Habitat.—On sandy beaches in deep burrows, near or above high tide. When pursued they run very rapidly, often suddenly stopping and squatting so closely in the sand that they could easily be overlooked (Verrill). They are partly nocturnal, usually remaining in their burrows during the daytime, and coming out at dusk or later to feed on animal refuse.[1]

Range.—From Block Island, Rhode Island, to the State of Santa Catharina, Brazil. Rare east of New Jersey. Bermudas. Megalops stage in Vineyard Sound, Massachusetts, and Narragansett Bay, Rhode Island.

Material examined.—

Woods Hole, Massachusetts; U. S. Fish Comm.: 4 megalops (11175). August, 1885; electric light; 6 megalops (10995).

Off Delaware, lat. 38° 25′ N.; long. 72° 40′ W.; surface; Sept. 21, 1885; U. S. Fish Comm.: 1 megalops (11128).

Bethany Beach, Delaware; July 4–10, 1912; W. D. Appel; 6 males (44571).

Wallops Island, Virginia; May 26, 1913; U. S. Dept. Agri.; 1 male (45962).

Smiths Island, Northampton County, Virginia: May 16–25, 1914; Chas. W. Richmond; 3 males, 1 female, 5 y. (18287). Sept. 28, 1897; Chas. W. Richmond and Wm. Palmer; 5 y. (20589). August, 1909; J. H. Riley and E. J. Brown; 15+ specimens (39860). 1910; J. H. Riley; 2 y. (41019). June, 1912; George Hitchens; 23 specimens (44524).

Willoughby Point, Virginia; May, 1880; Earll & McDonald; 3 males, 3 females (3879).

Buckroe Beach, Virginia; May 5, 1898; M. C. Marsh; 5+ specimens (32251).

Fort Macon, North Carolina; Oct. 7, 1904; B. W. Evermann; 1 male (48294).

St. Augustine, Florida; J. C. H. Smith; 4 specimens (2008).

East Peninsula, opposite Micco, Florida; O. Bangs; 10+ specimens (18738).

Indian River Inlet, Florida; Jan. 23, 1896; U. S. Fish Comm.; 1 female (20101).

Loggerhead Key, Florida; Apr. 8, 1889; U. S. Fish Comm.; 2 males (20098).

Marquesas Key, Florida; 1889; *Grampus;* 2 males (20100).

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[1] For detailed observations on the habits of this species at Tortugas, Florida, see R. P. Cowles, Habits, Reactions, and Associations in *Ocypoda arenaria.* Papers from Tortugas Laboratory of Carnegie Institution of Washington, vol. 2, 1908, pp. 1–41, text-figs. 1–10, pls. 1–4 (1 colored).

Key West, Florida; Jan. 27, 1901; B. A. Bean & W. H. King; 1 y. (24839).

Garden Key, Tortugas, Florida; beach; Dec. 25, 1912; Bur. Fisheries; 7 young (49913).

Little Gasparilla Pass, Florida; Mar. 17, 1889; U. S. Fish Comm.; 1 male (20099).

Long Key, Florida; Jan. 29, 1903; *Fish Hawk;* 1 female (43290).

Clearwater, Florida; July 14, 1879; S. T. Walker; 1 female (3260).

Santa Rosa Island, Pensacola, Florida; outer beach; July 25, 1893; J. E. Benedict; 1 male (17925).

Cameron, Louisiana; R. P. Cowles; 1 male (30568).

Matagorda peninsula near *Fish Hawk* anchorage, Texas; Jan. 10, 1905; *Fish Hawk;* 1 specimen (33034).

Padre Island, Texas; Aug. 27, 1891; Wm. Lloyd; 1 male (17705).

Texas; Aug. 16, 1891; Wm. Lloyd; 1 male (17706).

Tampico, Mexico; A. Dugès; 1 male (18688).

La Barra, near Tampico, Mexico; Feb. 7, 1910; E. Palmer; 9 y. (43291).

Mujeres Island, Yucatan; April, 1901; Nelson and Goldman; 2 males (25235).

Cozumel, Yucatan; seine; Jan. 29, 1885; *Albatross;* 1 male (9894).

Near Belize, British Honduras; W. A. Stanton; 1 male (21372).

British Honduras; W. A. Stanton; 2 males (22599).

Swan Islands, Caribbean Sea; February, 1887; C. H. Townsend; 3 males, 1 female (17649).

Old Providence; Apr. 4–9, 1889; *Albatross;* 2 males, 4 females, 2 y. (7531).

Greytown, Nicaragua; Feb. 10, 1892; C. W. Richmond; 5 males (17651).

Toro Point, Canal Zone, Panama; May 19, 1911; Meek and Hildebrand; 1 male (43991).

Sabanilla, Colombia; March 16–22, 1884; *Albatross;* 7 males (17652).

Santa Marta, Colombia; C. F. Baker; 1 female (22550).

Pernambuco, Brazil; 1876–1877; R. Rathbun; 1 male, 2 females (40600). Pernambuco?; 1876–1877; R. Rathbun; 1 y. (40599).

Fernando de Noronha, Brazil; 1876–1877; R. Rathbun; 1 male, 1 female (40602).

Maceio, Alagoas, Brazil; July 25, 1899; Branner-Agassiz Exped.; on sand beach; 1 male (25696); on coral reef; 1 male (25696).

Bahia, Brazil; July 12, 1874; I. Russell; 1 female (13858).

Bahia, Brazil; Dec. 23, 1887; *Albatross;* 1 male (22075).

Itaparica, Bahia, Brazil; April, 1876; R. Rathbun; 1 y. (40597).

Mar Grande, Bahia, Brazil; 1876–1877; R. Rathbun; 1 male, 1 female (40598).

Caravellas, Bahia, Brazil; 1876–1877; R. Rathbun; 1 male (40601).

Abrolhos Islands, Brazil; Dec. 27, 1887; *Albatross;* 1 male (22076).

Rio de Janeiro, Brazil; U. S. Exploring Exped.; 2 males, 1 female (2362).

Ilha Grande, Rio de Janeiro; July, 1915; J. H. Rose; 1 female (48300).

Matuba, São Paulo, Brazil; 1905; E. Garbe; 1 male (47837).

Dog Island, Nassau, Bahamas; June 20, 1903; B. A. Bean; 1 female (31043).

Green Cay, Bahamas; Apr. 12, 1886; *Albatross;* 3 males (11367).

Watling Island, Bahamas; 1886; *Albatross;* 1 male (17679).

Cabañas, Cuba; June 5, 1900; Wm. Palmer and J. H. Riley; 2 y. (23820).

Mariel, Cuba; sandy shore; May 10, 1900; Wm. Palmer and J. H. Riley; 3 females (23819).

Cuba; 1914; Bartsch and Henderson, *Tomas Barrera* Exped.: On reef flat between Cayo Hutia and little Cayo, N. E. of Light; May; 11 males, 3 females (48385). Ensenada de Santa Rosa; 1–3 fathoms; S. Sh. M. Sponge; May; 1 male (48391). Reef Lavesos Italienos, off Cayo Lavesos; 2–3 fathoms; co. S. R.; June 2; 1 male (48397). Bahia Honda; June 7; 1 male (49159).

Montego Bay, Jamaica; C. B. Wilson; small brackish pond near shore; June 23, 1910; 1 male (42904); shore; 2 males, 1 female (42905).

Kingston Harbor, Jamaica: *Albatross;* Mar. 1–11, 1884; 2 y. (7695). T. H. Morgan; 1 male, 1 female (17221).

Porto Rico; 1899; *Fish Hawk:* Aguadilla; Jan. 18; 1 y. (24527). Playa de Ponce; Jan. 31; 1 y. (24529). San Juan; Jan. 11 and 12; 1 male, 2 y. (24526). Hucares; Feb. 14; 1 y. (24531). Ensenada Honda, Culebra; Feb. 10; 2 males (24530).

Santo Domingo, West Indies: 1877; Chas. A. Fraser; 1 female (3295). 1878; W. M. Gabb; 1 female y. (3203).

St. Thomas; 1915; C. R. Shoemaker: Magens Bay; beach, lives in burrows in sand; July 4; 2 males (49803). East side St. Thomas Harbor; beach; July 11; 4 young (49840). Drift Bay, Water Island; beach; July 17; 1 male, 2 females (49804). Drift Bay; beach; 1 male (49802).

Port Castries, St. Lucia; 1887; *Albatross:* Dec. 2; 1 female, 1 y. (22074). Dec. 3; 8 males, 3 females (40797).

Hungry Bay, Bermudas; July–Sept.; F. G. Gosling; 1 male, 1 female (25434).

Locality not given; 1 male (49251).

OCYPODE OCCIDENTALIS Stimpson.

Plate 129, figs. 2 and .

Ocypoda occidentalis STIMPSON, Ann. Lyc. Nat. Hist. New York, vol. 7, 1860, p. 229 (type-locality, Cape St. Lucas; cotypes, Cat. No. 2016, U.S.N.M.; cotypes also in M. C. Z. and, probably, in Brit. Mus.).

Ocypoda gaudichaudii ? LOCKINGTON, not Milne Edwards and Lucas, Proc. California Acad. Sci., vol. 7, 1876 (1877), p. 145.

Ocypoda kuhlii, var. *occidentalis* MIERS, Ann. Mag. Nat. Hist., ser. 5, vol. 10, 1882, p. 386.

? Ocypoda urvillei DOFLEIN, Sitzungsber. k. bayer. Akad. Wiss., math.-phys. Cl., vol. 29, 1899, p. 189, Mollendo, Peru; probably not *O. urvillei* Milne Edwards.[1]

Diagnosis.—Outer angle of orbit about as advanced as the front. Eyes without style. Fingers pointed.

Description.—Closely allied to *O. albicans*, from which it is distinguished by the following characters:

The carapace is narrower, the greatest breadth being only a sixth more than its greatest length.

Granulation of carapace more uniform and coarser.

Outer angles of orbit more produced, being nearly or quite as advanced as the front.

Arm and wrist rougher; teeth on lower margin of propodus more numerous but less prominent. Stridulating ridge longer, its tubercles from 17 to 20.

Ambulatory legs shorter, second pair not two and one-half times as long as carapace, fourth pair reaching to middle of propodus of third pair. Merus of all the legs as well as carpus and propodus of last pair naked. Hair of carpus and propodus of first three pairs short and furry, and lacking on the lower margins. Margins of merus joints denticulate.

Color.—Darkish. and can be distinguished very well on the dry sand, but its color is rather confused with the sand when wet.

Measurements.—Length of carapace of male cotype 43.2, width of same 50.5 mm.

Habits.—When pursued they run to and fro till they find themselves on soft sand, when they hide themselves quickly, diving a little into the sand and confounding themselves with it to such an extent that it is difficult to distinguish them. (Tristan, in letter.)

Range.—From Turtle Bay, west coast Lower California, to Peru.

Material examined.—

Turtle Bay, Lower California; July 30, 1896; A. W. Anthony; 4 males, 4 females (19511).

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[1] Doflein had but a young specimen, and the young of *occidentalis* resembles that of *ceratophthalma=urvillei*.

Cape St. Lucas, Lower California: John Xantus; 33 specimens (cotypes) (2016). Wm. Stimpson; 1 male (2406).

San Jose del Cabo, Lower California; 1 male, 2 y. (20701).

West coast, Lower California; A. W. Anthony; 1 male (20702).

Tres Marias Islands, Mexico; 1897; Nelson and Goldman: Maria Magdalena; May 28; 1 female (20648). Maria Cleofa; May 30; 1 male (20649).

Acapulco, Mexico (M. C. Z.).

Salina Cruz, Mexico; on sand beach; December 25, 1898; Chas. A. Deam; 2 specimens (32252).

Boca del Rio Jesus Maria, Costa Rica; April, 1905; P. Biolley and J. F. Tristan; 1 male (32313).

Pigres, Costa Rica; A. Zeledon; 18 y. (43294); 1 male (43293).

Puntarenas (Estero-side), Costa Rica; February, 1905; J. F. Tristan; 1 male (32283).

Ancon, Peru; Geo. Keifer; 2 *males* (9236).

OCYPODE GAUDICHAUDII Milne Edwards and Lucas.

CARRETERO OR CART-DRIVER (Coker).

Plate 129, fig. 1; plate 130, fig. 1.

Ocypoda gaudichaudii MILNE EDWARDS and LUCAS, d'Orbigny's Voy. dans l'Amér. Mérid., vol. 6, 1843, Crust., p. 26; vol. 9, atlas, 1847, pl. 11, figs. 4–4*b* (type-locality, Chile; type in Paris Mus.).

Diagnosis.—Eyestalks forming a style beyond the eyes. Fingers truncate.

Description.—Greatest breadth at antero-lateral angles, two-sevenths more than greatest length. Lateral borders sinuous. Granulation coarser on the sides and along the front. Upper margin of orbit sinuous at inner end, then sloping straight backward, its outer angle directed outward, not at all forward. A notch in outer sinus of lower margin. Eyes prolonged beyond the orbit in a blunt-pointed style of variable length, but not exceeding the length of the eye.

Chelipeds *decidedly roughened throughout.* Tubercles of palm rather small, numerous. Fingers broadly truncated, terminal edge horny. The stridulating ridge occupies two-thirds the width of the palm; its upper half is composed of small tubercles, gradually changing to striae which are very crowded on lower half. There are about 12 round tubercles, and about 45 striae. The complementary ridge occupies two-thirds the length of the ischium. Length of ambulatory legs about as in *O. occidentalis;* surface rather finely rugose, edges denticulate, the lower edge of the merus joints most distinctly so. Merus and carpus naked. Dactyli and upper half of anterior surface of propodi short-hairy.

In other respects resembling *O. albicans.*

Color.—Yellowish.

Measurements.—Length of carapace of male (17297) 31.7; width of same 40.5 mm.

Habits.—The following notes were furnished by Mr. J. Fid Tristan of Costa Rica:

> They live on the seashore where they dig holes in the sand. Their yellowish color is more or less confused with the color of the sand. The rising tide entirely covers the holes with sand; at low tide the crabs begin to come out sideways, remaining on the edge of the holes and hiding very quickly at the slightest noise. If anything falls near them they jump at it with extraordinary rapidity, as a spider in its web, and try to secure it with their claws so as to carry it off quickly to their holes.

Range.—Gulf of Fonseca, Salvador, to Chile; Galapagos Islands. San Pablo, California (Mus. Comp. Zoöl.). Also said by Cano to occur at Honolulu.

Material examined.—

Gulf of Fonseca, Salvador (M. C. Z.).

Corinto, Nicaragua (M. C. Z.).

Boca del Rio Jesus Maria, Costa Rica; April, 1905; P. Biolley and J. F. Tristan; 1 female (32312).

Pigres, Costa Rica; Mar. 3, 1905; A. Zeledon; 3 females (43292).

Taboga Island, Panama; June, 1914; J. Zetek; 5 males (48790).

Panama: Mar. 15, 1888; *Albatross;* 1 female (22077). H. A. Ward; 2 males (17297).

Bahia, Ecuador; beach; Aug. 26, 1884; Dr. W. H. Jones, U. S. Navy; 9 males (13871).

Manta, Ecuador; sandy beach; Aug. 28, 1884; Dr. W. H. Jones, U. S. Navy; 1 male (13872).

Guayaquil, Ecuador; Dr. W. H. Jones, U. S. Navy; 1 male, 1 female (14094).

Peru; 1906–1908; R. E. Coker: Las Vacas, near Capon; on beach; Jan. 23, 1908; 3 males, 1 female (40457). Lobos de Afuera; beach; Mar. 30; 1 male, 1 female (40456). Chimbote; Feb. 27; sand beach; 2 males, 1 female (40458).

Chatham Island, Galapagos Islands; *Albatross:* Apr. 4, 1888; 1 female (22078). Jan. 8, 1905; 2 females (33163).

Valparaiso, Chile; 2 young (M. C. Z.).

Locality?; *Albatross;* 7 males, 6 females (22079).

Genus UCA Leach.

FIDDLER CRABS; CALLING CRABS.

Uca Leach, Edin. Encyc., vol. 7, 1814, p. 430; type, *U. una* Leach, 1814= *U. heterochelos* (Lamarck), 1801.—Rathbun, Proc. Biol. Soc. Washington, vol. 11, 1897, p. 154.

Gelasimus Latreille, Nouv. Dict. Hist. Nat., vol. 12, 1817, p. 517; type, *G. maracoani* (Latreille).

Acanthoplax Milne Edwards, Ann. Sci. Nat., ser. 3, Zool., vol. 18, 1852, p. 151 [115]; type, *A. insignis* Milne Edwards.
Eurycheles L. Agassiz, MS. label; type, *E. monilifer* L. Agassiz, MS.

Carapace deep, subquadrilateral, with the antero-lateral angles more or less produced, and the lateral borders more or less convergent posteriorly, occasionally subhexagonal, broader than long, the regions never very strongly defined, surface usually smooth, sometimes very convex. The female is usually narrower than the male and sometimes much rougher. The antero-lateral angles are very variable in individuals of the same species and in the two sides of the same individual. This irregularity is most noticeable in the males, the side of the carapace which bears the large claw being most strongly developed.

Front a deflexed lobe varying in width from one-twentieth to one-third of the width of the carapace and in form from narrow spatulate to broad arcuate.

The orbits occupy the remaining width of the carapace, and are deep, more or less sinuous, and oblique; lower margin cut into numerous small lobes more or less truncate, upper margin double, the intervening space broad, shallow, more or less triangular; this surface I have called the eyebrow.

Antennulae very small; antennae of good size.

Epistome short, distinct. Buccal cavity broader than long, side margins convex, completely closed, except for a chink anteriorly, by the outer maxillipeds, of which the merus is somewhat oblique and bears the palpus at its antero-external angle.

The chelipeds of the male are extraordinarily unequal, of the female small and equal. The large cheliped of the male is heavy, the merus projects beyond the body, the carpus is subquadrilateral in its external outline, the propodus and dactylus elongate and often enormously developed. The small cheliped of the male and both chelipeds of the female are similar to one another and shorter than the ambulatory legs and bear spoon-shaped fingers. Legs flattened, more or less hairy, the last pair smaller than the rest. The merus joints are sometimes wider in the female than in the male. A hairy-edged pouch leads into the branchial cavity between the bases of the second and third pairs.

Abdomen of male usually, of female always, composed of seven distinct segments. In the male three or four segments may be coalesced.[1]

[1] For accounts of the behavior of various species of fiddlers, see Fritz Müller, Facts and Arguments for Darwin (translation), London, 1869, pp. 19, 36, etc.; also Kosmos, vol. 8, 1881, p. 472 (color change); J. S. Kingsley, Something about Crabs, in Amer. Nat., vol. 22, 1888, pp. 888–896; A. S. Pearse, Habits of Fiddler Crabs, in Philippine Jour. Sci., vol. 7, 1912, pp. 113–133, also Smithsonian Report for 1913 (1914), pp. 415–428.

Distributed from Atlantic America (Boston to Uruguay) eastward, including the Mediterranean, to Pacific America (San Diego, California, to Chile).

KEY TO THE AMERICAN SPECIES OF THE GENUS UCA.

A¹. Front between the eyes narrow and spatuliform, less than one-tenth width of carapace.
B¹. Eyes without terminal stylets.
C¹. Lateral margins either granulate or unarmed.
D¹. Dactylus of large claw of male wider in the middle than at the proximal end.
E¹. Surface of fingers rough——*maracoani*, p. 378
E². Surface of fingers smooth——*monilifera*, p. 380.
D². Dactylus of large claw of male more slender, and tapering from the proximal end to the tip (except for the tooth at the middle of its prehensile edge).
E¹. Fingers of large claw of male gaping to the extremity. Carapace broad, width one and four-fifths times its length.
heterochelas, p. 381.
E². Fingers of large claw of male partially in contact in their terminal half. Carapace narrower, width less than one and four-fifths times its length——*princeps*, p. 382.
C². Lateral margins armed with large spiniform tubercles in both sexes. Merus joints of legs armed with tubercles or spines——*insignis*, p. 385.
B². Eyes with terminal stylets.
C¹. Oblique ridge inside palm continued to upper margin. Ocular stylet longer than peduncle——*stylifera*, p. 383.
C². Oblique ridge inside palm ending at carpal cavity. Ocular stylet as long as cornea——*heteropleura*, p. 385.
A². Front between the eyes wider, increasing in width from below upward, posteriorly more than one-tenth width of carapace.
B¹. Carapace not semicylindrical.
C¹. Anterior part of side margins convex and curving gradually backward.
D¹. An oblique tuberculate ridge on inner surface of larger palm of male extending upward from lower margin.
E¹. Front less than one-fifth width of carapace.
F¹. Carapace coarsely granulate or tuberculate. Immovable finger flat, lower edge acute——*tangeri*, p. 387.
F². Carapace nearly smooth. Immovable finger convex, lower edge rounded.
G¹. Carapace strongly convergent posteriorly——*thayeri*, p. 406.
G². Carapace moderately convergent posteriorly——*rectilatus*, p. 405.
E². Front more than one-fifth width of carapace.
F¹. Front wide, at least one-third of fronto-orbital width.
G¹. Oblique ridge inside palm a single row of tubercles; the two rows of tubercles at base of dactylus are parallel and near together. Eyebrow nearly vertical and scarcely visible in a dorsal view——*minax*, p. 389.
G². Oblique ridge several tubercles in width; the two rows of tubercles at base of dactylus diverge from below upward and leave a considerable space between them. Eyebrow inclined and visible in a dorsal view——*mordax*, p. 391.

F². Front narrower, less than one-third of fronto-orbital width.
G¹. Oblique tuberculate ridge on inner surface of larger palm of male terminating at carpal cavity.
H¹. Eyebrow nearly vertical, scarcely visible in a dorsal view. Space between carpal cavity and dactylus coarsely granulate——*pugnax*, p. 395.
H². Eyebrow inclined, visible in a dorsal view. Space between carpal cavity and dactylus finely granulate.
pugnax rapax, p. 397.
G². Oblique tuberculate ridge not terminating at carpal cavity, but continued upward with an angular turn.
H¹. Side margins strongly convergent posteriorly.
macrodactylus, p. 404.
H². Side margins moderately convergent.
J¹. Merus joints of legs not enlarged——*brevifrons*, p. 393.
J². Merus joints of legs enlarged——*galapagensis*, p. 403.
D². No oblique tuberculate ridge on inner surface of palm, extending upward from lower margin——*pugilator*, p. 400.
C². Anterior part of side margins straight, or nearly so, and continued thence backward with an angular turn.
D¹. An oblique tuberculate ridge on inner surface of palm extending upward from lower margin.
E¹. Oblique ridge terminating at carpal cavity——*uruguayensis*, p. 413.
E². *Oblique ridge not terminating at carpal cavity but continued upward with an angular turn.*
F¹. A spine or tooth on inner surface of carpus. Oblique ridge very prominent——*spinicarpa*, p. 411.
F². No spine on inner surface of carpus. Oblique ridge moderately prominent.
G¹. Oblique ridge and proximal ridge at base of dactylus meeting above——*oerstedi*, p. 414.
G². Oblique ridge and proximal ridge at base of dactylus not meeting.
H¹. Upper surface of palm turned abruptly at right angles with outer surface and forming a flat or concave surface.
coloradensis, p. 410.
H². Upper surface of palm rounding gradually into outer surface.
J¹. Upper margin of palm with a carina.
K¹. Proximal ridge at base of dactylus almost at right angles to lower margin——*crenulata*, p. 409.
K². Proximal ridge at base of dactylus very oblique to lower margin——*speciosa*, p. 408.
J². Upper margin of palm without carina——*helleri*, p. 415.
D². No oblique tuberculate ridge on inner surface of palm extending upward from lower margin——*panamensis*, p. 412.
B¹. Carapace very convex, semicylindrical.
C¹. An oblique tuberculate ridge on inner surface of palm extending upward from lower margin.
D¹. Third to sixth abdominal segments in male more or less fused.
E¹. Carapace little narrowed behind.
F¹. An oblique stridulating ridge near proximal lower corner of inner surface of large palm of male. Upper margin of orbit little oblique——*musica*, p. 417.

F². No oblique stridulating ridge on inner surface of palm. Upper margin of orbit more oblique ..... *stenodactylus*, p. 416.
E². Carapace strongly narrowed behind ..... *leptodactyla*, p. 420.
D². No abdominal segments fused. Fingers of large cheliped three or four times as long as palm ..... *festae*, p. 420.
C². No oblique tuberculate ridge on inner surface of palm extending upward from lower margin.
D¹. Abdomen of male very wide, no segments fused. Antero-lateral angles obtuse and blunt ..... *subcylindrica*, p. 419.
D². Abdomen of male moderately wide, third to sixth segments fused. Antero-lateral angles either acute or right angles.
latimanus, p. 422.

ANALOGOUS SPECIES ON OPPOSITE SIDES OF THE CONTINENT.

Atlantic.	Pacific.
maracoani.	*monilifera.*
heterochelos.	*princeps.*
speciosa.	*crenulata.*
subcylindrica.	*stenodactylus.*

Species on both sides of the continent: *mordax*.
Species not determinable:
"*Gelasimus pugilator*" Cano,[1] not (Bosc). Panama.
"*Gelasimus vocator*" Cano.[1] Gulf of Panama.
Uca vocator Doflein.[2] Guayaquil, Ecuador.
Uca vocator, var., Nobili.[3] Esmeraldas, Ecuador.

UCA MARACOANI (Latreille).

Plate 130, figs. 2 and 3; plate 131, fig. 3.

Maracoani Marcgrave de Liebstad, Hist. Rer. Natur. Brazil, 1648, p. 184, text-fig.; Brazil.

Cancer palustris cuniculos sub terra agens Sloane, Nat. Hist. Jamaica, vol. 2, 1725, p. 260; Jamaica.

Ocypode maracoani Latreille, Hist. Nat. Crust., vol. 6 (an 11) 1802–1803, p. 46; Cayenne.

Ocypode heterochelos Olivier, Encyc. Méth., Insectes, vol. 8, 1811, p. 417 (part).

Gelasima maracoani Latreille, Nouv. Dict. Hist. Nat., vol. 12, 1817, p. 519; Tabl. Encyc. Méth., Crust., vol. 24, 1818, pl. 296, fig. 1.

Gonoplax maracoani Lamarck, Hist. Nat. Anim. sans Vert., vol. 5, 1818, p. 254.

Gelasimus maracoani Milne Edwards, Ann. Sci. Nat., ser. 3, vol. 18, 1852, p. 144 [108], pl. 3, figs. 1–1*b*.—Kingsley, Proc. Acad. Nat. Sci. Philadelphia, 1880, p. 136, pl. 9, fig. 1 (part); not *G. armatus* Smith, nor *G. natalensis* Wilson, MS.

Diagnosis.—Front very narrow, spatuliform. Movable finger of large claw widest in distal half. Fingers rough. Carapace with dorsal side-margins.

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[1] Boll. Soc. Nat. Napoli, ser. 1, vol. 3, 1889, p. 233.
[2] Sitzungsb. k. bayer. Akad. Wiss., math.-phys. Cl., vol. 29, 1899, p. 101.
[3] Boll. Mus. Zool. Anat. comp. R. Univ. Torino, vol. 16, No. 415, 1901, p. 49.

Description.—Width of carapace at the antero-lateral angles one and one-half times its greatest length. Carapace strongly convex antero-posteriorly, inter-regional grooves rather deep. Posterior border a little more than half of anterior. True lateral borders moderately convergent. The raised line that bounds the dorsal plane on each side is sinuous and terminates a little in front of the postero-lateral margin and above the base of the last foot. In the male it is finely granulate and ends in a tubercle; in the female it is coarsely bead-granulate throughout. Surface in the male very finely granulate; in the female coarsely so, especially at the sides.

The greatest breadth at the front is one-nineteenth of the width of the carapace; the upper surface of the front, or the space inclosed between the margins of the orbits, is linear.

Orbits almost transverse, edges sinuous, the lower one crenated.

In the large cheliped of the adult male the upper border of the merus is smoothly rounded; inner border armed with blunt, well-separated teeth increasing distally; outer border with a few granules. Wrist almost smooth, very finely wrinkled, a few granules. The propodus is one and three-fourths times as long as the width of the carapace, and three times as long as wide; basal portion covered and margined with course tubercles; digital portion covered with pits filled with short hair, and bordered by a raised margin, entire below and granulate above. Inner face of palm with a transverse tuberculate ridge bent at a right angle at the middle. Dactylus broadest at distal third, margins granulate, a tubercle near distal third of prehensile edge; upper margin convex, lower nearly straight. Both fingers are smooth inside and have an inner granulate ridge on their occludent margins. The immovable finger has a third or intermediate row of granules on this margin which projects in a broad lobe at the proximal third. When closed the fingers gape for their basal third, and overlap distally, their tips spiniform and crossing each other. In the male the ambulatory legs are nearly smooth. In the female the merus joints are somewhat tuberculate, their upper margin is distinctly denticulate, and the lower margin is tuberculo-dentate; in the last pair the margins are furred with short hair.

Measurements.—Length of carapace of male (17657) 22, width of same 34 mm.; female (17657), length of carapace 20.5, width of same 29 mm.

Habitat.—Salt marshes (Sloane).

Range.—Jamaica (Sloane). Cayenne to Rio de Janeiro.

Material examined.—

Cayenne, French Guiana; specimens in Copenhagen Mus.

Maranhão, Brazil: Lieutenant F. E. Sawyer, U. S. Navy; 13 males, 5 females (17657). Thayer Exped.; 2 males, 2 females (22190).

Natal, Rio Grande do Norte, Brazil; June 29, 1899; Branner-Agassiz Exped.; 6 males, 1 female (25697).

Plataforma, Bahia, Brazil; 1876–1877; R. Rathbun; 11 males, 5 females (40613, 40614).

Porto Seguro, Brazil; Thayer Exped.; 2 males, 1 female (22191).

UCA MONILIFERA Rathbun.

Plate 132.

Eurychelus monilifer L. AGASSIZ, MS. label.

Uca monilifera RATHBUN, Proc. U. S. Nat. Mus., vol. 47, 1914, p. 126, pl. 9 (type-locality, Guaymas, Mexico; holotype male, Cat. No. 1578, M. C. Z.).

Diagnosis.—Front very narrow, spatuliform. Movable finger of large claw widest at middle. Fingers smooth. Carapace without dorsal side-margins.

Description.—Considerably larger than *maracoani*. There is no raised or granulated line bounding the dorsal plane on either side, but the dorsal rounds smoothly into the lateral surface. As in *maracoani* the anterior margin of the carapace or superior margin of the orbit is transversely sinuous, forming a triangular tooth at the antero-lateral angles, and the front between the eyes is extremely narrow and spatuliform, its median furrow linear and not reaching the broadest part of the spatula.

The lower margin of the orbit is deeply crenated or turreted throughout.

The large cheliped of the male is much smoother than in the Atlantic form. The inner border of the arm has a large laminar expansion directed upward, edge arcuate, denticulate. The wrist is more elongate than in *maracoani*. The tubercles of the palm are few and indistinct. Fingers quite smooth except at the margins and at the base of the dactylus, where there are a few depressed tubercles. On the immovable finger there is, as in *maracoani*, a raised line just above the lower margin and continued backward on the palm; there is, however, no broad lobe or tooth on the proximal half of the prehensile edge. The movable finger has a different shape from that of the allied species; while the upper margin is a regular and moderate curve, the prehensile edge is concave for its basal three-eighths, then straight to near the tip, forming a small tooth at the meeting of the two lines; this brings the widest part of the finger just proximal to its middle. In *maracoani*, the widest part of the finger is near its distal third, and the whole of the distal half is much wider than in this species. The spiniform finger tips are not strongly bent in *monilifera*.

The ambulatory legs are almost bare except the dactyli.

The chief difference in the form of the male abdomen of the two species lies in the penultimate segment: in *monilifera* it is less than twice as wide as it is long; in *maracoani* just twice as wide as long.

Measurements.—Holotype male, length of carapace 28.7, width of same at antero-lateral angles 45.4 mm.

Range.—West coast of Mexico.

Material examined.—

Montague Island, mouth of Colorado River, Mexico; May 18, 1915; E. A. Preble, Biol. Survey, U. S. Dept. of Agriculture; 1 male (48829).

Guaymas, Mexico; 1859; Capt. C. P. Stone, U. S. Navy; 1 male holotype (1578, M. C. Z.), 1 male paratype (22180).

UCA HETEROCHELOS (Lamarck).

Plate 131, figs. 1 and 2.

Cancer Uka una, Brasiliensis SEBA, Thesaurus, vol. 3. 1758, p. 44, pl. 18, fig. 8 (inaccurate); Brazil.

Cancer vocans major HERBST, Natur. Krabben u. Krebse, p. 83, 1782, pl. 1, fig. 11 (after Seba); Bahamas.

Ocypoda heterochelos LAMARCK, Syst. Anim. sans Vert., 1801, p. 150 (no locality given; type in Paris Mus.?); refers to figures of Seba and Herbst.

Ocypoda heterochelos Bosc, Hist. Nat. Crust., vol. 1, an 10 [1801–1802], p. 197. "*l'Amérique méridionale.*"

Cancer uka SHAW, Natur. Misc., vol. 14, 1802, pl. 588, colored (after Seba) and accompanying text (type-locality, Brazil); *Cancer uca* in index. Not *Cancer vca* (*uca*) Linnaeus, 1767.

Ocypode heterochelos OLIVIER, Encyc. Méth., Insectes. vol. 8, 1811, p. 417 (part).

Uca una LEACH, Edin. Encyc., vol. 7, 1814. p. 430.

Gelasimus maracoani DESMAREST, Consid. Crust., 1825, p. 123 (part).

Gelasimus platydactylus MILNE EDWARDS, Hist. Nat. Crust., vol. 2, 1837, p. 51 (type-locality, Cayenne; type in Paris Mus.); Ann. Sci. Nat., ser. 3, Zool., vol. 18, 1852, p. 144 [108], pl. 3, figs. 2–2*b*.

Gelasimus grangeri DESBONNE, in Desbonne und Schramm, Crust. de la Guadeloupe, 1867, p. 45 (type-locality, Guadeloupe, in the Canal; type *probably not extant*).

Gelasimus heterocheles KINGSLEY, Proc. Acad. Nat. Sci. Philadelphia, 1880, p. 137, pl. 9, fig. 2 (part).

Uca platydactyla ORTMANN, Zool. Jahrb., Syst., vol. 10, 1897, p. 346 (part).

Diagnosis.—Front very narrow, spatuliform. Movable finger of large claw tapering. Fingers gaping throughout. Wrist and hand granulate or finely tuberculate.

Description.—Allied to *U. maracoani.* Carapace wide, width of male one and four-fifths times length. The raised line that bounds the dorsal plane on each side is bent transversely inward at the posterior end, and is more coarsely granulated in the female than in the male; the latter is true also of the dorsal surface.

