934, 1 specimen.

315-35. Opposite Gordon Rocks, Indefatigable Island, coral, Dec. 8, 1934, 5 males, 3 females (2 ovig.).

804-38. Onslow Island near Charles Island, coral, Jan. 23, 1938, 2 males, 1 female.

811-38. Barrington Island, coral, Jan. 26, 1938, 5 males (1 photographed), 12 females (6 ovig.).

Measurements.—A large female: length 8.3 mm, width 10.8 mm.

Habitat.—*Pocillopora* coral, shallow dredging. Among sponges, under stones. (Crane)

Depth.—Shore; also 8-20 fms.

Remarks.—Associated with the *Trapezias* in the *Pocillopora* colony, this species was taken occasionally where coral was not recorded. It was probable in such a case that a small head of coral was found and cracked on the beach, no record having been made of it at the time. This species was dredged twice in shallow water.

D. hispida is now recorded from the Galapagos Islands.

Genus **TRAPEZIA** Latreille, 1825

KEY TO THE GALAPAGOS SPECIES OF THE GENUS *Trapezia*

A[1] Fronto-orbital width greatest width of carapace. No lateral tooth . . . . . *T. digitalis*

A[2] Fronto-orbital width less than greatest width of carapace. A lateral tooth . . . . . *T. cymodoce ferruginea*

Trapezia cymodoce ferruginea Latreille

Plate 81, Fig. 4

Trapezia ferruginea Latreille, Encyc. Meth., Hist. Nat., Entom., vol. 10, p. 695, 1825.

Trapezia cymodoce ferruginea Rathbun, Mem. Mus. Comp. Zool., vol. 35, p. 58, 1907; Bull. 152, U.S. Nat. Mus., p. 557, pl. 228, figs. 1 and 2, and synonymy, 1930. Boone, Zoologica, vol. 8, no. 4, p. 240, fig. 88, 1927. Finnegan, Journ. Linn. Soc. London, vol. 37, p. 645, 1931. Hult, Arkiv för Zoologi, Band 30A, no. 5, p. 13, 1938. Crane, Zoologica, vol. 22, no. 3, p. 73, 1937.

Type locality.—Red Sea.

Type.—Not in Paris Mus.

Range.—From Arena Bank, Gulf of California *(Zaca),* to Gorgona Island, Colombia (Crossland); Galapagos Islands *(Arcturus);* Red Sea and Indo-Pacific Ocean.

Diagnosis.—Carapace smooth, no trace of regions. Fronto-orbital width almost equal to width of carapace. Anterolateral margins short, diverging slightly posteriorly. A lateral tooth projecting. Color red.

Material examined (1,809 specimens from 21 stations).—

30-33. Gardner Bay, Hood Island, shore, Jan. 26, 1933, 37 males, 31 females (16 ovig.).

69-33. Albemarle Point, Albemarle Island, shore, Feb. 11, 1933, 411 specimens.

73-33. Cartago Bay, Albemarle Island, shore, Feb. 13, 1933, 37 males, 26 females (18 ovig.).

76-33. Cartago Bay, Albemarle Island, shore, Feb. 14, 1933, 17 males, 17 females (12 ovig.).

80-33. Duncan Island, coral, Feb. 15, 1933, 42 males, 37 females (27 ovig.), 2 young.

94-33. Darwin Bay, Tower Island, coral, Feb. 22, 1933, 308 specimens.

96-33. Darwin Bay, Tower Island, shore, Feb. 24, 1933, 1 male.

97-33. Darwin Bay, Tower Island, coral, Feb. 24, 1933, 486 specimens.

99-33. Darwin Bay, Tower Island, tangles, Feb. 25, 1933, 1 male, 1 ovig. female, 2 young.

101a-33. Darwin Bay, Tower Island, coral, Feb. 26, 1933, 23 males, 13 females (8 ovig.).

168a-33. Academy Bay, Indefatigable Island, coral, Jan. 20, 1934, 5 males, 3 females.

189-34. Cartago Bay, Albemarle Island, coral, Jan. 25, 1934, 6 males, 5 females (4 ovig.).

202-34. Gardner Bay, Hood Island, shore, Jan. 31, 1934, 3 males, 1 female.

315-35. Opposite Gordon Rocks, Indefatigable Island, 8-10 fms, Dec. 8, 1934, 32 males, 26 females (20 ovig.), 2 young.

320-35. Academy Bay, Indefatigable Island, 8-10 fms, Dec. 8, 1934, 2 males.

350-35. South Seymour Island, shore, Dec. 13, 1934, 1 male, 1 ovig. female.

782-38. Darwin Bay, Tower Island, shore, Jan. 16, 1938, 3 males, 2 females (1 ovig.), 1 young.

784-38. Darwin Bay, Tower Island, coral, Jan. 17, 1938, 6 males, 5 females (2 ovig.).

789-38. South Seymour Island, shore, Jan. 19, 1938, 1 male, 4 females (2 ovig.).

800-38. Cartago Bay, Albemarle Island, shore, Jan. 22, 1938, 3 specimens.

811-38. Barrington Island, coral, Jan. 26, 1938, 206 specimens.

Measurements.—A large, ovigerous female: length 13.3 mm, width 16.3 mm, cheliped 26.3 mm, chela 16.5 mm, dactyl 8.2 mm.

Color in life.—Bright red.

Habitat.—The *Pocillopora* coral colony.

Depth.—Shore to 10 fms.

Remarks.—The collection of over 1,800 of this red porcelain crab was almost involuntary. Every head of living *Pocillopora* coral contained hundreds of specimens, and it was as convenient to preserve them as to toss them overboard while cracking coral. In view of the exceeding abundance of this species, it seems incredible that a single specimen obtained by William Beebe and two specimens by Rolf Blomberg are the only examples ever recorded from the Galapagos Islands. Apparently, no other expedition has examined coral heads, for the *Trapezias* rarely stray beyond the protecting labyrinth of their rasping branches.

Trapezia digitalis Latreille

Plate 81, Fig. 6

Trapezia digitalis Latreille, Encyc. Meth., Hist. Nat., Entom., vol. 10, p. 696, 1825. Rathbun, Bull. 152, U.S. Nat. Mus., p. 559, pl. 228, figs. 5 and 6, and synonymy, 1930. Crane, Zoologica, vol. 22, no. 3, p. 73, 1937.

Type locality.—Red Sea.

Type.—Not extant.

Range.—From Arena Bank, Gulf of California *(Zaca),* to Panama (Bradley); Red Sea to Indo-Pacific Ocean.

Diagnosis.—Carapace smooth, regions not indicated. Fronto-orbital width greatest width of carapace, the anterolateral margins converging posteriorly. No lateral projection. Color brown.

Material examined (667 specimens from 18 stations).—

30-33. Gardner Bay, Hood Island, coral, Jan. 26, 1933, 5 males, 6 females.

69-33. Albemarle Point, Albemarle Island, shore, Feb. 11, 1933, 82 males, 59 females (40 ovig.), 5 young.

73-33. Cartago Bay, Albemarle Island, shore, Feb. 13, 1933, 9 males, 10 females (2 ovig.).

76-33. Cartago Bay, Albemarle Island, shore, Feb. 14, 1933, 4 males, 8 females (7 ovig.).

80-33. Duncan Island, coral, Feb. 15, 1933, 11 males, 12 females (8 ovig.).

94-33. Darwin Bay, Tower Island, coral, Feb. 22, 1933, 61 males, 70 females (36 ovig.), 11 young.

97-33. Darwin Bay, Tower Island, coral, Feb. 24, 1933, 41 males, 31 females (15 ovig.).

99-33. Darwin Bay, Tower Island, shore, Feb. 25, 1933, 2 males, 1 female.

101a-33. Darwin Bay, Tower Island, shore, Feb. 26, 1933, 15 males, 8 females (4 ovig.).

-33. Galapagos Islands, 1933, 52 males, 47 females (15 ovig.), 7 young.

168a-34. Academy Bay, Indefatigable Island, coral, Jan. 20, 1934, 1 male, 1 ovig. female.

202-34. Gardner Bay, Hood Island, coral, Jan. 31, 1934, 1 female.

315-35. Opposite Gordon Rocks, Indefatigable Island, coral, Dec. 8, 1934, 16 males, 7 females (3 ovig.), fragment.

782-38. Darwin Bay, Tower Island, shore, Jan. 16, 1938, 1 male.

784-38. Darwin Bay, Tower Island, shore, Jan. 17, 1938, 4 males, 5 females (2 ovig.).

789-38. South Seymour Island, shore, Jan. 19, 1938, 4 males, 1 ovig. female.

800-38. Cartago Bay, Albemarle Island, Jan. 22, 1938, 1 male.

811-38. Barrington Island, coral, Jan. 26, 1938, 28 males, 30 females (21 ovig.).

Measurements.—A large female: length 10.8 mm, width 13.5 mm, cheliped 18.0 mm, chela 12.8 mm, dactyl 7.3 mm.

Color in life.—Brown and yellow.

Habitat.—The *Pocillopora* coral colony.

Depth.—Shore.

Remarks.—This brown and yellow *Trapezia* occurs with the red *T. cymodoce ferruginea* Latreille in the proportion of 1 : 3. In separating so many hundreds, the color alone was relied upon, although there are other important differences, as given in the diagnoses. The front of *T. digitalis* is finely denticulate, as compared to the shallow frontal lobes of *T. c. ferruginea,* and there is no lateral tooth.

T. digitalis is now recorded from the Galapagos Islands.

Genus **QUADRELLA** Dana, 1851

Quadrella nitida Smith

Plate 80, Fig. 6

Quadrella nitida Smith, Proc. Boston Soc. Nat. Hist., vol. 12, p. 288, 1869. Rathbun, Bull. 152, U.S. Nat. Mus., p. 561, pl. 229, and synonymy, 1930. Crane, Zoologica, vol. 22, no. 3, p. 74, 1937.

Type locality.—Pacheca, Perlas Islands, Panama.

Type.—In Peabody Mus., Yale Univ.

Range.—Lower California (Stimpson) to Panama (Bradley); 6-75 fms. (Crane)

Diagnosis.—Carapace hexagonal, convex, smooth, regions not indicated. Front cut into 4 spines, median notch deepest. Merus of cheliped stout, projecting beyond carapace and armed with 6 to 8 spines. Carpus with an inner tooth. Hand exceeding width of carapace, fingers long and incurved.

Material examined.—

311-35. Marchena Island, 20 fms, Dec. 3, 1934, 1 young (photographed).

Measurements.—Young specimen: length 3.4 mm, width 3.5 mm.

Color in life.—From a Gulf of California specimen: ground color of carapace light yellowish drab gray, overcast with tiny snowflakelike blotches. Front dark scarlet red, extended on eyestalk. Ground color of cheliped deep orange buff. Merus netted with light scarlet; carpus same but much lighter scarlet; hand overcast with scarlet spots, very dense on upper surface and extending on fingers. A few large, carmine spots at the distal end of the hand and on the fingers. Ambulatory legs a warm buff. (Petersen)

Habitat.—The gorgonian, *Muricea miser* Verrill, according to Crane.

Depth.—6-75 fms. (Crane)

Remarks.—For a classic description of the remarkable association of this rare xanthid crab and the gorgonian, *Muricea miser* Verrill, the reader is referred to Crane (1937).

Q. nitida is now recorded from the Galapagos Islands.

Genus **MALDIVIA** Borradaile, 1903

Maldivia Borradaile, *In:* J. S. Gardiner, Fauna and Geography of the Maldive and Laccadive Archipelagoes, vol. 1, pt. 1, pp. 269-270, 1903.

The following are the characters of this genus: (1) *Carapace* hexagonal, swollen, a little longer than broad, hairless, roughened with granulations which pass into spines at the sides, and with indications of the regions. (2) *Front* broad, triangular, widely grooved, bent strongly downwards. (3) *Anterolateral edge* toothed, about equal to postero-lateral. *Hind edge* wavy. (4) *Orbits* large, very slanting, not fully closed. (5) Abdomen of male seven-jointed. (6) *Endostome ridges* present, but not very strong. (7) *Eyes* large. (8) *Antennae* with slender basal joints which do not touch the front, and long flagella. (9) *Merus of third maxilliped* about as long as broad, without a notch in the fore edge, which is straight. (10) Chelipeds stout, *Pilumnus*-like, fingers not hollowed at the tip. (11) Walking legs moderately stout. (Borradaile)

Maldivia galapagensis Garth

Plate 80, Fig. 5

Maldivia galapagensis Garth, Allan Hancock Pac. Exped., vol. 5, no. 2, p. 22, pl. 8, figs. 1-6.

Type locality.—Onslow Island near Charles Island, Galapagos Islands, from *Pavona* coral in 2 fms.

Type.—AHF no. 385.

Range.—Charles and Barrington Islands, Galapagos Islands.

Diagnosis.—Carapace convex, polished, faintly granulate anteriorly. Posterolateral borders exceeding anterolateral; 2 denticles on anterolateral margin. Granules of cheliped flattened, not arranged in rows. Minor chela excavate, fingers slender, curved, with knifelike edges.

Material examined (31 specimens from 4 stations).—

180-34. Sulivan Bay, James Island, 3½ fms, coral, Jan. 22, 1934, 1 male, 4 females (3 ovig.).

194-34. Post Office Bay, Charles Island, coral from Onslow Island crater, Jan. 27, 1934, 7 males, 11 females.

804-38. Onslow Island near Charles Island, *Pavona* coral, Jan. 23, 1938, 2 males, 4 females, (the type series, including the male holotype, AHF no. 385).

811a-38. Barrington Island, *Pavona* coral, Jan. 26, 1938, 2 females.

Measurements.—Male holotype: length 3.7 mm, width 4.6 mm, chela 4.9 mm; female allotype: length 3.9 mm, width 5.5 mm.

Color in life.—Ground color of carapace ivory yellow to cream buff with designs of Eugenia red and grass green on posterior and Brazil red and cedar green on anterior areas. Cheliped clear creamy white with coral red on merus and carpus. Fingers hazel brown at base, becoming lighter toward tips. Ventral side clear white with tinge of bluish lavender. (Petersen)

Habitat.—*Pavona* coral.

Depth.—2-3½ fms.