Front one-twentieth of the width of the carapace. Orbits more oblique than in *U. maracoani;* lower margin turreted.

Upper border of arm of large cheliped of adult male rounded, sparsely granulate, inner border limbed, limb dentate at the distal end; outer border tuberculo-dentate. Wrist coarsely granulate, inner edge dentate. The propodus is one and one-half times as long as the width of the carapace, and nearly three times as long as wide; palmar portion covered with low tubercles or coarse granules, which become reduced on the fingers to granules not distinguishable by the naked eye. The pollex has a submarginal, besides a marginal, row of granules, which extends half the length of the palm; width of pollex uniform for more than its basal half, then tapering to the slightly curved tip; the middle row of prehensile tubercles is replaced by teeth on this terminal portion, the first tooth the largest. The dactylus is regularly tapering and has a tooth just posterior to the middle of its prehensile edge. Fingers gaping, gape diminishing to the overlapping tips. The ambulatory legs of the female differ from those of the male in having the surface and margins rougher and in the upper and lower margins of the merus joint and the upper margin of the carpus and half the propodus of the last pair furred with short hair.

Measurements.—Male (11375), length of carapace 19, width of same 34 mm.; female (11375), length of carapace 13.5, width of same 23.3 mm.

Habitat.—In mangrove marshes (Desbonne).

Range.—Bahamas and Cuba to Brazil.

Material examined.—

Watling Island, Bahamas; 1886; *Albatross;* 6 males, 1 female (11375).

Baracoa, E. Cuba; tidal flat; Jan. 29, 1902; William Palmer; 6 males, 1 female (25549).

Jamaica; E. A. Andrews; 1 male (42918).

Other records.—Mexico (Kingsley); Guadeloupe (Desbonne); Cayenne (Milne Edwards); Brazil (Seba, Shaw).

UCA PRINCEPS (Smith).

MAESTRO-SASTRE OR MASTER-TAILOR (Coker).

Plate 133; plate 160, fig. 6.

Gelasimus princeps SMITH, Trans. Connecticut Acad. Arts and Sci., vol. 2, 1870, p. 120, pl. 2, fig. 10, pl. 3, figs. 3–3*c* (type-locality, Corinto, west coast of Nicaragua; type in Mus. Comp. Zoöl.).—LOCKINGTON, Proc. California Acad. Sci., vol. 7, 1876 (1877), p. 146 [2].

?Gelasimus platydactylus SAUSSURE, Rev. et Mag. Zool., ser. 2, vol. 5, 1853, p. 362.

Uca platydactyla ORTMANN, Zool. Jahrb., Syst., vol. 10, 1897, p. 340 (part).

Gelasimus heterocheles KINGSLEY, Proc. Acad. Nat. Sci. Philadelphia, 1880, p. 137 (part).

Diagnosis.—Front very narrow, spatuliform. Movable finger of large claw tapering. Fingers gaping in basal half. Wrist and hand coarsely tuberculate.

Description.—A larger species than *U. heterochelos.* Carapace narrower, width less than one and four-fifths times length. Upper margin of orbit more sinuous, but less oblique.

Inner border of arm of large cheliped of adult male strongly dentate. Outer surface of wrist and hand coarsely tuberculate, much more so than in *U. heterochelos.* While the surface of the pollex is smooth, except on the margins, the dactylus is more or less tuberculate on its upper half, the tubercles becoming smaller distally. When the fingers are closed, they gape for only about their basal half.

The upper margin of the merus, carpus, and two-thirds of the propodus of the last leg of the female is furred with hair.

Measurements.—Length of carapace of male (20689) 25.5, width of same 42.5 mm. Length of carapace of female (20689) 24.2, width of same 38 mm.

Habitat.—Inhabits salt marshes; also found under rocks at low tide.

Range.—From San Bartolome Bay, Lower California, to Peru.

Material examined.—

Abreojos Point, Lower California; salt marsh; April 18, 1897; A. W. Anthony; 6 males, 3 females (20689).

La Paz, Lower California; L. Belding; 1 male, 2 females, 1 y. (14826).

San Blas, Tepic, Mexico; June 14, 1897; Nelson and Goldman; Biol. Survey, U. S. Dept. Agriculture; 1 male, 3 females (20654).

Corinto, Nicaragua; J. A. McNiel; 12 cotypes (M. C. Z.).

Punta Arenas (ocean side), Costa Rica; February, 1907; P. Biolley; 1 male, y. (39099).

Santo Domingo, Gulf of Dulce, Costa Rica; April, 1896; H. Pittier; 1 male (19440).

Puerto Grande on the Rio Zarumilla (2 leagues from Capon), Peru; on salt flats; February 2, 1908; R. E. Coker; 1 male, received from Peruvian Government (40468).

Back of Chulliyache (on Bay of Sechura), Peru; salt marshes; R. E. Coker; 3 males, received from Peruvian Government (40467).

UCA STYLIFERA (Milne Edwards).

Plate 134, figs. 1 and 2.

Gelasimus platydactylus MILNE EDWARDS, Règne Anim. Cuvier, disciples ed., Crust., pl. 18, fig. 1*a* (not Milne Edwards, 1837).

Gelasimus styliferus MILNE EDWARDS, Ann. Sci. Nat., ser. 3, Zool., vol. 18, 1852, p. 145 [100], pl. 3, fig. 3 (type-locality, Guayaquil; type in Paris Mus.).

Gelasimus heterophthalmus SMITH, Trans. Connecticut Acad. Arts and Sci., vol. 2, 1870, p. 116, pl. 2, figs. 6 and 6*a*; pl. 3, figs. 1–1*b* (type-locality, Gulf of Fonseca; type in Mus. Comp. Zoöl.).

Uca platydactyla, var. *stylifera* ORTMANN, Zool. Jahrb., Syst., vol. 10, 1897, p. 347 (part).

Diagnosis.—Front very narrow, spatuliform. Ocular stylet present, longer than peduncle. Oblique ridge on inner surface of palm continued by a right angle to upper margin. Pollex with strong tooth on basal half.

Description.—Width of carapace from one and two-fifths to one and three-fourths times its length. Dorsal surface smooth and shining, convex longitudinally but not at all laterally. Sulci shallow. Superior border of orbit subentire, strongly arcuate in the middle, outer angle strongly produced laterally on the side of the large cheliped but not on the other. Only the posterior part of the lateral margin is indicated by a faint, granulous line. Front spatulate; the upper margins of the orbits form a narrow, triangular median interspace. Inferior border of the orbit denticulate with shallow, flattened, truncate teeth. The ocular peduncle on the side of the large cheliped is terminated beyond the cornea by a very slender filiform stylet much longer than the peduncle itself, and slightly flattened and expanded at the tip. No trace of a terminal stylet on the peduncle of the other side.

Inner margin of merus of larger cheliped armed with a low crest, which may be slightly dentate at its distal extremity; outer margin sharp and denticulate. Carpus tuberculous. Basal portion of propodus coarsely and densely tuberculous, margins thin and dentate; inner surface smooth, with a rectangular, transverse ridge. Fingers long, compressed and high, smooth inside, prehensile edges evenly tuberculated and each armed with a single stout submedian tooth, that on the pollex considerably within that on the dactylus. Fingers gaping in basal half. Outer surface of pollex rough with irregular shallow punctures, lower edge granulous, with a submarginal granulous line. Dactylus smooth outside except near the base, upper edge subentire.

Ambulatory legs smooth and unarmed.

Measurements.—Male (cotype of *heterophthalmus*), length of carapace 18.7, width of same 32.2 mm.

Range.—Gulf of Fonseca, Salvador, to Guayaquil, Ecuador.

Material examined.—

Gulf of Fonseca, Salvador; J. A. McNiel; 4 males, cotypes of *heterophthalmus* (M. C. Z.).

Puntarenas (Pacific Ocean or Estero side), Costa Rica; Feb., 1905; J. F. Tristan; 2 males (32325)

UCA HETEROPLEURA (Smith).

Plate 161, figs. 1–4.

Gelasimus heteropleurus SMITH, Trans. Connecticut Acad. Arts and Sci., vol. 2, 1870, p. 118. pl. 2, fig. 7; pl. 3, figs. 2–2*b* (type-locality, Gulf of Fonseca; type in Mus. Comp. Zoöl.).

Uca platydactyla, var. *stylifera* ORTMANN, Zool. Jahrb., Syst., vol. 10, 1897, p. 347 (part).

Diagnosis.—Front very narrow, spatuliform. Ocular stylet present, as long as cornea. Oblique ridge on inner surface of palm ending at carpal cavity. Pollex without strong tooth on basal half.

Description (after Smith).—Allied to *U. stylifera.* Carapace slightly granulous. Branchial regions separated by deep sulci from gastric and cardiac regions. The antero-lateral angle on the side of the larger cheliped projects outwardly as a prominent obtuse tooth. Lateral margins armed with a very marked line of sharp granules. The ocular peduncle on the side of the larger cheliped terminates in a slender, flattened stylet about as long as the cornea.

Inner and outer margins of merus of large cheliped of male minutely denticulate. Carpus flattened and granulous. Basal portion of propodus coarsely and thickly tuberculous outside, the tubercles larger above; inner surface armed only with the oblique tubercular crest running from the lower margin and terminating below the middle. Fingers but little longer than palm; prehensile edges armed with a tooth a little way from the tip and nearly straight, gaping as far as the teeth. Outer surface of fingers granulous or minutely tuberculous, upper edge of dactylus tuberculous or denticulate.

Abdomen of male more narrowed toward the tip, edges slightly concave.

Otherwise as in *U. stylifera.*

Measurements.—Length of carapace of a cotype male 15.8, width of same 25 mm.

Range.—Known only from the type-locality.

Material examined.—Gulf of Fonseca, Salvador; J. A. McNiel; 1 male cotype (M. C. Z.).

UCA INSIGNIS (Milne Edwards).

Plate 161, figs. 5–15.

Acanthoplax insignis MILNE EDWARDS, Ann. Sci. Nat., ser. 3, Zool., vol. 18, 1852, p. 151, pl. 4, fig. 23 (type-locality, Chili; type in Paris Mus.); Arch. Mus. Hist. Nat. Paris, vol. 7, 1854, p. 162, pl. 11, figs. 1–16.

Gelasimus (*Acanthoplax*) *excellens* GERSTAECKER, Arch. f. Naturg., vol. 22, 1856, pt. 1, p. 138 (type-locality, Veragua; type in Berlin Mus.).

Gelasimus armatus SMITH, Trans. Connecticut Acad. Arts and Sci., vol. 2, 1870, p. 123, pl. 2, fig. 5; pl. 3, figs. 4–4*d*, male (type-locality, Gulf of Fonseca; type in Mus. Comp. Zoöl.).

Gelasimus ornatus SMITH, Trans. Connecticut Acad. Arts and Sci., vol. 2, 1870, p. 125, pl. 2, figs. 9–9*a*; pl. 3, figs. 5–5*c*, female (type-locality, west coast of Central America; type in Mus. Comp. Zoöl.).

Gelasimus insignis SMITH, Trans. Connecticut Acad. Arts and Sci., vol. 2, 1870, p. 126.

Diagnosis.—Carapace less than one and one-half times as wide as long; in the female tuberculous or granulous; in the male smooth. Side margins of female tuberculous or dentate. Merus of legs tuberculous or spinous.

Description.—Male, carapace one and two-fifths times as wide as long, slightly convex, very little narrowed posteriorly, surface naked and deeply areolated. Cardiac region large and prominent. Branchial regions covered by raised veinlike markings branching from a central trunk. Front small, spatulate. Upper margin of orbit raised, slightly sinuous, antero-lateral angles prominent, the one on the side of the large hand directed strongly outward, the other directed forward. Anterior part of lateral margin longitudinal, so that the carapace is scarcely wider between the antero-lateral angles than a short distance behind them. At the posterior end of this longitudinal portion are two marginal tubercles from which a granulated line extends to the bases of the posterior legs where there is another small tubercle.

Lower margin of orbit armed with from 15 to 18 slender, compressed and truncated teeth. Jugal regions veined somewhat as the regions above.

Merus of large cheliped smooth and rounded above; inner border armed with slender tubercles, and rising into a low crest distally, outer border armed with scattered tubercles. Carpus with several low tubercles on outer surface, and one or two small tubercles at proximal end of inner margin. Propodus high and lamellar, and exceeding in length twice the length of the carapace. Basal portion short, covered outside with large, depressed, well separated tubercles; inferior margin thin, armed with dentiform tubercles; inner surface with a prominent tubercle near the middle, from which an oblique line of obscure tubercles extends to the lower margin. Digital portion very broad at base, coarsely punctate outside, inferior edge denticulate and margined on the outside, prehensile edge straight except a slight excavation at base, armed with small tubercles and a high, tubercular median ridge, and at the tip with a slender tooth. Dactylus broadest in distal half, upper edge arcuate, denticulate, prehensile edge straight, closing against the pollex except at the base, and armed with three rows of tubercles, and a sharp terminal tooth, tubercle at basal third the largest.

Merus of last three pairs of legs armed on posterior edge with from three to seven spines.

Female.—Carapace narrower than in the male, widest at antero-lateral angles, surface tuberculous, some tubercles on the branchial region large and depressed. Upper border of orbit regularly arcuate, denticulate, lateral angle a slender tooth projecting forward and outward. Curved portion of lateral margin ornamented with 8 to 10 bead-like tubercles. Posterior margin tuberculous. Ambulatory legs each armed with a spine on the ischium, and from one to five spines on the merus.

Measurements.—Male (type of *G. armatus*), length of carapace 25.2, width of same 35.5 mm. Female (type of *G. ornatus*), length of carapace 26.6, width of same 36 mm.

Habitat.—On salt marshes.

Range.—Gulf of Fonseca, Salvador, to Chile.

Material examined.—

Gulf of Fonseca, Salvador; J. A. McNiel; 1 male, holotype of *armatus* (M. C. Z.).

West coast of Central America (probably same locality as the foregoing); J. A. McNeil; 1 female, holotype of *ornatus* (M. C. Z.).

Punta Arenas, Costa Rica; 1 male (Copenhagen Mus.).

Veragua, Panama; 1 male, holotype of *excellens* (Berlin Mus.).

Back of Chulliyache (on Bay of Sechura), Peru; on salt marshes; R. E. Coker; 1 male, received from Peruvian Government (40489).

UCA TANGERI (Eydoux).

Plates 135 and 136.

Gelasimus tangeri EYDOUX, Mag. de Zool., 1835, Cl. 7, pl. 14, colored (type-locality, Tanger; type in Mus. Phila. Acad. Sci.).

Gelasimus perlatus HERKLOTS, Addit. Fauna Afr. Occ., 1851, p. 6, pl. 1, fig. 3 (type-locality, near Boutry; type in Leyden Mus.).

Gelasimus cimatodus ROCHEBRUNE, Bull. Soc. Philom. Paris, ser. 7, vol. 7, 1882, p. 171 (type-locality, les deux Mamelles & côte des Maringouins pointe des Chameaux; type in Paris Mus.).

Uca tangieri ORTMANN, Zool. Jahrb., Syst., vol. 10, 1897, p. 356.

Uca tangeri RATHBUN, Proc. U. S. Nat. Mus., vol. 22, 1900, p. 276.

Diagnosis.—Front narrow, but wider than long. Carapace coarsely granulate. Fingers of large cheliped of male thin and flat.

Description.—Regions of carapace marked by deep furrows; surface covered with fine granules mixed with coarse granules or tubercles, most striking on branchial and cardiac regions; surface of front smooth. Front tapering anteriorly, subtruncate, a little rounded at extremity. Lateral margins nearly straight and longitudinal or a little curved for a short distance behind antero-lateral angles, then curving rather abruptly inward and backward; margins formed of alternately large and small granules. Upper margin of orbit very sinuous, marked with small, distant granules; lower

margin of eyebrow ill defined; lower margin of orbit deeply turreted. Sides of carapace nearly smooth, under part coarsely tuberculate.

Large cheliped of male very strong; merus, carpus, and manus unevenly tuberculate and granulate; antero-distal angle of merus furnished with a tuft of hair; upper margin of palm armed with a few blunt spines or teeth. Fingers over one and one-half times as long as palm, measured through the middle; immovable finger wider and smoother than dactylus, and widest in the middle, its granules growing regularly larger toward end of finger; outer surface of dactylus a little convex especially proximally, and with two longitudinal rows of coarser granules, one on upper edge and the other above the middle. Fingers with a wide gape in basal half. Inner surface smooth, except for a strong, right-angled ridge at middle of palm and two diverging ridges at base of dactylus.

Merus joints of legs roughened, upper margin serrulate, lower tuberculate; propodi and dactyli with fringed margins.

Carapace of female narrower, sides less converging, lower surface more hairy.

Measurements.—Male (14874), length of carapace 21.5, width of same 31.3 mm. Female (21387), length of carapace 18, width of same 24.1 mm.

Range.—From Portugal to north and west coasts of Africa, as far as Algiers and Angola. The only records of occurrence in America are by Miers,[1] "West Indies (Frazer) in the British Museum collection," and by Kingsley,[2] "(?) Bahia! E. Wilson (Phila. Acad.)."

Material examined.—

Dakar, West Africa; May 3, 1892; O. F. Cook; 2 males, 1 female (21387).

Rock Spring, Monrovia; April, 1894; O. F. Cook and G. N. Collins; 4 males, 2 females (20575).

Mouth of Mesurado River, Monrovia; O. F. Cook; 3 males (20669).

Monrovia; April, 1894; O. F. Cook and G. N. Collins; 1 male (20576).

Baya River, Elmina, Ashantee; Nov. 27, 1889; W. H. Brown, U. S. Eclipse Exped. to Africa; 3 males (14872), 2 males, 4 females (14873).

Chinchoxo; Falkenstein, collector; received from Berlin Mus.; 1 male (19551).

St. Paul de Loanda; Dec. 11, 1889; W. H. Brown, U. S. Eclipse Exped. to Africa; 7 males, 4 females (14874), 1 male (14875).

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[1] Ann. Mag. Nat. Hist., ser. 5, vol. 8, 1881, p. 262.

[2] Proc. Acad. Nat. Sci. Philadelphia, 1880, p. 153.

Mouth of the Kwilu River, West Africa; Falkenstein, collector; received from Berlin Mus.; 1 male (19557).

UCA MINAX (LeConte).

RED-JOINTED FIDDLER CRAB.

Plate 137.

Gelasimus minax LeConte, Proc. Acad. Nat. Sci. Philadelphia, vol. 7, 1855, p. 403 (type-locality, Beesley's Point, N. J.; type in Mus. Phila. Acad. Sci.).

Gelasimus palustris Stimpson, Ann. Lyc. Nat. Hist. New York, vol. 7, 1859, p. 62 (part).

Gelasimus minax Smith, Trans. Connecticut Acad. Arts and Sci., vol. 2, 1870, p. 128, pl. 2, fig. 4; pl. 4, figs. 1–1*b*.

Uca vocator, var. *minax* Ortmann, Zool. Jahrb., Syst., vol. 10, 1897, p. 353.

Diagnosis.—Oblique ridge inside hand terminating at carpal cavity. Front very broad and shallow. Eyebrow nearly vertical. Red spots at articulations of large cheliped. Hand very rough.

Description.—Carapace widest behind the antero-lateral angles; greatest width less than one and one-half times greatest length. Surface convex in both directions, very finely granulate, except near the antero-lateral angle where it is coarsely so. H-form depression shallow, a horizontal depression behind the orbit; lateral portions of the dorsal plane covered with a pubescence easily rubbed off. Front considerably more than one-third the fronto-orbital width, very broadly convex. Upper margin of orbit sloping strongly backward with a slight sinuosity to the obtuse antero-lateral angle.

Superior lateral margins strongly converging in a very sinuous line to the level of the middle of the cardiac region. Posterior and parallel to this line is a similar but short ridge.

The eyebrow is about 5 times as wide as it is deep, and is nearly vertical. Lower margin of orbit armed with subtruncate, separated teeth.

Upper surface of arm of large cheliped sparingly granulate; inner edge denticulate, outer edge granulate. Wrist tuberculate. Outer face of palm tuberculate on the upper two-thirds, the tubercles diminishing to granules below; in shape subtriangular, as the upper portion is bent over almost horizontally. Inner surface with an oblique single row of tubercles from the lower margin to the carpal cavity; also a short parallel row leading down from the ridge on the proximal half of the upper margin; between the ridges a tuberculated area. The two rows of tubercles at the base of the dactylus are parallel and near together. Fingers one and a half times as long as palm, smooth to naked eye, prehensile edges armed with three rows of irregular tubercles, the largest one at the middle of the pollex.

Dactylus much longer than the pollex and curving downward past the tip of the latter, leaving a wide gape throughout the entire length.

Ambulatory legs long-hairy, merus-joints wrinkled and in the first three pairs enlarged toward the middle.

Female narrower than male.

Color.—The three articulations of the large joints of the greater claw have a red spot in life.

Measurements.—Male (12781), length of carapace 25.2, width of same 38 mm.

Habits.—Lives in marshes of estuaries of rivers and brooks, in brackish or even quite ffesh water. Abundant in the mangroves (Colombia, Pearse). According to Fowler[1]—

It is a vegetarian, feeding on the algae which grows in muddy salt-marshes. This is often a minute-green algoid plant covering the surface of the mud. The male uses its small claw exclusively in obtaining its food and conveying it to the mouth. The female uses either of her small ones indifferently. In enlarging its burrows the crabs were seen to scrape off the mud from the inside by means of the claws of the ambulatory legs, and having formed the mud into a pellet, pushed it up out of the hole by means of the elbow joint at the base of the great claw, when this is folded down. The crab was also found to construct a regular oven-like arch of mud over the mouth of its burrow. This archway is horizontal and large enough to contain the crab, who quietly sits in this curious doorway on the outlook for his enemies of all kinds.

Range.—From Wareham, Massachusetts, to Texas. Colombia (Pearse).

Material examined.—

Wareham, Massachusetts; July 21, 1887; U. S. Fish Comm.; 3 males (12781).

Seekonk River, Rhode Island; F. P. Drowne; low tide near brackish water under stones; 2 males, 1 female (19569); burrows on shore of river, burrows in groups and located near eel grass; 2 males, 1 female (19570).

Newport, Rhode Island; 1880; U. S. Fish Comm.; 3 males (4909).

Chesapeake Beach, Maryland; found in marsh grass; July 4, 1914; C. R. Shoemaker; 2 females (1 ovig.) (49106).

Point Lookout, Maryland; J. E. Benedict; 3 males, 1 female (16159).

St. Georges Island, Maryland; June 30–July 6, 1890; H. M. Smith; 1 male (22807).

North Carolina; John W. Hays, jr.; 1 male (13890).

Winyah Bay, South Carolina; Jan., 1891; *Fish Hawk;* 5 males, 1 female (17487).

Bulls Island, South Carolina; fresh pools near beach; Mar. 21, 1891; 9 males (17183).

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[1] Ann. Rept. New Jersey State Museum, 1911 (1912), p. 453.

Charleston, South Carolina; market; 1881; C. C. Leslie; 1 female (4089).

South Carolina; Mar. 22, 1894; *Fish Hawk;* 5 males, 3 females (22279).

Savannah, Georgia; 7 males, 5 females (19497).

Jacksonville, Florida; Apr. 1, 1869; J. A. Allen; 3 males, 3 females (22188).

Sarasota Bay, Florida; Union College Collection; 1 female (42618).

Arlington, Florida; F. C. Goode; 1 female (3178).

Mobile Bay, Alabama; C. F. Baker; 1 male (21681).

Biloxi Bay, Mississippi; July 23, 1898; C. F. Baker; 1 male (21845).

Matagorda Bay, Texas; Mar. 23, 1905; T. E. B. Pope; 13 males, 1 female (33035).

UCA MORDAX (Smith).

Plate 134, figs. 3 and 4.

Gelasimus vocator VON MARTENS, Archiv f. Naturg., vol. 35, 1869, pt. 1, p. 6. Probably not *Cancer vocator* Herbst.

Gelasimus mordax SMITH, Trans. Connecticut Acad. Arts and Sci., vol. 2, 1870, p. 135, pl. 2, fig. 3; pl. 4, figs. 4 and 4*a* (type-locality, Canals at Para; type in Mus. Comp. Zoöl.).

Gelasimus vocator KINGSLEY, Proc. Acad. Nat. Sci. Philadelphia, 1880, p. 147 (part).

?*Gelasimus affinis* STREETS, Proc. Acad. Nat. Sci. Philadelphia, 1872, p. 131 (type-locality, Island of St. Martin, West Indies; type not extant).

Uca vocator ORTMANN, Zool. Jahrb., Syst., vol. 10, 1897, p. 352 (part).

Uca minax RATHBUN, not LeConte, Ann. Inst. Jamaica, vol. 1, 1897, p. 27.

? *Uca amazonensis* DOFLEIN, Sitzb. k. bay. Akad. Wiss. München, math.-phys. Cl., vol. 29, 1899, p. 193 (type-locality, Teffé, Amazon River; type in Munich Mus.).

Uca mordax RATHBUN, Proc. U. S. Nat. Mus., vol. 22, 1900, p. 276.

Diagnosis.—Palm elongate, proximally narrow, the upper part turned inward to form an upper surface. Front very shallow and broad. Eyebrow obliquely inclined. Hand slightly roughened.

Description.—Carapace widest behind the antero-lateral angles; greatest width about one and one-half times greatest length. Surface very convex antero-posteriorly, slightly so transversely; antero-lateral regions punctate, punctae filled with hair. H-form depression deep; as is also the semicircular depression which begins behind the orbit and is continued along the antero-lateral margin.

Front at its base one-third of the fronto-orbital width; rounding strongly downward; lower edge very broad and subtruncate. Upper margin of orbit sinuous and almost transverse; antero-lateral angle directed forward, very broadly obtuse. Lateral margins and lower margin of orbit much as in *U. minax.* Eyebrow oblique.

Large cheliped of male rather smooth. Merus with rugose lines on upper and outer surfaces, and fine granules on lower half of inner surface; edges of this surface tuberculo-denticulate. Wrist finely granulate-rugose. Palm elongate, its outer aspect considerably narrowed proximally on account of the palm being strongly bent over to form a broad upper surface; outer upper surface granulate, granules varying in size, but on the whole coarser on the upper half. The oblique ridge on the inner face which leads up to the carpal cavity is broad and usually tuberculated, being several tubercles in width; sometimes the tubercles are obsolete except at the proximal end. Normally this ridge ends at the cavity but sometimes it is continued upward by an angular turn. A more vertical ridge is situated on the upper half and is continued in a curved line to the proximal end of the upper margin. The two rows of tubercles at the base of the dactylus diverge from below upward and leave a considerable space between them. Inner surface granulate, granules coarser at the middle. Fingers not much longer than palm, widely gaping, dactylus longer than pollex and curving past it; pollex obliquely truncate at tip; surface almost smooth, shining, prehensile edges irregularly tuberculate, with the largest tubercle at the middle of the pollex.

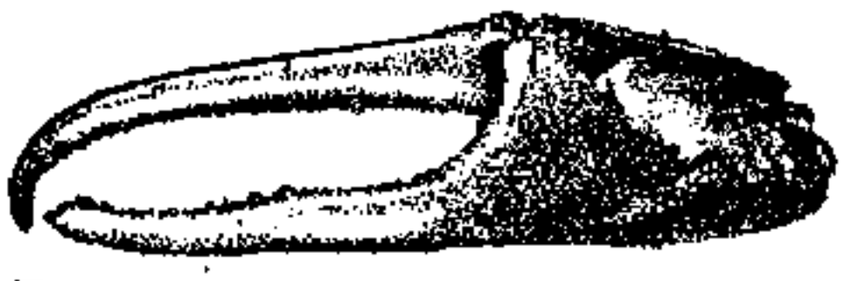

FIG. 166.—UCA MORDAX, INNER SURFACE OF LARGE CHELA OF MALE FROM PARA, SLIGHTLY REDUCED. (AFTER SMITH.)

Ambulatory legs hairy; merus joints enlarged (save in last pair) and slightly rugose.

The females are narrower than the males and the carapace is more granulous.

Measurements.—Male (21373), length 21.5, width 32.2 mm.

Remarks.—This species is extremely variable as to the ornamentation of the inside of the palm, but the characters of the carapace, outside of the palm, etc., serve to distinguish it with certainty.

Habitat.—"Common in holes in the clay flat at the mouth of the Manzanares River [Colombia] and at Punta Gruesa in holes in sand, under logs, and among mangrove roots." (Pearse.)

Range.—From the Bahamas and Gulf of Mexico to Rio de Janeiro. West coast of Mexico. Liberia (?).

Material examined.—

Cameron, Louisiana; R. P. Cowles; 1 male (30570).

Tampico, Mexico: Live in the soft mud of the river banks; June 1, 1910; Edward Palmer; 8 males, 1 y. (43353). A. Dugès; 1 male (18689).

Belize, British Honduras; Rev. W. A. Stanton; 11 males, 4 females (21373 and 22604).

Swan Island, Caribbean Sea; C. H. Townsend; 9 males (18430).

Greytown, Nicaragua; Chas. W. Richmond: February 8–9, 1892; 8 males, 2 females (18433). April 9, 1892; 1 male (18434).

Rum Cay, Bahamas; 1886; *Albatross;* about 1500 males, 500 females (11357).

Marianao Playa, Cuba; C. F. Baker; 2 males (31891).

Kingston Harbor, Jamaica; 1893; R. P. Bigelow; 11 males, 10 females (18431).

Fresh water, mouth of Rio Cobre, Jamaica; 1893; R. P. Bigelow; 2 males (18432).

Jamaica: Mar. 1–11, 1884; *Albatross;* 1 male y., 2 females (18553). T. H. Morgan; 3 males, 4 females (22307).

Santo Domingo, West Indies; 1878; W. M. Gabb; 2 males, 1 female (3199).

Porto Rico; 1899; *Fish Hawk:* Mayaguez; fresh water; Jan. 20; 1 male, 1 female (24544). Rio Bayamon above Palo Seco; Jan. 16; 2 females (24543). Hucares; Feb. 14; 4 males (24545).

St. Thomas, West Indies: Jan. 17–24, 1884; *Albatross;* 1 female (18564). East side of harbor; beach; July 11, 1915; C. R. Shoemaker; 7 males, 3 females (49811).

St. Croix, West Indies; Riise, collector; 2 males (19713).

Pernambuco, Brazil; on mangroves; Aug. 1, 1899; Branner-Agassiz Exped.; 1 male (25698).

Itabapuana, Brazil; Thayer Exped.; 4 males, 4 females (22186).

Rio de Janeiro, Brazil; 1876–1877; R. Rathbun; 2 males, 2 females (19971).

Terra de Masahe, State of Rio Janeiro, Brazil; January, 1912; E. Garbe; 2 males (47834).

Liberia; O. F. Cook; 1 female (21847). Identification not certain.

San Blas, Tepic Territory, Mexico; Nelson & Goldman; 4 males (22306).

Acapulco, Mexico; *Hassler* Exped.; 1 specimen (M. C. Z.).

UCA BREVIFRONS (Stimpson).

Plate 138.

Gelasimus brevifrons STIMPSON, Ann. Lyc. Nat. Hist. New York, vol. 7, 1860, p. 292 (type-locality, lagoon at Todos Santos near Cape St. Lucas; type not extant).—LOCKINGTON, Proc. California Acad. Sci., vol. 7, 1876 (1877), p. 147 [3].

Gelasimus vocator KINGSLEY, Proc. Acad. Nat. Sci. Philadelphia, 1880, p. 147 (part).

Uca vocator ORTMANN, Zool. Jahrb., Syst., vol. 10, 1897, p. 352 (part).

Uca brevifrons HOLMES, Proc. California Acad. Sci., ser. 3, vol. 3, 1904, p. 308, pl. 35, figs. 1–5.

Diagnosis.—Oblique ridge inside hand continued toward upper margin. Front very broad and shallow. Merus joints of legs not enlarged.

Description.—Carapace convex, minutely punctate and granulate, branchial regions more or less plainly marked with small tubercles near the outer edge; -shaped impression deep, a faint longitudinal groove on branchial regions; groove behind orbital margins. Front broad, about one-third width of carapace, little produced. Lower edge of eyebrow with a strong convexity midway between the front and lateral angles. These last are almost right angles and slightly or not at all produced forward. Lateral margins of carapace for a short distance nearly parallel, arching slightly outward, and then converging quite strongly to the posterior margin.

Merus of large cheliped of male marked outside with transverse, sparingly setose striae; carpus long, roughened with small blunt tubercles; hand large and stout, nearly twice as long as width of carapace, upper surface with small tubercles which gradually become smaller further down on the outer surface; lower side of the palm marked with a fine raised line which fades out on the base of the pollex. Inner surface of palm marked with a short, very prominent, tuberculated ridge which runs from near the lower margin toward the supero-proximal portion of the hand; from the upper end of this ridge there is a short tuberculated ridge extending toward the base of the dactyl; the prominent lower margin of the carpal groove extends backward from the angle where these ridges meet, in the same direction as the upper ridge; the meeting point of the 3 ridges forms the apex of a large, high, three-sided pyramid. Pollex gently curved, prehensile edge with a few teeth on distal half, tip truncate; dactyl curving from near the middle, overreaching the pollex and bearing a few prehensile teeth. Ambulatory legs slender and hairy. (Abridged from Holmes.)

Color.—Carapace in alcohol dark olivaceous (Holmes).

Measurements.—Male (43352), length of carapace 19.5, width of same 28.6 mm.

Habitat.—Very abundant in the woods 2 kilometers from the seashore (Tristan). Found also in fresh water and at Todos Santos in a lagoon.

Range.—Lower California to Panama.

Material examined.—

Cape St. Lucas, Lower California; John Xantus; 1 female (M. C. Z.).

Acapulco, Mexico; *Hassler* Exped.; 3 males (M. C. Z.).

Boca del Jesus Maria, Costa Rica: Apr. 22, 1905; P. Biolley and J. F. Tristan; 1 male (32323). J. F. Tristan; 1 male, 1 female (32324).

Pigres, Costa Rica; A. Zeledon; 9 males, 1 female (43352).

Quebrada Chavarria, Golfito, Gulf of Dolce, Costa Rica; April, 1896; H. Pittier; 3 males, 4 females (19435).

La Capitana, Canal Zone; H. Pittier; 4 males (43848 and 44320).

Rio Calabre, Panama; Mar. 18, 1911; Meek and Hildebrand; 4 males (43988).

Marraganti, Panama; June 2, 1912; E. A. Goldman; 1 male (48277).

Panama; Sternbergh, collector; 1 male (22185).

Additional records.—Magdalena Bay, Lower California (Lockington). San José del Cabo, Lower California (Holmes).

UCA PUGNAX (Smith).

Plate 139.

Gelasimus vocans Gould, Rept. Invert. Massachusetts, 1841, p. 325 (part). Not *Cancer vocans* Linnaeus.

Gelasimus vocans, var. A, De Kay, Nat. Hist. New York, 1844, Crust., p. 14, pl. 6, fig. 10.

Gelasimus pugilator LeConte, Proc. Acad. Nat. Sci. Philadelphia, vol. 7, 1855, p. 403 (not Bosc).

Gelasimus palustris Smith, Amer. Nat., vol. 3, 1870, p. 557; male with nearly equal hands.

Gelasimus pugnax Smith, Trans. Connecticut Acad. Arts and Sci., vol. 2, 1870, p. 131, pl. 2, fig. 1; pl. 4, figs. 2–2*d* (type-locality, New Haven, locality of specimens figured; type in P. M. Y. U.).

Gelasimus vocator Kingsley, Proc. Acad. Nat. Sci. Philadelphia, 1880, p. 147 (part).

Uca vocator Ortmann, Zool. Jahrb., Syst., vol. 10, 1897, p. 852 (part).

Uca pugnax Rathbun, Amer. Nat., vol. 34, 1900, p. 585.

Diagnosis.—Oblique ridge inside hand terminating at carpal cavity. Inner surface of hand coarsely granulate. Eyebrow nearly vertical.

Description.—Carapace so convex fore and aft that in a dorsal view the lower edge of the front and the eyebrow are invisible. The most conspicuous depressions are the H-form depression, a pit on the branchial region in line with the gastro-cardiac sulcus, and a pit behind the middle of the orbit. Front about two-sevenths of the fronto-orbital width, margin regularly arched. Upper margin of orbit sinuous and oblique. Antero-lateral angle obtuse, not produced.

Large cheliped of male rough. Merus with granulated, rugose lines outside, lower margin granulate. Carpus and palm tuberculous outside. Oblique ridge leading from lower margin of inner surface of palm tuberculate, but less prominent than in *U. mordax;* space between crests coarsely granulate, or tuberculate. Fingers one and one-half times as long as palm, disposed much as in *U. mordax*, but without a large tubercle at middle of pollex.

Ambulatory legs especially hairy on the carpal and propodal joints.

Color.—Dorsal surface of carapace of male very dark greenish olive, the middle and anterior portion mottled with grayish white; the front, between and above the bases of the ocular peduncles, light blue, varying somewhat in intensity in different specimens, and the anterior margin tinged with brown. Large cheliped lighter than carapace, marked with pale brownish yellow at the articulations and along upper edge of dactylus, and both fingers nearly white along prehensile edges. Exposed portions of ocular peduncles and eyes like dorsal surface of carapace. Smaller cheliped and legs somewhat translucent and thickly mottled and specked with dark grayish olive. Sternum and abdomen mottled ashy gray. The females differ from the males in having dorsal surface of carapace less distinctly mottled with whitish and in wanting the blue on the front. (Smith).[1]

Measurements.—Male (3836), length of carapace 14.8, width of same 22.5 mm.

Habits.—Makes its burrows only upon salt marshes, but is often seen in great companies wandering out upon muddy or sandy flats, or even upon the beaches of the bays and sounds (Verrill and Smith).[2] Usually digs its holes in mud (Pearse).[3] Lives on a muddy substratum which is well shaded by a dense vegetation and hence continually moist (Schwartz and Safir).[4]

Range.—From Provincetown and Barnstable, Massachusetts, to Louisiana.

Material examined.—

Provincetown, Massachusetts; sand; April 14, 1879; U. S. Fish Comm.; 18 specimens (3828).

Barnstable, Massachusetts; 1875; U. S. Fish Comm.; 1 male, 1 female (4163).

Cataumet, Massachusetts; July 22; U. S. Fish Comm.; 9 males, 2 females (40793).

Woods Hole, Massachusetts: U. S. Fish Comm.; 4 males (40795). 1911; U. S. Bur. Fisheries; 15 males, 1 female (43156).

Vineyard Sound, Woods Hole, Massachusetts; 1911; U. S. Bur. Fisheries; 1 specimen (43192).

Naushon Island, Massachusetts; 1882; U. S. Fish Comm.: 158 males, 18 females (5864). August 15; 7 males, 1 female (40794).

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[1] Trans. Connecticut Acad. Arts and Sci., vol. 2, 1870, p. 132.

[2] Rept. U. S. Commr. Fisheries, vol. 1, for 1871–72 (1873), p. 545 [251].

[3] Ann. Rept. Smithson. Inst. for 1913 (1914), p. 416.

[4] For a comparison of *U. pugnax* with *U. pugilator*, see Schwartz and Safir, The Natural History and Behavior of the Fiddler Crab. Cold Spring Harbor Monographs, No. VIII. Brooklyn Inst. Arts and Sci., 1915, pp. 1–24.

Newport, Rhode Island; shore; 1880; U. S. Fish Comm.; 8 males (4123). September 2; 4 specimens (36957).

Prudence Island, Narragansett Bay, Rhode Island; August 30, 1901; E. A. Mearns; 18 males (25867).

New Haven, Connecticut; shore; 1879; R. Rathbun; 17 specimens (3836).

The Gut, Cold Spring Harbor, Long Island; July 23, 1898; Biological Laboratory; 24 specimens (21661).

Great South Bay, Long Island; 1898; T. H. Bean; 4 males, 1 female (43360).

Atlantic City, New Jersey; April 26, 1900; E. P. Miller; 23 specimens (23635).

Chincoteague, Virginia; July, 1913; Henderson and Bartsch; 5 specimens (46285).

Smiths Island, Northampton County, Virgina; May 16–25, 1894; Charles W. Richmond; 4 males (18285).

Mainland off Smiths Island, Virginia; E. A. Mearns; 24 males, 7 females (41017).

Cherrystone, Virginia; Aug. 27, 1881; M. McDonald; 1 male, 1 female (3475).

Wallops Island, Virginia; May 26, 1913; Department of Agriculture; 2 males (45959).

Mill Creek Shore at Fort Monroe, Virginia; May 5, 1898; M. C. Marsh; 8 males (43359).

Winyah Bay, South Carolina; January, 1891; *Fish Hawk;* 2 males (17488).

Charleston Harbor, South Carolina; Mar. 18, 1880; M. McDonald; 11 males, 4 females (15056).

Port Royal, South Carolina; Feb. 1, 1891; *Fish Hawk;* 11 males, 1 female (17184).

Myrtle Bush Creek, South Carolina; Feb. 7, 1891; *Fish Hawk;* 2 males, 3 females (17185).

South Carolina; Mar. 22, 1894; *Fish Hawk;* 28 males, 7 females (22278).

Grand Isle, near New Orleans, Louisiana; G. Kohn; 3 specimens, not typical (2259).

UCA PUGNAX RAPAX (Smith).

Plate 140.

?Gelasimus palustris Milne Edwards, Ann. Sci. Nat., ser. 3, Zool., vol. 18, 1852, p. 148 [112], pl. 4, fig. 13 (type-locality, Antilles; type in Paris Mus.).

Gelasimus rapax Smith, Trans. Connecticut Acad. Arts and Sci., vol. 2, 1870, p. 134, pl. 2, fig. 2; pl. 4, fig. 3 (type-locality, Aspinwall; type in P. M. Y. U.).

Gelasimus vocator KINGSLEY, Proc. Acad. Nat. Sci. Philadelphia, 1880, p. 147 (part).

Uca vocator ORTMANN, Zool. Jahrb., Syst., vol. 10, 1897, p. 352 (part).

Uca pugnax rapax RATHBUN, Bull. U. S. Fish Comm., for 1900, vol. 2, 1901, p. 7.

Diagnosis.—Oblique ridge inside hand terminating at carpal cavity. Inner surface of hand finely granulate. Eyebrow visible in dorsal view.

Description.—Differs from typical *U. pugnax* in having the surface of the eyebrow more oblique and visible in a dorsal view, and in the inner surface of the palm almost smooth to the naked eye, finely granulate under the lens.

The carapace is often narrow posteriorly, and the lateral margins more sinuous, but these characters are not invariable.

Measurements.—Male (18551), length of carapace 15.5, width of same 25.5 mm.

Habits.—Frequents salt marshes and mangrove swamps.

Mr. P. W. Jarvis, Kingston, Jamaica, has written of this species that it occurs in large numbers near the coasts on the sides of ditches and sometimes in thousands on the edges of swamps. When alarmed the male opens the large claw which it holds erect in readiness for the attack and at the same time rapidly scuttles away to its burrow in the mud, down which it quickly descends. The female leaves her burrow in search of food only at dusk, but the male is out and about most of the day. There is a local superstition that this crab can cure deafness and earache, and in consequence it is known to the dwellers on the coast as the "Deaf-ear crab." The method consists in crushing the living crab and pouring the juice into the ear.

Range.—Gulf of Mexico and Florida Keys to Rio de Janeiro.

Variations.—Some specimens, from Key West and Havana, show characters intermediate between *pugnax* and *pugnax rapax.*

Material examined.—

Miami, Florida; April, 1898; *Fish Hawk;* 1 male (43362).

Key West, Florida: D. S. Jordan; December, 1883; 3 males, 1 female (6369). H. Hemphill; high tide, among rocks or burrowing in sand; 8 specimens (13813); 1885; 1 male, 5 females (15055). *Albatross;* Apr. 15–27, 1884; 26 males, 4 females (7515).

Sarasota Bay, Florida; Union College collection; 1 male (42616).

Near Mobile, Alabama; Jan. 29, 1883; C. L. Herrick; 1 female (15057).

Matagorda Bay, Texas; Mar. 22, 1905; T. E. B. Pope; 1 male (33031).

Drain near Matagorda Bay, Texas; fresh water; J. D. Mitchell; 5 males, 4 females (25033).

Cuba; 1900; Wm. Palmer and J. H. Riley: Cabañas; June 2; 13 males, 4 females (23824). June 3; on rocks and piles along shore; 1 male (23825). Mariel; May 10; from tidal swamp; 20 males, 3 females (23823). June 10; 2 males (23822). Nueva Gerona, Isla de Pinos; July 11; 13 males, 3 females (23826).

Cuba; May, 1914; Henderson and Bartsch, *Tomas Barrera* Exped.: Dimas Bay; M. plants; May 17; 1 male (49182). Ensenada de Santa Rosa; 1–3 fathoms; S. Sh. M. Sponge; 50 males, 3 females (49390). Santa Lucia; S. Sh. M. Sponge; 46 males, 1 female (48392). Los Arroyas; May 20; 20 males, 30 females (48410).

Montego Bay, Jamaica: P. W. Jarvis; 1 male, 1 female (19056); E. A. Andrews; July 7, 1910; 1 male (42921).

Snug Harbor, Montego Bay, Jamaica; June 19, 1910; E. A. Andrews (42919).

Bogue Islands, Montego Bay, Jamaica: June 20, 1910; C. B. Wilson; 6 males (42906). June 24, 1910; E. A. Andrews; 6 males, 1 female (42920).

Kingston, Jamaica; P. W. Jarvis; 1 male (19059).

Kingston Harbor, Jamaica: 1893; R. P. Bigelow; 5 males, 2 females (19477). May–July, 1896; F. S. Conant; 1 female ovig. (19599). T. H. Morgan; 2 males (17220). *Albatross;* Mar. 1–11; 1884; 6 males, 1 female (18550).

Haiti; 1917; Henderson and Bartsch: Thomazeau; 6 males, 1 female (50489). Petit Guave; 28 males (50490). Port-au-Prince; 11 males, 1 female (50491).

Mayaguez, Porto Rico; fresh water; Jan. 20, 1899; *Fish Hawk;* 4 males, 2 females (24536).

Mangrove swamp, San Juan Bay, Porto Rico; Jan. 18, 1899; Paul Beckwith; 3 males (22794).

Catano, Porto Rico; Jan. 4, 1899; *Fish Hawk;* 14 males, 1 female (24533).

Hucares, Porto Rico; Feb. 14, 1899; *Fish Hawk;* 48 males, 22 females (24539).

Ensenada Honda, Culebra, Porto Rico; Feb. 9, 1899; *Fish Hawk;* 1 male (24538).

St. Thomas, West Indies: *Albatross;* Jan. 17–24; 4 males (18549). Riise, collector; 3 males, 1 female (19712). Gregerie Bay; brought in by fishermen; July 22, 1915; C. R. Shoemaker; 20 males, 2 females, mostly young (49813).

West Indies; 1 male (15058).

Old Providence, West Indies; Apr. 4–9, 1884; 6 males (7546).

Coral Reef, Colon, Panama; May 2, 1911; Meek and Hildebrand; 2 males (43989).

Sabanilla, Colombia; Mar. 16–22, 1884; *Albatross;* 5 males (18436).

St. Joris Bay, Curaçao; Apr. 3, 1905; J. Boeke; 1 male (42957).

Curaçao; Feb. 10–18, 1884; *Albatross;* 14 males, 3 females (18551).

Puerto Cabello, Venezuela: Schibbye, collector; 1 male (19714). Oct., 1916; J. N. Rose; 7 males (49632).

Trinidad; shore; Jan. 30–Feb. 2, 1884; *Albatross;* 11 males, 3 females (7641).

Pernambuco, Brazil; 1876–1877; R. Rathbun; 1 male (40623).

Plataforma, Bahia, Brazil; 1876–1877; R. Rathbun; 1 male, 1 female (40620).

Salt Lagoa, Caravellas, Bahia, Brazil; 1876–1877; R. Rathbun; 1 male (40621).

Maruim, Brazil; Sept. 4; Hygom, collector; 1 male (19715).

Itabapuana, Brazil; Thayer Exped.; 3 males, 1 female (22187).

Brazil; 1876–1877; R. Rathbun; 1 female (40622).

UCA PUGILATOR (Bosc).

Plate 141; plate 160, fig. 2.

Ocypoda pugilator Bosc, Hist. Nat. Crust., vol. 1, an X [1801–1802], p. 197 (type-locality, Caroline; type not extant).

Gelasima pugillator LATREILLE, Nouv. Dict. Hist. Nat., vol. 12, 1817, p. 519.

Gelasimus vocans GOULD, Rept. Invert. Massachusetts, 1841, p. 325 (part). Not *Cancer vocans* Linnæus.

Gelasimus vocans DEKAY, Nat. Hist. New York, Crust., 1844, p. 14 (part), pl. 6, fig. 9.

Gelasimus pugilator MILNE EDWARDS, Ann. Sci. Nat., ser. 3, Zool., vol. 18, 1852, p. 149 [113], pl. 4, fig. 14.

Gelasimus pugilator SMITH, Trans. Connecticut Acad. Arts and Sci., vol. 2, 1870, p. 136, pl. 4, fig. 7.

Gelasimus pugilator KINGSLEY, Proc. Acad. Nat. Sci. Philadelphia, 1880, p. 150.

Uca pugilator ORTMANN, Zool. Jahrb., Syst., vol. 10, 1897, p. 352 (part).

Diagnosis.—No oblique ridge on inner surface of palm. Carapace broad behind. Ambulatory legs narrow.

Description.—Carapace very convex, smooth, less uneven than in *U. pugnax.* Front more than one-third of fronto-orbital width, broadly rounded below. Eyebrow deeper than in *U. pugnax*, its lower part visible in dorsal view. Upper margin of orbit slightly sinuous; antero-lateral angle little prominent. Lateral margin strongly curved outward behind the orbit.

Large cheliped of male shaped much as in *U. pugnax*, although the fingers do not attain so great a length. A ridge runs along the pollex from the tip backward a slight distance upon the palm. The largest prehensile tubercles are just behind the middle of the pollex and near the tip. Inner surface of palm granulate, the granules coarser on the thickest part of the palm; no oblique ridge across the middle.

Color.—Carapace of male a dull light purplish or grayish-blue, with a large patch of deep purplish-blue on the anterior half. Large cheliped dull light blue with white tubercles; articulations yellowish; fingers mostly white. Small cheliped and legs buff ground with blue or brown speckles, articulations yellowish.

Measurements.—Male (43356), length of carapace 17.3 mm., width of same 26 mm.

Habits.—Lives upon muddy and sandy flats and beaches (Verrill and Smith). Usually digs its holes in sand (Pearse). Lives in areas which have a consistent sandy substratum the surface of which may become dry through evaporation (Schwartz and Safir). Mr. J. D. Mitchell has furnished the following notes on the occurrence of *U. pugilator* in Texas:

This fiddler crab inhabits all salt-water marsh land, but thrives best on the bay shores next to the Gulf, such as the immense marshes on the north side of the Matagorda Peninsula and the chain of islands on our coast. They dig holes in the ground near water, about half an inch in diameter, the holes connecting under the ground in many instances. They are, next to the mullet, the greatest food product of the coast. Nearly everything in the water and on the land near the water eats fiddlers. They are the main food of the raccoon, and are also eaten by skunks, possums, wild cats, and wolves, and by almost every fish that bites at a hook. The blue crabs catch them if they come near the bay shore and sand crabs eat them if they wander near the Gulf shore. They are a source of endless amusement to the small boy, who makes a pen by setting 12-inch planks edgewise and drives them into it, playing they are cattle; once cut off from their holes they huddle together like sheep and can be driven anywhere.

Range.—From Boston Harbor, Massachusetts, to Galveston, Texas. Jeremie, Haiti; Dr. D. F. Weinland (M. C. Z.).

Material examined.—

Corn Hill and Truro, Massachusetts; F. W. True; 1 male (43355).

Harwich, Massachusetts; U. S. Bur. Fisheries; 1 male (43358).

Cataumet, Massachusetts; July 22; U. S. Fish Comm.; 5 males, 4 females (36873).

Woods Hole, Massachusetts; U. S. Fish Comm.; 85 specimens (3212); 1882; 1 male (14402).

Vicinity of Woods Hole, Massachusetts; M. J. Rathbun; 2 males 1 female (32481).

Naushon Island, Massachusetts; low water, gutters; U. S. Fish Comm.; 9 males, 5 females (3347).

Sipaquisset, Vineyard Sound, Massachusetts; Sept. 15, 1875; U. S. Fish Comm.; 2 males, 3 females (2556).

Vineyard Sound; 1875; U. S. Fish Comm.; 2 specimens (35304).

Gardiners Bay, Long Island; J. F. Fowler; 1 male (3771).

The Gut, Cold Spring Harbor, Long Island; July 23, 1898; Biological Laboratory; 6 specimens (21662).

Great South Bay, Long Island; 1898; T. H. Bean; 1 male (43356).

Smiths Island, Northampton County, Virginia: May 16–25, 1894; Chas. W. Richmond; 1 male (18286). May 19, 1898; Wm. Palmer; 1 male, 4 females (21622).

Mainland opposite Smiths Island, Virginia; E. A. Mearns; 6 males, 20 females (41018).

Revels Island, Virginia; Oct. 13, 1915; W. L. McAtee; 1 male, 2 females (49102).

Mill Creek Shore at Fort Monroe, Virginia; May 5, 1898; M. C. Marsh; 6 males, 1 female (43357).

Willoughby Point, Virginia; May, 1880; McDonald & Earll; 4 males, 3 females (3146).

Morehead City, North Carolina; Feb. 30, 1863; A. S. Bickmore; 3 males, 3 females (22184).

Porchers Bluff, Charleston County, South Carolina; May, 1911; E. A. Mearns; 1 male (43361).

Port Royal, South Carolina; Feb. 1, 1891; *Fish Hawk;* 5 males, 5 females (17188).

Port Royal Island, west end, South Carolina; Jan. 27, 1891; *Fish Hawk;* 23 males, 8 females (17186).

Cat Island Creek, Port Royal, South Carolina; Feb. 2, 1891; *Fish Hawk;* 4 males, 2 females (17187).

Myrtle Bush Creek, South Carolina; Feb. 7, 1891; *Fish Hawk;* 1 male (17189).

South Carolina: Kurtz and Stimpson; 65 males, 62 females (2061). *Fish Hawk;* Mar. 22, 1894; 9 males, 5 females (22280).

St. Augustine, Florida; L. W. Ledyard; 2 males (2195).

Ponce Park, Florida; Nov. 24, 1908; B. A. Bean; 1 male (39193).

Near Lake Kissimmee, Florida; A. M. Reese; 4 males, 1 female (43354).

Cards Sound, Florida; Feb. 13, 1889; *Grampus;* 1 male, 1 female (15255).

Pine Key, Florida; January, 1884; H. Hemphill; 79 males, 7 females (6440).

Key West, Florida: H. Hemphill; 1 male, 1 female (17688). Apr. 15–27, 1884; *Albatross;* 2 males (18552).

Cape Sable Creek, Florida; Feb. 20, 1889; *Grampus;* 13 males, 18 females (15254).

Marco, Florida: May, 1884; H. Hemphill; 21 males, 8 females (6964). Feb. 25, 1889; *Grampus;* 2 males, 1 female (15252).

Punta Rassa, Florida: April, 1883; C. W. Ward; 48 males, 1 female (5871). February, 1884; H. Hemphill; 33 males, 10 females (6435). H. Hemphill; 1 male (17687).

Big Gasparilla Pass, Florida; Mar. 5–16, 1889; *Grampus;* 26 males, 23 females (15253).

Tampa Bay, Florida; Mar. 17, 1885; *Albatross;* 23 males, 3 females (9908).

Clearwater, Florida; July 14, 1879; S. T. Walker; 7 males, 11 females (3276).

Cedar Keys, Florida; December, 1883; H. Hemphill; 109 males, 41 females, 3 y. (6412).

Cocoanut Grove, Florida; January, 1916; W. L. McAtee; 7 males, 4 females (48924).

Florida; L. E. Daniels; 1 male (22984).

Near Mobile, Alabama; 1883; C. L. Herrick; 1 male (5781).

Biloxi Bay, Mississippi; shore; C. F. Baker; 1 male (21683).

Biloxi, Mississippi; P. R. Hoy; 1 male (45958).

Galveston, Texas; 1871; Boll, collector; 20 specimens (M.C.Z.).

UCA GALAPAGENSIS Rathbun.

Plate 142.

Uca galapagensis RATHBUN, Proc. Washington Acad. Sci., vol. 4, 1902, p. 275, *pl. 12, figs. 1 and 2* (*type-locality, Indefatigable Island; type, Cat. No.* 22319, U.S.N.M.).

Diagnosis.—Oblique ridge inside palm continued to upper margin. Orbital margin very oblique. Merus of ambulatory legs enlarged.

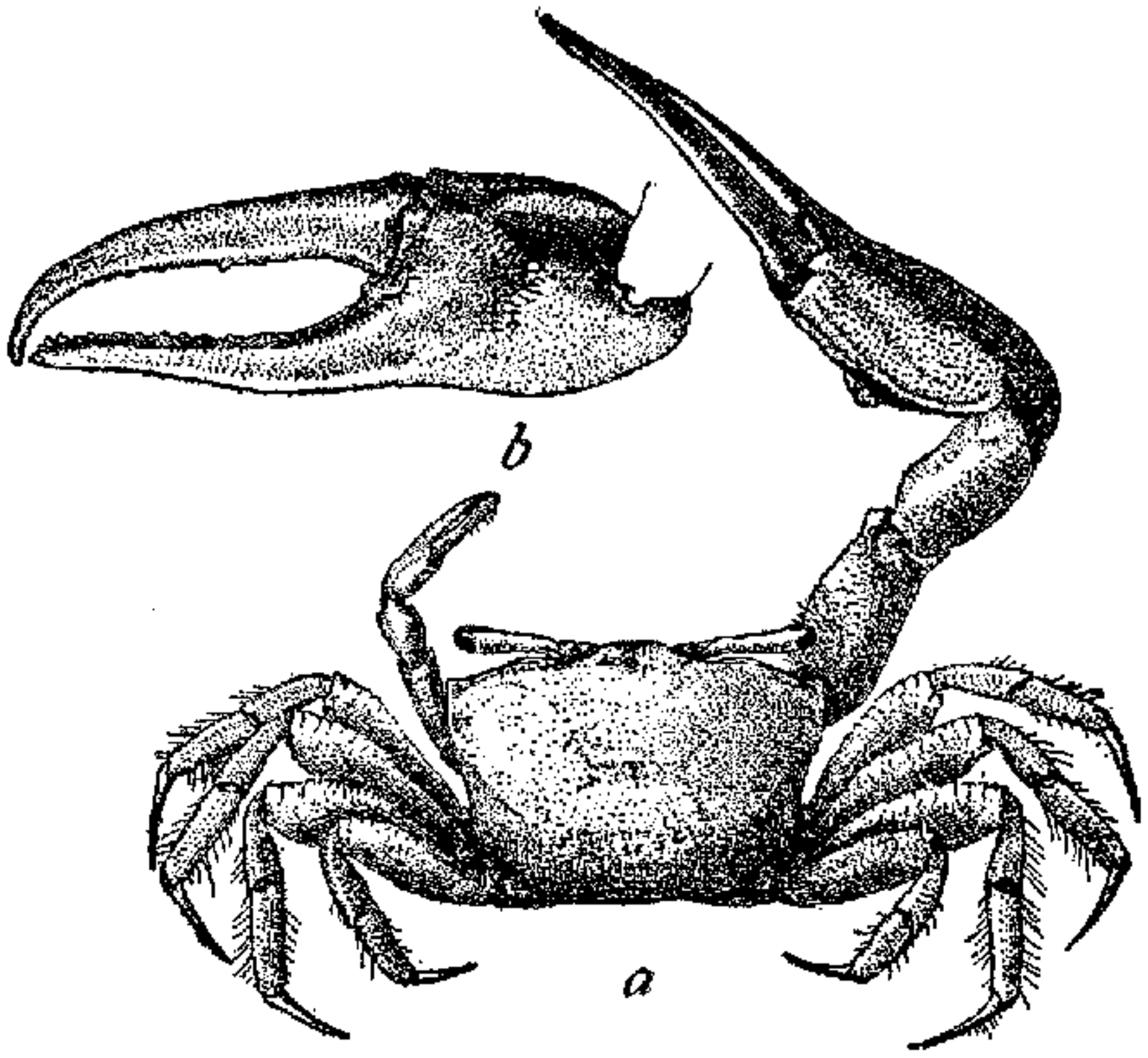

FIG. 167.—UCA GALAPAGENSIS, MALE (22319), × 1½. *a*, DORSAL VIEW; *b*, INNER SURFACE OF LARGER CHELA.

Description.—Carapace very convex in both directions, surface smooth and shining, with small distant punctae and microscopically

granulate. H-form depression very shallow. Front about one-third the anterior width of the carapace, edge scarcely visible in dorsal view, eyebrow partly visible. Upper margin of orbit very sinuous and oblique. Antero-lateral angles almost rectangular. Lateral margins for the most part convex, slightly sinuous posteriorly; typically they slope outward a little from the orbital angle, so that the carapace is widest behind that angle, but such is not always the case, as one side may slope out and the other in.

Arm of large cheliped of male granulate-rugose; wrist and hand coarsely granulate, granules on the latter increasing in size above. Surface of the palm strongly bent over above, a longitudinal sulcus at the bend. Inner face with a tuberculated zigzag ridge across the middle; a small area of fine granules on the upper half. Fingers one and one-third times as long as palm; prehensile tubercles of pollex coarser than these of dactylus, which has, however, several large tubercles. For the rest, much as in *U. pugnax*.

Measurements.—Male (22319), length of carapace 13.6, width of same 19.8 mm.

Habitat.—Lives on salt flats.

Range.—Galapagos Islands; Peru.

Material examined.—

Galapagos Islands: James Island; Apr. 11, 1888; *Albatross;* 1 male (22320). Indefatigable Island; Apr. 12, 1888; *Albatross;* 6 males (types) (22319). South Seymour Island; May 3, 1899; Stanford University; 2 males, 1 female (25665).

Puerto Grande, Rio Zarumilla (2 leagues from Capon), Peru; salt flats; Feb. 2, 1908; R. E. Coker; 5 males (40488).

UCA MACRODACTYLUS (Milne Edwards and Lucas).

Plate 143.

Gelasimus macrodactylus MILNE EDWARDS and LUCAS, in d'Orbigny's Voy. dans l'Amér. Mérid., vol. 6, 1843, Crust., p. 27; vol. 9, atlas, 1847, pl. 11, fig. 3 (type-locality, *Côtes du Valparaiso;* type in Paris Mus.).

Gelasimus annulipes KINGSLEY, Proc. Acad. Nat. Sci. Philadelphia, 1880, p. 148 (part). (Not Milne Edwards.)

Uca macrodactyla NOBILI, Boll. Mus. Zool. Anat. comp. R. Univ. Torino, vol. 16, 1902, No. 415, p. 49.

Diagnosis.—Carapace strongly narrowed behind. Oblique ridge inside palm continued to upper margin. Short sulcus outside palm at base of thumb.

Description.—Convexity moderate. H-form depression shallow; sulcus behind the orbit deep.

Front about one-third width of carapace. Orbits very oblique, slightly sinuous. Sides strongly converging, sinuous; carapace widest at antero-lateral angles, which are subacute.

Merus of large cheliped of male marked with very fine granulated rugae. Carpus and palm coarsely granulate, the granules continued on the fingers, becoming very fine toward the tips; granulation coarser on the upper part of the chela than on the lower. Besides the sulcus following the lower margin of the palm there is another very short longitudinal sulcus at the distal end of the palm, and opposite the middle of the pollex.

The oblique, tuberculate ridge leading up from the lower margin of the inner surface is continued in a zigzag line to upper margin, surface distal to it granulate. Fingers about as long as palm, narrowly gaping; prehensible tubercles coarse, a larger one at middle of pollex.

Measurements.—Male (19441), length 8, width 11.5 mm.

Habits.—Extremely abundant in the mud of the mangroves. In some places it is quite impossible to walk along without hurting many of them. In the stomach of a kind of owl (*Ciccaba nigrolineata* Sclater) I found many carapaces of the little species. (Note by J. F. Tristan.)

Range.—Mexico to Chile.

Material examined.—

Guaymas, Mexico; Capt. C. P. Stone; 1 male without large cheliped (M. C. Z.).

Corinto, Nicaragua; J. A. McNiel; 2 males, 1 female (M.C.Z.).

Boca del Rio Jesus Maria, Costa Rica; April, 1905; J. F. Tristan; 4 males, 3 females (32320).

Santo Domingo, Gulf of Dulce, Costa Rica; April, 1896; H. Pittier; 2 males, 3 females (19441).

Chile; 2 males, cotypes (Paris Mus.).

Additional records.—Colombia: Tumaco (Nobili). Ecuador: Puntilla di S. Elena (Nobili).

UCA RECTILATUS (Lockington).

Gelasimus rectilatus LOCKINGTON, Proc. California Acad. Sci., vol. 7, 1876 (1877), p. 148 (type-locality, west coast of Lower California; type not extant, Cat. No. 3112, California Acad. Sci.).

Gelasimus annulipes KINGSLEY, Proc. Acad. Nat. Sci. Philadelphia, 1880, p. 148 (part). (Not Milne Edwards.)

Uca rectilata HOLMES, Occas. Papers California Acad. Sci., vol. 7, 1900, p. 76, pl. 1, figs. 10–14.

Diagnosis.—Side margins strongly convergent and almost straight lines. Front narrow.

Description.—Carapace wide, nearly flat transversely, but longitudinally strongly convex. Front about one-sixth width of carapace, arched strongly forward. Upper edge of eyebrow much curved,

lower edge close to upper but distinct. Postorbital angle prominent, acute, and directed obliquely outward. Lateral margins strongly convergent, the lower margins straight, but the upper margins, or those which bound the dorsal plane, are slightly sinuous and are prolonged almost to the posterior margin.

Merus of larger cheliped of male slightly rugose; carpus lightly granulated; hand similar to that of *U. crenulata;* outer surface of palm finely granulated and lower edge margined; an oblique, granulated ridge on inner surface, beginning at lower margin and ending at carpal groove. Pollex tapering, a tooth near the middle, extremity slightly excavated; dactyl curved more strongly toward the tip, which slightly overreaches the pollex. Ambulatory legs slender. (Abridged from Holmes.)

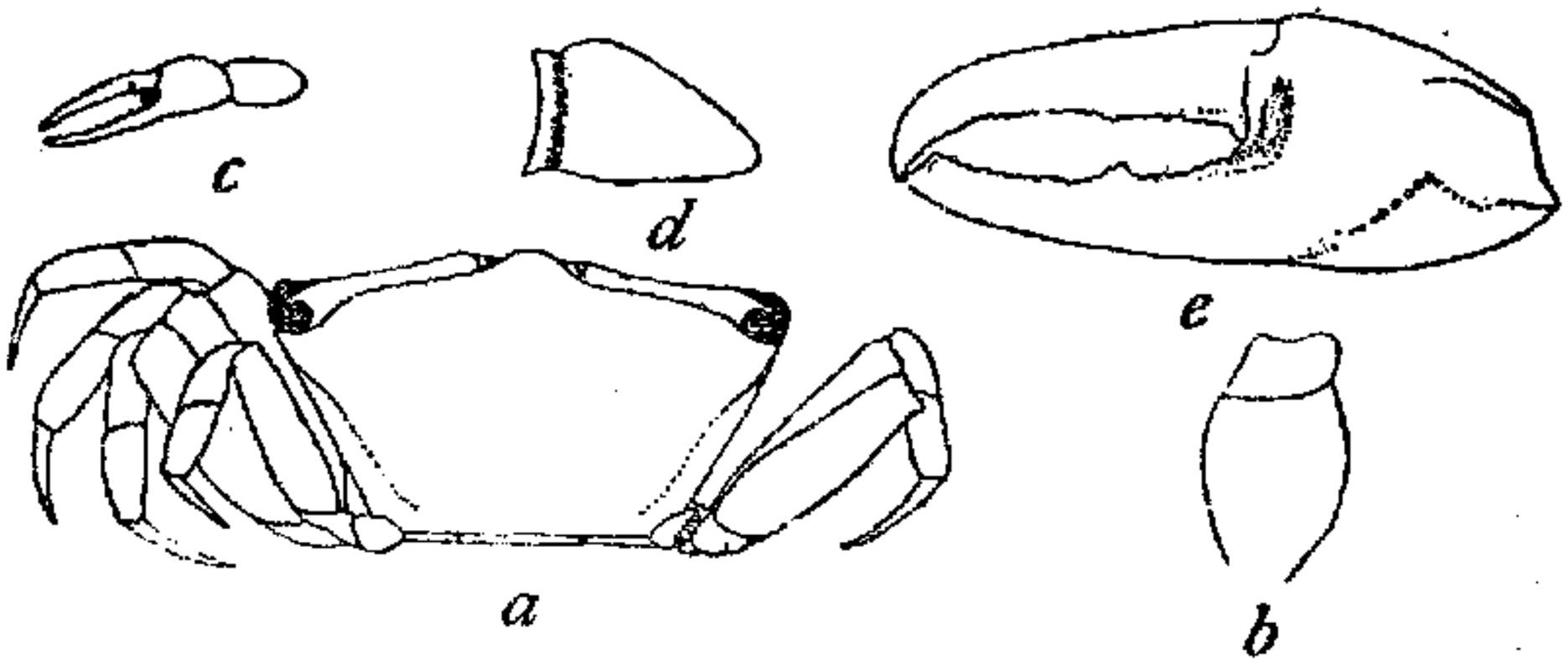

FIG. 168.—UCA RECTILATUS, COTYPE, ENLARGED, AFTER HOLMES. *a*, DORSAL VIEW OF CARAPACE, EYES, AND LEGS; *b*, ISCHIUM AND MERUS OF RIGHT OUTER MAXILLIPED; *c*, CARPUS AND CHELA OF SMALLER CHELIPED; *d*, MERUS OF RIGHT OR LARGER CHELIPED, INNER FACE; *e*, LARGER CHELA, INNER FACE.