Remarks.—The compact heads of "brain coral" (*Pavona* sp.) allow much less freedom of movement for the crustaceans which inhabit their interstices than do the multiramose heads of *Pocillopora.* The *Pavona* colony is therefore made up of fewer and less active species than the *Trapezias* and *Domecias,* the alpheid and peneid shrimps of the *Pocillopora,* which indeed were totally lacking in the three loads of *Pavona* cracked by *Velero III* parties. In their place are the delicate *Maldivia* and an even more fragile shrimp, which has been turned over to Dr. W. L. Schmitt for study. Although an effort was made to find specimens *in situ,* none were observed as the cracking with geological hammers proceeded. All specimens were recovered from the rinse water at the bottom of the bucket.

Family *PINNOTHERIDAE*

Subfamily PINNOTHERINAE

Genus PARAPINNIXA Holmes, 1894

Parapinnixa glasselli Garth

Plate 84, Figs. 1, 2

Parapinnixa glasselli Garth, Allan Hancock Pac. Exped., vol. 5, no. 2, p. 24, pl. 9, figs. 1-4, 1939.

Type locality.—Tagus Cove, Albemarle Island, Galapagos Islands.

Type.—USNM No. 77367.

Range.—Known only from the type locality.

Diagnosis.—Displacement of first ambulatory leg equal to nearly one-half the volume of carapace. Fingers long and slender, gaping when closed, a small tooth near tips. Immovable finger curving well downward. Lines separating abdominal segments sinuous.

Material examined.—

66a-33. Tagus Cove, Albemarle Island, from "roach" trap attached to fish trap suspended in 2 fms, Feb. 9, 1933, 2 females, including the holotype (USNM No. 77367).

Measurements.—Female holotype: length 2.8 mm, width 6.5 mm.

Habitat.—Worm tubes.

Depth.—2-3 fms.

Remarks.—The capture of two female specimens in a baited "roach" trap, suspended in two fathoms of water attached to a lobster pot, suggests that this species, while undoubtedly commensal, does not hesitate to fare forth from its worm tube in search of food.

The male of the species is unknown.

Subfamily PINNOTHERELIINAE

Genus PINNIXA White, 1846

Pinnixa transversalis (Milne Edwards and Lucas)

Plate 84, Figs. 6-8

Pinnotheres transversalis Milne Edwards and Lucas, d'Orbigny's Voy. Amer. Merid., vol. 6, pt. 1, p. 23, 1843; vol. 9, atlas, pl. 10, figs. 3-3e, 1847.

Pinnixa transversalis Milne Edwards, Ann. Sci. Nat., ser. 3, Zool., vol. 20, p. 220 (186), pl. 11, fig. 5, 1853. Rathbun, Bull. 97, U.S. Nat. Mus., p. 131, pl. 29, figs. 1-3, text figs. 74-76, and synonymy, 1918. Finnegan, Journ. Linn. Soc. London, vol. 37, p. 648, 1931.

Type locality.—Chile.

Type.—In Paris Mus.

Range.—From Coiba Island, Panama (Crossland), to Punta Arenas, Patagonia (Lenz).

Atlantic analogue.—*P. faxoni* Rathbun.

Diagnosis.—A prominent ridge across carapace at cardiac level. Lateral angles forming a prominent shoulder. Terminal segment of palpus of third maxilliped reaching proximal end of merus. Abdomen of male enlarging from middle of sixth segment; tip semicircular.

Material examined.—

783-38. Darwin Bay, Tower Island, 40-70 fms, Jan. 16, 1938, 1 male, 2 females.

Measurements.—Largest specimen, female: length 5.0 mm, width 9.4 mm.

Habitat.—From the tubes of *Chaetopterus variopedatus* (Renier), identified by Olga Hartman. (See pl. 84, fig. 7).

Depth.—2½-70 fms.

Remarks.—The occurrence of this commensal crab may be expected wherever its widespread host, *Chaetopterus,* is found. This worm builds a tube to which sand particles are attached by agglutination.

P. transversalis is now recorded from the Galapagos Islands.

Genus **PINNAXODES** Heller, 1865

Pinnaxodes chilensis (Milne Edwards)

Plate 84, Figs. 3-5

Pinnotheres chilensis Milne Edwards, Hist. Nat. Crust., vol. 2, p. 33, 1837.

Pinnaxodes chilensis Smith, in Verrill, Amer. Nat., vol. 3, p. 245, 1869. Rathbun, Bull. 97, U.S. Nat. Mus., p. 175, pl. 38, text fig. 111a and b, and synonymy, 1918. Schmitt, Smithsonian Misc. Col., vol. 98, no. 6, p. 26, 1939.

Type locality.—Valparaiso, Chile.

Type.—In Paris Mus.

Range.—Ecuador (Heller) to Port Otway, Patagonia *(Albatross);* Galapagos Islands (Hopkins-Stanford Expedition).

Diagnosis.—Carapace subquadrate with rounded corners, soft in female, firm in male. Female chelae elongate. A constriction about sixth abdominal segment of male.

Material examined.—

154-34. Reef north of Tagus Hill, Albemarle Island, reef, Jan. 15, 1934, a single specimen contained within the test of the sea urchin, *Strongylocentrotus gibbosus* (Valenciennes) (pl. 84, fig. 4).

Habitat.—Commensal in the periproct of the sea urchin, *S. gibbosus.*

Remarks.—Schmitt (1939) is in error in stating that the first time this species had been observed in the Galapagos Islands was on the Presidential Cruise of 1938. Actually, it was taken on the Hopkins-Stanford Expedition in 1898-99, but because of its commensal habit was observed, not by the person who reported on the Brachyura, but by the person who wrote up the echinoderms. H. L. Clark (1902) writes concerning *Strongylocentrotus gibbosus* (Valenciennes):

"There are 11 dry specimens of this interesting urchin, from Tagus Cove. They range in diameter from 16 to 40 mm. The color is a distinct reddish-brown, the spines very dark olive, tipped with purplish; specimens from Chile and Peru, whence this species was previously known, are said to be gray. *All but the smallest of the shells before me are distorted by the presence of the parasitic crab so generally found in this urchin, and in all but 3 the crab is present.*" (Italics are author's)

Because the relationship between *Pinnaxodes chilensis* and this host is a specific one, there can be no doubt that this was the species observed by Dr. Clark.

Family *CYMOPOLIIDAE*

Genus **CYMOPOLIA** Roux, 1828

KEY TO THE GALAPAGOS SPECIES OF THE GENUS *Cympolia*

A¹ Second ambulatory leg not more than twice as long as carapace
  B¹ Two acuminate anterolateral spines, excluding exorbital
    C¹ Four slender frontal teeth. Carapace 1⅛ times broader than long . . . . . *C. lucasii*
    C² Two large, triangular frontal teeth. Carapace 1¼ times as broad as long . . . . . *C. cortezi*
  B² Four truncate anterolateral spines, excluding exorbital. A sternal plate at base of third walking leg . . *C. velerae*
A² Second ambulatory leg more than twice as long as carapace . . . . . *C. fragilis*

Cymopolia cortezi Crane

Plate 85, Fig. 2

Cymopolia cortezi Crane, Zoologica, vol. 22, no. 3, p. 75, pl. 8, fig. 25, 1937.

Type locality.—Santa Inez Bay, Gulf of California; 60 fms.

Type.—N.Y. Zool. Soc. No. 36,895.

Range.—Known only from the type locality.

Diagnosis.—Front with 2 large, triangular teeth; 2 sharp anterolateral teeth. Last leg overreaching merus of third ambulatory leg. Lobe at distal extremity of ambulatory meri acute.

Material examined.—

143-34. Wenman Island, 100-150 fms, Jan. 11, 1934, 1 young specimen (photographed).

Measurements.—Young specimen: length 5.5 mm, width 6.2 mm.

Habitat.—Mud and crushed shell (Crane). *Velero III* records show rock, coral, and nullipore, presumably with sand.

Depth.—60-150 fms.

Remarks.—The single small specimen from deep water north of Wenman Island conforms remarkably with Miss Crane's description of the type, and also with a small specimen from the Gulf of California, particularly as regards the front, the two triangular teeth of which meet at almost a right angle. Extension of the range of *C. cortezi* to the Galapagos Islands is less surprising in view of the simultaneous extension of ranges of two other Gulf of California species, *C. lucasii* Rathbun and *C. fragilis* Rathbun.

C. cortezi is now recorded from the Galapagos Islands.

Cymopolia lucasii (Rathbun)

Plate 87, Fig. 1

Palicus lucasii Rathbun, Proc. U.S. Nat. Mus., vol. 21, p. 600, pl. 43, fig. 2, 1898.

Cymopolia lucasii Rathbun, Bull. 97, U.S. Nat. Mus., p. 193, pl. 44, figs. 1 and 2, text fig. 119, 1918. Crane, Zoologica, vol. 22, no. 3, p. 76, 1937.

Type locality.—Off Cape San Lucas, Lower California; 31 fms.

Type.—USNM No. 21590.

Range.—From Arena Bank, Gulf of California *(Zaca),* to Cape San Lucas *(Albatross);* 31-60 fms.

Atlantic analogue.—*C. faxoni* (Rathbun).

Diagnosis.—Carapace only one-eighth wider than long, tuberculate. Anterolateral margin with 2 acute teeth, excluding exorbital; supraorbital teeth sharpened. Ambulatory legs wide; an acute lobe at distal end of merus of legs 1 and 2, that of leg 3 rounded.

Material examined (18 specimens from 11 stations).—

69a-33. Albemarle Point, Albemarle Island, 12 fms, mud sample, Feb. 11, 1933, 1 specimen.

148-34. Tagus Cove, Albemarle Island, 12-15 fms, Jan. 13, 1934, 1 male.

149-34. Tagus Cove, Albemarle Island, 20 fms, Jan. 13, 1934, 2 females, fragment.

157-34. Tagus Cove, Albemarle Island, 10-18 fms, Jan. 15, 1934, 2 males (1 photographed), 3 females.

177-34. Sulivan Bay, James Island, 5-20 fms, Jan. 23, 1934, 2 females.

201-34. Gardner Bay, Hood Island, 25-35 fms, Jan. 31, 1934, 5 males, 1 female.

345-35. Off Daphne Islands, 30 fms, Dec. 13, 1934, 1 female.

361-35. Gardner Bay, Hood Island, 12 fms, Dec. 19, 1934, 1 male.

795-38. Sulivan Bay, James Island, 35-40 fms, Jan. 21, 1938, 2 females.

799-38. Cartago Bay, Albemarle Island, 15-18 fms, Jan. 22, 1938, 1 male.

Measurements.—Largest male: length 10.5 mm, width 12.4 mm, second ambulatory leg 20.0 mm.

Color in life.—Dragon's blood red and white. A solid median band of color extends longitudinally from front to posterior border, dividing the carapace into 3 approximately equal parts, the outer two of which are white. Anterolateral and preorbital teeth dragon's blood red, orbital tooth white. Legs banded with dragon's blood red, the wide propodal band brightest. Spines of merus, tips of dactyls, and entire reduced leg white. (Garth)

Habitat.—Muddy and sandy bottoms (Crane). *Velero III* records show sand and rock, sand and shell, sand and algae, and two stations: "coral, nullipore, and rock."

Depth.—5-60 fms.

Remarks.—A Galapagos Island specimen of this species, identified by its author, Miss Rathbun, was the first indication that Gulf of California *Cymopolias* might be expected in the Galapagos archipelago. Since that time two other Gulf species, *C. fragilis* Rathbun and *C. cortezi* Crane, as well as a new species, *C. velerae* Garth, have been found to occur in the Galapagos Islands.

C. lucasii is now recorded from the Galapagos Islands.

Cymopolia fragilis Rathbun

Plate 85, Figs. 3, 4

Cymopolia fragilis Rathbun, Proc. U.S. Nat. Mus., vol. 16, p. 259, 1893; Bull. 97, U.S. Nat. Mus., p. 213, pl. 51, figs. 2 and 3, text fig. 129a and b, 1918.

Cymopolia xacae Glassell, Zoologica, vol. 21, no. 17, p. 217, 1936. Crane, Zoologica, vol. 22, no. 3, p. 76, pl. 8, fig. 26, 1937.

Type locality.—Off Lower California; 58 and 71 fms.

Type.—USNM No. 17485.

Range.—From northwest of Cedros Island, Lower California *(Albatross),* to Ecuador *(Albatross),* including the Gulf of California; 52-71 fms. *(Albatross).*

Diagnosis.—Carapace one and one-half times as wide as long. Four anterolateral teeth, excluding exorbital. First ambulatory leg short, not overreaching merus of second in male.

Material examined (124 specimens from a single station).—

143-34. Wenman Island, 100-150 fms, Jan. 11, 1934, 56 males, 65 females (including the photographed pair), 3 young.

Measurements.—Largest specimen, male: length 7.7 mm, width 12.3 mm, length of second ambulatory leg 22.5 mm; largest female; length 8.2 mm, width 11.7 mm, length of second ambulatory leg 22.8 mm. Note difference of proportions in the two sexes.

Habitat.—Bottom of coral, nullipores, and calcareous worm tubes.

Depth.—52-150 fms.

Remarks.—Specimens from Wenman Island were compared with the type of *C. zacae* Glassell in the laboratories of the New York Zoological Society by Miss Jocelyn Crane, who found them to agree very nicely. Specimens from Wenman Island were also compared with the type of *C. fragilis* Rathbun at the U.S. National Museum, and were found to be the same. Evidence pointing to the synonymy of *C. zacae,* which was said by Glassell (1936) to differ from *C. fragilis* in having 5 anterolateral spines instead of 4, in having the first leg extending past the merus of the second instead of falling short of it, in having the suborbital lobe truncate, instead of bilobed, and not equally advanced with the pterygostomian lobe, is as follows:

1. The inferior orbital lobe is truncate in the type specimen of *C. fragilis,* although bilobed on the photographed specimen (USNM No. 20620) from Ecuador.

2. The inferior orbital lobe makes an oblique line with the pterygostomian lobe, which is much more advanced on an anterior-posterior line. Wenman Island specimens and the type of *C. fragilis* are alike in this respect.