Measurements.—Male, type, length of carapace 8.75, width of same 13.5 mm.

Range.—West coast of Lower California. Known only from the type specimens, which were destroyed in the San Francisco fire.

UCA THAYERI Rathbun.

Plate 144.

Cicele Ete MARCGRAVE DE LIEBSTAD, Hist. Rer. Natur. Brazil, 1648, p. 185, text fig.; Brazil.

Uca thayeri RATHBUN, Proc. Washington Acad. Sci., vol. 2, 1900, p. 134, pl. 8, figs. 1 and 2 (type-locality, Rio Parahyba do Norte at Cabedello; type, Cat. No. 23753, U.S.N.M.).

Diagnosis.—Front narrow. Sides strongly convergent. Oblique ridge inside palm not ending at carpal cavity but continued partly upward.

Description.—Carapace strongly narrowed behind, widest either at the lateral angles or a little farther back; sides sinuous. Interregional depressions deep; surface finely granulose and tomentose.

Front narrower than usual in this group, less than one-fifth width of carapace, its sides longer than the slightly convex lower margin. Orbital margin moderately oblique and sinuous.

Merus of large cheliped of male crossed with short granulate rugae; carpus scabrous. Upper part of outer surface of hand coarsely granulate or tuberculate, very finely granulate below, as on the fingers also. Fingers twice as long as palm, narrowly gaping; prehensile edges with one or more larger tubercles; one of these is at the basal fourth of the dactylus. Inner face of palm with a single row of tubercles on the oblique ridge, which turns at a right angle at the middle, after which it is continued but a short distance. Surface between ridges smooth.

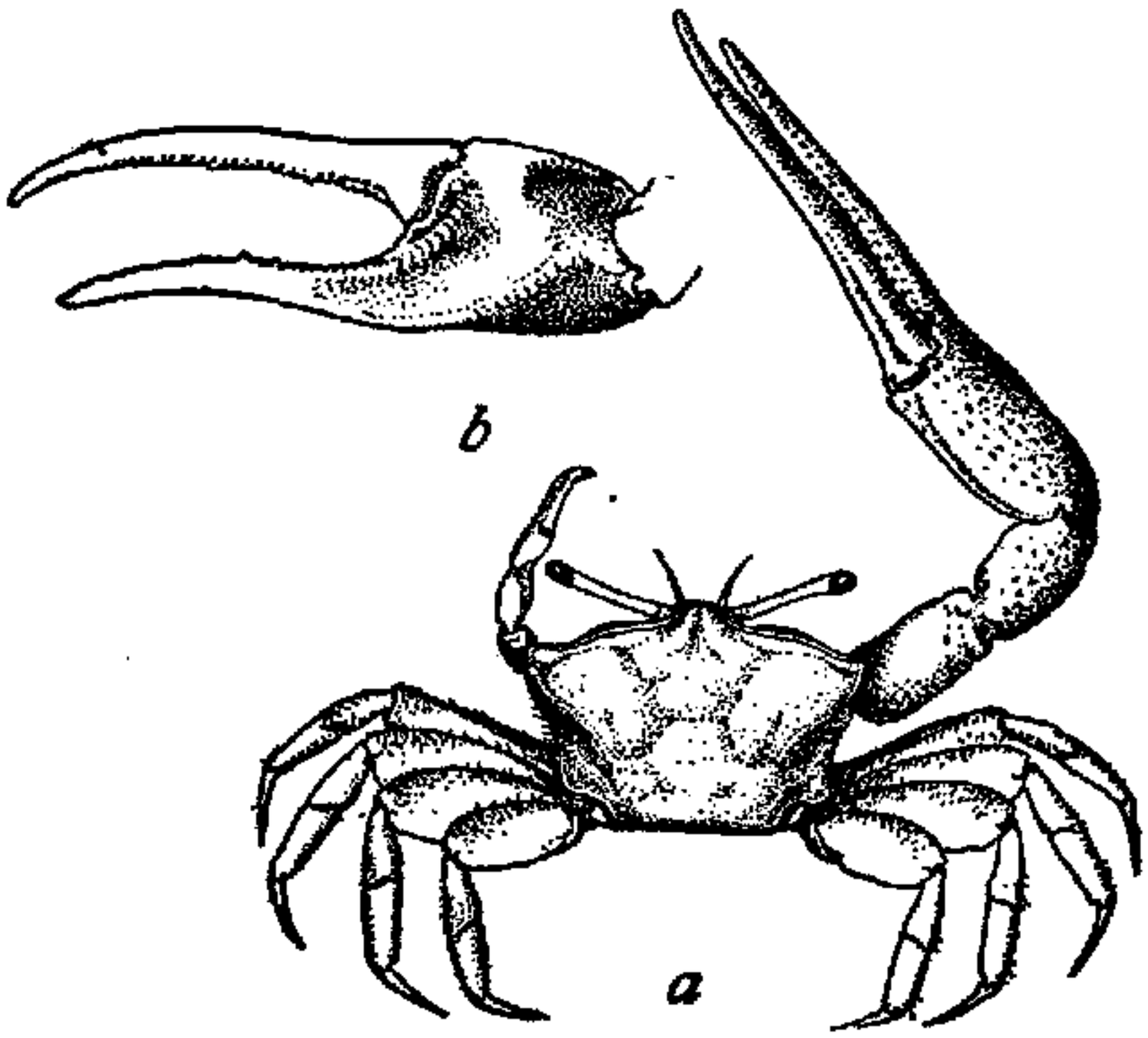

FIG. 169.—UCA THAYERI, MALE (23753), NATURAL SIZE. *a*, DORSAL VIEW; *b*, INNER SURFACE OF LARGER CHELA.

Merus of ambulatory legs much dilated.

Measurements.—Male (22192), length of carapace 17.2, width of same 27.5 mm.

Range.—Jamaica and Porto Rico to Brazil.

Material examined.—

Jamaica; Mar. 1–11, 1884; *Albatross;* 1 male (22321).

Rio Bayamon, above Palo Seco, Porto Rico; Jan. 16, 1899; *Fish Hawk;* 2 males, 1 female (24541).

Fajardo, Porto Rico; Feb. 17, 1899; *Fish Hawk;* 1 male, 1 female (24542).

Victoria, Brazil; Thayer Exped.; 2 females (22193); 5 males, 19 females (M.C.Z.).

Natal, Rio Grande do Norte, Brazil; June 29, 1899; Branner-Agassiz Exped.; 1 male (25699).

Cabedello, Rio Parahyba do Norte, Brazil; June 20, 1899; Branner-Agassiz Exped.; 7 males, 1 female (types) (23753).

Rio Parahyba do Norte, Brazil; Thayer Exped.; 1 male (22192), 4 males, 1 female (M.C.Z.).

Plataforma, Bahia, Brazil; 1876–1877; R. Rathbun; 5 males, 5 females (40619).

Sao Matheos, Brazil; Thayer Exped.; 4 males, 9 females (M.C.Z.).

UCA SPECIOSA (Ives).

Plate 145.

Gelasimus speciosus IVES, Proc. Acad. Nat. Sci. Philadelphia, 1891, p. 179, pl. 5, figs. 5 and 6 (type-locality, Port of Silam, Yucatan; type in Mus. Phila. Acad. Sci.).

Uca stenodactyla ORTMANN, Zool. Jahrb., Syst., vol. 10, 1897, p. 356 (part).

Diagnosis.—Oblique ridge inside palm continued to upper margin, bending at a right angle. Lateral margins of carapace angled.

Description.—A rather small species. H-form depression deep; sulcus behind the orbits shallower; surface smooth. Carapace widest at antero-lateral angles. Anterior part of lateral margins straight and convergent; the margin then turns at an obtuse angle and is continued in a sinuous line to a point opposite the middle of the cardiac region. The front is nearly one-third the width of the carapace; its lower margin, as also the surface of the eyebrow, is visible in a dorsal view. Upper margin of orbit oblique, sinuous, antero-lateral angle acute, directed slightly forward.

Large cheliped of male with arm rugose, wrist and hand granulous outside, fingers smooth. On the inner surface of the palm the oblique, tuberculated ridge leading up from the lower margin turns at the middle at a right angle and is continued to near the upper margin. The tuberculated ridge parallel to the distal end of the palm is very oblique to the lower margin and nearly reaches the upper margin. Space between ridges smooth. Fingers one and two-thirds times as long as palm; fingers slender, gaping; of the prehensile tubercles, there is a larger one at middle of pollex and at basal fourth of dactylus.

Measurements.—Male (18435), length of carapace 10, width of same 14.4 mm.

Range.—South and west Florida; West Indies.

Material examined.—

Cocoanut Grove, Florida; Jan. 1916; W. L. McAtee; 3 males, 1 female (48980).

Cards Sound, Florida; Feb. 15, 1889; *Grampus*; 4 males, 2 females (15256).

Key Vaccas, Florida; H. Hemphill; 1 male (18435).

Key West, Florida; high-tide among stones or burrowing in sand; H. Hemphill; 8 males, 3 females (22309).

Sarasota Bay, Florida; Union College collection; 1 male, 2 females (42617).

Florida; 1879; J. W. Milner; 6 males, 3 females (18422).
Curaçao; *Albatross;* 7 males, 1 female (22310).

UCA CRENULATA (Lockington).

Plate 146.

Gelasimus crenulatus LOCKINGTON, Proc. California Acad. Sci., vol. 7, 1876 (1877), p. 149 (type-locality, Todos Santos Bay; type not extant).
Gelasimus vocator KINGSLEY, Proc. Acad. Nat. Sci. Philadelphia, 1880, p. 147 (part).
Gelasimus gracilis RATHBUN, Proc. U. S. Nat. Mus., vol. 16, 1893, p. 244 (type-locality, La Paz; male type, Cat. No. 4622, U.S.N.M.).
Gelasimus macrodactylus BOUVIER, Bull. Mus. Hist. Nat. Paris, No 1, p. 8, 1895; not Milne Edwards and Lucas.
Uca vocator ORTMANN, *Zool. Jahrb., Syst., vol. 10, 1897,* p. 352 (part).
Uca stenodactyla ORTMANN, Zool. Jahrb., Syst., vol. 10, 1897, p. 353, part: San Diego; not *G. stenodactylus* Milne Edwards and Lucas.
Uca crenulata HOLMES, Occas. Papers California Acad. Sci., vol. 7, 1900, p. 75, pl. 1, figs. 7–9.

Diagnosis.—Oblique ridge inside palm continued to upper margin, and bending at an obtuse angle. Lateral margins of carapace angled.

Description.—The Pacific analogue of *U. speciosa.* The anterior margin of the carapace is a little more horizontal; and the lateral margins less convergent. The anterior, or straight portion of the lateral margin may be longitudinal, or slope inward, or outward, and is likely to be different on the two sides. The palm in the large cheliped of the male appears narrower, as a part of it is bent over to form the upper surface. Fingers more evidently granulous. The oblique ridge on the inner face of the palm is more nearly perpendicular to the lower margin and bends at an obtuse angle in continuing toward the upper margin.

Measurements.—Length of carapace of male (17504) 10, width of same 15 mm.

Malformation.—A curious malformation occurs in one claw among a lot collected at San Felipe Bay by Nelson and Goldman, 1905. The dactylus has an accessory branch, which is half as long as the dactylus itself and arises near its base and is directed downward at almost a right angle; it is subcylindrical and there are rudiments of teeth on the distal edge. It rubs against the inner face of the pollex and prevents the two fingers from closing together. The tip of the branch is broken off.

Range.—From San Diego, California, to Gulf of California, as far north as San Felipe Bay, Lower California; Guaymas and Mazatlan, Mexico.

Material examined.—

San Diego, California; 1872; H. Hemphill; 5 males (17504).

Todos Santos Bay, Lower California: H. Hemphill; 4 males (17576). C. R. Orcutt; 25 specimens (19033).

Santo Domingo, Lower California; Sept. 26, 1905; Nelson and Goldman; 15 males (33415).

Mangrove Island, Magdalena Bay, Lower California; Mar. 20, 1911; *Albatross;* 2 males (44580).

La Paz, Gulf of California; L. Belding; 34 males, 6 females (types of *Gelasimus gracilis* Rathbun) (4622).

Pichilinque Bay, Gulf of California; Apr. 29, 1888; *Albatross;* 23 males, 7 females (22080).

San Luis Gonzales Bay, Gulf of California; Mar. 27, 1889; *Albatross;* 4 males (17458).

San Felipe Bay, Gulf of California; June 23, 1905; Nelson and Goldman; 13 males, 1 female (32630).

Lower California; M. Diguet; 1 male, 1 female (20301).

Guaymas, Mexico; Capt. C. P. Stone; 13 males, 3 females (M. C. Z.).

Mazatlan, Mexico; H. Edwards; received from Peabody Acad. Sci., Salem; 1 female y. (M. C. Z.).

UCA COLORADENSIS (Rathbun).

Plate 147.

Gelasimus coloradensis RATHBUN, Proc. U. S. Nat. Mus., vol. 16, 1893, p. 246 (type-locality, Horseshoe Bend, Colorado River; male holotype, Cat. No. 17459, U.S.N.M.).

Uca coloradensis HOLMES, Occas. Papers California Acad. Sci., vol. 7, 1900, p. 76.

Diagnosis.—Oblique ridge inside palm continued to upper margin. Upper surface of palm at right angles to outer surface. Lateral margins of carapace angled.

Description.—Allied to the two preceding. Carapace widest behind the antero-lateral angles, the side margins being straight anteriorly, then turning abruptly inward at the widest point. Dorsal sulci very deep; a long groove with lateral branches on the branchial region. Front one-fourth the extreme width of the carapace.

The outer surface of the palm is abruptly bent over above, forming an almost horizontal upper surface; granulation coarse along the bend. Fingers about twice as long as palm.

Oblique tuberculate ridge on inner surface of palm bent at a right angle at the middle.

Otherwise much as in *U. crenulata.*

Measurements.—Male (17459), length of carapace 12.5; width of same 20 mm.

Range.—Mexico: Head of Gulf of California; Guaymas.

Material examined.—

Colorado River, opposite mouth of "Hardy's Colorado" River, Sonora, Mexico; Mar. 27, 1914; Dr. E. A. Mearns, U. S. Army; 32 males, 14 females (18292).

Horseshoe Bend, Colorado River, Lower California; *Albatross;* 1 male holctype (17459).

Guaymas, Mexico; Capt. C. P. Stone; 7 males, 4 females (M. C. Z.).

UCA SPINICARPA Rathbun.

Plate 148.

Uca spinicarpa RATHBUN, Amer. Nat., vol. 34, 1900, p. 586 (type-locality, Galveston; male type, Cat. No. 22183, U.S.N.M.).

Diagnosis.—Oblique ridge inside palm continued to upper margin and very prominent. Tooth on inner face of carpus. Lateral margins of carapace angled.

Description.—Allied to *U. speciosa.* Orbital margin less oblique, sides less converging. Front about two-sevenths width of carapace, lower edge subtruncate. Anterior part of lateral margins straight and subparallel. Antero-lateral angle a right angle.

Merus of large cheliped of male granulate-rugose. Carpus scabrous-granulate on outer surface; inside there is a sharp spine or tooth at the middle of oblique ridge. The palm is granulate outside, granules increasing in size above, surface bent over almost horizontally above. Inner surface with a strongly protruding tuberculate ridge, which bends at a right angle at the middle and is continued to upper margin; space between ridges smooth. Fingers one and one-third times as long as palm, finely granulate; prehensile edges irregularly tuberculate, a slightly larger tubercle near base of dactylus and at middle of pollex.

Measurements.—Male (22183), length of carapace 9.5, width of same 13.8 mm.

Habitat.—Mr. J. D. Mitchell says of the habitat of this species:

> Drain runs half a mile into the land from Matagorda Bay; in the head of this drain there are several shallow wells of fresh water for cattle, walled on three sides. These crabs were all around these wells.

Range.—Alabama to Mexico. Jamaica. Brazil.

Material examined.—

?Florida; U. S. Fish Comm.; 1 male (26111).

Near Mobile, Alabama; Jan. 29, 1883; C. L. Herrick; 3 males, 1 female (22312).

Shores of Biloxi Bay, Mississippi; C. F. Baker; 1 male (21684).

Galveston, Texas; 1871; Boll, collector; 2 males, 1 female (types) (22183).

Drain near Matagorda Bay, Texas; fresh water; J. D. Mitchell; 1 male (25034).

Maron, Lagoon Madre, Mexico; Apr. 10, 1910; E. Palmer; 1 female y. (43364).

Tampico, Mexico; A. Dugès; 1 male (22311).

Kingston Harbor, Jamaica; 1893; R. P. Bigelow; 1 male (22313).

Mamanguape, Brazil; stone reef; June 20, 1899; Branner-Agassiz Exped.; 1 male (25700).

UCA PANAMENSIS (Stimpson).

Plate 149.

Gelasimus panamensis STIMPSON, Ann. Lyc. Nat. Hist. New York, vol. 7, 1859, p. 63 (type-locality, Panama; type not extant).

Gelasimus panamensis SMITH, Trans. Connecticut Acad. Arts and Sci., vol. 2, 1870, p. 139, pl. 4, fig. 5.

Uca panamensis NOBILI, Boll. Mus. Zool. Anat. comp. R. Univ. Torino, vol. 16, 1901, p. 49, No. 415.

Diagnosis.—Antero-lateral angles prominent. Proximal end of palm thick; inner surface smooth, without tuberculate ridge. Lateral margins of carapace angled.

Description.—Surface anteriorly uneven; narrow part of mesogastric region well marked; two frontal lobes high; a prominent tubercle behind base of eyestalk. Carapace broadest at the antero-lateral angles which are strongly produced forward in an obtuse tooth, making the orbital margins very sinuous. Side margins slightly concave or straight anteriorly, continued backward at a very oblique angle; the slight oblique or curved ridge at the posterior extremity of the lateral margin is prominent but short. Front prominent, broad, and rounded below as in *U. pugilator*.

Large cheliped of male almost smooth. Arm and wrist sparingly granulous. Supero-proximal portion of hand strongly bent over horizontally; infero-proximal angle thick, very prominently projecting backward so that the hand can not be bent outward further than at a right angle to wrist and arm. Fingers flat, tapering; gape narrow, uniform; prehensile tubercles low, a large one near middle of pollex. Inner surface of palm almost smooth, oblique ridge smooth and subhorizontal.

Measurements.—Male (22181), length of carapace 12.4, width of same 18 mm.

Range.—Gulf of Fonseca, Salvador, to Peru.

Material examined.—

Gulf of Fonseca, Salvador; J. A. McNiel; 1 specimen (M.C.Z.).

Punta Arenas, Costa Rica; February, 1907; P. Biolley and J. F. Tristan; 1 male (39100).

Taboga Island, Panama; J. Zetek: June, 1914; 1 male (48784). Sept. 12, 1914; 2 females (48785).

Panama: 1 male (20277). Dr. Maack; 2 males (22181). A. Agassiz, 2 males (22182).

?Panama; 1 male (17766).

Payta, Peru; Dr. W. H. Jones, U.S.N.; 5 specimens (M.C.Z.).

UCA URUGUAYENSIS Nobili.

Plate 150.

Uca uruguayensis Nobili, Boll. Mus. Zool. Anat. comp. R. Univ. Torino, vol. 16, 1901, No. 402, p. 14 (type-locality, La Sierra; type in Turin Mus.).

Diagnosis.—Fourth to sixth abdominal segments in male fused. Oblique ridge inside of palm terminating at carpal cavity. Carapace widest at antero-lateral angles.

Description.—This species resembles the group which includes *U. speciosa*, *U. crenulata* and *U. coloradensis*, but differs from all in having the fourth, fifth, and sixth segments of the male abdomen fused.

Carapace very convex in both directions, sulci of moderate depth, surface smooth. Width of front less than one-fourth width of carapace. Upper margin of orbit oblique. Side margins of carapace straight and sloping backward and inward, then turning at an angle as in the allied species.

Arm and wrist sparsely roughened. Palm granulate outside, granules increasing in size and prominence from below upward. The palm curves over to upper margin much as in *U. speciosa*. Ridges of inner surface coarsely tuberculate; those at base of dactyl are at right angles to lower margin; the oblique ridge ends at middle of palm; between this ridge and the others the surface is very coarsely granulate. Fingers about one and one-fourth times as long as palm (measured horizontally). Both fingers have several larger tubercles scattered along their prehensile edges.

Although the fourth, fifth, and sixth segments are fused, there is a faint sulcus between the fourth and fifth.

Color.—In formalin, uniform red-brown on the carapace and coralline red on chelipeds and legs.

Measurements.—Male (22194), length of carapace 10, width of same 16.5 mm.

Range.—Rio de Janeiro to Uruguay.

Material examined.—

Rio de Janeiro, Brazil; 1876–1877; R. Rathbun; 4 males, 2 females (40624).

E. Piassaguera, Santos, Brazil; June, 1913; H. Luderwaldt; 1 male (47870).

Maldonado, Uruguay; J. G. Cary; 1 male, 1 female (22194); 19 males, 5 females (M.C.Z.).

Uruguay; F. Felippone; 4 males (39120).

UCA OERSTEDI Rathbun.

Plate 152, figs. 1 and 2.

Uca oerstedi RATHBUN, Proc. Biol. Soc. Washington, vol. 17, 1904, p. 161 (type-locality, Punta Arenas, Costa Rica; male holotype in Copen. Mus.).

Diagnosis.—Carapace deeply areolated; sides strongly angulated; front narrow; oblique and distal ridges on inner side of palm meeting.

Description.—Surface uneven; a deep groove on outer side of gastric and cardiac regions is continued anteriorly in a transverse groove behind orbits, and posteriorly toward postero-lateral angle; a second longitudinal groove outside the first divides the branchial regions unequally.

Front posteriorly one-sixth as wide as distance between antero-lateral angles, gradually narrowing to a rounded end. Superior orbital margin very oblique and sinuous; eyebrow largely visible from above. Antero-lateral angle little more than a right angle; anterior portion of side margin straight or nearly so, and directed backward and a little outward; the margin then turns abruptly inward at an oblique angle and is very concave almost to its posterior end; the isolated bit of margin above the base of the last foot is very short and convex.

Large cheliped of male stout. The merus has a laminate and denticulate upper margin; outer face with a few scattered scabrous granules. The carpus has similar but more numerous granules; the oblique ridge on its inner face has a few tubercles at the proximal extremity. Palm covered with coarse tubercles outside; a beaded ridge on lower margin. Fingers broad, flat, almost smooth; margins raised; a triangular gape between their basal halves; prehensile tubercles bead-like, a tooth at middle of pollex, and sometimes a larger tubercle at middle of dactylus. Inner surface smooth, except for the tuberculate ridges; the oblique ridge starting from the lower margin extends to a point above the middle, then turns at a very prominent right angle toward the supero-distal end of the palm where it joins the longer and more proximal of the two ridges parallel to the base of the dactylus.

Merus of legs broad, margins convex.

Measurements.—Male, holotype, length of carapace 12, width of same 16.8 mm.

Range.—Costa Rica.

Material examined.—Punta Arenas, Costa Rica; Oersted, collector; 1 male holotype, 1 female (Copen. Mus.); 1 male paratype (31506).

UCA HELLERI Rathbun.

Plate 151.

Uca helleri RATHBUN, Proc. Washington Acad. Sci., vol. 4, 1902, p. 277, pl. 12, figs. 3 and 4 (type-locality, Mangrove Point, Narboro Island; male holotype, Cat. No. 24829, U.S.N.M.).

Diagnosis.—Orbits very oblique. Upper margin of palm without carina; oblique ridge continued to upper margin.

Description.—A small species. Carapace moderately convex, depressions shallow. Surface microscopically granulate, with more distant punctae. Front less than one-third width of carapace; margin broadly rounded. Upper margin of orbit very oblique, scarcely sinuous. Carapace widest at antero-lateral angles, which are rectangular. Sides strongly convergent posteriorly, moderately sinuous.

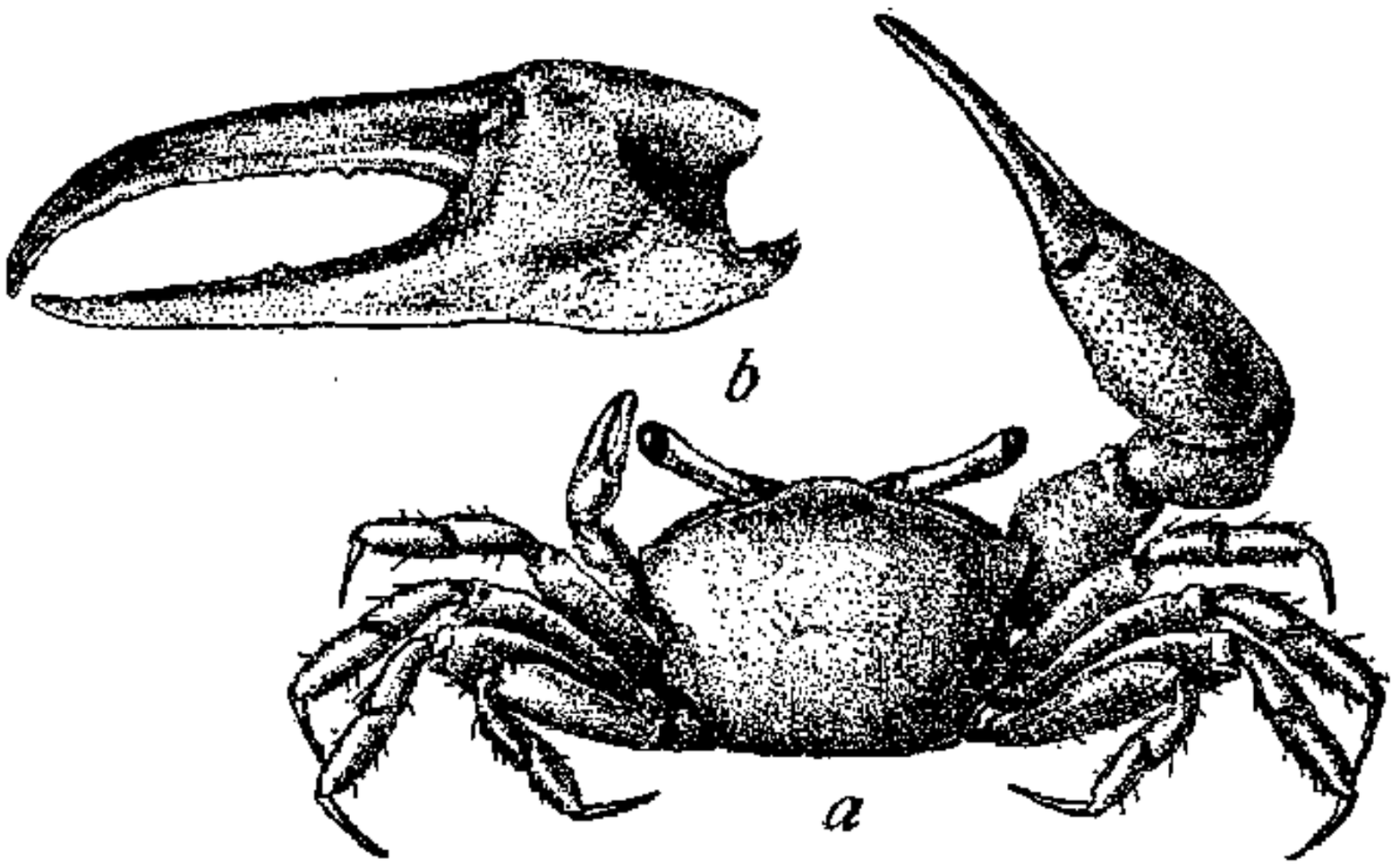

FIG. 170.—UCA HELLERI, MALE, × 2. *a*, DORSAL VIEW OF HOLOTYPE; *b*, INNER SURFACE OF LARGER CHELA (25666).

Lower margin of orbit as well as greater part of eyebrow visible in dorsal view.

Outer surface of merus and carpus of large cheliped of male crossed by short transverse lines of fine granules. Outer surface of manus covered with granules larger above and very fine on outer portion, somewhat reticulated, leaving small smooth patches. An irregular pit behind union of fingers. Oblique ridge of inner surface at angle of 45° to lower margin, turning at middle of palm at a right angle or somewhat obtuse angle, and continued in an uneven line to upper margin. Surface between ridges almost smooth. Fingers long and slender, with a broad gape. Of the prehensile tubercles, there is a larger one near middle of pollex, one at basal third or fourth of

dactylus, and sometimes one at distal third of same. Merus of first three legs dilated.

Measurements.—Male (24829), length of carapace 5.6, width of same 8.1 mm.

Range.—Galapagos Islands.

Material examined.—Mangrove Point, Narborough Island, Galapagos Islands; March, 1899; from Stanford Univ.; 3 males (1 is holotype), 1 female (24829). Black Bight, Albemarle Island, Galapagos Islands; Jan. 9, 1899; from Stanford Univ.; 1 male (25666).

UCA STENODACTYLUS (Milne Edwards and Lucas).

Plate 152, fig. 3; plate 153.

Gelasimus stenodactylus MILNE EDWARDS and LUCAS, In d'Orbigny's Voy. dans l'Amér. Mérid., vol. 6, 1844, Crust., p. 26; vol. 9, atlas, 1847, pl. 11, fig. 2 (type-locality, Valparaiso; type in Paris Mus.).

Gelasimus gibbosus SMITH, Trans. Connecticut Acad. Arts and Sci., vol. 2, 1870, p. 140, pl. 2, fig. 11; pl. 4, fig. 8 (type-locality, Gulf of Fonseca; type in M.C.Z.).

Uca stenodactyla ORTMANN, Zool. Jahrb., Syst., vol. 10, 1897, p. 356 (part).

Uca gibbosa HOLMES, Occas. Papers California Acad. Sci., vol. 7, 1900, p. 77.

Diagnosis.—Third to sixth abdominal segments in male incompletely fused. Oblique ridge inside palm forming a right angle and continued to upper margin. Carapace subcylindrical.

Description.—Small species.

Carapace semicylindrical, narrowing little behind; surface smooth; interregional depressions deep; antero-lateral region curving abruptly downward at the sides.

Front less than one-quarter width of carapace, the sharp marginal carina being obliterated on the anterior border. Upper margin of orbit very oblique, slightly sinuous. Eyebrow very deep. The carapace may be widest at the subrectangular antero-lateral angles, or a little behind that point. The forward part of the side margins is concave; the whole margin is sinuous.

The merus of the large cheliped of the male is longer than the carapace; its short, transverse, granulated lines are inconspicuous. Wrist and palm granulate; granules on lower half of palm smaller and more flattened than those on upper half. A deeply depressd area at the union of the palm with the immovable finger. Fingers very slender and tapering, widely gaping; of the prehensile tubercles there is a larger one near the base of the dactyl, another near middle of pollex. The transverse ridge across the inner surface of the palm is bent at a right angle at the center, armed with a single row of large tubercles below and a band of smaller ones above. Space smooth between this ridge and the one at the distal end of the palm.

Ambulatory legs narrow; merus of first three pairs somewhat dilated proximally.

Abdomen of male with third to sixth segments fused.

Measurements.—Male (32322), length of carapace 8.5, width of same 13 mm.

Range.—Gulf of Fonseca, Central America, to Valparaiso. Brazil (Milne Edwards).

Material examined.—

Gulf of Fonseca, Salvador; J. A. McNiel; 1 male, holotype of *Gelasimus gibbosus* (M. C. Z.).

Boca del Rio Jesus Maria, Costa Rica; mangrove swamps; April, 1905; J. F. Tristan; 1 male (32321).

Puntarenas, Costa Rica; February, 1907; P. Biolley and J. F. Tristan; 3 males (39098).

Puntarenas, Estero side, Costa Rica; February, 1905; J. F. Tristan; 3 males (32322).

Panama City, Panama; Dec. 12, 1913; J. Zetek; 1 specimen (48795).

Valparaiso, Chile; 1 male, 1 female, cotypes (Paris Mus.).

UCA MUSICA Rathbun.

Plate 154.

? *Gelasimus annulipes* BATE, in Lord's Naturalist in Vancouver Island and British Columbia, vol. 2, 1866, p. 271.—? KINGSLEY, Proc. Acad. Nat. Sci. Philadelphia, 1880, p. 148 (part: Vancouver).

Gelasimus gibbosus LOCKINGTON, Proc. California Acad. Sci., vol. 7, 1876 (1877), p. 150 [6].—STREETS, Bull. U. S. Nat. Mus., vol. 7, 1877, p. 113. Not *G. gibbosus* Smith.

Uca stenodactyla ORTMANN, Zool. Jahrb., Syst., vol. 10, 1897, p. 356 (part).

Uca stenodactylus RATHBUN, Proc. U. S. Nat. Mus., vol. 21, 1898, p. 603 (not synonymy).

Uca musica RATHBUN, Proc. U. S. Nat. Mus., vol. 47, 1914, text-fig. 5, pl. 10 (type-locality, Pichilinque Bay, Gulf of California; holotype male, Cat. No. 22081, U.S.N.M.).

Diagnosis.—Third to sixth abdominal segments in male almost completely fused. Oblique ridge inside palm bent at an obtuse angle; an oblique stridulating ridge near proximal, lower angle. Carapace subcylindrical.

Description.—Very like *U. stenodactylus* but differs as follows: The upper margin of the orbit is much less oblique; the lateral angle of the carapace, marking its greatest width, is farther back. The granules of the palm are of more uniform size. The palm is scarcely depressed near the immovable finger. The dactylus is more strongly arched. The transverse ridge across the inner surface of the palm

is very prominent, is bent at an obtuse and rounded angle and is armed for nearly its whole length with a row of large tubercles. Near the proximal lower corner of the inner surface there is a longitudinally oblique stridulating ridge extending from the articulation with the carpus to the lower marginal line of the palm almost below the angle of the transverse ridge. The stridulating ridge is made up of closely placed parallel lines oblique to the axis of the ridge and subparallel to the lower margin of the palm. When the cheliped is flexed the ridge plays against the line of granules on the lower or anterior surface of the first ambulatory leg; this line extends nearly the whole length of the carpal segment and part way along the merus. The third to sixth abdominal segments of the male are more completely fused than in *stenodactylus*.

Color.—Prevailing tint of carapace and limbs (in spirit) blue, of varying intensity, shading in parts into greenish and on the fingers of the chelipeds into white (Lockington).

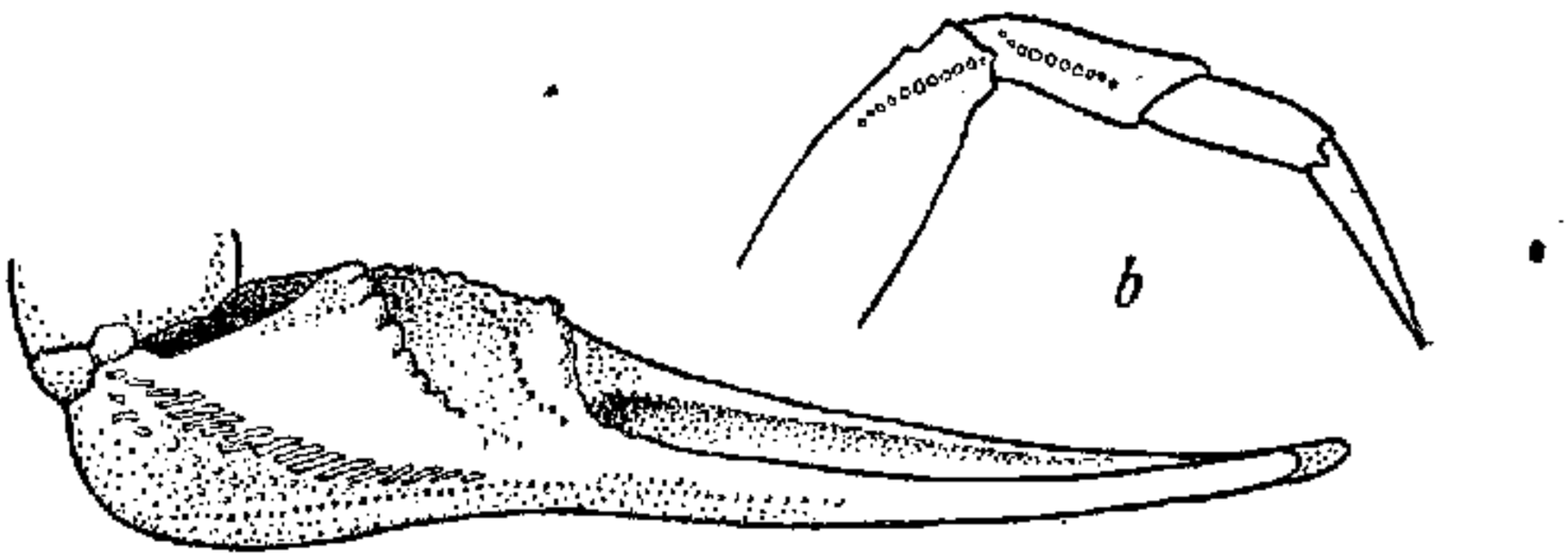

FIG. 171.—UCA MUSICA, MALE HOLOTYPE, × 3½. *a*, LOWER VIEW OF LARGER, LEFT CHELA, SHOWING STRIDULATING RIDGE; *b*, ANTERIOR (LOWER) VIEW OF PORTION OF FIRST LEFT LEG, SHOWING GRANULES WHICH PLAY AGAINST STRIDULATING RIDGE.

Measurements.—Male holotype, length of carapace 8, width of same 12.9 mm.

Range.—From San Diego, California, to Mazatlan, Mexico; occasionally farther north.

Material examined.—

Vancouver Island, British Columbia; photographs of a male, received from C. F. Newcombe (U.S.N.M.).

Seattle, Washington; D'Arcy W. Thompson, collector; photographs of a large chela (U.S.N.M.).

Pichilinque Bay, Gulf of California, Lower California; Apr. 29, 1888; *Albatross;* 1 male holotype (22081).

La Paz, Gulf of California, Lower California; Dr. Thos. H. Streets, U. S. Navy; 6 males (2294).

Guaymas Bay, Gulf of California, Mexico; shore; Feb. 20, 1904; Wm. Palmer; 1 male (31512).

Mazatlan, Mexico; 1881; C. H. Gilbert; 2 males (5054).

Additional records.—San Diego (Ortmann). San Bartolome Bay, Lower California (Lockington).

UCA SUBCYLINDRICA (Stimpson).

Plate 155; plate 160, fig. 5.

Gelasimus subcylindricus STIMPSON, Ann. Lyc. Nat. Hist. New York, vol. 7, 1859, p. 63 (type-locality, Matamoras, Rio Grande; cotypes in M.C.Z.).
Gelasimus subcylindricus SMITH, Trans. Connecticut Acad. Arts and Sci., vol. 2, 1870, p. 137, pl. 4, figs. 6–6*b*, 1870.
Uca pugilator ORTMANN, Zool. Jahrb., Syst., vol. 10, 1897, p. 352 (part).

Diagnosis.—Inner surface of palm without oblique ridge. Abdomen of male very wide. Carapace subcylindrical.

Description.—A larger species than *U. stenodactylus*. Carapace longer in proportion to the width. Depressions shallow or obsolete. Antero-lateral region less strongly curved downward. Front nearly one-third width of carapace at antero-lateral angles, its marginal carina well marked. Eyebrow shallower, invisible in dorsal view. Carapace widest behind the blunt and obtuse-angled antero-lateral angles; side margins anteriorly straight and oblique; then faintly marked by broken granulate lines.

Large cheliped of male stouter than in *U. stenodactylus*. Merus shorter than carapace; granules of carpus few and scabrous; those of palm very coarse everywhere. Fingers little if any longer than palm, moderately narrow, a longitudinal ridge runs along middle of the pollex and is continued upon the palm; several enlarged tubercles on each finger. No oblique ridge across inner surface of palm, but the surface distal to the carpal cavity is coarsely granulate. Merus of first three pairs of ambulatory legs rather broad. Abdomen of male very broad, all segments distinct.

Measurements.—Male (23655), length of carapace 12.5, width of same 19 mm.

Range.—Texas and Mexico.

Material examined.—

Corpus Christi, Texas; 1900; V. Bailey, Biol. Survey, U. S. Dept. Agriculture; 1 male (23655).

Near Santa Rosa, Cameron Co., Texas; 1891; William Lloyd, collector; from U. S. Dept. of Agriculture; 1 male (17807).

Matamoros, Mexico, on the Rio Grande; "L. B.," meaning perhaps "left bank"; M. Berlandier, collector; deposited by Lieut. Couch, U. S. Army; 1 male, 3 females, cotypes (M. C. Z.).

Mexico; received from William Stimpson; 2 males (Paris Mus.) Perhaps these also are cotypes.

UCA FESTAE Nobili.

Uca festae NOBILI, Boll. Mus. Zool. Anat. comp. R. Univ. Torino, vol. 16, 1902, No. 415, p. 51 (type-locality, Rio Daule Inferiore; type in Turin Mus.).

Diagnosis.—Oblique ridge inside palm continued to upper margin. Fingers very long. Carapace subcylindrical.

Description (after Nobili).—Carapace very wide, usually (but not always) wider behind than between, the external orbital angles. Sulci very deep. Orbital angle, a right angle and variable.

Chelipeds enormously developed, four times width of carapace. Merus and carpus rugose-granulose, the latter bearing inside two or three large dentiform tubercles at its base. Hand very long, narrow, rather cuneiform, smooth below, granulate above, the granules near the articulation of the finger much larger and more spherical. On the inner surface, an angled crest analogous to that in *U. speciosa* and its allies. Surface between crests smooth. Fingers 3 or 4 times as long as palm, very slender, twisted and terminating in a point. Dactyl longer than pollex, denticulate in proximal third only, pollex denticulate throughout.

Merus joints of legs of moderate width.

Measurements.—Male, Rio Daule, length of carapace 12, width of same 18 mm.

Locality.—Ecuador: Rio Daule Inferiore, in brackish water.

Affinity.—Differs from *U. stenodactylus*, in having the palm narrower, less narrowed toward the base, fingers longer and more curved, abdominal segments all free.

UCA LEPTODACTYLA Rathbun.

Plate 156.

Gelasimus leptodactylus GUÉRIN, MS.

Gelasimus stenodactylus KINGSLEY, Proc. Acad. Nat. Sci. Philadelphia, 1880, p. 154 (part).

?Gelasimus poeyi GUÉRIN MS. (See Kingsley, Proc. Acad. Nat. Sci. Philadelphia, 1880, p. 154.)

Uca stenodactyla OETMANN, Zool. Jahrb., Syst., vol. 10, 1897, p. 356 (part).

Uca leptodactyla RATHBUN, in Rankin, Ann. New York Acad. Sci., vol. 11, 1898, No. 12, p. 227 (type-locality, near Ft. Montagu, Nassau, N. P.; type, Cat. No. 22315, U.S.N.M.).

?Uca gibbosa NOBILI, Boll. Mus. Zool. Anat. comp. R. Univ. Torino, vol. 14, 1899, No. 355, p. 5.

Diagnosis.—Carapace widest at antero-lateral angles, subcylindrical. Oblique ridge inside palm continued to upper margin. Fingers slender, one and one-half times as long as palm. Third to sixth abdominal segments in male fused.

Description.—A small, semicylindrical species. Carapace strongly narrowed behind; surface smooth, depressions shallow. Front about one-fourth width of carapace, its anterior border subtruncate. Upper margin of orbit very oblique, slightly sinuous. Eyebrow partly visible from above. Carapace widest at the antero-lateral angles, which are prominent and acutangular or rectangular. Side margins straight or a little concave in front; then after a very obtuse angle they form a sinuous line.

The merus of the large cheliped of the male is longer than the carapace and bears short and fine, granulated rugae. The carpus and manus are coarsely granulate above, the granules of the palm becoming smaller on the outside. The palm turns over rather abruptly above. Fingers one and one-half times as long as palm, narrow; a large tubercle at middle of dactylus, another at its basal fourth; between these two there is a low tooth on the pollex, and another subterminal. A coarsely tuberculate ridge on inner side of palm, upper half transverse, lower half oblique as usual. Surface distal to the ridge smooth.

Merus joints of ambulatory legs more dilated than in *U. stenodactylus*. Legs crossed by transverse bands of dark spots. Third to sixth abdominal segments in male more or less fused.

Measurements.—Male (24546), length of carapace 6, width of same 9.8 mm.

Range.—West coast of Florida; Bahamas; West Indies; Mexico to Santos, Brazil.

Material examined.—

West Florida; J. E. Benedict; 1901; 1 female (25557).

Green Turtle Cay, Bahamas; E. A. Andrews; 4 males (22314).

Near Fort Montagu, Nassau, New Providence, Bahamas; holes in sand between tides about 5-6 inches deep; Jan. 28, 1890; J. I. Northrup; 1 male, 1 female (22315).

New Providence, Bahamas; *Albatross;* 3 males (11384).

Baracoa, Cuba; tidal flat; Jan. 29, 1902; Wm. Palmer; 2 males, 2 females (25548).

Jamaica; T. H. Morgan; 4 males, 1 female (22316).

San Antonio Bridge, San Juan, Porto Rico; Jan. 14, 1899; *Fish Hawk;* 13 males, 9 females (24546).

Fajardo, Porto Rico; Feb. 17, 1899; *Fish Hawk;* 1 female (24549).

Ensenada Honda, Culebra, Porto Rico; Feb. 9, 1899; *Fish Hawk;* 1 female (24548).

Mexico; T. B. Wilson; 3 males, labeled by Guérin (Mus. Phila. Acad.).

Amarracão, State of Paiuhy, Brazil; 1913; Fr. Iglezias; 1 male (48894).

Parahyba River, Brazil; mangroves; June 21, 1899; Branner-Agassiz Exped.; 1 male (25701).

Pernambuco, Brazil; 1876–1877; R. Rathbun; 14 males, 3 females (40617).

? Pernambuco, Brazil; 1876–1877; R. Rathbun; 12 males, 7 females (40618).

Bahia, Brazil; sea shore; May, 1915; J. N. Rose; 3 males, 3 females (48297).

Plataforma, Bahia, Brazil; 1876–1877; R. Rathbun; 17 males, 9 females (40615–40616).

Porto Seguro, Brazil; Thayer Exped.; 3 males, 1 female (22189).

Rio de Janeiro, Brazil; Dr. Naegeli; 1 male, 1 female (22317).

Maruim, Brazil; Sept. 9, 1863; Hygom, collector; 4 males (22318); many specimens in Copenhagen Mus., labeled "*G. Hygomi* Ltk."

S. Sebastiao, São Paulo, Brazil; 1896; Bisego, collector; 1 male (47850).

Santos, Brazil; 2 specimens (Copenhagen Mus.).

UCA LATIMANUS (Rathbun).

Plate 157.

Gelasimus stenodactylus ? LOCKINGTON, Proc. California Acad. Sci., vol. 7, 1876 (1877), p. 148 [4].

Gelasimus latimanus RATHBUN, Proc. U. S. Nat. Mus., vol. 16, 1893, p. 245 (type-locality, La Paz; type, Cat. No. 17500, U.S.N.M.).

Uca latimana NOBILI, Boll. Mus. Zool. Anat. comp. R. Univ. Torino, vol. 16, 1901, No. 415, p. 52.

Diagnosis.—Inner surface of palm granulate and without oblique ridge. Fingers shorter than palm. Third to sixth abdominal segments in male fused. Carapace subcylindrical.

Description.—A small, subcylindrical species. Carapace moderately narrowed behind; surface finely granulate, depressions well marked. Front nearly one-third width of carapace, its anterior border slightly curved. Upper margin of orbit slightly oblique, sinuous. Eyebrow deepest at its middle. Antero-lateral angles acute and prominent, projecting forward. Carapace widest behind those angles, the anterior part of the side margins being concave or straight.

Large cheliped of male short and stout. Merus shorter than carapace, its lower margin sharply serrulate, outer surface granulate-rugose. Carpus granulate. Palm not much longer than broad, coarsely granulate, as is also the upper surface of the dactylus and lower surface of pollex. Fingers broad and flat, two-thirds as long as palm, regularly tapering, slightly curved, blunt tipped, granu-

late; interspace very narrow and regularly diminishing. Prehensile tubercles low and molariform; a prominent submarginal row of granules above and below. Inner surface of palm without oblique transverse ridge; the subtriangular area forming the lower proximal portion is granulate.

Merus of first three pairs of legs much enlarged. The third to sixth segments of the abdomen of the male are fused, though vestiges of the sutures remain.

Measurements.—Male, holotype, length of carapace, 6.3; width of same, 10 mm.

Range.—From La Paz, Lower California, to Tumaco, Colombia, on the frontier of Ecuador (Nobili).

Material examined.—La Paz, Lower California; L. Belding; 1 male, holotype (17500). Santo Domingo, Gulf of Dulce, Costa Rica; April, 1896; H. Pittier; 1 male (19442).

Subfamily MACROPHTHALMINAE Dana.

Gonoplacés vigils MILNE EDWARDS, Ann. Sci. Nat., ser. 3, Zool., vol. 18, 1852, p. 155 [119] (part).

Macrophthalminæ DANA, Amer. Journ. Sci., ser. 2, vol. 12, 1851, p. 286; U. S. Expl. Exped., vol. 13, Crust., pt. 1, 1852, p. 312.—ALCOCK, Journ. Asiat, Soc. Bengal, vol. 69, 1900, p. 290.

Carapace usually quadrilateral, broader than long (sometimes more than twice as broad as long), flattish and not very deep, the regions usually well defined; front variable, but never very broad; antennules with a well-developed flagellum that folds transversely, interantennular septum very narrow; eyestalks usually elongate; the external maxillipeds do not always meet across the buccal cavern, though the gap between them is never very wide, their exognath is not, or not entirely, concealed and has a flagellum; chelipeds usually subequal. No special recess between the bases of any of the legs.

Genus EUPLAX Milne Edwards.

Euplax MILNE EDWARDS, Ann. Sci. Nat., Zool., ser. 3, vol. 18, 1852, p. 160 [124]; type, *E. leptophthalmus* Milne Edwards.

Chaenostoma STIMPSON, Proc. Acad. Nat. Sci. Philadelphia, vol. 10, 1858, p. 97 [43]; type, *C. orientale* Stimpson, 1858=*E. bosci* (Audouin, 1825).

Carapace not much wider than long; lateral margins dentate. Eyestalks of moderate length, not overreaching the orbital angles, which do not form a prominent tooth. Outer maxillipeds with a rhomboidal gape.

Distributed through the Indo-Pacific, Australia, and Chile.

EUPLAX LEPTOPHTHALMA Milne Edwards.

Euplax leptophthalmus MILNE EDWARDS, Ann. Sci. Nat., ser. 3, Zool., vol. 18, 1852, p. 160 [124] (type-locality, Chile; type in Paris Mus.).

Eyestalks very slender and much shorter than the orbits. Front of medium width. Three lateral teeth, wide and elevated. (After Milne Edwards.)

Range.—Chile.

FIG. 172.—PREHISTORIC BOWL UNEARTHED IN COSTA RICA, THE BASE REPRESENTING A FEMALE LAND-CRAB, CARDISOMA GUANHUMI, WITH THE CLAWS FOLDED UNDER THE EYES; × ABOUT ⅔. ORIGINAL IN POSSESSION OF MRS. ZELEDON; CAST IN U. S. NATIONAL MUSEUM.

EXPLANATION OF PLATES.

Plate 1.

Trizocarcinus dentatus, male holotype, ×1½.

Fig. 1. Antero-ventral view.
2. Dorsal view.
3. Posterior view.

Plate 2.

Bathyplax typhla, ×1⅔.

Fig. 1. Male (9724), ventral view, to show maxilliped and abdomen.
2. Female (9729), dorsal view.
3. Male (9724), ventral view, to show chelae.

Plate 3.

Pilumnoplax elata, ×3.

Fig. 1. Male (11407), dorsal view, with 2 detached legs.
2. Male (11407), ventral view, and right cheliped detached.
3. Female (19880), dorsal view.

Plate 4.

Fig. 1. *Goneplax barbata*, male (4116, M.C.Z.), dorsal view, ×3⅔.
2. *Goneplax sigsbei*, female (4117, M.C.Z.), dorsal view, ×3⅔.
3. *Goneplax barbata*, male (4116, M.C.Z.), ventral view, ×3⅔.
4. *Goneplax sigsbei*, female (4117, M.C.Z.), ventral view, ×3⅔.

Plate 5.

Goneplax barbata, male (46309), ×4.

Fig. 1. Anterior view.
2. Dorsal view.
3. Posterior view.
4. Ventral view.

Plate 6.

Fig. 1. *Prionoplax atlantica*, male (15272), anterior view, ×3.
2. Same, dorsal view, with one leg and part of right cheliped detached, ×3.
3. *Tetraplax quadridentata*, male (24564), dorsal view, ×3.
4. Same, ventral view, ×3.

Plate 7.

Euryplax nitida, male (45824), × about 3.

Fig. 1. Anterior view.
2. Dorsal view.
3. Ventral view.

PLATE 8.

Speocarcinus carolinensis, female (45951), ×1¾.

FIG. 1. Dorsal view.
2. Ventral view.

PLATE 9.

Speocarcinus granulimanus, male (17461), ×1⅔.

FIG. 1. Dorsal view.
2. Ventral view.

PLATE 10.

FIG. 1. *Speocarcinus ostrearicola*, male holotype, dorsal view, ×2.
2. *Speocarcinus californiensis*, male (45581), dorsal view, ×1½.
3. Same, ventral view, ×1½.

PLATE 11.

Cyrtoplax spinidentata, male holotype, ×1½.

FIG. 1. Antero-ventral view.
2. Dorsal view.
3. Posterior view.

PLATE 12.

FIG. 1. *Panoplax depressa*, male (24556), dorsal view, ×3.
2. Same, ventral view, ×3.
3. *Eucratopsis crassimanus*, male (45952), dorsal view, ×2.

PLATE 13.

FIG. 1. *Oediplax granulata*, female holotype, dorsal view, ×1.
2. Same, ventral view, ×1.
3. *Glyptoplax smithii*, male (19796), ventral view, ×4.
4. Same, female (18269), dorsal view, ×4.

PLATE 14.

FIG. 1. *Chasmocarcinus obliquus*, male holotype, dorsal view, ×5.
2. Same, ventral view of body, ×5.
3. *Pseudorhombila octodentata*, male holotype, dorsal view, ×1.

PLATE 15.

FIG. 1. *Pinnotheres holmesi*, female holotype, dorsal view, ×2 7/10.
2. Same, ventral view, ×2 7/10.
3. *Pinnotheres ostreum*, female (49208), dorsal view, ×1⅔.
4. Same, ventral view, ×1⅔.
5. *Pinnotheres ostreum*, male (49209), ventral view, ×6½.
6. Same, dorsal view, ×6½.

PLATE 16.

FIG. 1. *Pinnotheres geddesi*, female (23439), ventral view, ×2 7/10.
2. Same, dorsal view, ×2 7/10.
3. *Pinnotheres geddesi*, female (cotype, Brit. Mus.), ventral view, ×2 7/10.
4. Same, dorsal view, ×2 7/10.
5. *Pinnotheres angelicus*, female (17467), ventral view, ×2 7/10.
6. Same, dorsal view, ×2 7/10.

PLATE 17.

FIG. 1. *Pinnotheres depressus*, male (48594), ventral view, × nearly 7.
2. Same, dorsal view, × nearly 7.
3. *Pinnotheres maculatus*, male (18014), dorsal view, × nearly 2.
4. Same, female (3818), dorsal view, × nearly 2.
5. Same, male (18014), ventral view, × nearly 2.
6. Same, female (3818), ventral view, × nearly 2.
7. *Pinnotheres pugettensis*, female (39131), ventral view, × nearly 3.
8. Same, dorsal view, × nearly 3.

PLATE 18.

FIG. 1. *Pinnotheres pugettensis*, female (40396), infero-external view of right chela, and superior view of four left legs, ×4⅘.
2. *Pinnotheres muliniarum*, male holotype, dorsal view, ×10½.
3. Same, ventral view, ×10½.

PLATE 19.

FIG. 1. *Pinnotheres serrei*, female (48571), dorsal view, × nearly 2.
2. Same, ventral view, × nearly 2.
3. *Pinnotheres serrei*, female (49214), ventral view, × nearly 3.
4. Same, dorsal view, × nearly 3.
5. *Pinnotheres serrei*, male holotype, ventral view, × nearly 3¾.
6. *Pinnotheres serrei*, male (49213), dorsal view, × nearly 7.
7. Same, ventral view, × nearly 7.
8. *Pinnotheres barbatus*, male (23435), dorsal view, × nearly 2.
9. Same, female (23435), dorsal view, × nearly 2.
10. Same, male (23435), ventral view, × nearly 2.
11. Same, female (23435), ventral view, × nearly 2.

PLATE 20.

FIG. 1. *Pinnotheres strombi*, female holotype, ventral view, × nearly 2.
2. Same, dorsal view, × nearly 2.
3. *Pinnotheres concharum*, female (45611), dorsal view, × nearly 9.
4. Same, ventral view, × nearly 9.
5. *Pinnotheres concharum*, female (18410), dorsal view, × nearly 4.
6. Same, ventral view, × nearly 4.

PLATE 21.

FIG. 1. *Pinnotheres reticulatus*, female (18217), ventral view, ×1$\frac{9}{10}$.
2. Same, dorsal view, ×1$\frac{9}{10}$.
3. *Pinnotheres moseri*, female (23440), ventral view, × 2$\frac{4}{5}$ (maxillipeds removed).
4. Same, dorsal view, ×2$\frac{4}{5}$.
5. *Pinnotheres taylori*, male (40397), ventral view, ×3¾.
6. Same, dorsal view, ×3¾.
7. *Pinnotheres taylori*, female (40397), ventral view, ×4⅗.
8. Same, dorsal view, ×4⅗.

PLATE 22.

FIG. 1. *Pinnotheres shoemakeri*, female (49220), dorsal view, ×6.
2. Same, male holotype, dorsal view, ×6⅘.
3. Same, female (49220), ventral view, ×6.
4. Same, male holotype, ventral view, ×6⅘.
5. *Pinnotheres orcutti*, male holotype, ventral view, ×6.
6. Same, dorsal view, ×6.

PLATE 23.

FIG. 1. *Pinnotheres hemphilli*, male holotype, dorsal view, ×13.
2. Same, ventral view, ×13.

PLATE 24.

FIG. 1. *Fabia subquadrata*, female (23928), dorsal view, ×1⅘.
2. *Fabia lowei*, female (45583), dorsal view, ×1⅘.
3. *Fabia subquadrata*, female (23928), ventral view, × 1⅘
4. *Fabia lowei*, female (45583), ventral view, ×1⅘.
5. *Fabia canfieldi*, female holotype, dorsal view, ×2 8/10.
6. *Fabia byssomiae*, female (48595), dorsal view, ×3⅕.
7. *Fabia canfieldi*, female holotype, ventral view, ×2 8/10.
8. *Fabia byssomiae*, female (48595), ventral view, ×3⅕.

PLATE 25.

FIG. 1. *Pinnaxodes meinerti*, female (5760, M.C.Z.), ventral view, ×1⅘.
2. Same, dorsal view, ×1⅘.
3. *Pinnaxodes meinerti*, male holotype, dorsal view, ×1 5/10.
4. *Parapinnixa bouvieri*, male (5744, M.C.Z.), legs of left side, ×6.
5. Same, ventral view, ×6.
6. Same, dorsal view, ×6.
7. *Parapinnixa bouvieri*, female (holotype), dorsal view, ×6.
8. Same, ventral view, ×6.
9. Same, right chela, ×6.
10. Same, left chela and right legs, ×6.

PLATE 26.

FIG. 1. *Parapinnixa hendersoni*, male holotype, anterior view, ×2¾.
2. Same, dorsal view, ×2¾.
3. Same, ventral view, ×2¾.
4. *Parapinnixa hendersoni*, female (48711), ventral view, ×2¾.
5. Same, antero-dorsal view, ×2¾.
6. *Dissodactylus nitidus*, female (22113), ventral view, ×2¾.
7. Same, dorsal view, ×2¾.

PLATE 27.

FIG. 1. *Dissodactylus encopei*, male (23430), ventral view, ×3.
2. Same, dorsal view, ×3.
3. *Dissodactylus encopei*, female (23431), ventral view, ×3.
4. Same, dorsal view, ×3.
5. *Dissodactylus borradailei*, male (23790), ventral view, ×4.
6. Same, dorsal view, ×4.
7. *Dissodactylus borradailei*, female holotype, ventral view, ×3.
8. Same, dorsal view, ×3.

PLATE 28.

FIG. 1. *Dissodactylus stebbingi*, male holotype, ventral view, ×4.
2. Same, dorsal view, ×4.
3. *Dissodactylus alcocki*, male (23447), ventral view, together with right leg, ×4.
4. Same, dorsal view, together with right leg, ×4.
5. *Dissodactylus calmani*, female holotype, ventral view, ×3.
6. Same, dorsal view, ×3.
7. *Dissodactylus mellitae*, male (40271), ventral view, ×7.
8. Same, dorsal view, together with left leg, ×7.

PLATE 29.

FIG. 1. *Pinnixa transversalis*, female (20625), dorsal view, × nearly 2.
2. *Pinnixa transversalis*, male (20625), ventral view, × nearly 2.
3. Same, dorsal view, × nearly 2.
4. *Pinnixa faxoni*, male (7639), ventral view, × nearly 2.
5. Same, dorsal view, × nearly 2.
6. *Pinnixa faxoni*, female (7639), ventral view, × nearly 2.
7. Same, dorsal view, × nearly 2.
8. *Pinnixa cristata*, female (42817), ventral view, × nearly 2.
9. Same, dorsal view, also separately, left chela, third leg and fourth leg, × nearly 2.

PLATE 30.

FIG. 1. *Pinnixa patagoniensis*, male holotype, anterior view. ×2.
2. Same, dorsal view, ×2.
3. Same, ventral view, ×2.
4. *Pinnixa floridana*, female holotype, ventral view, ×3.
5. Same, dorsal view, ×3.
6. *Pinnixa floridana*, male (49249), dorsal view, together with legs of right side, ×4.
7. Same, ventral view, ×4.
8. *Pinnixa tomentosa*, female (29948), dorsal view, ×2.

PLATE 31.

FIG. 1. *Pinnixa faba*, female (31599), dorsal view, ×1½.
2. Same, male (31599), dorsal view, ×1½.
3. Same, female (31599), ventral view, ×1½.
4. Same, male (31599), ventral view, ×1½.
5. *Pinnixa littoralis*, female (31600), dorsal view, ×1½.
6. Same, male (31600), dorsal view, ×1½.
7. Same, female (31600), ventral view, ×1½.
8. Same, male (31600), ventral view, ×1½.

PLATE 32.

Pinnixa barnharti.

FIG. 1. Male (5742, M.C.Z.), ventral view, ×2.
2. Female holotype, dorsal view, ×2.
3. Same, ventral view, ×2.
4. Male (5742, M.C.Z.), abdomen, ×6.

PLATE 33.

FIG. 1. *Pinnixa valdiviensis*, male (5740, M.C.Z.), dorsal view, × nearly 2.
2. Same, ventral view, × nearly 2.
3. *Pinnixa chaetopterana*, female (26105), dorsal view, × nearly 2.
4. Same, male (5824), dorsal view, × nearly 2.
5. Same, female (26105), ventral view, × nearly 2.
6. Same, male (5824), ventral view, × nearly 2.

PLATE 34.

FIG. 1. *Pinnixa occidentalis*, male (17470), dorsal view, nat. size.
2. *Pinnixa sayana*, male (48438), dorsal view, ×3.
3. *Pinnixa sayana*, female (34017), ventral view, ×4.
4. Same, dorsal view, ×4.
5. *Pinnixa valdiviensis*, male cotype, ventral view, ×2.
6. Same, dorsal view, ×2.

PLATE 35.

FIG. 1. *Pinnixa franciscana*, male (48445), ventral view, ×3.
2. Same, dorsal view, ×3.
3. *Pinnixa franciscana*, female (48450), dorsal view, ×3.
4. Same, ventral view, ×3.
5. *Pinnixa cylindrica*, male (17952), dorsal view, ×2.
6. *Pinnixa schmitti*, female holotype, dorsal view, ×3.
7. Same, male (25850), dorsal view, ×3.
8. *Pinnixa cylindrica*, male (17952), ventral view, ×2.
9. *Pinnixa schmitti*, female holotype, ventral view, ×3.

PLATE 36.

FIG. 1. *Pinnixa hiatus*, female (29949), dorsal view, × nearly 4.
2. Same, ventral view, × nearly 4.
3. Same, two legs of left side, × nearly 4.
4. Same, chela and four legs of right side, × nearly 4.
5. *Pinnixa tubicola*, female (20860), dorsal view, × nearly 2.
6. Same, third leg of right side, × nearly 2.
7. Same, ventral view, × nearly 2.
8. *Pinnixa tubicola*, male, Trinidad (Stanford Univ.), dorsal view, × nearly 3.
9. *Pinnixa weymouthi*, male holotype, dorsal view, together with cheliped and two legs of right side, × nearly 4.
10. Same, ventral view, × nearly 4.

PLATE 37.

FIG. 1. *Scleroplax granulata*, male (49247), dorsal view, ×3⅜.
2. Same, ventral view, ×3⅜.
3. *Scleroplax granulata*, female paratype, dorsal view, ×2.
4. *Opisthopus transversus*, male (3446), ventral view, ×1⅝.
5. Same, dorsal view, ×1⅝.

PLATE 38.

Pinnaxodes chilensis.

FIG. 1. Male (5737), dorsal view, × nearly 3.
2. Same, ventral view, × nearly 3.
3. Same, inner view of left chela, × nearly 4.
4. Same, outer view of left chela, × nearly 4.
5. Same, leg, × nearly 4.
6. Female (49238), ventral view, × nearly 2.
7. Same, dorsal view, × nearly 2.

PLATE 39.

FIG. 1. *Pinnotherelia laevigata*, male (40445), anterior view, × nearly 2.
2. Same, dorsal view, × nearly 2.
3. Same, ventral view, × nearly 2.
4. *Tetrias scabripes*, female (21595), ventral view, × nearly 2.
5. Same, dorsal view, × nearly 2.

PLATE 40.

FIG. 1. *Pinnotherelia laevigata*, female (2435), dorsal view, ×4.
2. Same, ventral view, ×4.
3. *Cymopolia sica*, male (46063), dorsal view, ×2¾.
4. Same, ventral view, ×2¾.

PLATE 41.

FIG. 1. *Pinnixa retinens*, male holotype, dorsal view, ×4.
2. Same, ventral view, ×4.
3. *Cymopolia floridana*, female holotype, dorsal view, ×4.
4. Same, ventral view, ×4.

PLATE 42.

Cymopolia alternata.

FIG. 1. Male (19840), dorsal view, ×2¾.
2. Female (49190), ventral view, ×2¾.
3. Same, dorsal view, ×2¾.

PLATE 43.

Cymopolia alternata.

FIG. 1. Male (19840), ventral view, ×2¾.
2. Female, variety (15282), dorsal view, ×2¾.
3. Same, ventral view, ×2¾.

PLATE 44.

FIG. 1. *Cymopolia lucasii*, male holotype, dorsal view, ×2.
2. Same, ventral view, ×2.
3. *Cymopolia zonata*, male (22071), dorsal view, ×2.

PLATE 45.

FIG. 1. *Cymopolia zonata*, male (22071), ventral view, ×2.
2. *Cymopolia faxoni*, female holotype, dorsal view, ×3.
3. Same, ventral view, together with right chela and last left leg, detached, ×3.

PLATE 46.

Cymopolia affinis.

FIG. 1. Male (24515), dorsal view, ×2.
2. Same, ventral view, ×2.
3. Male (49196), dorsal view, ×3.

PLATE 47.

FIG. 1. *Cymopolia bahamensis*, male (22301), dorsal view, ×3.
2. *Cymopolia bahamensis*, female (22301), ventral view, ×3.
3. *Cymopolia affinis*, male (49196, second specimen), dorsal view, ×3.

PLATE 48.