3. Both Wenman Island specimens and the type specimen of *C. fragilis* have 4 teeth if the exorbital tooth and the posterior marginal fold, which resembles a tooth, be excluded.

4. The first ambulatory leg is detached from the carapace of the type of *C. fragilis* and the other legs are rigid, making it impossible to tell whether or not the type had the first ambulatory leg overreaching the

merus of the second. In the Wenman Island specimens there is sufficient difference between merus lengths of the male and female to allow the male first leg to overreach and the female not.

Cymopolia velerae Garth

Plate 85, Fig. 1

Cymopolia velerae Garth, Allan Hancock Pac. Exped., vol. 5, no. 2, p. 25, pl. 10, figs. 1-4.

Type locality.—Off Daphne Minor Island, Galapagos Islands, 70-80 fms.

Type.—AHF no. 386.

Range.—Throughout the Galapagos Islands, exclusive of the three northern islands, in depths of 3-80 fms *(Velero III)*. (See *Remarks* below).

Diagnosis.—Five anterolateral teeth diminishing in size posteriorly. Outer suborbital lobe trilobed, inner sinus narrow. Outer slope of frontal lobe continuous with preorbital lobe. Supraorbital teeth broad, truncate. Merus of leg 2 with distal spine acuminate. Carapace 1.4 times wider than long; a sinuous posterior line of tubercles.

Material examined (111 specimens from 16 stations).—

55-33. Lat. 1° 03′ 30″ S, Long. 90° 17′ 30″ W, 60 fms, Feb. 5, 1933, 1 male.

147-34. Tagus Cove, Albemarle Island, 30 fms, Jan. 13, 1934, 1 female.

171-34. East of Wreck Bay, Chatham Island, 35-40 fms, Jan. 21, 1934, 3 females.

182-34. James Bay, James Island, 30 fms, Jan. 24, 1934, 1 male.

185-34. Cartago Bay, Albemarle Island, 32 fms, Jan. 25, 1934, 16 males, 15 females (5 ovig.), 3 fragments.

186-34. Cartago Bay, Albemarle Island, 32 fms, Jan. 25, 1934, 10 males, 2 ovig. females, 1 young.

190-34. Lat. 0° 55′ S, Long. 90° 30′ W, 58-60 fms, Jan. 26, 1934, 3 males, 7 females (3 ovig.), 2 young.

198-34. NW of Post Office Bay, 55-65 fms, Jan. 29, 1934, 1 ovig. female.

201-34. Off Gardner Bay, Hood Island, 25-35 fms, Jan. 31, 1934, 4 males, 1 young.

318-35. Off Gordon Rocks, Indefatigable Island, 45 fms, Dec. 8, 1934, 2 females (1 ovig.).

324-35. Tagus Cove, Albemarle Island, 45 fms, Dec. 10, 1934, 2 females.

346-35. Between South Seymour and Daphne Islands, 55 fms, Dec. 13, 1934, 1 male, 2 females, 2 fragments.

347-35. South Seymour Island, 3 fms, Dec. 13, 1934, 3 males.

792-38. Off Daphne Minor Island, 70-80 fms, Jan. 20, 1938, 2 males, 16 females, including the holotype (AHF no. 386).

795-38. Sulivan Bay, James Island, 35-40 fms, Jan. 21, 1938, 2 males, 1 female.

814-38. North of Hood Island, 20-40 fms, Jan. 28, 1938, 12 females.

Measurements.—Female holotype: length 6.9 mm, width 9.9 mm, length of second ambulatory leg 14.3 mm; largest male paratype: length 4.1 mm, width 4.9 mm.

Habitat.—Sand, sand and shell, sand and nullipore, sand and coral; mud, mud and shell, mud and sand; rock.

Depth.—3-80 fms.

Remarks.—This species was erroneously recorded as occurring in depths to 150 fms, apparently through inadvertency in including a Wenman Island station, at which only *C. fragilis* Rathbun and *C. cortezi* Crane were taken.

Family *GRAPSIDAE*

Subfamily GRAPSINAE

Genus GRAPSUS Lamarck, 1801

Grapsus grapsus (Linnaeus)

Plate 86, Figs. 1, 2

Cancer grapsus Linnaeus, Syst. Nat., ed. 10, vol. 1, p. 630, 1758.

Grapsus grapsus Ives, Proc. Acad. Nat. Sci. Philadelphia, p. 190, 1891. Faxon, Mem. Mus. Comp. Zool., vol. 18, p. 30, 1895. Rathbun, Bull. 97, U.S. Nat. Mus., p. 227, pls. 53 and 54, and synonymy, 1918. Boone, Zoologica, vol. 8, no. 4, p. 244, fig. 90, 1927. Sivertsen, Med. fra det Zool. Mus., Oslo, nr. 38, p. 18, 1933. Crane, Zoologica, vol. 22, no. 3, p. 77, 1937.

Pachygrapsus crassipes Boone, Zoologica, vol. 8, no. 4, p. 257, fig. 93, 1927.

Type localities.—America and Ascension Island.

Types.—Not extant.

Range.—San Benito Islands, Lower California (Anthony), to Mollendo, Peru (Coker); Galapagos Islands *(Hassler);* occurs also in the Atlantic.

Diagnosis.—Carapace discoidal with transverse granular ridges. Front almost vertical. Fingers with spoon shaped tips.

Material examined (76 specimens from 22 stations).—

11-32. Conway Bay, Indefatigable Island, shore, Jan. 12, 1932, 2 males, 1 female.

24-33. Gardner Bay, Hood Island, shore, Jan. 24, 1933, 2 males, 2 females, (1 ovig.).

38-33. SE of Cormorant Point, Charles Island, shore, Jan. 29, 1933, 4 males.

42-33. Opposite Kicker Rock, Chatham Island, shore, Jan. 31, 1933, 1 male.

48-33. Barrington Island, shore, Feb. 2, 1933, 1 male (soft shell).

49-33. Academy Bay, Indefatigable Island, shore, Feb. 3, 1933, 2 males.

52-33. Academy Bay, Indefatigable Island, shore, Feb. 4, 1933, 1 male.

56-33. Flamingo Bay, Charles Island, shore, Feb. 5, 1933, 16 young.

62-33. Black Bight, Albemarle Island, shore, Feb. 8, 1933, 3 young males.

65-33. Reef north of Tagus Hill, Albemarle Island, reef, Feb. 9, 1933, 5 young males.

66-33. Tagus Cove, Albemarle Island, 10-20 fms, Feb. 9, 1933, 4 young.

68-33. South of Cape Berkeley, Albemarle Island, shore, Feb. 10, 1933, 3 young males.

69-33. Albemarle Point, Albemarle Island, shore, Feb. 11, 1933, 2 young males.

85-33. North Seymour Island, shore, Feb. 18, 1933, 1 male.

93-33. Darwin Bay, Tower Island, shore, Feb. 22, 1933, 3 males (1 photographed), 1 female.

98-33. Darwin Bay, Tower Island, shore, Feb. 25, 1933, 9 males, 1 female.

146-34. Albemarle Point, Albemarle Island, shore, Jan. 12, 1934, 2 males, 1 large female.

179-34. Bartholomew Island near James Island, shore, Jan. 23, 1934, 1 small male.

184-34. James Bay, James Island, shore, Jan. 24, 1934, 1 young male.

306-35. Marchena Island, shore, Dec. 2, 1934, 1 male.

312-35. Black Beach, Charles Island, shore, Dec. 5, 1934, 1 young.

815-38. East side of Hood Island, shore, Jan. 28, 1938, 4 males, 1 ovig. female.

Measurements.—A large male: length 65 mm, width 73 mm, cheliped 65 mm, chela 30 mm, dactyl 21 mm.

Habitat.—Lava rocks above water line (spray zone).

Depth.—Shore.

Remarks.—"Sally Lightfoot," as this well-known grapsoid crab is commonly called, is abundant on all the islands of the Galapagos group and, because of the contrast of its bright red carapace against jet black lava, the most conspicuous member of the crustacean fauna. The young are so unlike the adults as to have been mistaken for another species, as noted under *Pachygrapsus crassipes* Boone. The greenish-blue carapace is spattered with creamy dots and the slender legs appear longer in proportion to body size than in the more compact adult. Furthermore, the young are occasionally obtained in shallow dredging, a situation in which the adults would not be found. The loss of a leg or two to the bright-eyed Galapagos bittern, a bird which stalks these crabs relentlessly, seems but a temporary inconvenience, as a new appendage is soon regenerated.

Genus **GEOGRAPSUS** Stimpson, 1858

Geograpsus lividus (H. Milne Edwards)

Plate 86, Figs. 3, 4

Grapsus lividus Milne Edwards, Hist. Nat. Crust., vol. 2, p. 85, 1837.

Geograpsus lividus Stimpson, Ann. Lyc. Nat. Hist. New York, vol. 7, p. 230, 1860. Rathbun, Proc. U.S. Nat. Mus., vol. 21, p. 604, 1898; Bull. 97, U.S. Nat. Mus., p. 232, pl. 55, and synonymy, 1918. Boone, Zoologica, vol. 8, no. 4, p. 251, fig. 91, 1927. Sivertsen, Med. fra det Zool. Mus., Oslo, nr. 38, p. 19, 1933. Schmitt, Smithsonian Misc. Col., vol. 98, no. 6, p. 25, 1939.

Type locality.—Antilles.

Type.—In Paris Mus.

Range.—From La Paz, Lower California, (Belding), to Chile; Galapagos Islands *(Albatross);* occurs also in the Atlantic and in Hawaii.

Diagnosis.—Carapace subquadrate, sides little arched. Edge of front visible in dorsal view. Fingers with pointed tips. Legs conspicuously hairy.

Material examined (46 specimens from 14 stations).—

38-33. SE of Cormorant Point, Charles Island, shore, Jan. 29, 1933, 2 males, 1 female.

49-33. Academy Bay, Indefatigable Island, shore, Feb. 3, 1933, 6 males, 1 female.

56-33. Flamingo Bay, Charles Island, shore, Feb. 5, 1933, 5 males, 5 females.

58-33. Cormorant Bay, Charles Island, shore, Feb. 6, 1933, 5 males, 1 female.

62-33. Black Bight, Albemarle Island, shore, Feb. 8, 1933, 2 males.
68-33. South of Cape Berkeley, Albemarle Island, shore, Feb. 10, 1933, 3 males, 4 females.
69-33. Albemarle Point, Albemarle Island, shore, Feb. 11, 1933, 1 female.
82-33. Conway Bay, Indefatigable Island, shore, Feb. 17, 1933, 2 males.
85-33. North Seymour Island, shore, Feb. 18, 1933, 1 male.
153-34. Mangrove Point, Narborough Island, shore, Jan. 14, 1934, 1 male, 2 females.
179-34. Bartholomew Island near James Island, shore, Jan. 23, 1934, 1 ovig. female.
184-34. James Bay, James Island, shore, Jan. 24, 1934, 1 ovig. female.
306-35. Marchena Island, shore, Dec. 2, 1934, 1 female (photographed).
314-35. Academy Bay, Indefatigable Island, shore, Dec. 7, 1934, 1 ovig. female.

Measurements.—Largest specimen, female: length 30 mm, width 38 mm, cheliped 50 mm, chela 25 mm, dactyl 15.7 mm.

Habitat.—Rocky shore, above water line (spray zone).

Depth.—Shore.

Remarks.—*G. lividus* is a most secretive species in comparison with *Grapsus grapsus,* dwelling in crevices above the water line and darting into some deep recess upon the slightest sign of danger. Only the glint of the long, yellow hairs with which the walking legs are liberally provided reveals the hiding place of the species.

Genus **PACHYGRAPSUS** Randall, 1840

Pachygrapsus transversus (Gibbes)

Plate 87, Fig. 2

Grapsus transversus Gibbes, Proc. Amer. Assoc. Adv. Sci., vol. 3, p. 181, 1850.

Pachygrapsus transversus Gibbes, Proc. Amer. Assoc. Adv. Sci., vol. 3, p. 182, 1850. Rathbun, Proc. Washington Acad. Sci., vol. 4, no. 8, p. 279, 1902; Bull. 97, U.S. Nat. Mus., p. 244, pl. 61, figs. 2 and 3, and synonymy, 1918. Boone, Zoologica, vol. 8, no. 4, p. 253, fig. 92, 1927. Finnegan, Journ. Linn. Soc. London, vol. 37, p. 649, 1931. Sivertsen, Med. fra det Zool. Mus., Oslo, nr. 38, p. 19, 1933. Schmitt, Smithsonian Misc. Col., vol. 98, no. 6, p. 25, 1939.

Type locality.—Key West, Florida.

Type.—Not extant.

Range.—From Agua Verde Bay, Gulf of California *(Albatross),* to Matapalo, Peru (Coker); Galapagos Islands (Jones); occurs also in the Atlantic.

Diagnosis.—Lateral margins strongly converging, bearing a single tooth just behind outer orbital tooth at widest part of carapace. Edge of front sinuous. Distal extremity of merus of fourth leg finely dentate.

Material examined (214 specimens from 40 stations).—

24-33. Gardner Bay, Hood Island, shore, Jan. 24, 1933, 8 males, 6 females.

27-33. Gardner Bay, Hood Island, shore, Jan. 25, 1933, 1 ovig. female.

30-33. Gardner Bay, Hood Island, shore, Jan. 26, 1933, 53 males, 23 females (12 ovig.).

38-33. SE of Cormorant Point, Charles Island, Jan. 29, 1933, 1 ovig. female.

48-33. Barrington Island, shore, Feb. 2, 1933, 6 males, 3 ovig. females.

49-33. Academy Bay, Indefatigable Island, shore, Feb. 3, 1933, 3 males, 1 ovig. female.

52-33. Academy Bay, Indefatigable Island, shore, Feb. 4, 1933, 5 males, 1 ovig. female.

56-33. Flamingo Bay, Charles Island, shore, Feb. 5, 1933, 1 male.

62-33. Black Bight, Albemarle Island, shore, Feb. 8, 1933, 1 male.

65-33. Reef north of Tagus Hill, Albemarle Island, reef, Feb. 9, 1933, 8 males, 2 females.

69-33. Albemarle Point, Albemarle Island, shore, Feb. 11, 1933, 2 males, 2 females (1 ovig.).