FIG. 1. *Cymopolia rathbuni*, female immature (49191), dorsal view, ×5.
2. Same, ventral view, ×5.
3. *Cymopolia isthmia*, female holotype, dorsal view, ×5.
4. Same, ventral view, ×5.

PLATE 49.

Cymopolia obesa.

FIG. 1. Male (17895), dorsal view and left chela, ×2.
2. Male (17894), ventral view, ×2.
3. Same, dorsal view, ×2.

PLATE 50.

Cymopolia gracilis.

FIG. 1. Male (49192), ventral view, ×2⅔.
2. Same, dorsal view, ×2⅔.
3. Female (11411), ventral view, ×1⅔.

PLATE 51.

FIG. 1. *Cymopolia gracilis*, female (11411), dorsal view, ×1 7/15.
2. *Cymopolia fragilis*, male (20620), dorsal view, ×2⅔.
3. Same, ventral view, ×2⅔.

PLATE 52.

FIG. 1. *Cymopolia cursor*, female (7818), dorsal view, with detached legs, ×1¼.
2. Same, left chela, ×5¼.
3. *Cymopolia gracilipes*, male (11395), dorsal view, with detached legs, ×4⅓.
4. Same, ventral view, ×2⅔.

PLATE 53.

Grapsus grapsus, male (22086), dorsal view, $\times\frac{11}{15}$.

PLATE 54.

Grapsus grapsus, male (48601).

FIG. 1. Ventral view, $\times\frac{1}{3}$.
2. Anterior view of front, $\times\frac{1}{3}$.

PLATE 55.

Geograpsus lividus.

FIG. 1. Male (24041), ventral view, $\times\frac{8}{10}$.
2. Male (47857), dorsal view, $\times\frac{8}{10}$.

PLATE 56.

Leptograpsus variegatus, male (49057), $\times\frac{1}{3}$.

FIG. 1. Dorsal view.
2. Ventral view.

PLATE 57.

Goniopsis cruentata, male (23805), $\times\frac{3}{4}$.

FIG. 1. Ventral view.
2. Dorsal view.
3. Anterior view.

PLATE 58.

Goniopsis pulchra, male (17294), $\times 1$.

FIG. 1. Ventral view.
2. Dorsal view.

PLATE 59.

Pachygrapsus crassipes, male (32234), $\times\frac{8}{10}$.

FIG. 1. Ventral view.
2. Dorsal view.

PLATE 60.

FIG. 1. *Pachygrapsus maurus*, male (44529), ventral view, $\times 3$.
2. *Pachygrapsus maurus*, female (44529), dorsal view, $\times 3$.
3. *Pachygrapsus gracilis*, male (49254), ventral view, $\times 2$.

PLATE 61.

FIG. 1. *Pachygrapsus gracilis*, male (49254), dorsal view, $\times 1\frac{1}{3}$.
2. *Pachygrapsus transversus*, male (40825), dorsal view, $\times 1\frac{1}{3}$.
3. Same, ventral view, $\times 1\frac{1}{3}$.

PLATE 62.

Pachygrapsus marmoratus, male (14497), ×1½.

FIG. 1. Dorsal view.
2. Ventral view.

PLATE 63.

Planes minutus, male (20695), ×2.

FIG. 1. Dorsal view.
2. Ventral view.

PLATE 64.

Planes marinus, male holotype, ×1$\frac{7}{10}$.

FIG. 1. Antero-ventral view.
2. Dorsal view.
3. Ventral view.

PLATE 65.

Cyrtograpsus angulatus, male (18624), ×1½.

FIG. 1. Dorsal view.
2. Ventral view.

PLATE 66.

Cyrtograpsus altimanus, male, ×1¾.

FIG. 1. Ventral view of holotype.
2. Dorsal view of same.
3. Antero-ventral view of paratype.

PLATE 67.

Hemigrapsus affinis, male (22104), ×5.

FIG. 1. Ventral view.
2. Dorsal view.
3. Ventral view, to show chelae.

PLATE 68.

Hemigrapsus crenulatus, male (22102), ×1½.

FIG. 1. Dorsal view.
2. Ventral view.

PLATE 69.

Hemigrapsus nudus, male (32233), ×¾.

FIG. 1. Anterior view.
2. Ventral view.
3. Dorsal view.

PLATE 70.

Hemigrapsus oregonensis, male (48818), ×1¼.

FIG. 1. Ventral view.
2. Dorsal view.
3. Anterior view.

PLATE 71.

Tetragrapsus jouyi, male (17496), ×2⅔.

FIG. 1. Ventral view.
2. Dorsal view.
3. Ventral view, to show chelae.

PLATE 72.

FIG. 1. *Glyptograpsus impressus*, male (44174), dorsal view, × nearly 2.
2. Same, ventral view, × nearly 2.
3. *Glyptograpsus jamaicensis*, male holotype, dorsal view, slightly reduced.

PLATE 73.

Platychirograpsus typicus, male holotype, dorsal view, slightly reduced.

PLATE 74.

FIG. 1. *Euchirograpsus americanus*, male (44675), dorsal view, ×2½.
2. Same, ventral view, ×2½.

PLATE 75.

Sesarma (Chiromantes) africanum, male (14870), slightly enlarged.

FIG. 1. Anterior view.
2. Dorsal view.
3. Ventral view.

PLATE 76.

Sesarma (Sesarma) verleyi, female holotype, ×1¼.

FIG. 1. Ventral view.
2. Dorsal view.
3. Anterior view.

PLATE 77.

Sesarma (Sesarma) reticulatum, male (45530), ×1½.

FIG. 1. Anterior view.
2. Dorsal view.
3. Ventral view.

PLATE 78.

FIG. 1. *Sesarma (Sesarma) curacaoense*, male (17678), anterior view, ×1⅔.
2. Same, dorsal view, ×1⅔.
3. *Sesarma (Sesarma) sulcatum*, male (4631), chela, ×⅘.
4. Same, dorsal view, ×⅘.

PLATE 79.

Sesarma (Sesarma) rhizophorae, male (32491), ×2.

FIG. 1. Anterior view.
2. Dorsal view.
3. Ventral view.

PLATE 80.

Sesarma (Sesarma) bidentatum, male (32285), ×1⅛.

FIG. 1. Anterior view.
2. Dorsal view.
3. Ventral view.

PLATE 81.

Sesarma (Sesarma) jarvisi, male holotype, ×2.

FIG. 1. Anterior view.
2. Dorsal view.
3. Ventral view.

PLATE 82.

Sesarma (Holometopus) rectum, male (47862), slightly enlarged.

FIG. 1. Anterior view.
2. Dorsal view.
3. Ventral view.

PLATE 83.

Sesarma (Holometopus) cinereum, male (15072), ×1⅘.

FIG. 1. Antero-dorsal view.
2. Dorsal view.
3. Ventral view.

PLATE 84.

Sesarma (Holometopus) miersii, male holotype, ×1½.

FIG. 1. Anterior view.
2. Dorsal view.
3. Ventral view.

PLATE 85.

Sesarma (Holometopus) miersii iheringi, male (48299), ×1⅔.

FIG. 1. Ventral view.
2. Dorsal view.

PLATE 86.

Sesarma (Holometopus) magdalenense, male (45793), ×2⅓.

FIG. 1. Anterior view.
2. Dorsal view.
3. Ventral view.

PLATE 87.

FIG. 1. *Sesarma (Holometopus) hanseni*, male holotype, slightly reduced.
2. *Sesarma (Holometopus) biolleyi*, male holotype, dorsal view, slightly reduced.
3. Same, ventral view, slightly reduced.

PLATE 88.

Sesarma (Holometopus) tampicense, male holotype, $\times 1\frac{7}{10}$.

FIG. 1. Anterior view.
2. Dorsal view.
3. Ventral view.

PLATE 89.

Sesarma (Holometopus) ricordi, male (13798), $\times 1\frac{3}{4}$.

FIG. 1. Anterior view.
2. Dorsal view.
3. Ventral view.

PLATE 90.

Sesarma (Holometopus) angustipes.

FIG. 1. Female (42876), dorsal view, $\times 1\frac{1}{2}$.
2. Male (46084), ventral view, $\times 1\frac{1}{2}$.
3. Same, anterior view, $\times 1\frac{1}{2}$.

PLATE 91.

Sesarma (Holometopus) roberti, male (22108), $\times 1\frac{3}{20}$.

FIG. 1. Anterior view.
2. Dorsal view.
3. Ventral view.

PLATE 92.

Sesarma (Holometopus) angustum, male (32314), $\times 2$.

FIG. 1. Anterior view.
2. Dorsal view.
3. Ventral view.

PLATE 93.

Sesarma (Holometopus) benedicti, male (22838), $\times 1\frac{1}{2}$.

FIG. 1. Anterior view.
2. Dorsal view.
3. Ventral view.

PLATE 94.

Metasesarma rubripes, male (19408), $\times 2$.

FIG. 1. Anterior view.
2. Dorsal view.
3. Ventral view.

PLATE 95.

Sarmatium curvatum, male (20309), ×1½.

FIG. 1. Anterior view.
2. Dorsal view.
3. Ventral view.

PLATE 96.

Aratus pisonii, male (25559), ×1½.

FIG. 1. Ventral view.
2. Dorsal view.

PLATE 97.

FIG. 1. *Cyclograpsus integer*, male (17669), dorsal view, ×1⅝.
2. Same, ventral view, ×1⅝.
3. *Metopaulias depressus*, female (42875), dorsal view, ×1⅝.
4. Same, anterior view, ×1⅝.

PLATE 98.

Cyclograpsus cinereus, male (45520), ×2⅝.

FIG. 1. Anterior view.
2. Dorsal view.
3 Ventral view.

PLATE 99.

Cyclograpsus punctatus, male (3240), ×1½.

FIG. 1. Dorsal view.
2. Ventral view.

PLATE 100.

Chasmagnathus granulata, male (22109), ×1$\frac{1}{10}$.

FIG. 1. Dorsal view.
2. Ventral view.

PLATE 101.

Plagusia depressa, male (40609), ×⅝.

FIG. 1. Dorsal view.
2. Ventral view.

PLATE 102.

Plagusia depressa tuberculata, male (18826), ×$\frac{7}{10}$.

FIG. 1. Dorsal view.
2. Ventral view.

PLATE 103.

Plagusia immaculata, male (24758), $\times\frac{7}{10}$.

FIG. 1. Dorsal view.
2. Ventral view.
3. Maxillipeds.

PLATE 104.

Plagusia chabrus, male (2476), dorsal view, $\times\frac{87}{100}$.

PLATE 105.

Percnon gibbesi, male (48592), $\times\frac{1}{3}$.

FIG. 1. Dorsal view.
2. Ventral view.

PLATE 106.

Cardisoma guanhumi, male (17987), dorsal view, $\times\frac{46}{100}$.

PLATE 107.

Cardisoma guanhumi, female (42892), ventral view, $\times\frac{45}{100}$.

PLATE 108.

Cardisoma crassum, male (4658), dorsal view, $\times\frac{85}{100}$.

PLATE 109.

Cardisoma crassum, male (4658), ventral view, $\times\frac{43}{100}$.

PLATE 110.

Ucides cordatus, male (17595), dorsal view, $\times\frac{2}{3}$.

PLATE 111.

Ucides cordatus, male (17595), ventral view, $\times\frac{43}{100}$.

PLATE 112.

Ucides cordatus, female (17595), dorsal view, $\times 1\frac{1}{3}$.

PLATE 113.

Ucides cordatus, female (17595), ventral view, slightly enlarged.

PLATE 114.

Ucides occidentalis, male (2145), dorsal view, $\times\frac{3}{4}$.

PLATE 115.

Ucides occidentalis, male (2145), ventral view, $\times\frac{8}{10}$.

PLATE 116.

Ucides occidentalis, male (2145), antero-dorsal view, $\times\frac{8}{10}$.

PLATE 117.

Gecarcinus ruricola, female (42901), dorsal view, slightly enlarged.

PLATE 118.

Gecarcinus ruricola, female (42901), ventral view, $\times\frac{1}{3}$.

PLATE 119.

Gecarcinus lateralis, male (11368), dorsal view, $\times 1\frac{1}{3}$.

PLATE 120.

Gecarcinus lateralis, male (11368), ventral view, $\times 1\frac{1}{3}$.

PLATE 121.

Gecarcinus quadratus, male (32311), dorsal view, $\times 1\frac{1}{3}$.

PLATE 122.

Gecarcinus quadratus, male (32311), $\times\frac{5}{6}$.

FIG. 1. Ventral view.
2. Ventral view showing under side of chelae.

PLATE 123.

Gecarcinus planatus, male (20650), dorsal view, $\times\frac{3}{4}$.

PLATE 124.

Gecarcinus planatus, male (20650), ventral view, $\times\frac{1}{3}$.

PLATE 125.

Gecarcinus lagostoma, male (14869), dorsal view, $\times\frac{5}{6}$.

PLATE 126.

Gecarcinus lagostoma, male (14869), ventral view, $\times\frac{3}{4}$.

PLATE 127.

Ocypode albicans, male (49251), dorsal view, $\times 1\frac{1}{3}$.

PLATE 128.

Ocypode albicans, male (49251), ventral view, ×1⅛.

PLATE 129.

FIG. 1. *Ocypode gaudichaudii*, male (17297), dorsal view, ×⅘.
2. *Ocypode occidentalis*, male (2016), ventral view, ×⅘.
3. Same, dorsal view, ×⅘.

PLATE 130.

FIG. 1. *Ocypode gaudichaudii*, male (17297), ventral view, ×$\frac{9}{10}$.
2. *Uca maracoani*, male (17657), dorsal view, ×$\frac{9}{10}$.
3. Same, female (17657), dorsal view, ×1⅓.

PLATE 131.

FIG. 1. *Uca heterochelos*, male (11375), anterior view, ×1.
2. Same, dorsal view, ×1.
3. *Uca maracoani*, male (17657), anterior view, ×1.

PLATE 132.

Uca monilifera, male holotype, ×⅘.

FIG. 1. Anterior view.
2. Dorsal view.
3. Ventral view.

PLATE 133.

Uca princeps.

FIG. 1. Female (20689), dorsal view, ×1.
2. Male (20689), anterior view, ×1.
3. Same, dorsal view, ×1.

PLATE 134.

FIG. 1. *Uca stylifera*, male (32325), anterior view, ×1.
2. Same, dorsal view, ×1.
3. *Uca mordax*, male (21373), anterior view, ×1.
4. Same, dorsal view, ×1.

PLATE 135.

Uca tangeri, male (14874), dorsal view, ×1½.

PLATE 136.

Uca tangeri, male (14874), ×1½.

FIG. 1. Anterior view.
2. Inner face of chela.

PLATE 137.

Uca minax, male (17183), ×1½.

FIG. 1. Anterior view.
2. Inner face of chela.
3. Dorsal view.

PLATE 138.

Uca brevifrons, male (32323), ×1⅝.

FIG. 1. Outer face of chela.
2. Inner face of chela.
3. Dorsal view.

PLATE 139.

Uca pugnax, male (3828), ×1⅛.

FIG. 1. Anterior view.
2. Inner face of chela.
3. Dorsal view.

PLATE 140.

Uca pugnax rapax, male (19477), ×1½.

FIG. 1. Anterior view.
2. Inner face of chela.
3. Dorsal view.

PLATE 141.

Uca pugilator, male (5871), ×1½.

FIG. 1. Anterior view.
2. Inner face of chela.
3. Dorsal view.

PLATE 142.

Uca galapagensis, male (22319), ×1¾.

FIG. 1. Anterior view.
2. Inner face of chela.
3. Dorsal view.

PLATE 143.

Uca macrodactylus, male (32320), ×2.

FIG. 1. Anterior view.
2. Inner face of chela.
3. Dorsal view.

PLATE 144.

Uca thayeri.

FIG. 1. Female (23753), dorsal view, ×2.
2. Male (23753), outer face of chela, ×2.

PLATE 145.

Uca speciosa, male (15256), ×2¼.

FIG. 1. Dorsal view.
2. Outer face of chela.
3. Inner face of chela.

PLATE 146.

Uca crenulata.

FIG. 1. Male (44580), antero-dorsal view, ×2.
2. Same, dorsal view, ×2.
3. Male (33415), outer face of chela, ×2.
4. Same, inner face of chela, ×2.

PLATE 147.

Uca coloradensis, male (18292), ×2.

FIG. 1. Anterior view.
2. Inner face of chela.
3. Dorsal view.

PLATE 148.

Uca spinicarpa, male (21684), ×2.

FIG. 1. Anterior view.
2. Inner face of chela.
3. Dorsal view.

PLATE 149.

Uca panamensis, male (48784), ×2.

FIG. 1. Outer face of chela.
2. Lower face of chela.
3. Inner face of chela.
4. Dorsal view.

PLATE 150.

Uca uruguayensis, male (22194), ×2.

FIG. 1. Anterior view.
2. Inner face of chela.
3. Dorsal view.

PLATE 151.

Uca helleri, male (24829), ×3.

FIG. 1. Anterior view.
2. Inner face of chela.
3. Dorsal view.
4. Antero-dorsal view.

PLATE 152.

FIG. 1. *Uca oerstedi*, male holotype, anterior view, ×1⅔.
2. Same, dorsal view, ×1⅔.
3. *Uca stenodactylus*, male (32322), antero-dorsal view, ×2⅔.

PLATE 153.

Uca stenodactylus, male (32322), ×2½.

FIG. 1. Anterior view.
2. Inner face of chela.
3. Dorsal view.

PLATE 154.

Uca musica, male holotype, ×1⅞.

FIG. 1. Anterior view.
2. Antero-dorsal view.
3. Dorsal view.
4. Ventral view.

PLATE 155.

Uca subcylindrica, male (23655), ×2.

FIG. 1. Dorsal view.
2. Ventral view.

PLATE 156.

Uca leptodactyla, male (47850), ×2⅞.

FIG. 1. Anterior view.
2. Inner face of chela.
3. Antero-dorsal view.
4. Dorsal view.

PLATE 157.

Uca latimanus, male (17500), ×3.

FIG. 1. Inner face of chela.
2. Outer face of chela.
3. Antero-dorsal view.
4. Dorsal view.

PLATE 158.

(After A. Milne Edwards.)

FIG. 1. *Glyptoplax pugnax*, male, Panama, dorsal view, × about 3.
2. Same, antennal and buccal regions, enlarged.
3. Same, abdomen and last sternal segments, enlarged.
4. Same, right chela, outer view, enlarged.
5. Same, left chela, outer view, enlarged.
6. Same, outer maxilliped, enlarged.
7. *Glyptoplax smithii*, male, Florida, right chela, outer view, enlarged.
8. Same, left chela, outer view, enlarged.
9. Same, dorsal view, × about 4½.
10. Same, abdomen and last sternal segments, enlarged.

PLATE 159.

FIG. 1. *Eucratopsis crassimanus*, male, abdomen and sternum, slightly reduced (after Dana).
2. Same, right chela, slightly reduced (after Dana).
3. *Ucides cordatus*, buccal cavity and outer maxillipeds, slightly reduced (after de Haan).
4. Same, right outer maxilliped, slightly reduced (after de Haan).
5. *Pinnotheres pelilus*, female, dorsal view, ×1⅛ (after Lenz).
6. *Speocarcinus carolinensis*, male, portion of abdomen and sternum, slightly reduced (after Stimpson).

FIG. 7. *Cyrtograpsus angulatus*, male, left chela, slightly reduced (after Dana).
8. Same, ventral view in part, slightly reduced (after Dana).
9. *Chasmagnathus granulata*, male, ventral view in part, ×1⅛ (after Dana).
10. *Pinnotheres bipunctatus*, male, dorsal view, ×4 (after Nicolet).
11. Same, outer maxilliped, enlarged (after Nicolet).
12. Same, abdomen, enlarged (after Nicolet).

PLATE 160.

FIG. 1. *Pachygrapsus pubescens*, female, dorsal view, × about ⅘ (after Heller).
2. *Uca pugilator*, male, abdomen, × about ⅘ (after Smith).
3. *Sesarma* (*Sesarma*) *curacaoense*, male holotype, abdomen, × nearly 2 (after de Man).
4. *Pachygrapsus corrugatus*, dorsal view, ×$\frac{7}{10}$ (after von Martens).
5. *Uca subcylindrica*, male, abdomen. × about ⅘ (after Smith).
6. *Uca princeps*, male, abdomen, × about ⅘ (after Smith).
7. *Cecarcoidea lalandii*, male, dorsal view, about ½ natural size (after Milne Edwards).
8. Same, ventral view of anterior portion, reduced (after Milne Edwards).

PLATE 161.

Figures (except fig. 8) about ⅚ natural size and after Smith.

FIG. 1. *Uca heteropleura*, male, dorsal view of carapace and eyes.
2. Same, right and larger chela, outer view.
3. Same, left and larger chela of another specimen, inner view.
4. Same, merus of same cheliped as fig. 3, anterior surface.
5. *Uca insignis*, female, type of *Gelasimus ornatus* Smith, anterior view.
6. Same specimen, dorsal view of carapace and eyes.
7. *Uca insignis*, male, type of *Gelasimus armatus* Smith, dorsal view of carapace and eyes.
8. *Uca insignis*, female, right outer maxilliped, enlarged (after Milne Edwards).
9. *Uca insignis*, male, type of *G. armatus*, left and larger chela, outer view.
10. Same specimen, posterior right leg.
11. Same specimen, third right leg.
12. Same specimen, second right leg.
13. *Uca insignis*, female, type of *G. ornatus*, posterior right leg.
14. Same specimen, third right leg.
15. Same specimen, second right leg.

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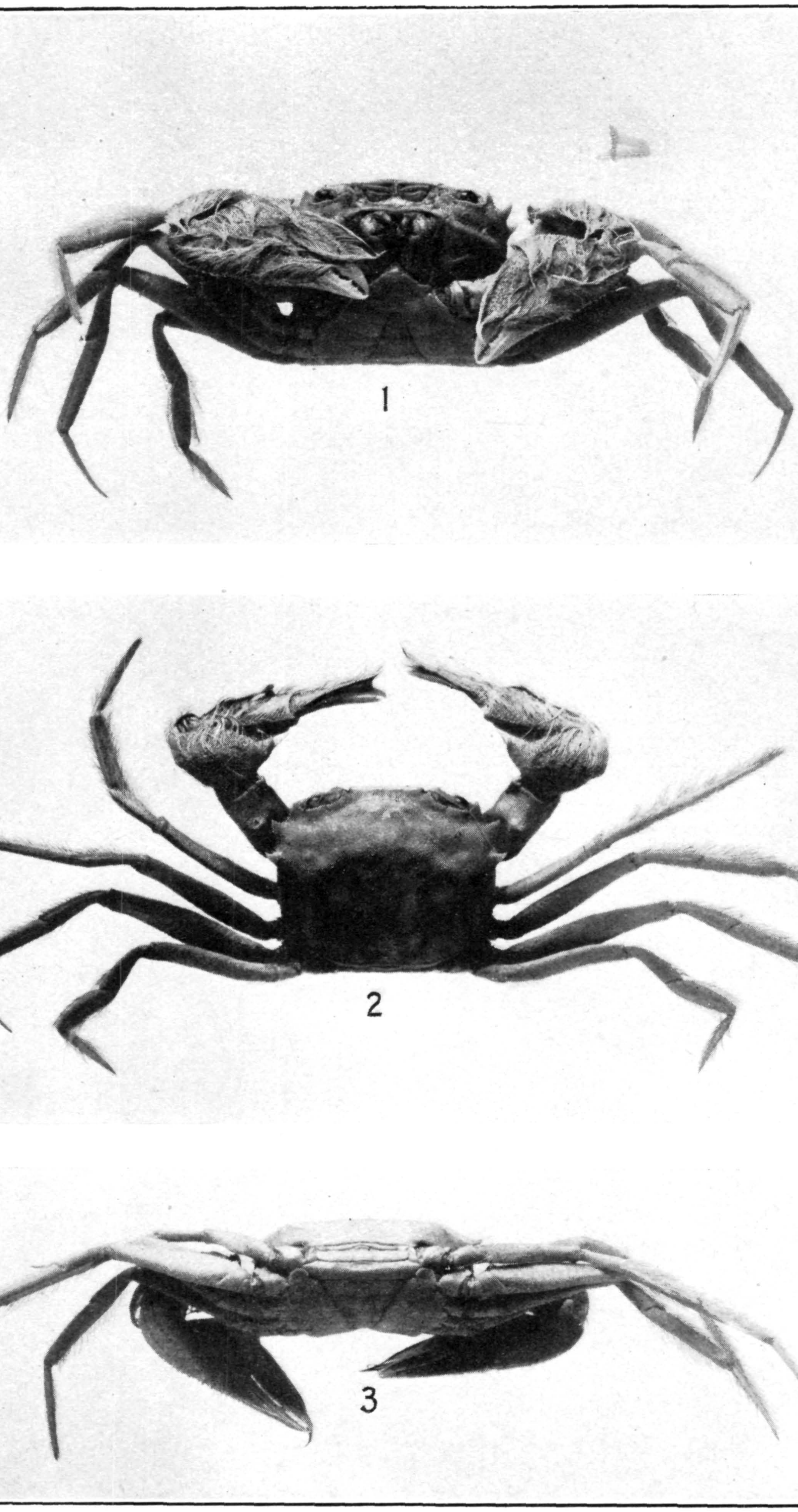

TRIZOCARCINUS DENTATUS. (PAGE 18.)

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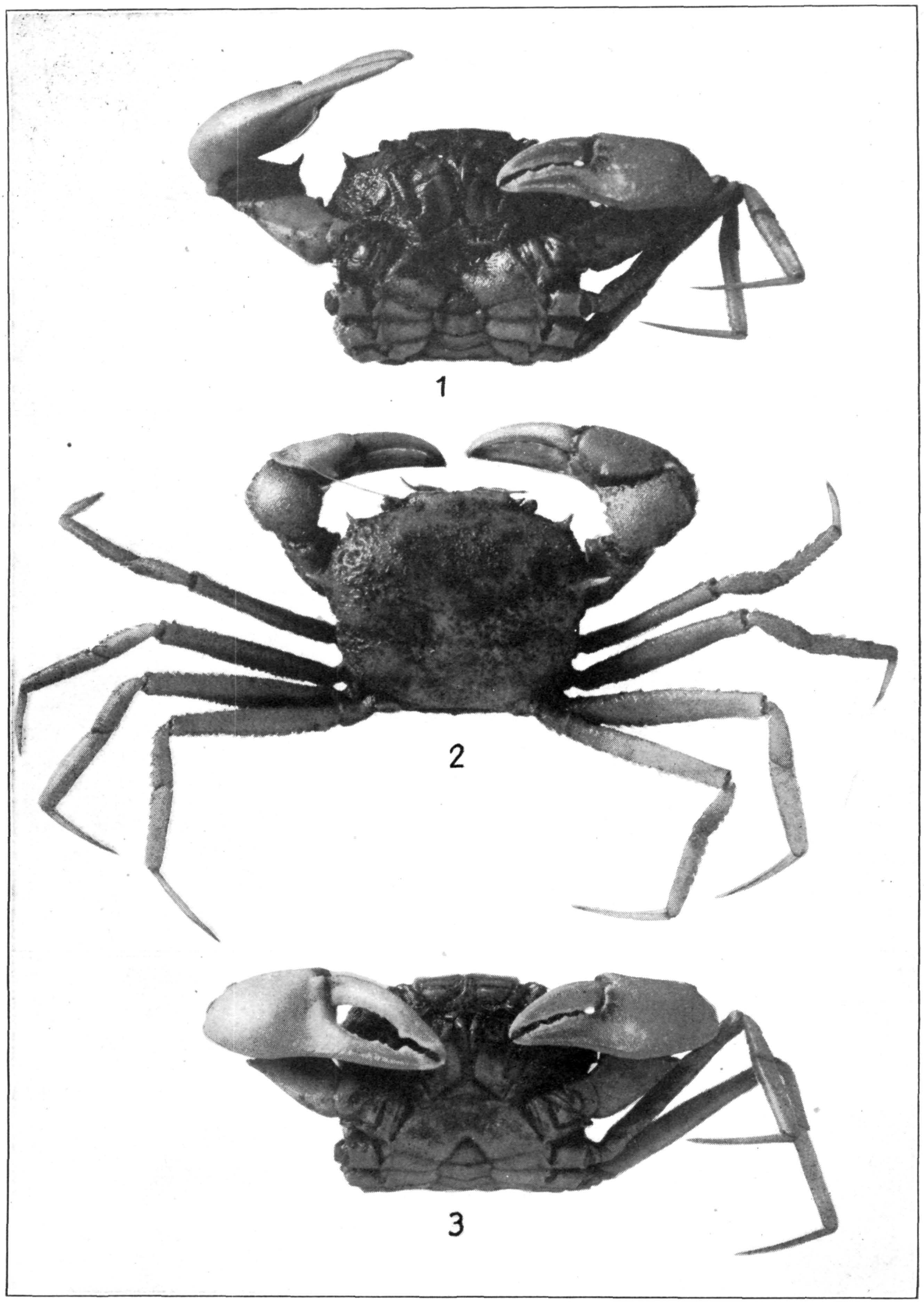

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BATHYPLAX TYPHLA. (PAGE 19.)

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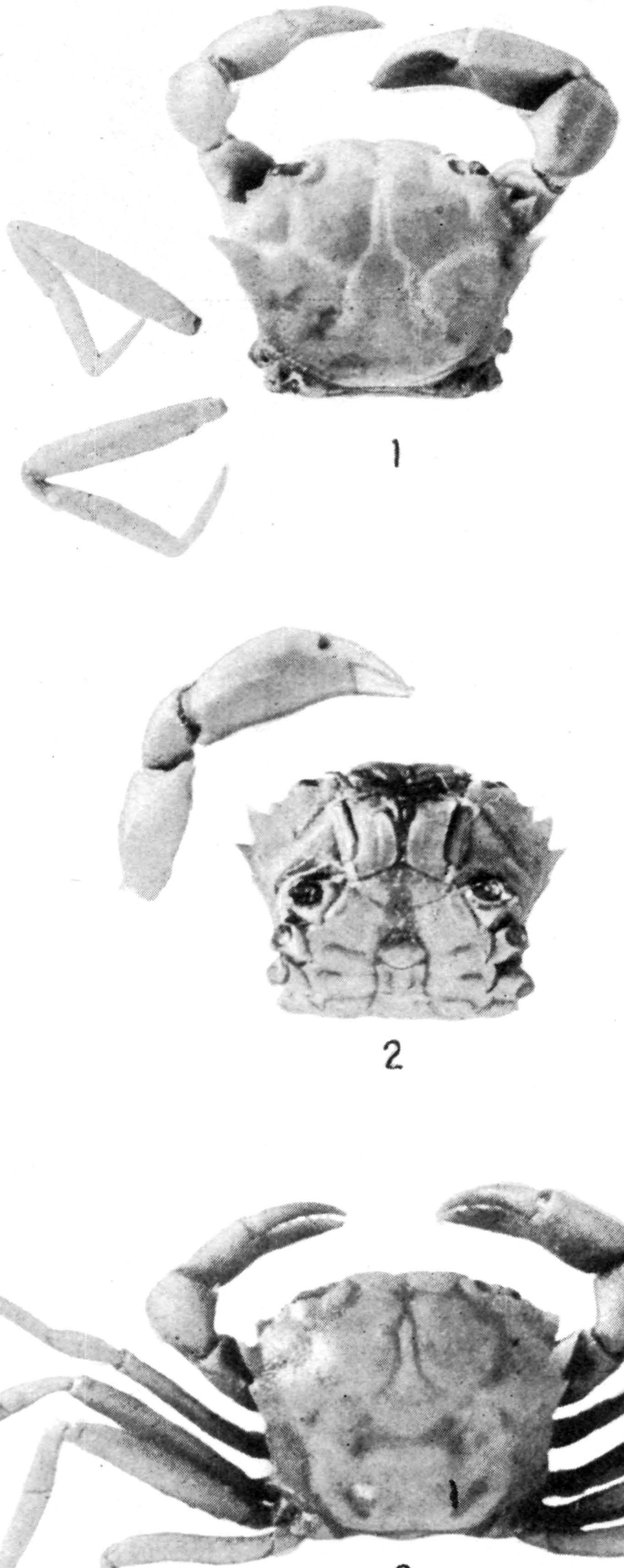

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PILUMNOPLAX ELATA. (PAGE 23.)

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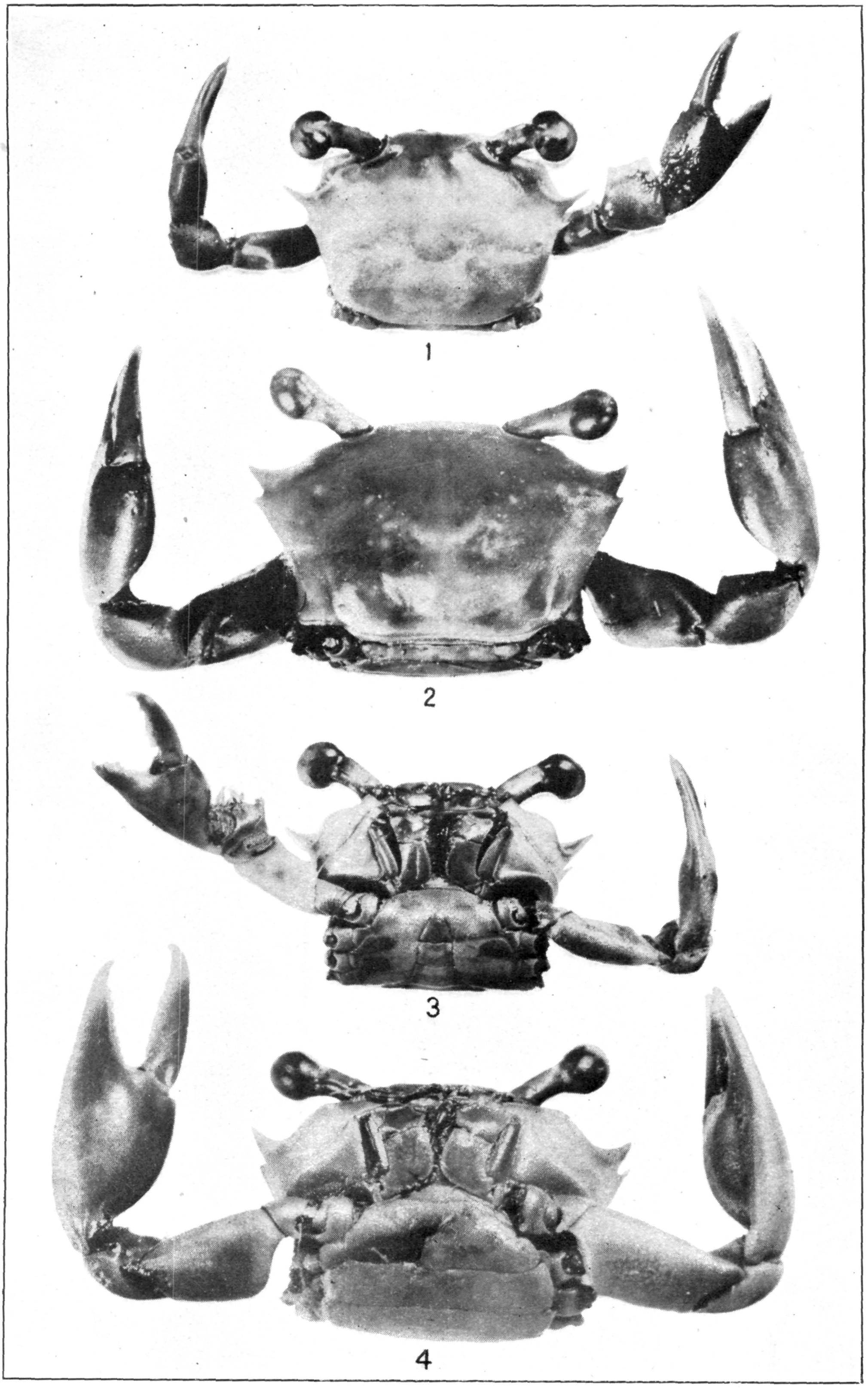

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1, 3. GONEPLAX BARBATA. (PAGE 26.) 2, 4. G. SIGSBEI. (PAGE 26.)

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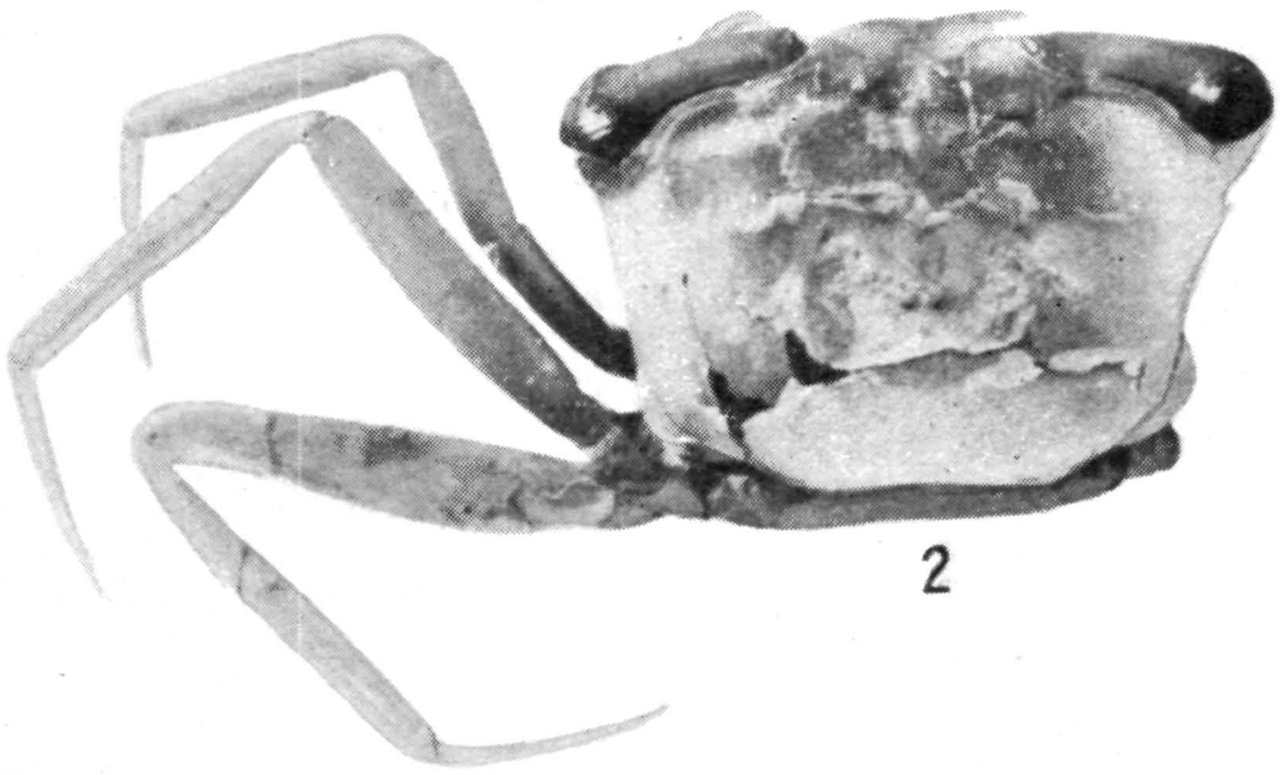

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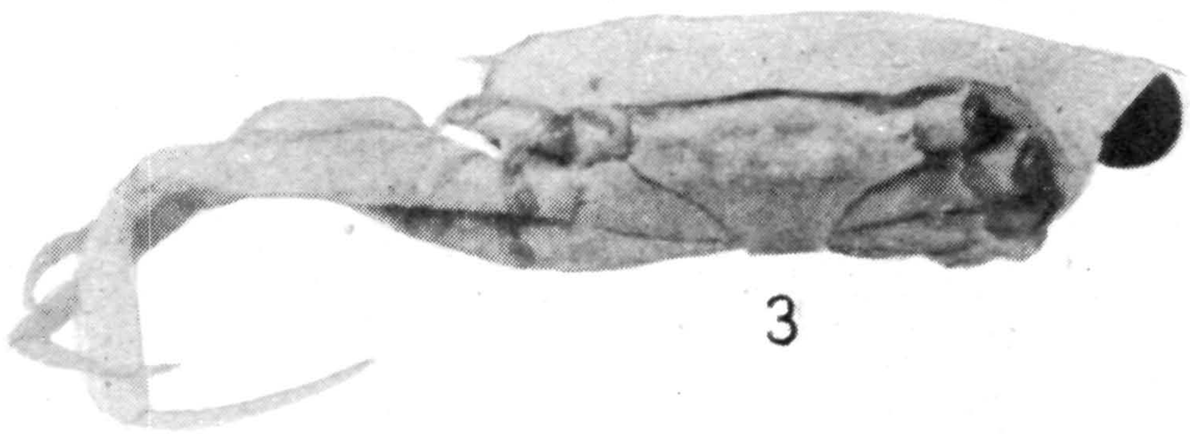

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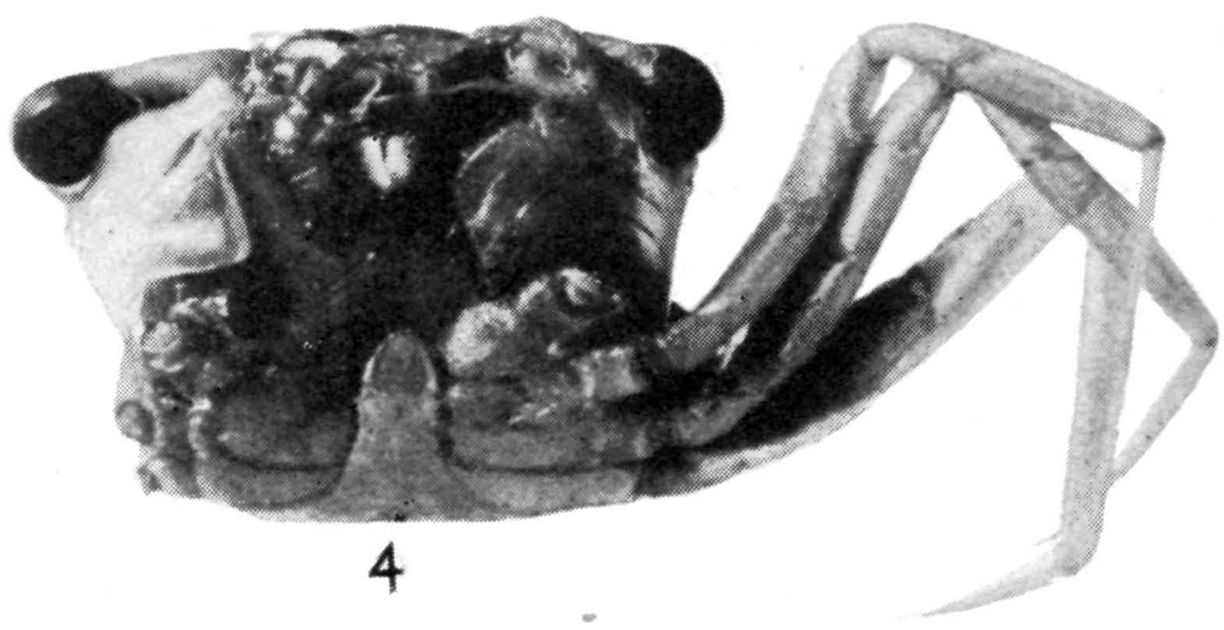

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GONEPLAX BARBATA. (PAGE 26.)

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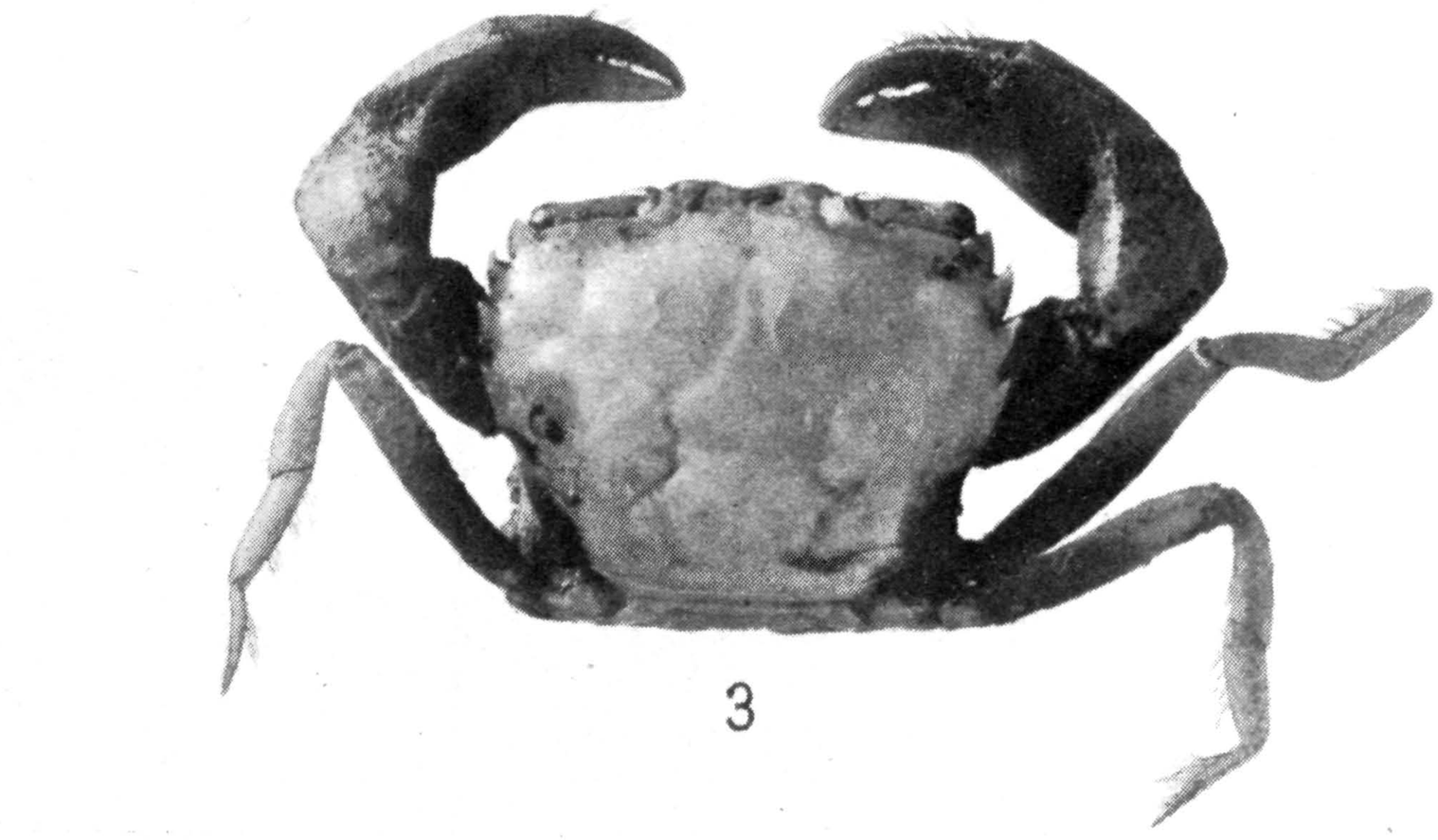

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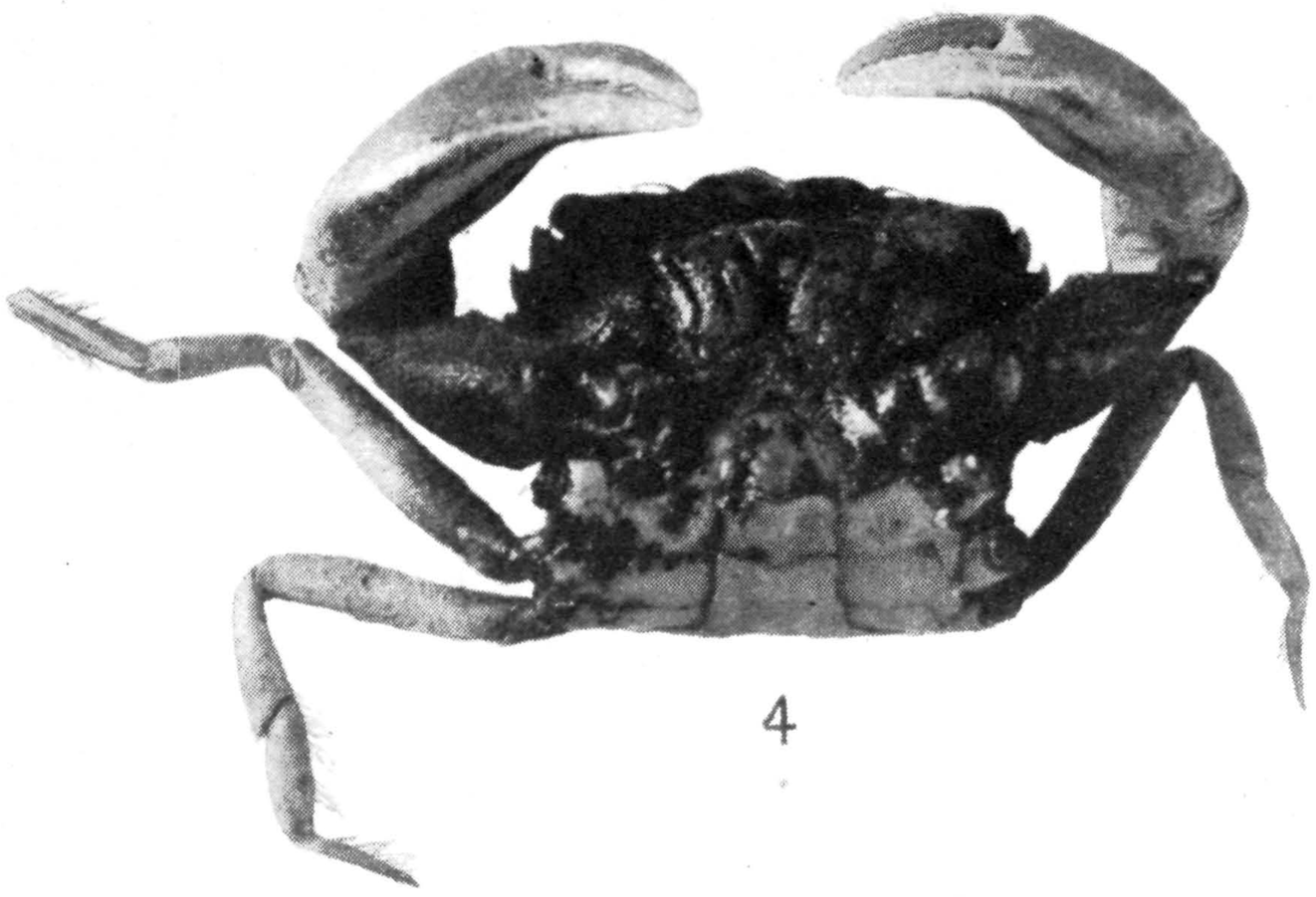

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1, 2. PRIONOPLAX ATLANTICA. (PAGE 30.) 3, 4. TETRAPLAX QUADRIDENTATA. (PAGE 32.)

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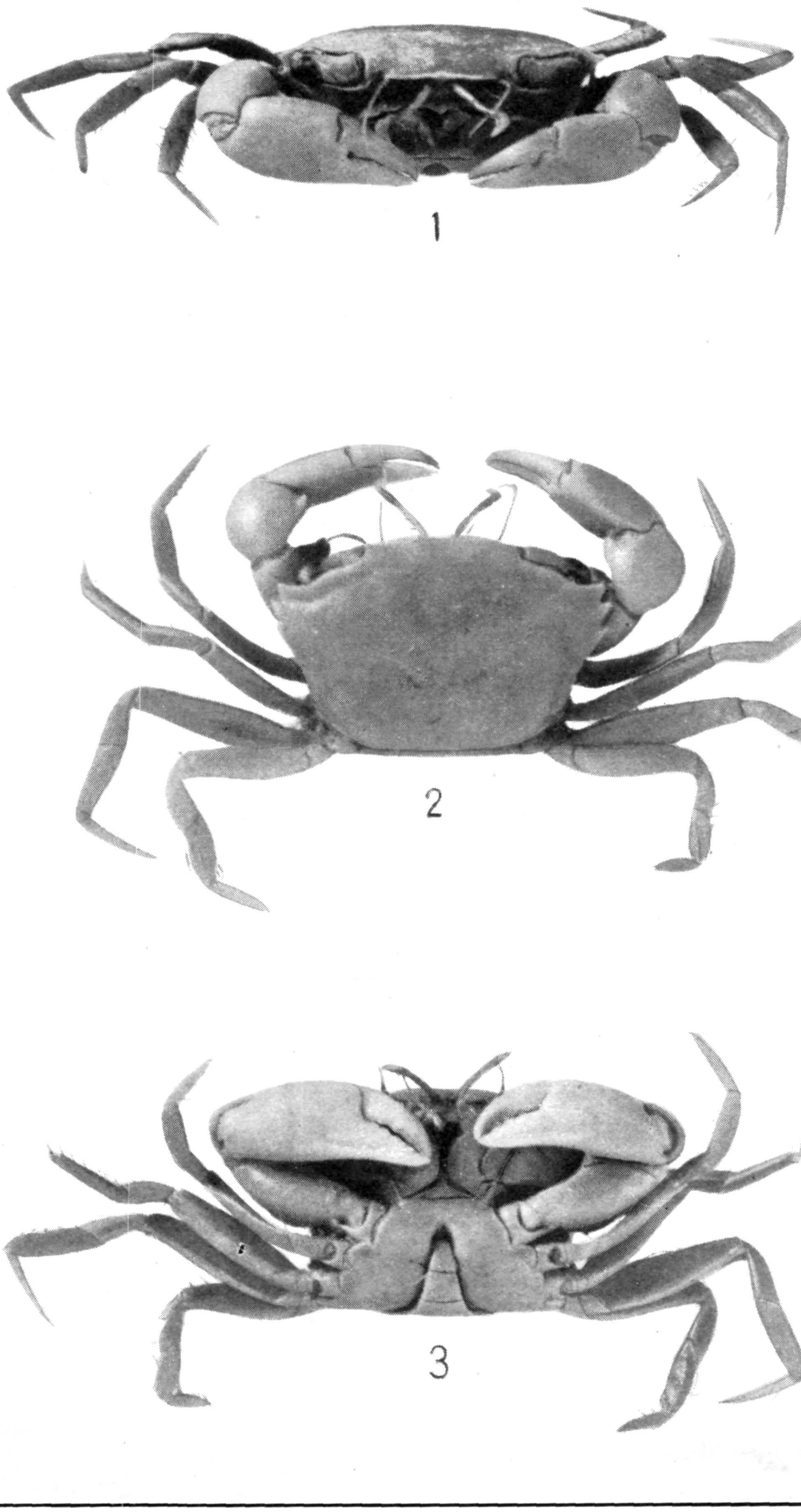

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EURYPLAX NITIDA. (PAGE 34.)

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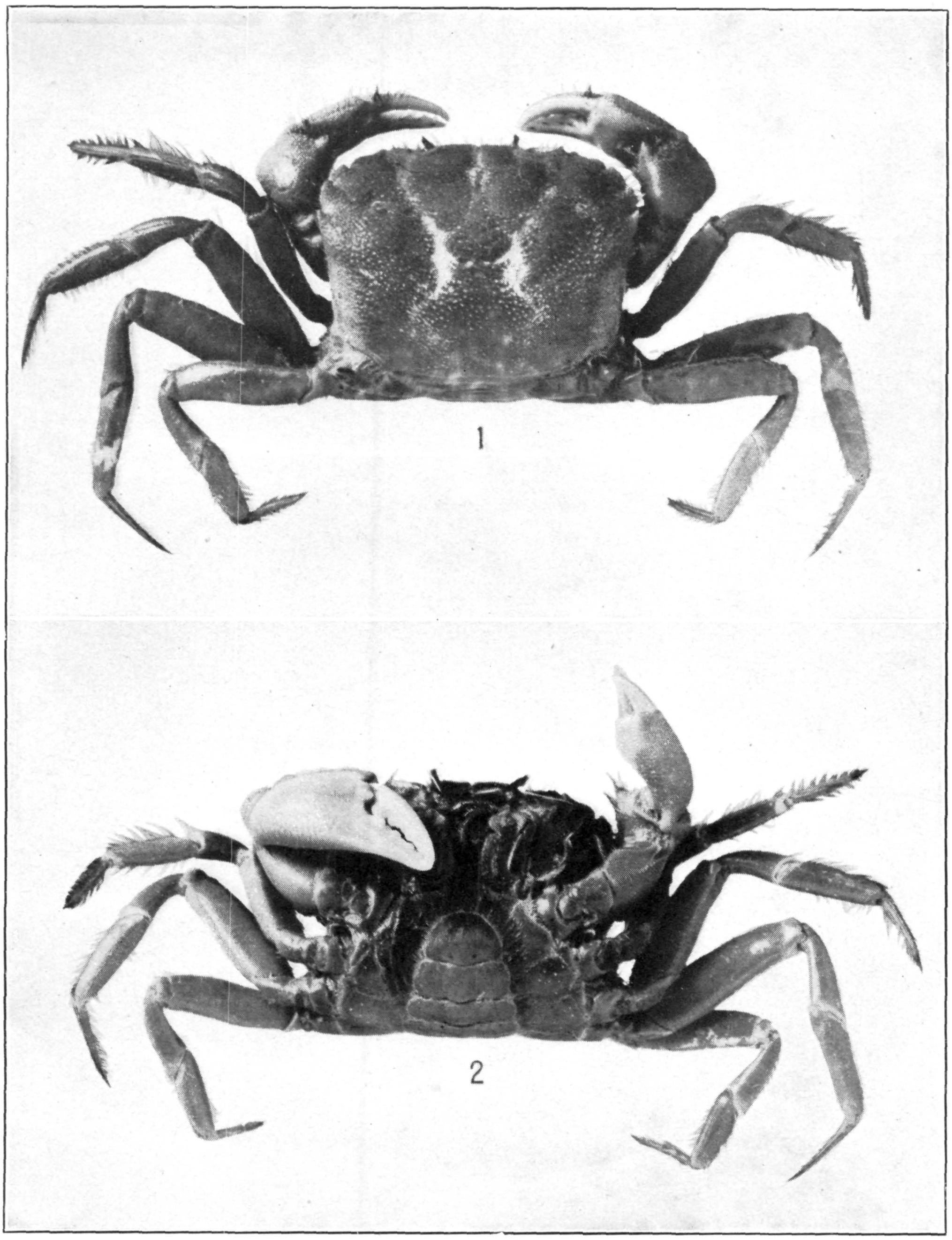

SPEOCARCINUS CAROLINENSIS. (PAGE 39.)

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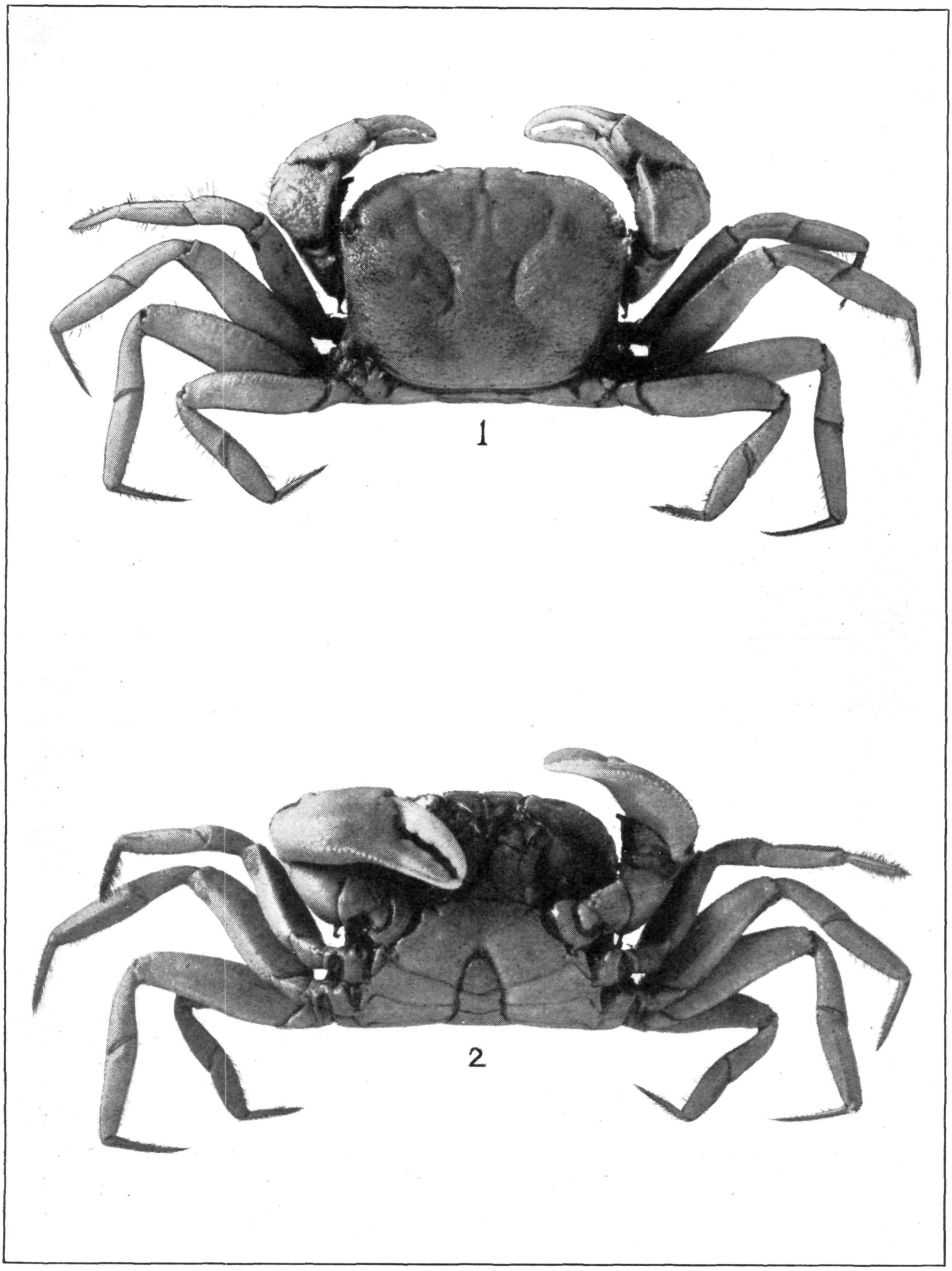

SPEOCARCINUS GRANULIMANUS. (PAGE 40.)

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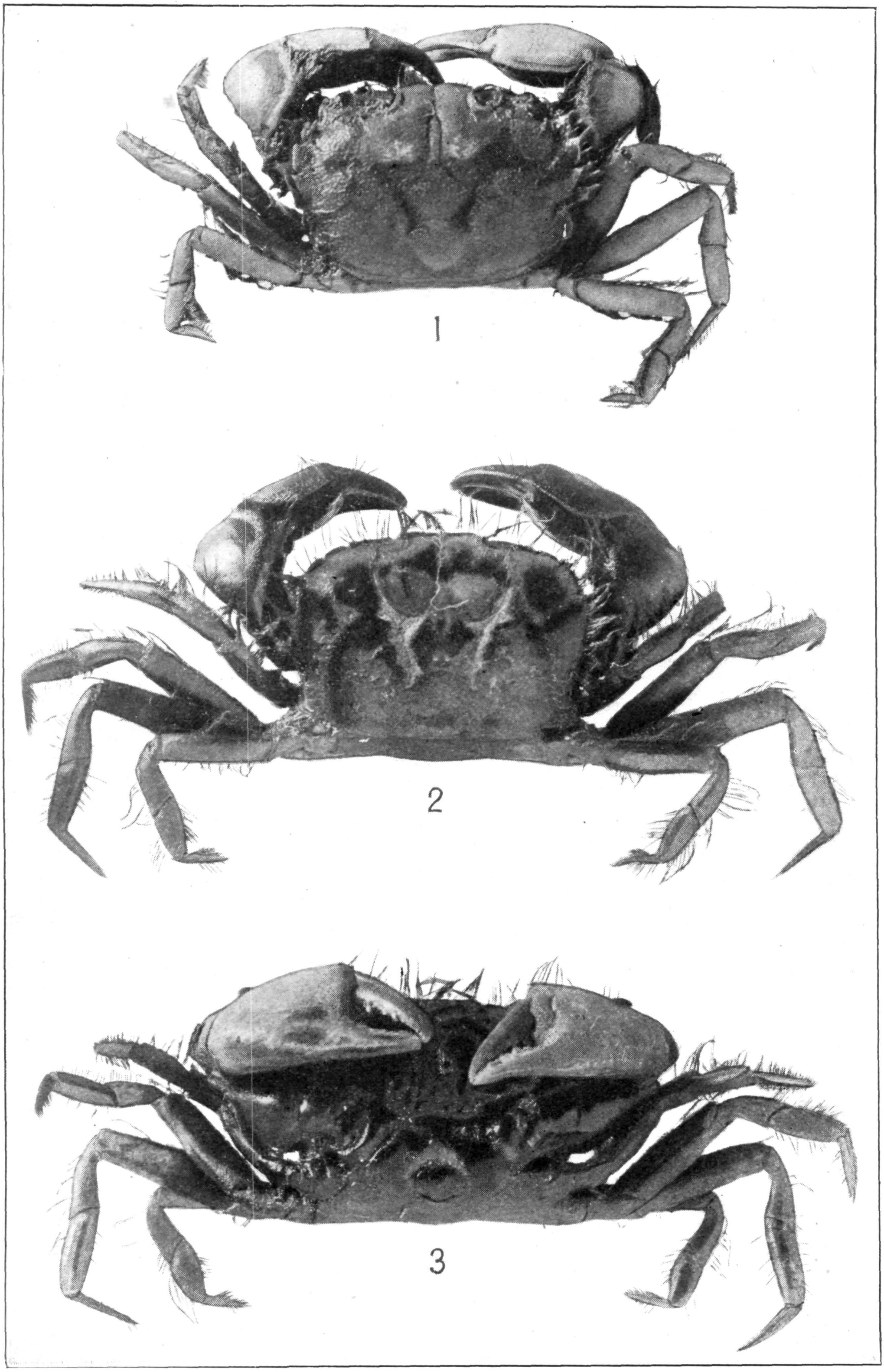
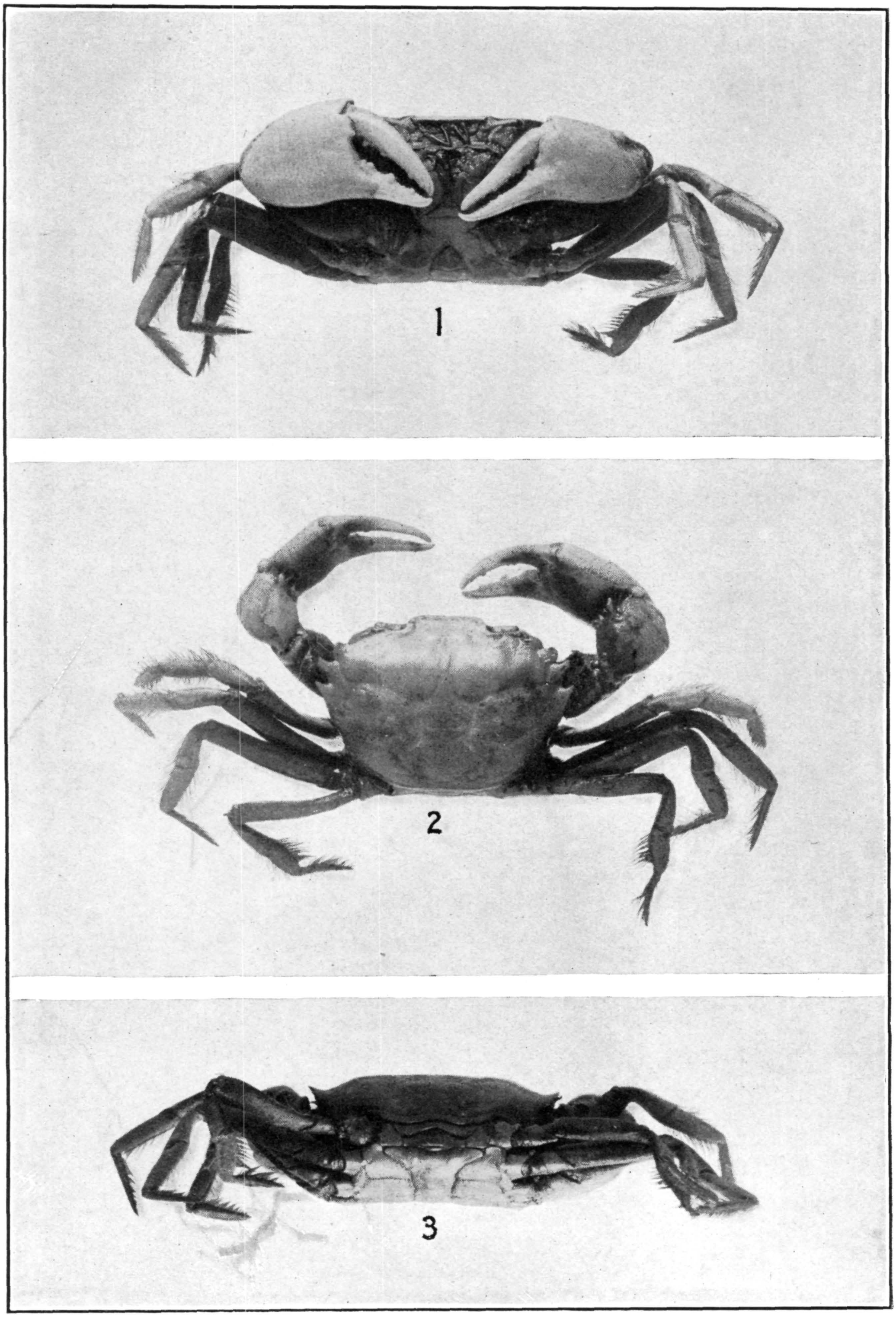


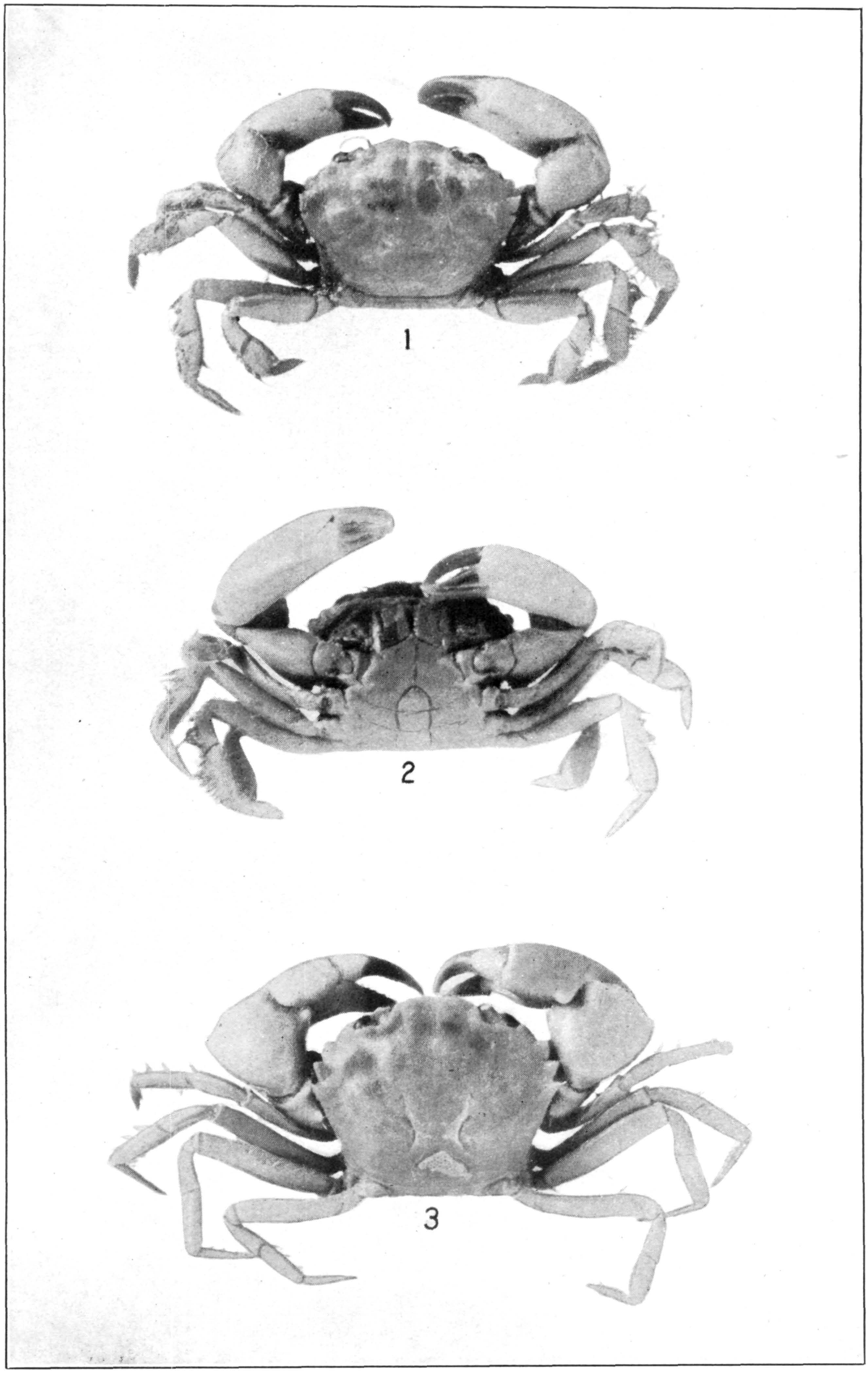
1. SPEOCARCINUS OSTREARICOLA. (PAGE 41.) 2, 3. S. CALIFORNIENSIS. (PAGE 42.)