71-33. James Bay, James Island, shore, Feb. 12, 1933, 1 male, 1 female.

73-33. Cartago Bay, Albemarle Island, shore, Feb. 13, 1933, 1 male.

76-33. Cartago Bay, Albemarle Island, shore, Feb. 14, 1933, 1 male, 1 female.

82-33. Conway Bay, Indefatigable Island, shore, Feb. 17, 1933, 3 males, 7 females (3 ovig.).

85-33. North Seymour Island, shore, Feb. 18, 1933, 4 males, 2 females.

93-33. Darwin Bay, Tower Island, lagoon, Feb. 22, 1933, 3 males, 3 females.

96-33. Darwin Bay, Tower Island, shore, Feb. 24, 1933, 1 male, 6 females.

98-33. Darwin Bay, Tower Island, shore, Feb. 25, 1933, 1 male (photographed), 1 female.
146-34. Albemarle Point, Albemarle Island, shore, Jan. 12, 1934, 1 male, 3 females (1 ovig.), 1 young.
153-34. Mangrove Point, Narborough Island, shore, Jan. 14, 1934, 1 male.
154-34. Reef north of Tagus Hill, Albemarle Island, reef, Jan. 15, 1933, 1 male.
168-34. Academy Bay, Indefatigable Island, shore, Jan. 20, 1934, 1 male, 1 ovig. female.
168a-34. Academy Bay, Indefatigable Island, coral, Jan. 20, 1934, 3 young.
174-34. South Seymour Island, shore, Jan. 22, 1934, 2 females.
175-34. North Seymour Island, shore, Jan. 22, 1934, 1 male, 1 ovig. female.
179-34. Bartholomew Island near James Island, shore, Jan. 23, 1934, 1 male, 2 females.
180-34. Sulivan Bay, James Island, coral, Jan. 23, 1934, 1 specimen.
199a-34. Post Office Bay, Charles Island, shore, Jan. 30, 1934, 1 female.
202-34. Gardner Bay, Hood Island, shore, Jan. 31, 1934, fragment.
306-35. Marchena Island, shore, Dec. 2, 1934, 5 males, 3 ovig. females.
312-35. Black Beach, Charles Island, shore, Dec. 5, 1934, 1 male.
314-35. Academy Bay, Indefatigable Island, shore, Dec. 7, 1934, 2 males, 1 ovig. female.
333-35. James Bay, James Island, shore, Dec. 11, 1934, 2 males.
343-35. Sulivan Bay, James Island, shore, Dec. 12, 1934, 1 male.
354-35. Wreck Bay, Chatham Island, shore, Dec. 15, 1934, 1 male, 1 female.
359-35. Osborn Island in Gardner Bay, Hood Island, shore, Dec. 19, 1934, 3 males, 3 females (1 ovig.).
782-38. Darwin Bay, Tower Island, shore, Jan. 16, 1938, 1 male, 2 females, 1 young.
789-38. South Seymour Island, shore, Jan. 19, 1938, fragment.
796-38. Sulivan Bay, James Island, shore, Jan. 21, 1938, 1 young.

Measurements.—Largest specimen, male: length 19 mm, width 23.3 mm, cheliped 32 mm, chela 18 mm, dactyl 12.8 mm.

Color in life.—General appearance black, chela shading to purple on outer margin of movable finger. A strip of apple green shows on either side of the carpus at point of articulation with next segment. Abdomen hazel brown. (Garth)

Habitat.—Rocky shore.

Depth.—Shore.

Remarks.—After a microscopic examination of over 200 *Pachygrapsus* from the Galapagos Islands, most of which are minute, it appears that all have the distal extremity of the merus of the last ambulatory leg finely dentate and so must be classified as *P. transversus* (Gibbes) instead of as *P. crassipes* Randall (1839), in which the merus is entire. Since Boone (1927, p. 257) figures and describes as *crassipes* a young *Grapsus grapsus* (Linnaeus), there remains but a single record of the occurrence in the Galapagos Islands of *P. crassipes,* that of Rathbun (1902). The identification of this specimen is correct, as verified by Mr. G. P. Ashcraft. The error, if there be one, is on the label. The specimen (USNM No. 25663) is one of three (2 males, 1 female) taken by the Hopkins-Stanford Expedition in 1898-99 and recorded from Tagus Cove, Albemarle Island, in 12 fathoms of water. Other species taken at this station were *Micropanope polita* (Rathbun), *Medaeus spinulifer* (Rathbun), *Portunus (Achelous) angustus* Rathbun, *Stenorynchus debilis* (Smith), *Podochela margaritaria* Rathbun, and *Microphrys triangulatus* (Lockington). While it is normal for the above-mentioned species to be found in 12 fathoms, it is not usual to encounter *P. crassipes* outside the intertidal zone; in fact, records of its occurrence at any depth at all are nonexistent. Although it is possible that there may have been a shore station of the same day at which *P. crassipes* was collected, to be later inadvertently placed in a bottle containing the dredged specimens, it is more probable that the *crassipes* was collected at a more northerly station. This is borne out by the fact that in his unpublished personal notes R. E. Snodgrass records spending a day ashore on the south end of Guadalupe Island at Whaler's Bay, where *crassipes* is abundant. Until further specimens are obtained to substantiate this Galapagos record, it seems unwise to consider *crassipes* a member of the Galapagan fauna.

Genus **PLANES** Leach

Planes minutus (Linnaeus)

Cancer minutus Linnaeus, Syst. Nat., ed. 10, vol. 1, p. 625, 1758.

Planes minutus Verrill, Trans. Conn. Acad. Arts and Sci., vol. 13, p. 325, pl. 13, figs. a-j'; pl. 27, fig. 6; text fig. 7, 1908. Rathbun, Proc. Washington Acad. Sci., vol. 4, no. 8, p. 278, 1902; Bull. 97, U.S. Nat. Mus., p. 253, pl. 63, 1918. Boone, Zoologica, vol. 8, no. 4, p. 259, fig. 94, 1927. Crane, Zoologica, vol. 22, no. 3, p. 77, 1937.

Type locality.—"in Pelagi Fuco natante."

Type.—Not extant.

Range.—From Humboldt Bay, California (Dall), to Payta, Peru (Jones); Galapagos Islands *(Albatross);* also occurs in the Atlantic.

Diagnosis.—Carapace smooth, bare, convex in both directions, length and breadth subequal. Frontal width approximately half of carapace width, front entire or slightly bilobed. A small lateral tooth behind outer orbital tooth.

Material examined.—None from Galapagos.

Remarks.—While the writer has examined as many living sea turtles on Galapagos beaches as are likely to come under the observation of one collector, he has not been fortunate in finding this pelagic species in the situation from which it has been reported, about the reptile's venter. Like *Plagusia immaculata* Lamarck, which rides upon drifting logs, its occurrence depends to a large extent upon the vagaries of ocean currents and eddies.

Subfamily VARUNINAE

Genus **EUCHIROGRAPSUS** Milne Edwards, 1853

Euchirograpsus americanus A. Milne Edwards

Plate 85, Figs. 5, 6

Euchirograpsus americanus A. Milne Edwards, Bull. Mus. Comp. Zool., vol. 8, p. 18, 1880. Rathbun, Bull. 97, U.S. Nat. Mus., p. 282, pl. 74, text fig. 144, 1918.

Type locality.—Barbados, 69 fms.

Type.—Cotypes in MCZ, No. 6132.

Range.—From off South Carolina *(Albatross)* to off Santa Lucia *(Blake);* Caribbean Sea; 42-278 fms.

Diagnosis.—Carapace squarish, covered with pubescence. A single lobe on the inner surface of the merus of the third maxilliped. Three small spines behind outer orbital spine on margins of carapace. Legs hairy with conspicuous bands of orange red.

Material examined (Two specimens from as many stations).—

186-34. Cartago Bay, Albemarle Island, 32 fms, Jan. 25, 1934, 1 female.

795-38. Sulivan Bay, James Island, 35-40 fms, Jan. 21, 1938, 1 male (photographed).

Measurements.—Largest specimen, male: length 11.8 mm, width 13.3 mm, cheliped 19.0 mm, chela 10.0 mm, dactyl 5.7 mm.

Color in life.—Ground color light apricot orange, a shade darker on frontal portion of carapace, which is marked by delicate orange-red blotches and small orange-red dots. Eye green. Chelae apricot orange

with ridges of orange red; tips of teeth white. Ambulatory legs apricot orange banded with orange red on merus, carpus, and propodus, and dactylus. Tip of nail white. (Petersen)

Habitat.—Coarse sand and nullipore; sand and rock.

Depth.—32-278 fms.

Remarks.—The specimens have been compared with the cotypes from Barbados at Harvard MCZ by Dr. Fenner Chace and with a male and two females taken off Santa Lucia by Captain E. Cole of the *Blake* in the collections of the U.S. National Museum. Concerning the former comparison Dr. Chace writes: "From the specimens I have seen, both Atlantic and Pacific, I do not believe the latter deserve a specific designation at this time." With this sentiment the writer, in his examination of the *Blake* specimens, is in perfect agreement.

E. americanus is now recorded for the first time in Pacific waters.

Subfamily PLAGUSIINAE

Genus **PLAGUSIA** Latreille, 1806

Plagusia immaculata Lamarck

Plagusia immaculata Lamarck, Hist. Nat. Anim. sans Vert., vol. 5, p. 247, 1818. Rathbun, Bull. 97, U.S. Nat. Mus., p. 335, pl. 103, 1918. Boone, Zoologica, vol. 8, no. 4, p. 264, fig. 95, 1927.

Type locality.—Mediterranean Sea or Indian Ocean.

Type.—In Paris Mus.

Range.—From Punta Arenas, Costa Rica (Biolley), to Taboga Island, Panama (Meek and Hildebrand); Galapagos Islands *(Arcturus);* also Indo-Pacific.

Diagnosis.—Carapace subcircular, depressed, covered with low tubercles or squamae, lateral margin toothed. Meri of ambulatory legs with an anterodistal spine, legs conspicuously hairy.

Material examined.—None from Galapagos Islands. Hancock collections contain a series from Cocos Island, Costa Rica.

Remarks.—A pelagic species, the Pacific Log Rider is to be expected whenever the warm Niño current carries floating rafts southwestward from the Bay of Panama.

Genus **PERCNON** Gistel, 1848

Percnon gibbesi (Milne Edwards)

Plate 86, Figs. 5, 6

Acanthopus gibbesi Milne Edwards, Ann. Sci. Nat., ser. 3, Zool., vol. 20, pp. 180 and 146, 1853.

Percnon gibbesi Rathbun, Bull. 97, U.S. Nat. Mus., p. 337, pl. 105, 1918. Hult, Arkiv. för Zoologi, Band 30A, no. 5, p. 14, 1938. Schmitt, Smithsonian Misc. Col., vol. 98, no. 6, p. 25, 1939.

Type locality.—Antilles.

Type.—In Paris Mus.

Range.—From Cape San Lucas, Lower California, to Chile; Galapagos Islands (Hult); occurs also in the Atlantic.

Diagnosis.—Carapace exceedingly flat and depressed, disclike. Legs long and slender; anterior margins of meri armed with strong spines. Chelae of adult male bulbous but compressed.

Material examined (28 specimens from 9 stations).—

33-33. Black Beach, Charles Island, shore, Jan. 27, 1933, 1 female.

38-33. SE of Cormorant Point, Charles Island, shore, Jan. 29, 1933, 3 males, 5 females (1 ovig.).

98-33. Darwin Bay, Tower Island, shore, Feb. 25, 1933, 1 ovig. female.

101-33. Darwin Bay, Tower Island, shore, Feb. 26, 1933, 1 male.

154-34. Reef north of Tagus Hill, Albemarle Island, reef, Jan. 15, 1934, 2 females.

313-35. Black Beach, Charles Island, shore, Dec. 6, 1934, 1 female.

359-35. Osborn Island in Gardner Bay, Hood Island, shore, Dec. 19, 1934, 2 males, 3 females.

784-38. Darwin Bay, Tower Island, shore, Jan. 17, 1938, 4 males, 2 females (1 photographed).

789-38. South Seymour Island, shore, Jan. 19, 1938, 2 males, 1 young, fragment.

Measurements.—Largest specimen, female: length 32.5 mm, width 34.3 mm; largest male: length 30.0 mm, width 27.7 mm, cheliped 32.0 mm, chela 14.0 mm, height of palm 9.0 mm, dactyl 7.4 mm. These specimens are of exceptional size.

Color in life.—Carapace and merus of ambulatory legs brown above. A fine white line bisecting carapace into right and left halves. Carpus, propodus, and dactylus show increasing amounts of chrome orange, the brown superior band narrowing with each article. Eyestalks and chelae orange, though paler than legs. (Garth)

Habitat.—Under large, turnable rocks in shallow, turbulent water.

Depth.—Shoal water.

Remarks.—The Spray Crab is found in white water of knee to hip depth. Its extreme flatness and propensity for keeping always on the under side no matter how rapidly the rock is turned make *P. gibbesi* the most difficult to capture of all the Galapagos Grapsidae. Undoubtedly, many more specimens are present than are seen.

P. gibbesi was first taken in the Galapagos Islands by *Velero III* collectors.

A key to the genus *Percnon* is given by Schmitt (1939, p. 23).

Family *OCYPODIDAE*

Subfamily OCYPODINAE

Genus OCYPODE Fabricius, 1798

Ocypode gaudichaudii Milne Edwards and Lucas

Plate 87, Fig. 7

Ocypoda gaudichaudii Milne Edwards and Lucas, d'Orbigny's Voy. dans l'Amer. Merid., vol. 6, Crust., p. 26, 1843; vol. 9, atlas, pl. 11, figs. 4-4b, 1847.

Ocypode gaudichaudii Rathbun, Proc. U.S. Nat. Mus., vol. 21, p. 603, 1898; Bull. 97, U.S. Nat. Mus., p. 373, pl. 129, fig. 1; pl. 130, fig. 1, 1918; *not* Zoologica, vol. 5, no. 14, p. 155, pl. 7, figs. 1-3. Boone, Zoologica, vol. 8, no. 4, p. 267, fig. 96A, 1927 (*not* fig. 96B). Sivertsen, Med. fra det Zool. Mus., Oslo, nr. 38, p. 19, 1933. Crane, Zoologica, vol. 25, p. 65, 1940.

Type locality.—Chile.

Type.—In Paris Mus.

Range.—Gulf of Fonseca, Salvador (MCZ), to Chile (MCZ); Galapagos Islands *(Albatross)*.

Diagnosis.—Carapace subcylindrical, granulate. Front narrow, one-seventh or less of carapace width. Eyestalks extending beyond cornea. Fingers truncate.

Material examined (47 specimens from 12 stations).—

10-32. James Bay, James Island, shore, Jan. 9, 1932, 3 males.

13-32. Darwin Bay, Tower Island, shore, Jan. 20, 1932, 1 female.

42-33. Opposite Kicker Rock, Chatham Island, shore, Jan. 31, 1933, 6 males (1 photographed), 5 females.

58-33. Cormorant Bay, Charles Island, shore, Feb. 6, 1933, 1 male.

71-33. James Bay, James Island, shore, Feb. 12, 1933, 5 males, 2 females.

82-33. Conway Bay, Indefatigable Island, shore, Feb. 17, 1933, 1 male.

85-33. North Seymour Island, shore, Feb. 18, 1933, 1 female.

88-33. South Seymour Island, shore, Feb. 19, 1933, 11 males, 2 females.

175a-34. South Seymour Island, shore, Jan. 22, 1934, 2 females.

332-35. Two miles south of Tagus Cove, Albemarle Island, shore, Dec. 10, 1934, 1 male.

333-35. James Bay, James Island, shore, Dec. 11, 1934, 1 male.

789-38. South Seymour Island, shore, Jan. 19, 1938, 4 males, 1 female.

Measurements.—Largest specimen, male: length 35 mm, width 46 mm, cheliped (rigid) coxa to elbow 30 mm, elbow to tip of dactyl 30 mm, chela 30 mm, dactyl 17.4 mm.

Color in life.—General appearance light coral pink, slightly darker on posterior regions and ambulatory legs. Merus of cheliped light coral red, carpus coral pink, manus pinkish with yellowish crest. Eyestalks bright coral red, eye pale lilac, almost white, with longitudinal dark brown cornea ending in a coral pink spine. Dactyls with pale yellowish tinge. (Petersen)

Habitat.—In burrows on sandy beaches.

Depth.—Shore.

Remarks.—The Ghost Crab or Cart Driver, El Carretero, as he is called in Latin America, is found only on the hard-packed sand beaches which occur much less frequently in the Galapagos Islands than the rocky shoreline. Two striking differences separate *O. gaudichaudii* from the species of the Mexican coast, *O. occidentalis* Stimpson 1860; the eyestalks are prolonged beyond the cornea and the tips of the dactyls are truncate.

Crane (1940, p. 70) presents convincing evidence that the megalops described and figured by Rathbun (1924, p. 155, pl. 7) as (?) *Ocypode gaudichaudii* and repeated by Boone (1927, p. 271, fig. 96B) with photographic illustration and without the question mark should be referred instead to the genus *Plagusia* because of its grapsid, rather than ocypodid, characters.

Genus **UCA** Leach, 1814

KEY TO THE GALAPAGOS SPECIES OF THE GENUS *Uca*

A¹ Front less than one-third width of carapace. No granular ridge on superior margin of palm. Size small . . *U. helleri*

A² Front about one-third width of carapace. A granular ridge on superior margin of palm. Size large . . *U. galapagensis*

Uca galapagensis Rathbun

Plate 87, Figs. 3, 4

Uca galapagensis Rathbun, Proc. Washington Acad. Sci., vol. 4, p. 275, pl. 12, figs. 1 and 2, 1902; Bull. 97, U.S. Nat. Mus., p. 403, pl. 142, text fig. 167a and b, 1918; Zoologica, vol. 5, no. 14, p. 155, 1924. Boone, Zoologica, vol. 8, no. 4, p. 271, fig. 97, upper figure, 1927; *not* fig. 97, lower figure, which is *Uca panamensis,* (Stimpson). Sivertsen, Med. fra det Zool. Mus., Oslo, nr. 38, p. 20, 1933. Hult, Arkiv för Zoologi, Band 30A, no. 5, p. 14, 1938.

Uca macrodactyla Crane, Zoologica, vol. 26, no. 19, p. 178, 1941; part: the Galapagos specimen.

Type locality.—Indefatigable Island.

Type.—USNM No. 22319.

Range.—Known only from the Galapagos Islands, Indefatigable, James, and Seymour.

Diagnosis.—Superior margin of palm with a granular ridge. Orbital margins moderately oblique. Front about one-third width of carapace. Size large.

Material examined (173 specimens from 6 stations).—

8-32. E. of Post Office Bay, Charles Island, shore, Jan. 3, 1932, 16 males, 3 females, fragment.

39-33. Flamingo Lagoon, Charles Island, shore, Jan. 29, 1933, 39 males, 12 females, (including photographed pair).

49-33. Academy Bay, Indefatigable Island, shore, Feb. 3, 1933, 29 males, 19 females.

82a-33. Conway Bay, Indefatigable Island, shore, Feb. 17, 1933, 2 males.

88-33. South Seymour Island, shore, Feb. 19, 1933, 38 males, 15 females.

314-35. Academy Bay, Indefatigable Island, shore, Dec. 7, 1934, 5 males, 2 females.

Measurements.—Largest specimen, male: length 14.6 mm, width 22.1 mm, cheliped 60 mm, chela 38.6 mm, dactyl 28 mm; female: length 13.5 mm, width 19.6 mm.

Habitat.—In mud flats of brackish lagoons.

Depth.—Shore.

Remarks.—Brackish water and claylike soil are sought by the fiddler crabs in general. The Galapagos species, *U. galapagensis* Rathbun, thrives equally well in a pinkish muck at Charles Island or a red-orange gumbo at South Seymour Island. The Academy Bay specimens, living in gray mud, attain the greatest size.

The Eden Island specimen figured by Boone (1927, fig. 97, upper figure) has been examined through the kindness of Miss Jocelyn Crane of the New York Zoological Society and found to be in close agreement with the large series of *galapagensis* taken by *Velero III* collectors at Academy Bay, on the opposite side of Indefatigable Island. In view of this fact and the fact that Miss Crane considers the specimen to be *atypical* as *U. macrodactyla,* the specimen is here referred once more to the established Galapagos species until others unquestionably of the latter species put in an appearance.

Uca helleri Rathbun

Plate 87, Figs. 5, 6

Uca helleri Rathbun, Proc. Washington Acad. Sci., vol. 4, p. 277, pl. 12, figs. 3 and 4, 1902; Bull. 97, U.S. Nat. Mus., p. 415, pl. 151, text fig. 170a and b, 1918. Boone, Zoologica, vol. 8, no. 4, p. 278, fig. 98, 1927. Crane, Zoologica, vol. 26, no. 19, p. 198, text figs. 4R, 5, 1941.

Type locality.— Mangrove Point, Narborough Island, Galapagos Islands.

Type.—USNM. No. 24829.

Range.—Albemarle, Narborough, and Tower Islands, Galapagos Islands.

Diagnosis.—Superior margin of palm without granular ridge. Orbital margins strongly oblique. Front less than one-third width of carapace. Size small.

Material examined (225 specimens from 5 stations).—

52-33. Academy Bay, Indefatigable Island, shore, Feb. 4, 1933, 14 males, 11 females (2 ovig.).

62-33. Black Bight, Albemarle Island, shore, Feb. 8, 1933, 63 males, 38 females (4 ovig.), (including photographed pair).

93-33. Darwin Bay, Tower Island, shore, Feb. 22, 1933, 50 males, 43 females (3 ovig.).

98-33. Darwin Bay, Tower Island, shore, Feb. 25, 1933, 4 males, 1 female.

153-34. Mangrove Point, Narborough Island, shore, Jan. 14, 1934, 1 male.

Measurements.—Large specimen, male: length 8.2 mm, width 12.3 mm, cheliped 32 mm, chela 21.4 mm, dactyl 15.5 mm; female: length 8.0 mm, width 11.0 mm.

Habitat.—Sandy mud beneath mangrove roots.

Depth.—Shore.

Remarks.—*U. helleri* and *U. galapagensis* Rathbun are found in separate colonies and on separate islands except at Academy Bay, where they occur in adjacent coves. The Academy Bay record is an extension of range for *U. helleri.*

LITERATURE CITED

ALCOCK, A.

1899. Materials for a Carcinological Fauna of India. No. 4. The Brachyura Cyclometopa. Pt. II. The Families Portunidae, Cancridae, and Corystidae. Journ. Asiatic Soc. Bengal, vol. 68, pt. 2, no. 3, pp. 1-104.

BELL, T.

1835. Some Accounts of the Crustacea of the Coasts of South America, with Descriptions of new Genera and Species, founded principally on the collections obtained by Mr. Cuming and Mr. Miller. Proc. Zool. Soc. London, vol. 3, pp. 169-173.

1836. Trans. Zool. Soc. London, vol. 2, pp. 39-66, 6 pls.

1855. XXXI. Horae Carcinologicae, or Notices of Crustacea. I. A Monograph of the Leucosiadae, with observations on the relations, structure, habits, and distribution of the family; a revision of the generic characters; and descriptions of new genera and species. Trans. Linn. Soc. London, vol. 21, pp. 277-314, pls. 30-34.

BOONE, LEE

1927. The Littoral Crustacean Fauna of the Galapagos Islands. Part I: Brachyura. Zoologica, vol. 8, no. 4, pp. 127-288, text figs. 34-101.

BORRADAILE, L. A.

1903. Marine Crustaceans. III. The Xanthidae and some other Crabs. *In* J. S. Gardiner, Fauna and Geography of the Maldive and Laccadive Archipelagoes, vol. 1, pt. 1, pp. 237-271, text figs. 41-60.

CHACE, F. A.

1939. Reports on the Scientific Results of the First *Atlantis* Expedition to the West Indies, under the joint auspices of the University of Havana and Harvard University. Preliminary Descriptions of One New Genus and Seventeen New Species of Decapod and Stomatopod Crustacea. Mem. de la Soc. Cubana de Hist. Nat., vol. 13, no. 1, pp. 31-54.

1940. Reports on the Scientific Results of the *Atlantis* Expeditions to the West Indies, under the joint auspices of the University of Havana and Harvard University. The Brachyuran Crabs. Torreia, no. 4, pp. 1-67, text figs. 1-22.

CLARK, H. L.

1902. Papers from the Hopkins-Stanford Galapagos Expedition, 1898-1899. XII. Echinodermata. Proc. Washington Acad. Sci., vol. 4, pp. 521-531.

CRANE, JOCELYN

1937. The Templeton Crocker Expedition. VI. Oxystomatous Crabs from the Gulf of California and the West Coast of Lower California. Zoologica, vol. 22, pt. 2, no. 7, pp. 97-107, pls. 1-2.

1937. The Templeton Crocker Expedition. III. Brachygnathous Crabs from the Gulf of California and the West Coast of Lower California. Zoologica, vol. 22, no. 3, pp. 47-78, pls. 1-8.

1940. Eastern Pacific Expeditions of the New York Zoological Society. XVIII. On the Post-Embryonic Development of Brachyuran Crabs of the Genus *Ocypode*. Zoologica, vol. 25, no. 6, pp. 65-82, text figs. 1-7.

1941. Eastern Pacific Expeditions of the New York Zoological Society. XXIX. On the Growth and Ecology of Brachyuran Crabs of the Genus *Ocypode*. Zoologica, vol. 26, pt. 4, pp. 297-310, pls. 1 and 2, text figs. 1-7.

DANA, J. D.

1852. United States Exploring Expedition during the Years 1838, 1839, 1840, 1841, 1842, under the Command of Charles Wilkes, U.S.N. Vol. 8, Crustacea, Parts 1 and 2, 1618 pp. Vol. 13, Atlas.

EYDOUX, F., & L. F. A. SOULEYET
1842. Voyage autour du monde exécuté pendant les anées 1836 et 1837 sur la corvette la Bonite, commandée par M. Vaillant. Tome I, pt. 2.

FAXON, W.
1893. Reports on the Dredging Operations off the West Coast of Central America, etc. VI. Preliminary Descriptions of New Species of Crustacea. Bull. Mus. Comp. Zool. Harvard, vol. 24, no. 7, pp. 149-220.
1895. Reports on an Exploration off the West Coasts of Mexico, etc. XV. The Stalk-eyed Crustacea. Mem. Mus. Comp. Zool. Harvard, vol. 18, pp. 1-292, pls. A-K, 1-56.

FINNEGAN, SUSAN
1931. Report on the Brachyura Collected in Central America, the Gorgona and Galapagos Islands, by Dr. Crossland on the "St. George" Expedition to the Pacific, 1924-25. Journ. Linn. Soc. London, Zool., vol. 37, no. 255, pp. 607-673, text figs. 1-6.

GARTH, J. S.
1939. New Brachyuran Crabs from the Galapagos Islands. Allan Hancock Pac. Exped., vol. 5, no. 2, pp. 9-29, pls. 1-10.
1940. Some New Species of Brachyuran Crabs from Mexico and the Central and South American Mainland. Allan Hancock Pac. Exped., vol. 5, no. 3, pp. 53-95, pls. 11-26.

GERSTAECKER, K. E. A.
1856. Carcinologische Beiträge. Arch. für Naturg., vol. 22, pt. 1, pp. 101-162, pls. 4-6.

GIBBES, L. R.
1850. On the Carcinological Collections of the United States and an Enumeration of the Species contained in them, with Notes on the most remarkable, and Descriptions of new Species. Proc. Amer. Assoc. Adv. Sci., vol. 3, pp. 167-201.

GLASSELL, S. A.
1934. Some Corrections Needed in Recent Carcinological Literature. Trans. San Diego Soc. Nat. Hist., vol. 7, no. 38, pp. 453-454.
1935. New or Little-Known Crabs from the Pacific Coast of Northern Mexico. Trans. San Diego Soc. Nat. Hist., vol. 8, no. 14, pp. 91-106, pls. 9-16.
1936. The Templeton Crocker Expeditions. I. Six New Brachyuran Crabs from the Gulf of California. Zoologica, vol. 21, no. 17, pp. 213-218.
1940. *In* J. S. Garth, Some New Species of Brachyuran Crabs from Mexico and the Central and South American Mainland. Allan Hancock Pac. Exped., vol. 5, no. 3, pp. 67-70, pl. 18.

HULT, J.
1938. Crustacea Decapoda from the Galapagos Islands collected by Mr. Rolf Blomberg. Arkiv för Zoologi, Stockholm, Band 30A, no. 5, pp. 1-18, pl. 1, text figs. 1-4.

IVES, J. E.
1891. Crustacea from the Northern Coast of Yucatan, the Harbor of Vera Cruz, the West Coast of Florida, and the Bermuda Islands. Proc. Acad. Nat. Sci. Philadelphia, pp. 176-207, 2 pls.

LAMARCK, J. B. P. A.
1818. Histoire naturelle des animaux sans vertébres, vol. 5.

LATREILLE, P. A.
1825. Histoire Naturelle; Entomologie, ou histoire naturelle des Crustacés, des Arachnides, et des Insectes in: Encyc. méth., vol. 10, pp. 1-832.

LINNAEUS, C.

1758. Systema Naturae, ed. 10, vol. 1, pp. 1-823.

LOCKINGTON, W. N.

1877. Remarks on the Crustacea of the Pacific Coast, with Descriptions of some new Species. Proc. Calif. Acad. Sci., vol. 7, pt. 1, pp. 28-36.

1877. Remarks on the Crustacea of the West Coast of North America, with a Catalogue of the Species in the Museum of the California Academy of Sciences. Proc. Calif. Acad. Sci., vol. 7, pt. 1, pp. 94-108, 145-156.

MIERS, E. J.

1877. Account of the Zoological Collection made during the visit of H.M.S. "Peterel" to the Galapagos Islands. V. Crustacea. Proc. Zool. Soc. London, pp. 73-75, pl. 12.

1880. On a Collection of Crustacea from the Malaysian Region. Part I. Crustacea Oxyrhyncha and Cyclometopa, except Telphusidea. Ann. Mag. Nat. Hist., London, ser. 5, vol. 5, pp. 226-239.

MILNE EDWARDS, A.

1873-1880. Études sur les Xiphosures et les Crustacés de la Région Mexicaine. Mission Scientifique au Mexique et dans l'Amérique Centrale. Pt. 5, pp. 1-368, pls. 1-61.

1880. Reports on the Results of Dredging under the Supervision of Alexander Agassiz in the Gulf of Mexico, etc. 8. Études preliminaires sur les Crustacés, pt. 1. Bull. Mus. Comp. Zool. Harvard, vol. 8, pp. 1-68, pls. 1-2.

MILNE EDWARDS, H.

1834. Histoire Naturelle des Crustaces, vol. 1, pp. 1-468; vol. 2, 1837, pp. 1-532.

1853. Memoire sur la Famille des Ocypodiens. Ann. Sci. Nat., ser. 3, Zool., vol. 20, pp. 163-228, pls. 6-11.

MILNE EDWARDS, H., & H. LUCAS

1843. *In* d'Orbigny, Voyage dans l'Amérique Méridionale, vol. 6, pt. 1, pp. 1-39; atlas, vol. 9, 1847, pls. 1-17.

ODHNER, T.

1925. Monographierte Gattungen de Krabbenfamilie Xanthidae. Goteborg's K. Vet. Handl., Fjärde Följden, vol. 29, no. 1, pp. 1-92, 5 pls., 7 text figs.

RANDALL, J. W.

1839. Catalogue of the Crustacea brought by Thomas Nuttall and J. K. Townsend, from the West Coast of North America and the Sandwich Islands. Journ. Acad. Nat. Sci. Philadelphia, vol. 8, pt. 1, pp. 106-147, pls. 3-7.

RATHBUN, M. J.

1892. Catalogue of the Crabs of the Family Periceridae in the U.S. National Museum. Proc. U.S. Nat. Mus., vol. 15, pp. 231-277, pls. 28-40.

1893. Scientific Results of Explorations by the U.S. Fish Commission Steamer "Albatross." XXIV. Descriptions of new Genera and Species of Crabs from the West Coast of North America and the Sandwich Islands. Proc. U.S. Nat. Mus., vol. 16, pp. 223-260.

1898. The Brachyura collected by the U.S. Fish Commission Steamer "Alba tross" on the Voyage from Norfolk, Virginia, to San Francisco, California, 1887-1888. Proc. U.S. Nat. Mus., vol. 21, pp. 567-616, pls. 41-44.

1902. Papers from the Hopkins-Stanford Expedition, 1898-1899. VIII. Brachyura and Macrura. Proc. Washington Acad. Sci., vol. 4, pp. 275-292, pl. 12.

1907. Reports on the Scientific Results of the Expedition to the Tropical Pacific, in charge of Alexander Agassiz, by the U.S. Fish Commission Steamer "Albatross." X. Brachyura. Mem. Mus. Comp. Zool. Harvard, vol. 35, no. 2, pp. 23-74, 9 pls.

1910. The Stalk-eyed Crustacea of Peru and the Adjacent Coast. Proc. U.S. Nat. Mus., vol. 38, pp. 531-620, pls. 36-56.

1911. The Percy Sladen Trust Expedition to the Indian Ocean in 1905 under the Leadership of Mr. J. Stanley Gardiner. Vol. III. No. XI. Marine Brachyura. Trans. Linn. Soc. London, 2nd. ser., Zool., vol. 14, pt. 2, pp. 191-261, pls. 15-20.

1916. Descriptions of Three New Species of Crabs *(Osachila)* from the Eastern Coast of North America. Proc. U.S. Nat. Mus., vol. 50, pp. 647-652, 1 pl.

1918. The Grapsoid Crabs of America. Bull. 97, U.S. Nat. Mus., pp. 1-461, pls. 1-161.

1924. Brachyuran Crabs collected by the Williams Galapagos Expedition, 1923. Zoologica, vol. 5, no. 14, pp. 153-159.

1924. New Species and Subspecies of Spider Crabs. Proc. U.S. Nat. Mus., vol. 64, art. 14, pp. 1-5.

1925. The Spider Crabs of America. Bull. 129, U.S. Nat. Mus., pp. 1-613, pls. 1-283.

1930. The Cancroid Crabs of America of the Families Euryalidae, Portunidae, Atelecyclidae, Cancridae, and Xanthidae. Bull. 152, U.S. Nat. Mus., pp. 1-593, pls. 1-230.

1933. Preliminary Descriptions of Nine New Species of Oxystomatous and Allied Crabs. Proc. Biol. Soc. Washington, vol. 46, pp. 183-186.

1935. Preliminary Descriptions of Seven New Species of Oxystomatous and Allied Crabs. Proc. Biol. Soc. Washington, vol. 48, pp. 1-4.

1937. The Oxystomatous and Allied Crabs of America. Bull. No. 166, U.S. Nat. Mus., pp. 1-272, pls. 1-86.

SAUSSURE, H. DE

1853. Description de quelques Crustacés noveaux de la côte occi-dentale du Mexique. Rev. et Mag. de Zool., ser. 2, vol. 5, pp. 354-368, pls. 12-13.

SCHMITT, W. L.

1921. The Marine Decapod Crustacea of California. University of Calif. Publ. Zool., vol. 23, pp. 1-470, pls. 1-50, text figs. 1-165.

1939. Decapod and other Crustacea collected on the Presidential Cruise of 1938. Smithsonian Misc. Col., vol. 98, no. 6, pp. 1-29, pls. 1-3.

SIVERTSEN, E.

1933. The Norwegian Zoological Expedition to the Galapagos Islands 1925, conducted by Alf Wollebaek. VII. Littoral Crustacea Decapoda from the Galapagos Islands. Medd. Zool. Mus. Oslo, nr. 38, pp. 1-38, pls. 1-4.

SMITH, S. I.

1869. No. 2—Descriptions of a new genus and two new species of Scyllaridae and a new species of Aethra from North America. Amer. Journ. Sci., ser. 2, vol. 48, pp. 118-121.

1869. *In* Verrill, On the Parasitic Habits of some Crustacea. Amer. Nat., vol. 3, no. 5, pp. 239-250, text figs. 41-42.

1869. Notes on new or little-known Species of American Cancroid Crustacea. Proc. Boston Soc. Nat. Hist., vol. 12, pp. 274-289.

1871. Thirty-two Species of Crustacea collected by J. A. McNeil at West Coast of Central America, Nicaragua, and Bay of Fonsora. Rept. Peabody Acad. Nat. Sci., pp. 87-98.

STIMPSON, W.

1860. 22. Notes on North American Crustacea in the Museum of the Smithsonian Institution. No. 2. Ann. Lyc. Nat. Hist. New York, vol. 7, pp. 49-118 (177-246), 2 pls.

1871. 6. Notes on North American Crustacea in the Museum of the Smithsonian Institution. No. 3. Ann. Lyc. Nat. Hist. New York, vol. 10, pp. 2-46 (92-136).

STREETS, T. H., & J. S. KINGSLEY

1877. An Examination of Types of some recently described Crustacea. Bull. Essex Inst., vol. 9, pp. 103-108.

VERRILL, A. E.

1908. Decapod Crustacea of Bermuda. I. Brachyura and Anomura, their Distribution, Variations, and Habits. Trans. Conn. Acad. Arts Sci., vol. 13, pp. 299-474, 20 pls. 67 text figs.

WHITE, A.

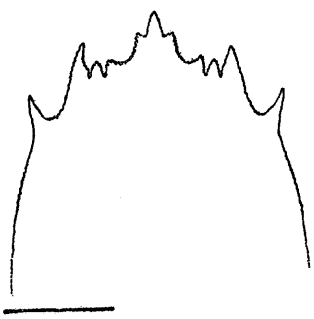
1847. Descriptions of a new Genus and Five new Species of Crustacea. *In* Jukes, Narrative of the Surveying Voyage of H.M.S. Fly, commanded by Captain F. P. Blackwood, R.N., in Torres Strait, New Guinea, and other Islands of the Eastern Archipelago during the years 1842-1846. Vol. 2, Append. no. 8, pp. 335-338, 1 pl.

EXPLANATION OF PLATES

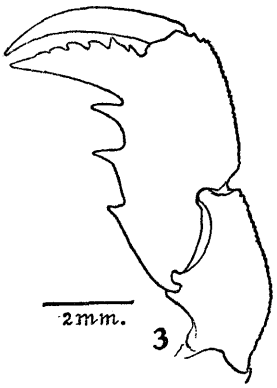
PLATE 49

Raninoides ecuadorensis Rathbun (p. 344)
Male paratype

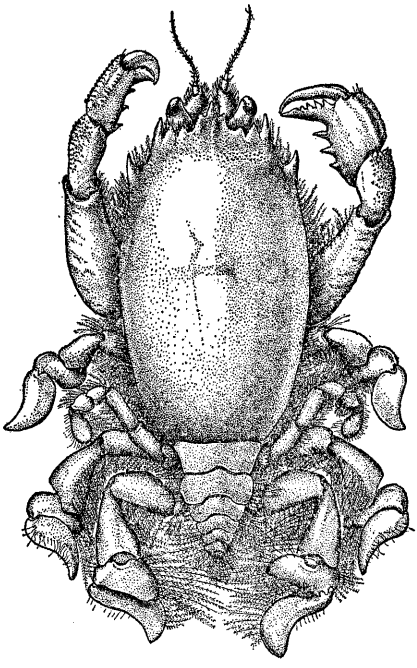
Fig. 1 Dorsal view
Fig. 2 Outline of front
Fig. 3 Outline of wrist and hand
Fig. 4 Fourth walking leg
Fig. 5 First walking leg



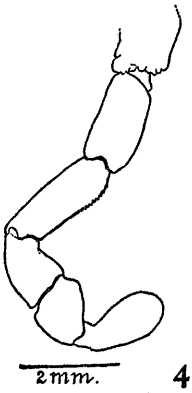
2



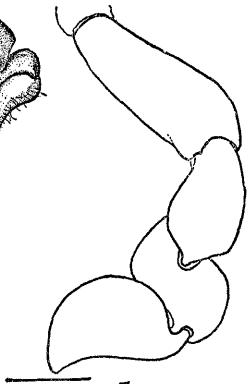
3



1



4



5

PLATE 50

Clythrocerus laminatus Rathbun (p. 353)

Fig. 1 Dorsal view, male
Fig. 2 Right chela, male
Fig. 3 Abdomen, female
Fig. 4 Abdomen, male
Fig. 5 Left outer maxilliped
Fig. 6 Right cheliped, female
Fig. 7 Right cheliped, male

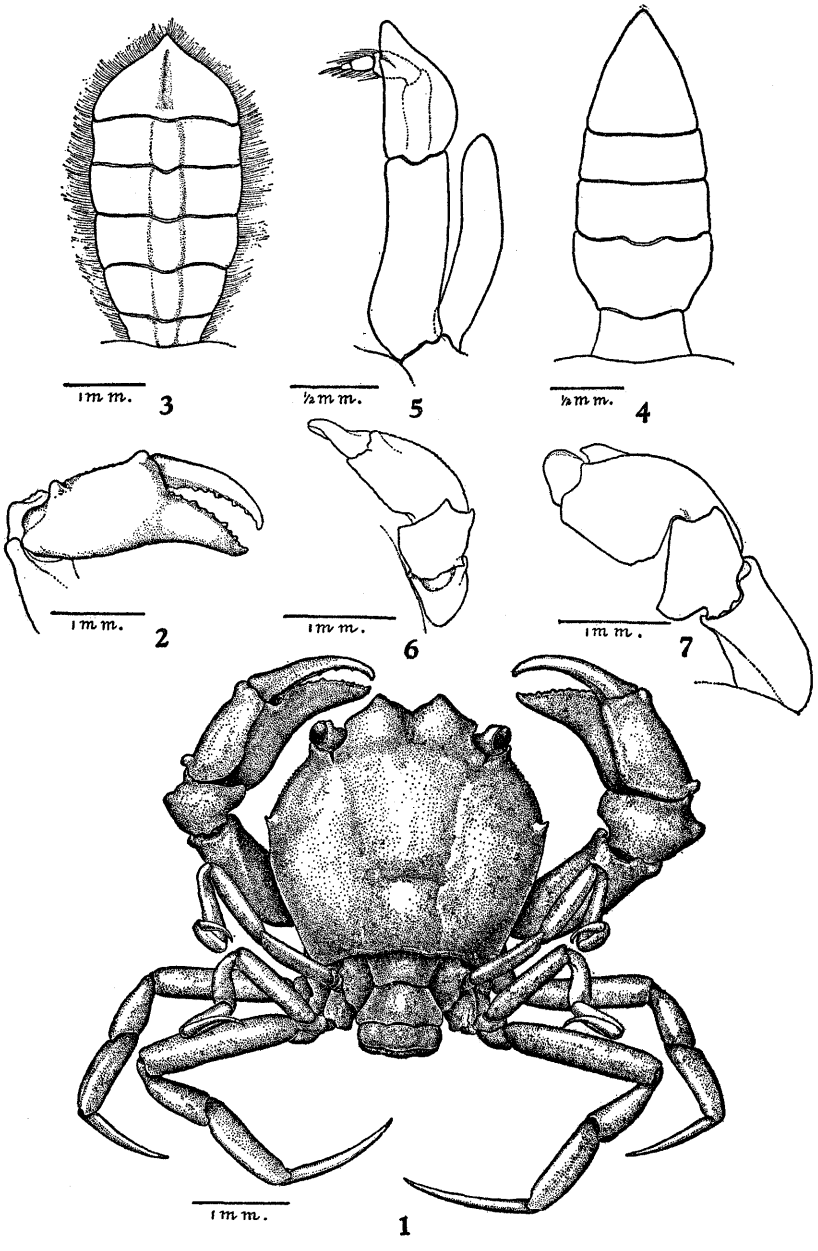
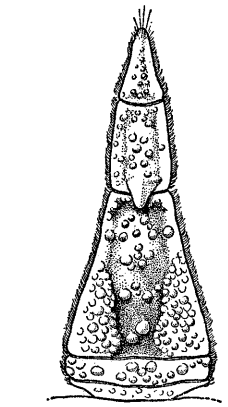

1 mm.
1
1 mm.
2
1 mm.
3
½ mm.
4
½ mm.
5
1 mm.
6
1 mm.
7

PLATE 51

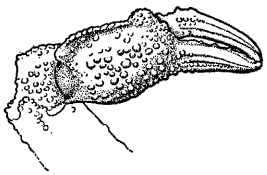
Ebalia hancocki Rathbun (p. 354)

Fig. 1 Dorsal view, male
Fig. 2 Abdomen, male
Fig. 3 Abdomen, female
Fig. 4 Right chela
Fig. 5 Frontal view of carapace
Fig. 6 Posterior view of carapace



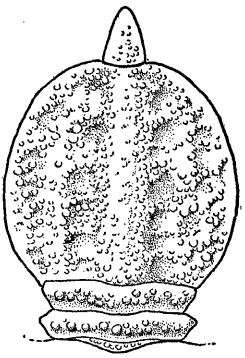
2 mm.

2



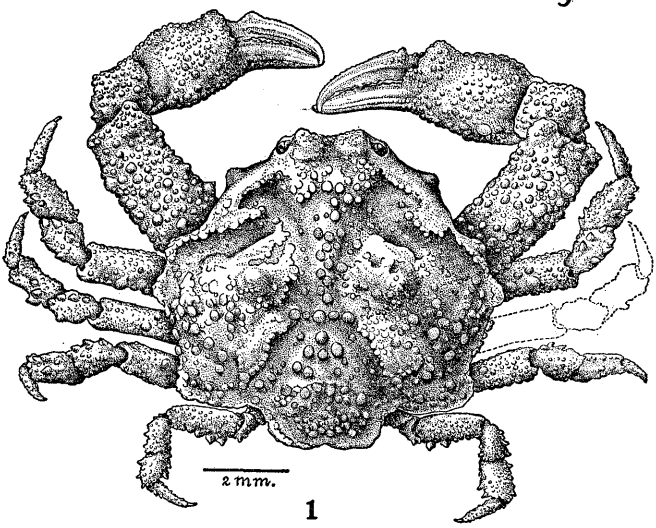
3 mm.

4



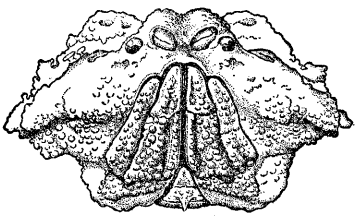
2 mm.

3



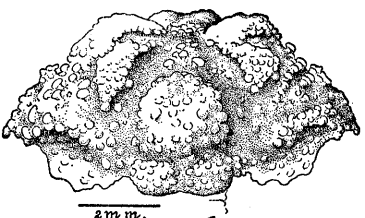
2 mm.

1



2 mm.

5



2 mm.

6

PLATE 52

Osachila galapagensis Rathbun (p. 364)
Female paratype

Fig. 1 Dorsal view
Fig. 2 Detail of anterolateral margin
Fig. 3 Abdomen
Fig. 4 Abdomen, male
Fig. 5 Left chela
Fig. 6 Left fourth ambulatory leg
Fig. 7 Right outer maxilliped

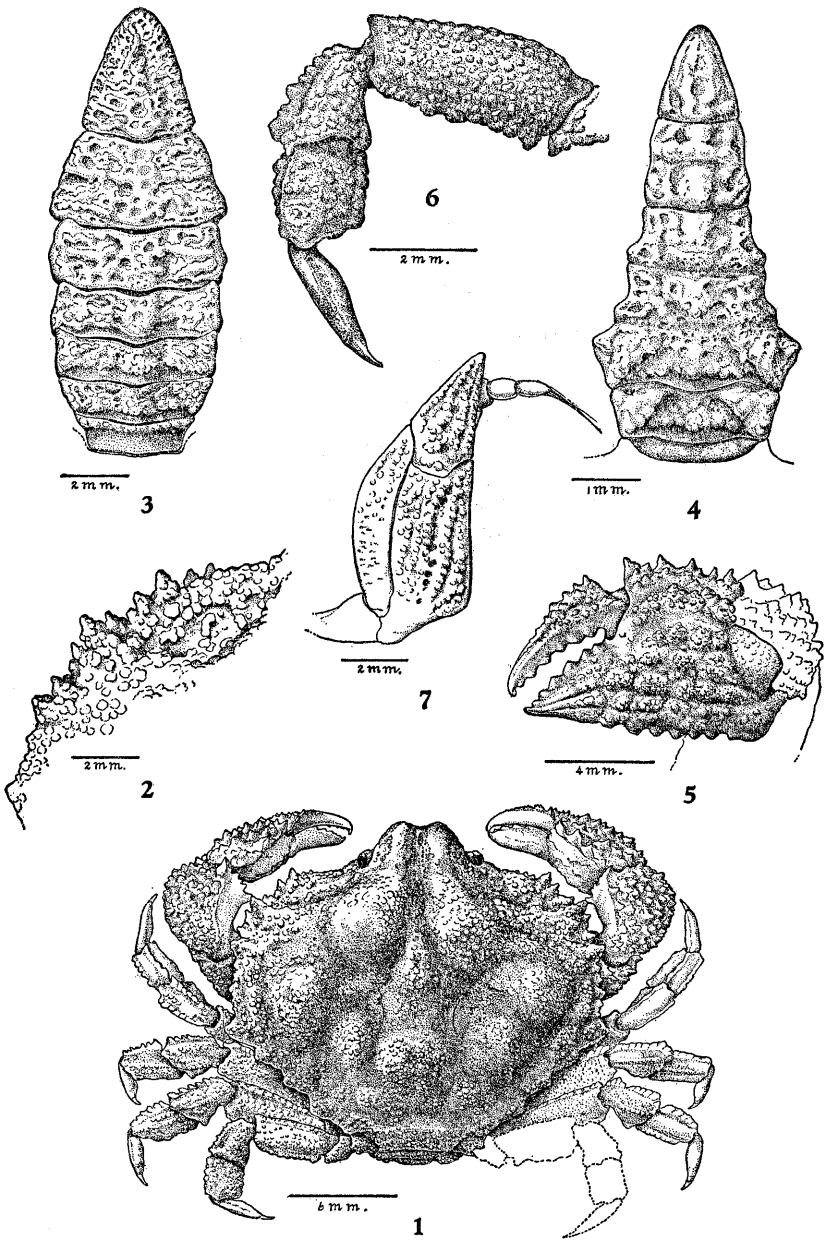

6
2 mm.
2 mm.
3
1 mm.
4
2 mm.
7
2 mm.
2
4 mm.
5
6 mm.
1

PLATE 53

Euprognatha granulata Faxon (p. 372)
Male

Fig. 1 Dorsal view
Fig. 2 Abdomen
Fig. 3 Left outer maxilliped
Fig. 4 Right chela
Fig. 5 Dorsal view of orbit
Fig. 6 Ventral view of orbit

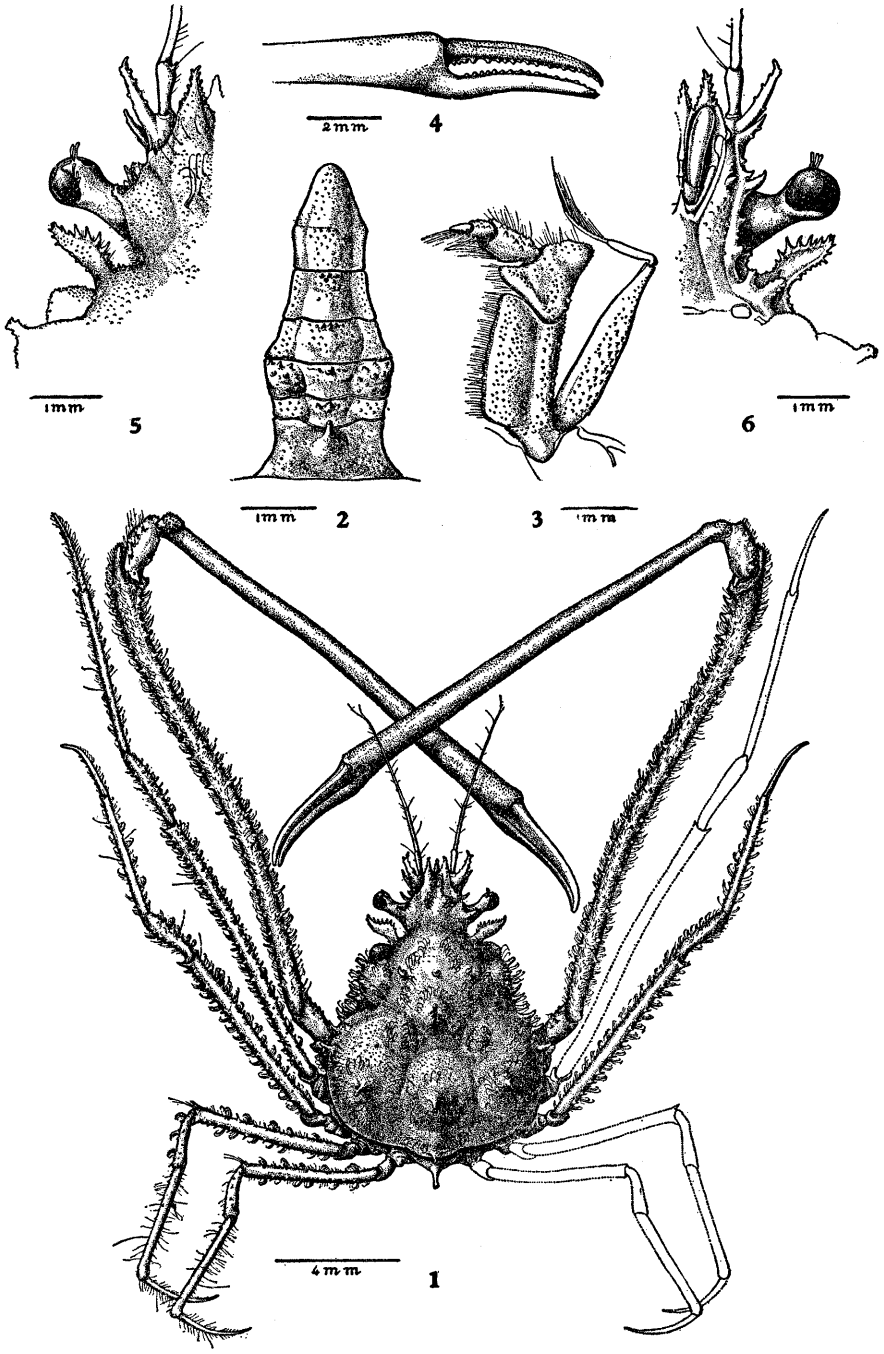

2 mm
4
1 mm
5
1 mm
2
3
1 mm
6
4 mm
1

PLATE 54

Tyche lamellifrons Bell (p. 406)

Fig. 1 Dorsal view, female
Fig. 2 Ventral view of orbit
Fig. 3 Left chela, male
Fig. 4 Abdomen, male
Fig. 5 Abdomen, female
Fig. 6 Right outer maxilliped

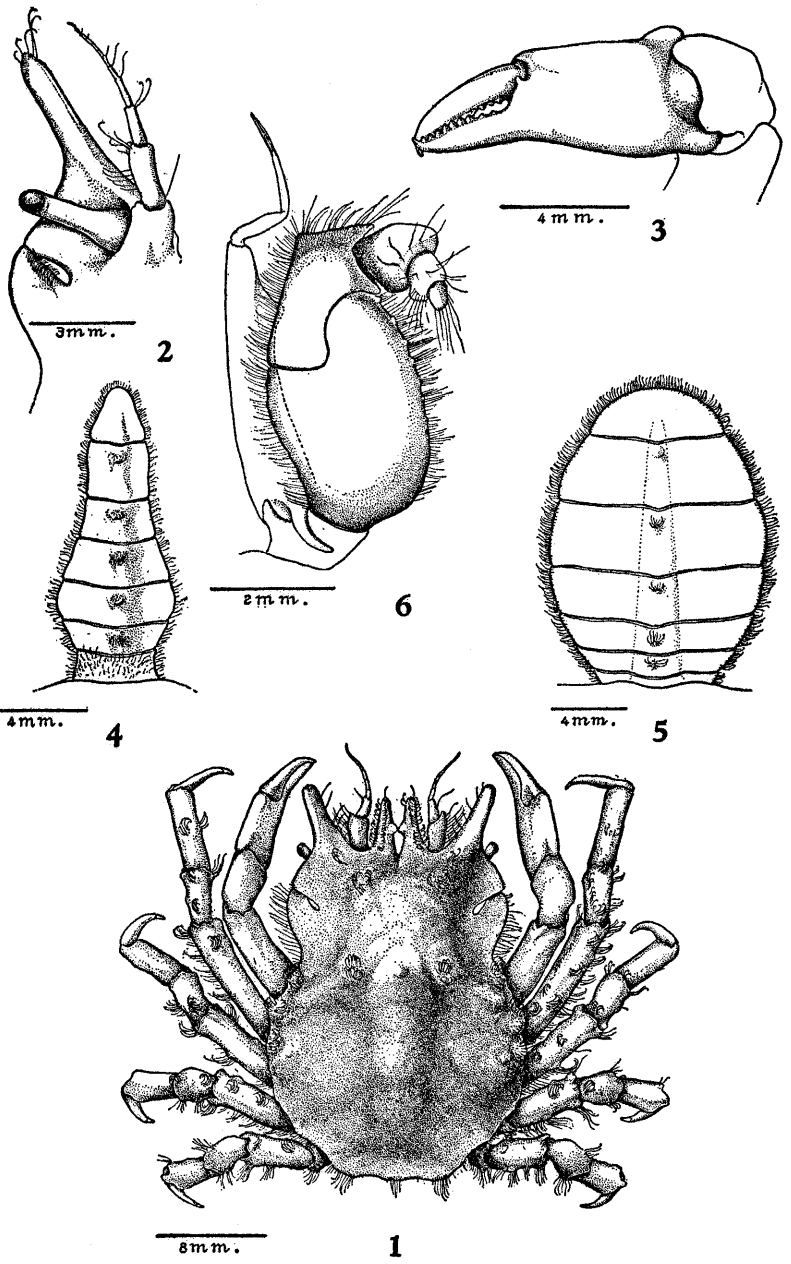

3mm.
2
4mm.
3
2mm.
6
4mm.
4
4mm.
5
8mm.
1

PLATE 55

Daldorfia garthi Glassell (p. 412)

Fig. 1 Dorsal view
Fig. 2 Frontal view
Fig. 3 Minor chela
Fig. 4 Major chela
Fig. 5 Sternal pit, showing position of male abdomen
Fig. 6 Sternal pit, showing position of female abdomen
Fig. 7 Left outer maxilliped
Fig. 8 Detail of lateral teeth
Fig. 9 Right third ambulatory leg
Fig. 10 Female abdomen
Fig. 11 Male abdomen

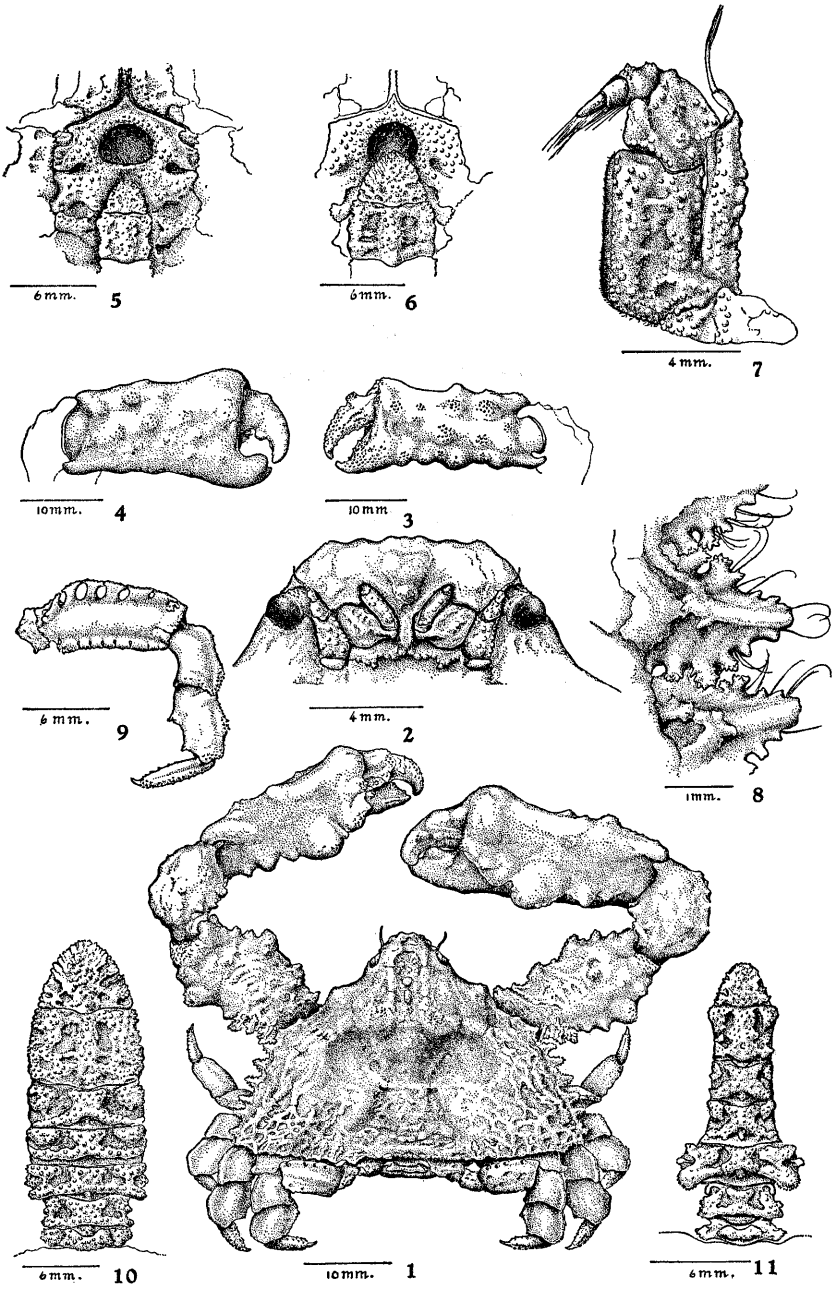

6mm. 5
6mm. 6
4mm. 7
10mm. 4
10mm 3
6mm. 9
4mm. 2
1mm. 8
6mm. 10
10mm. 1
6mm. 11

PLATE 56

Actaea crosslandi (Finnegan) (p. 436)
Male

Fig. 1 Dorsal view
Fig. 2 Right chela
Fig. 3 Abdomen
Fig. 4 Left outer maxilliped

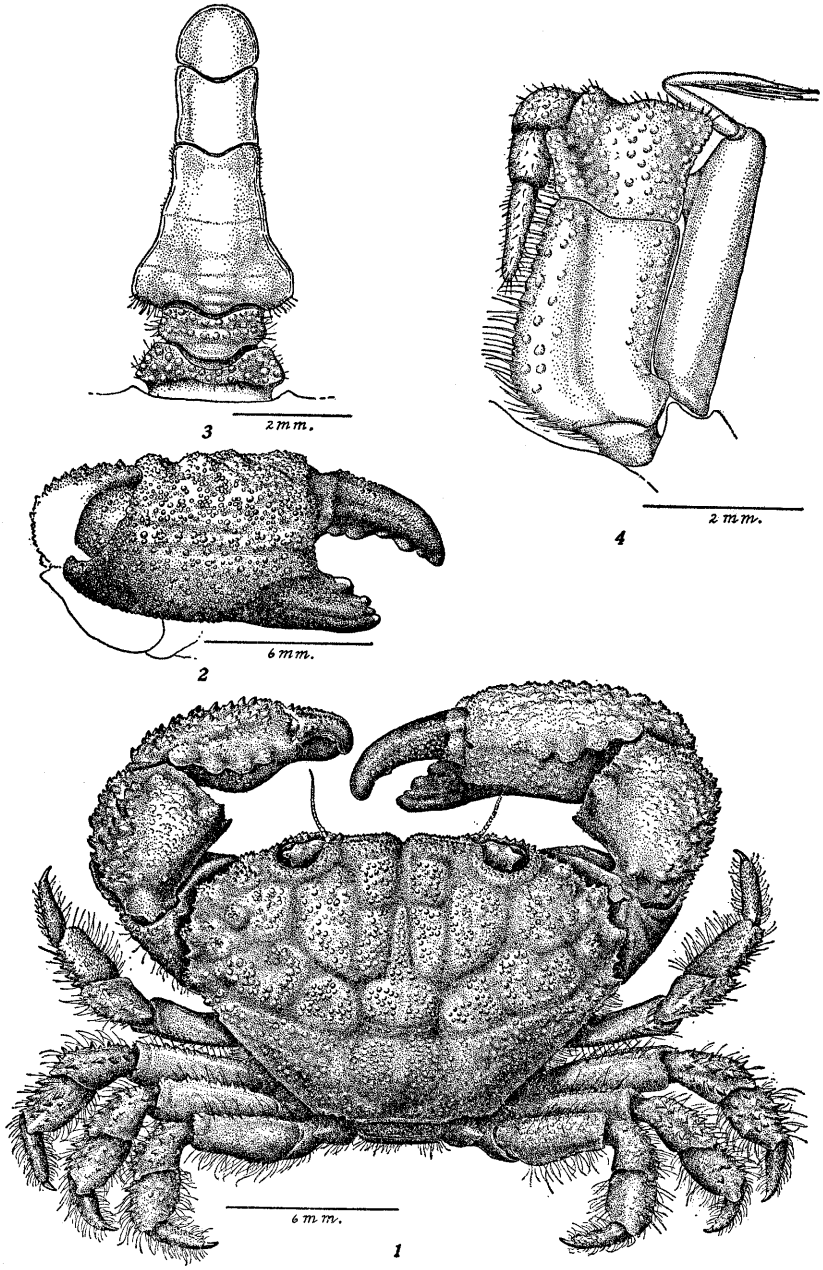

2 mm.
3
2 mm.
4
6 mm.
2
6 mm.
1

PLATE 57

Micropanope fraseri, new species (p. 462)
Male holotype

Fig. 1 Dorsal view
Fig. 2 Frontal view of chelae
Fig. 3 Abdomen
Fig. 4 Left outer maxilliped

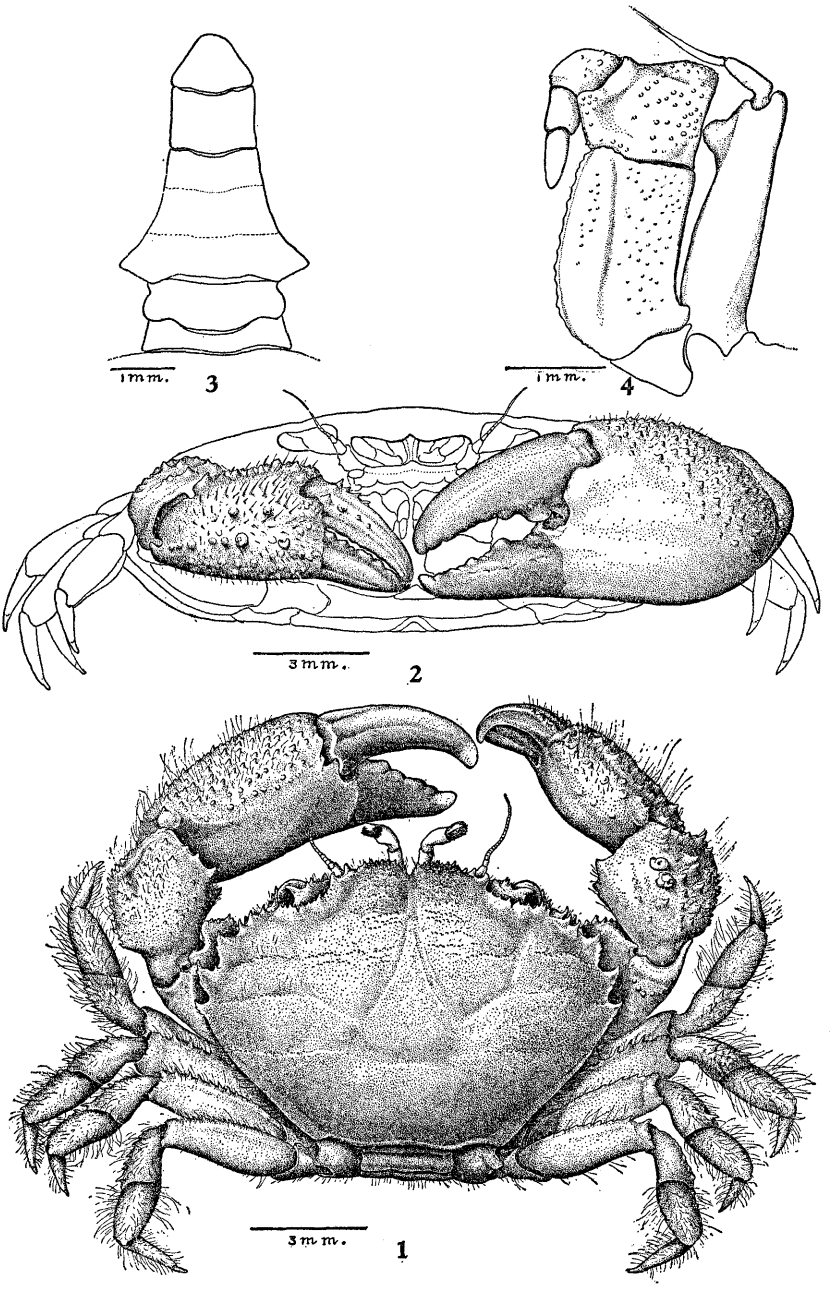

1 mm.
3
1 mm.
4
3 mm.
2
3 mm.
1

PLATE 58

Ectaesthesius bifrons Rathbun (p. 466)
Male

Fig. 1 Dorsal view
Fig. 2 Right chela
Fig. 3 Left chela
Fig. 4 Left outer maxilliped
Fig. 5 Antennal region
Fig. 6 Abdomen, female
Fig. 7 Abdomen, male