FOR EXPLANATION OF PLATE SEE PAGE 426.



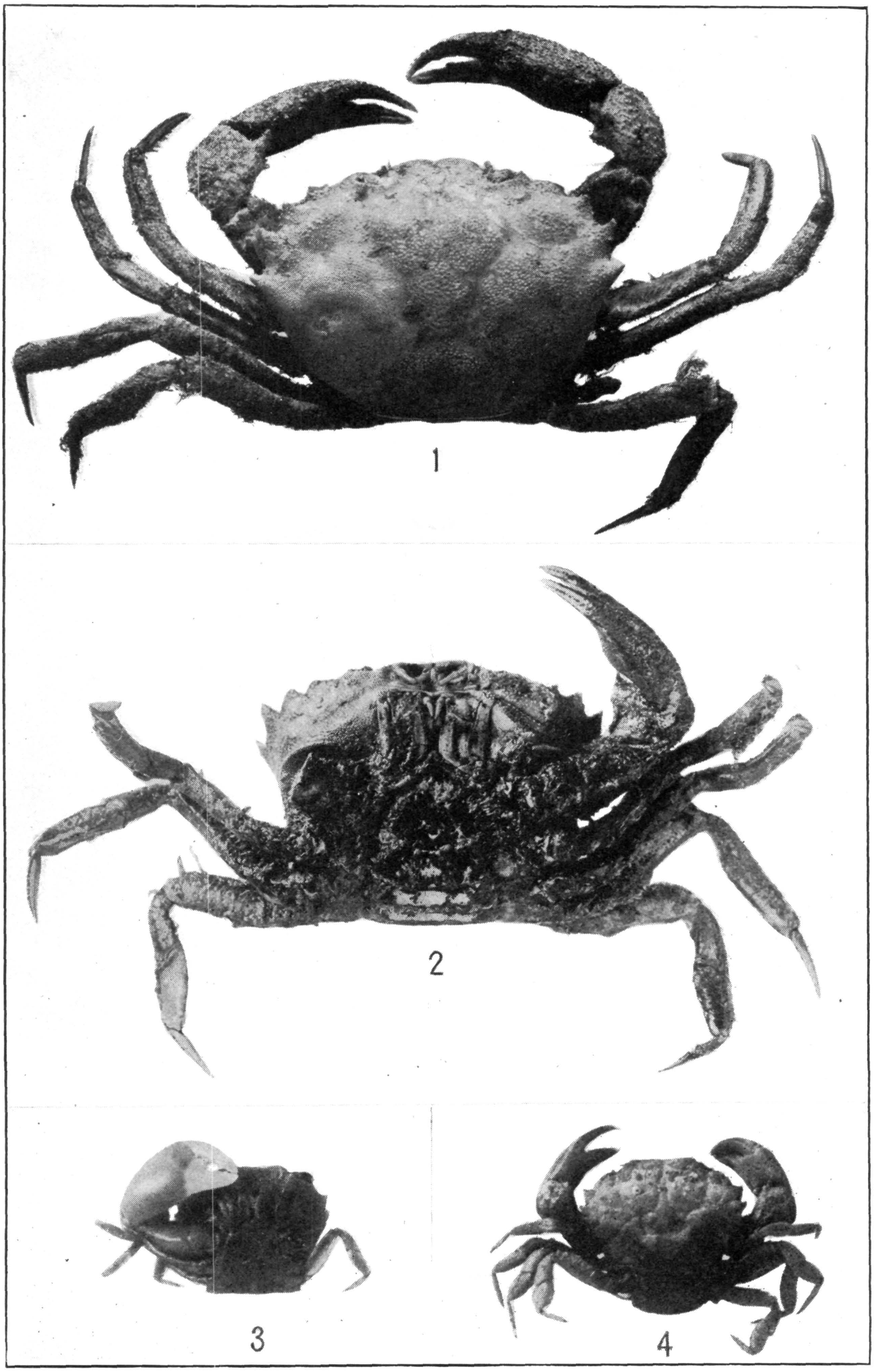
CYRTOPLAX SPINIDENTATA. (PAGE 46.)

FOR EXPLANATION OF PLATE SEE PAGE 426.



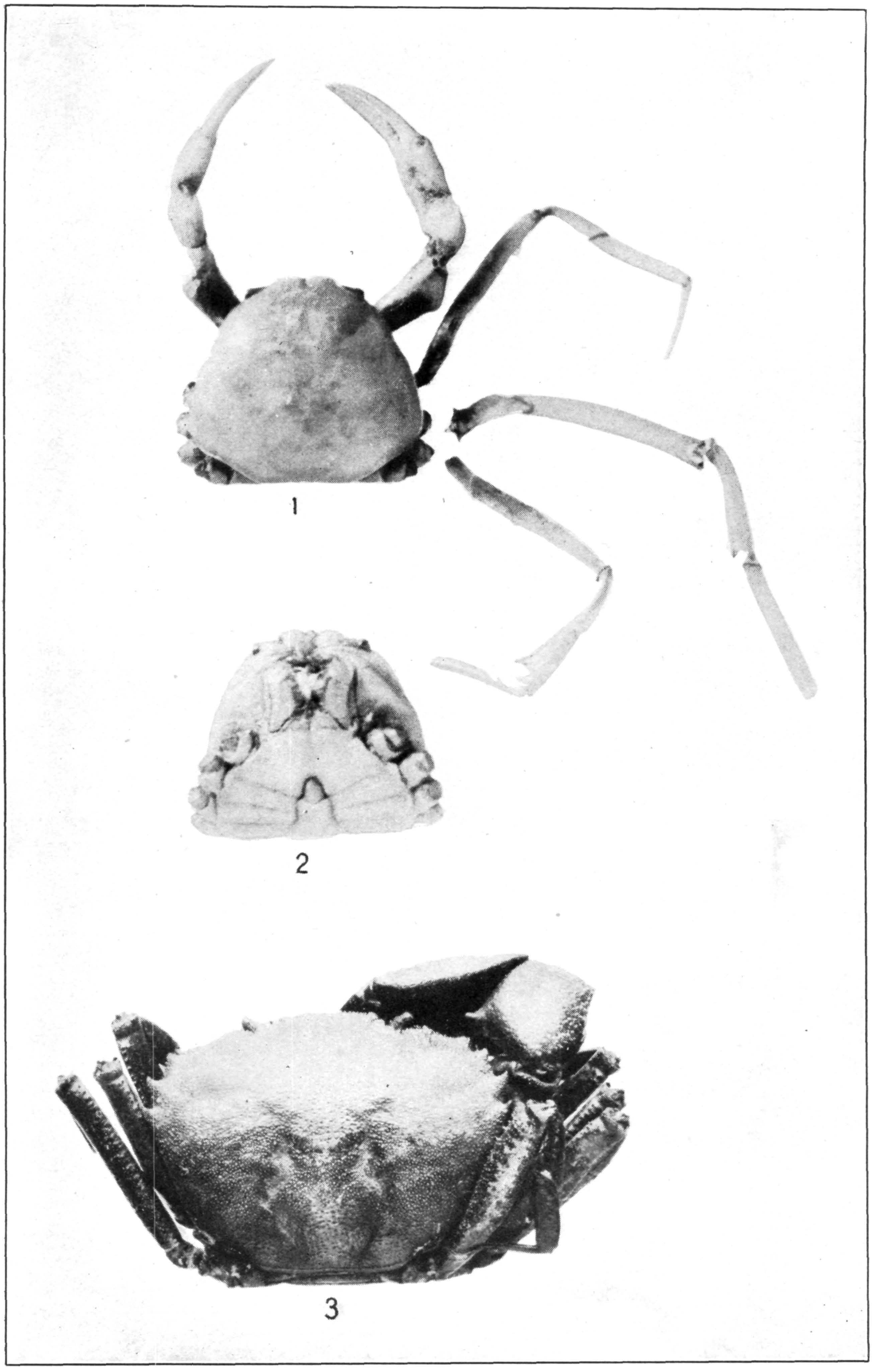
1, 2. PANOPLAX DEPRESSA. (PAGE 47.) 3. EUCRATOPSIS CRASSIMANUS. (PAGE 52.)

FOR EXPLANATION OF PLATE SEE PAGE 426.



1, 2. OEDIPLAX GRANULATA. (PAGE 44.) 3, 4. GLYPTOPLAX SMITHII. (PAGE 51.)

FOR EXPLANATION OF PLATE SEE PAGE 426.



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1, 2. CHASMOCARCINUS OBLIQUUS. (PAGE 58.) 3. PSEUDORHOMBILA OCTODENTATA. (PAGE 43.)

FOR EXPLANATION OF PLATE SEE PAGE 426.

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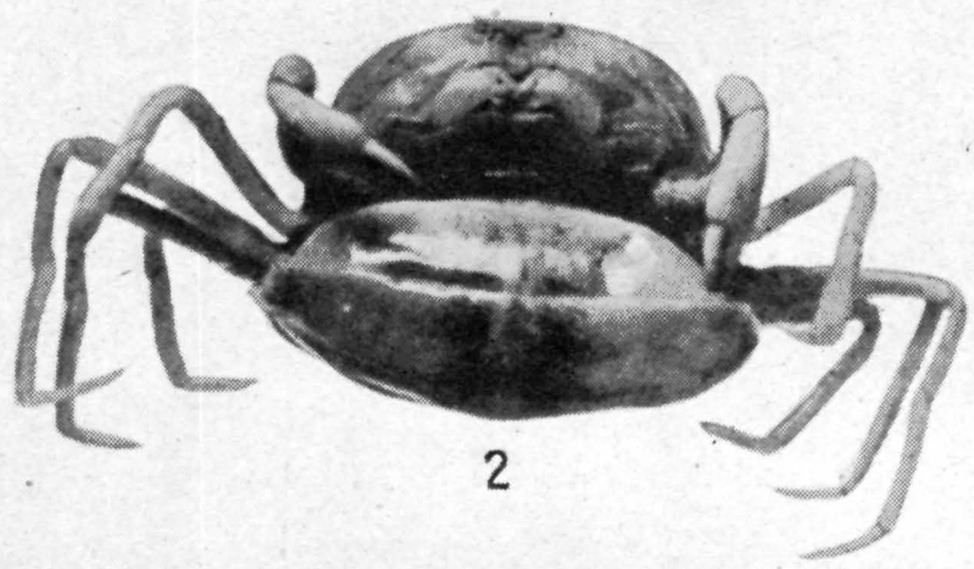

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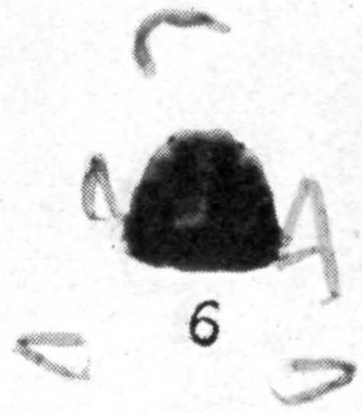

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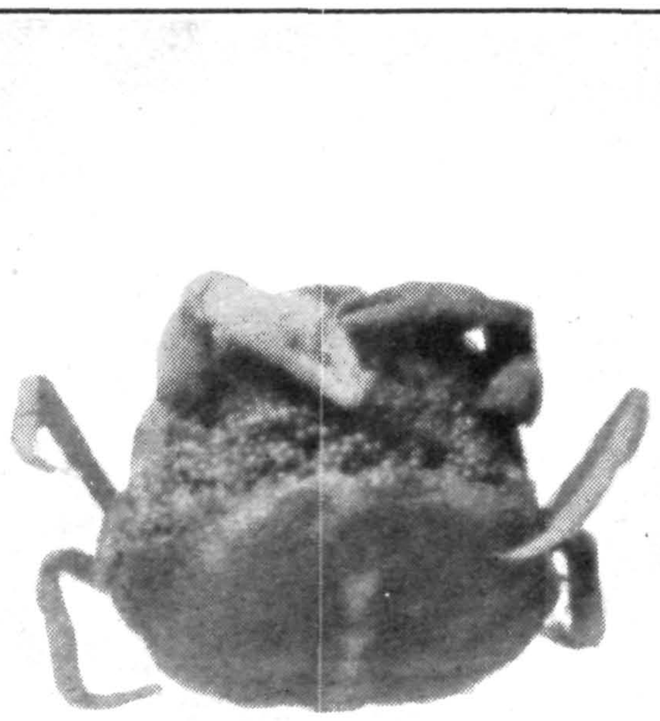
1, 2. PINNOTHERES HOLMESI. (PAGE 68.) 3–6. P. OSTREUM. (PAGE 66.)

FOR EXPLANATION OF PLATE SEE PAGE 426.



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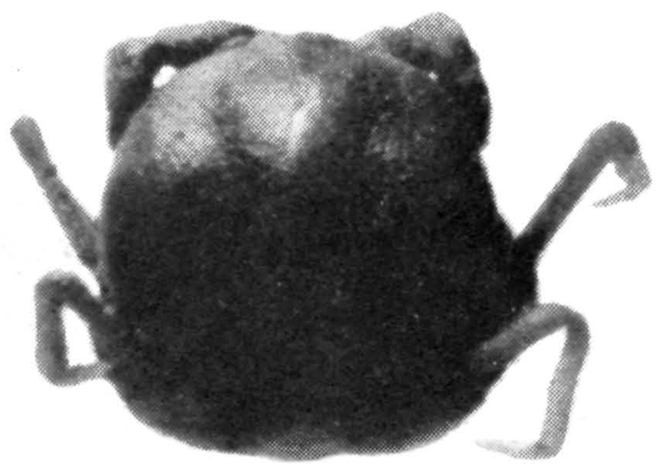

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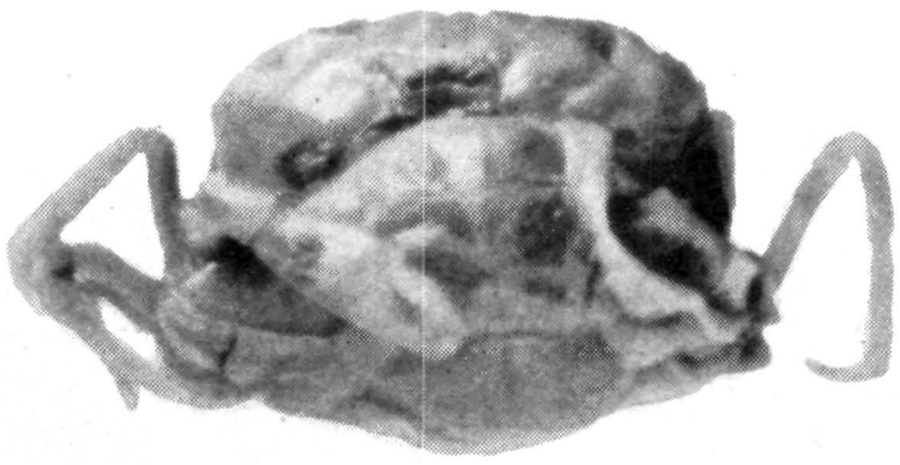

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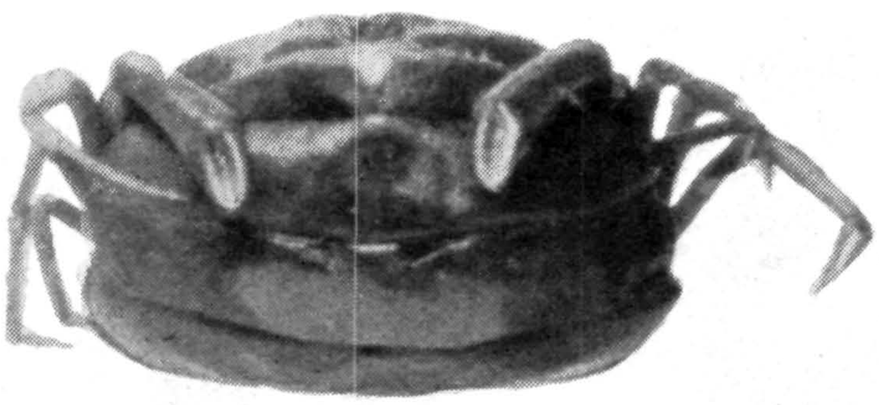

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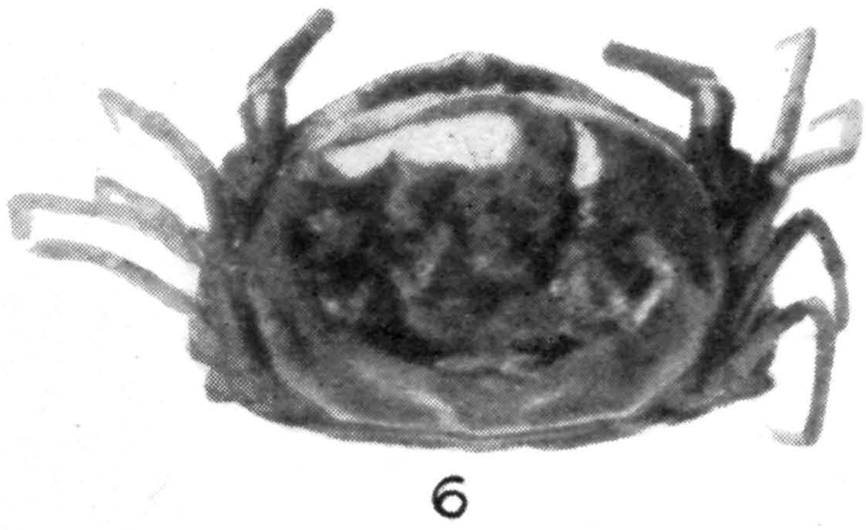

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1–4. PINNOTHERES GEDDESI. (PAGE 70.) 5, 6. P. ANGELICUS. (PAGE 72.)

FOR EXPLANATION OF PLATE SEE PAGE 426.

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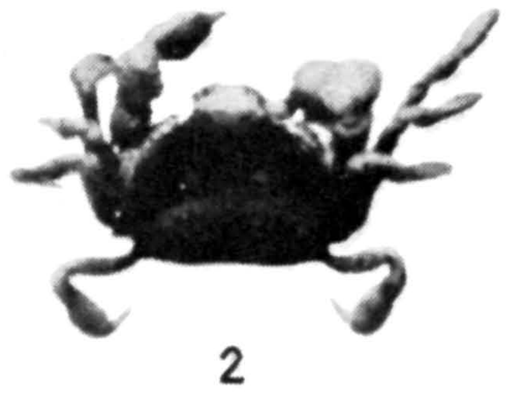

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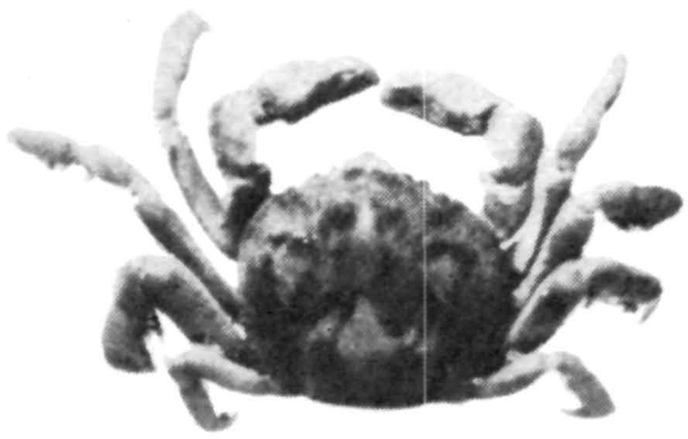

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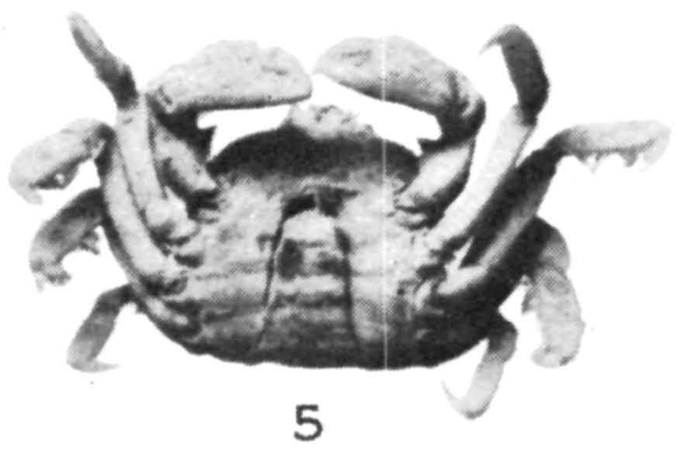

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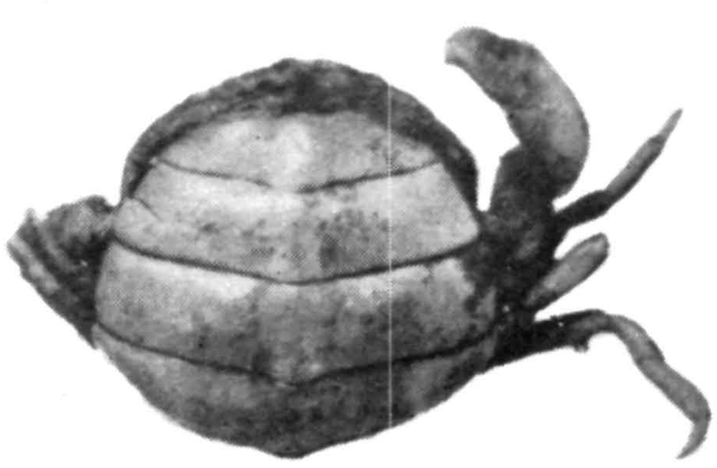

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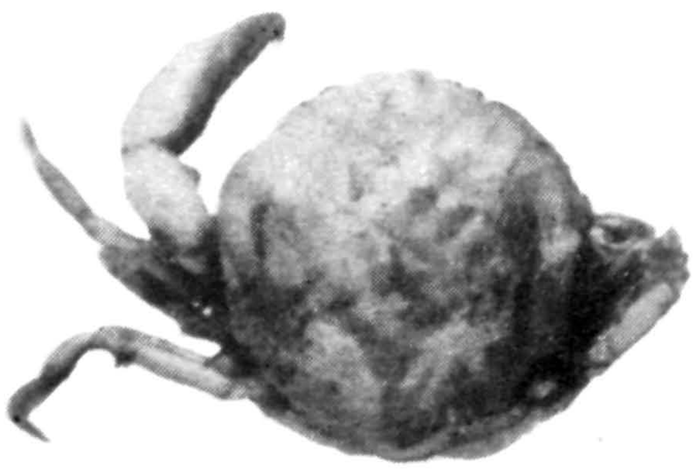

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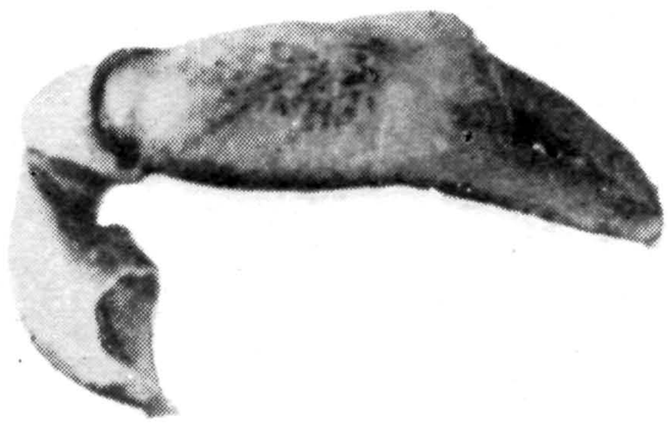
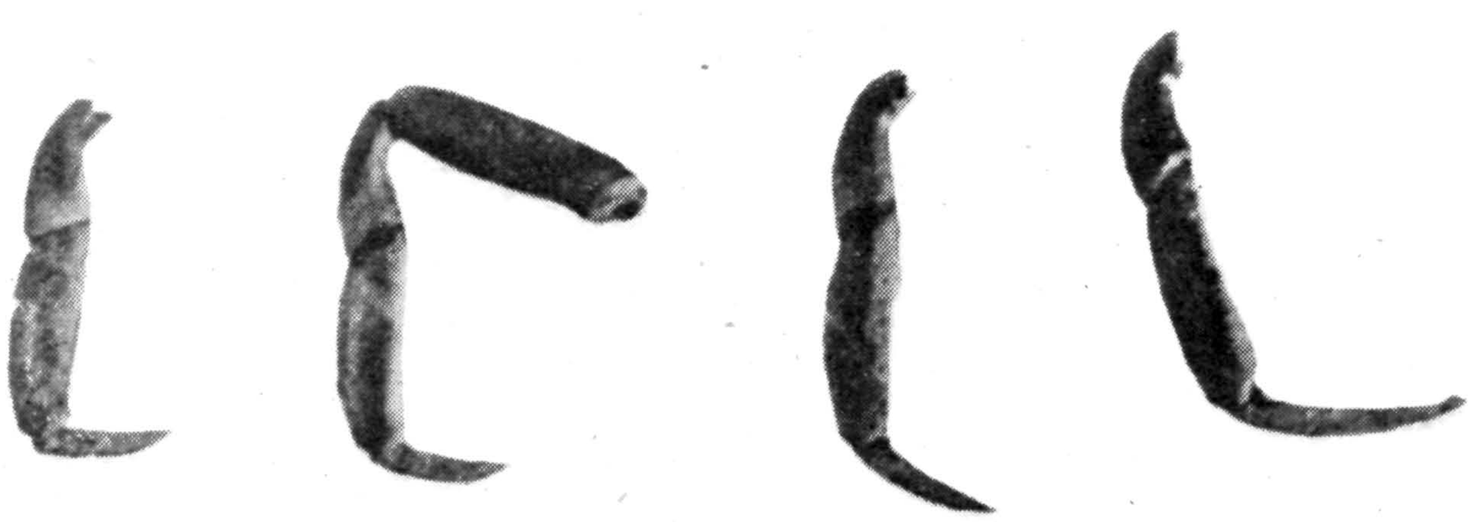
1, 2. PINNOTHERES DEPRESSUS. (PAGE 79.) 3–6. P. MACULATUS. (PAGE 74.)
7, 8. P. PUGETTENSIS. (PAGE 82.)

FOR EXPLANATION OF PLATE SEE PAGE 427.





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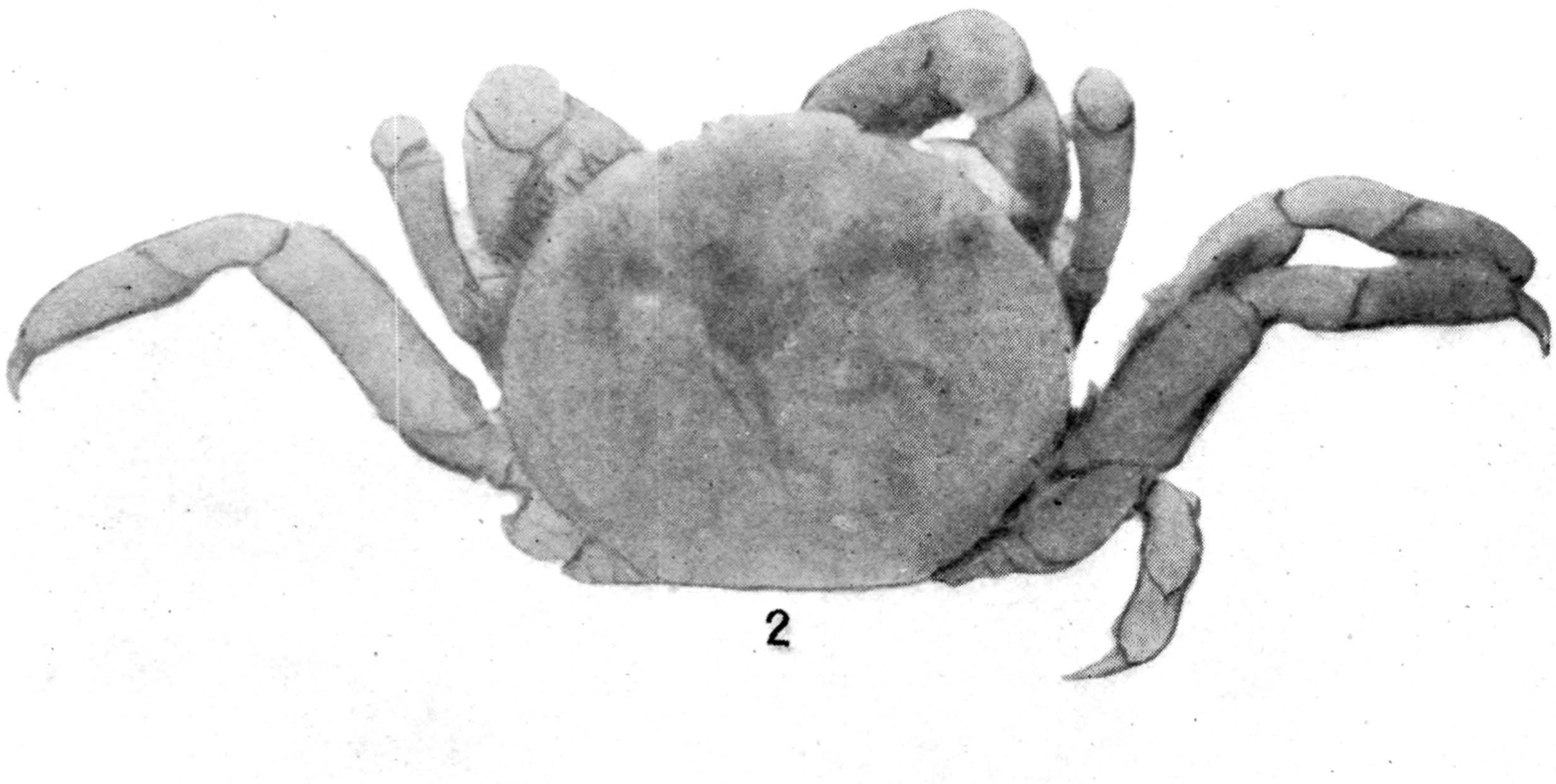

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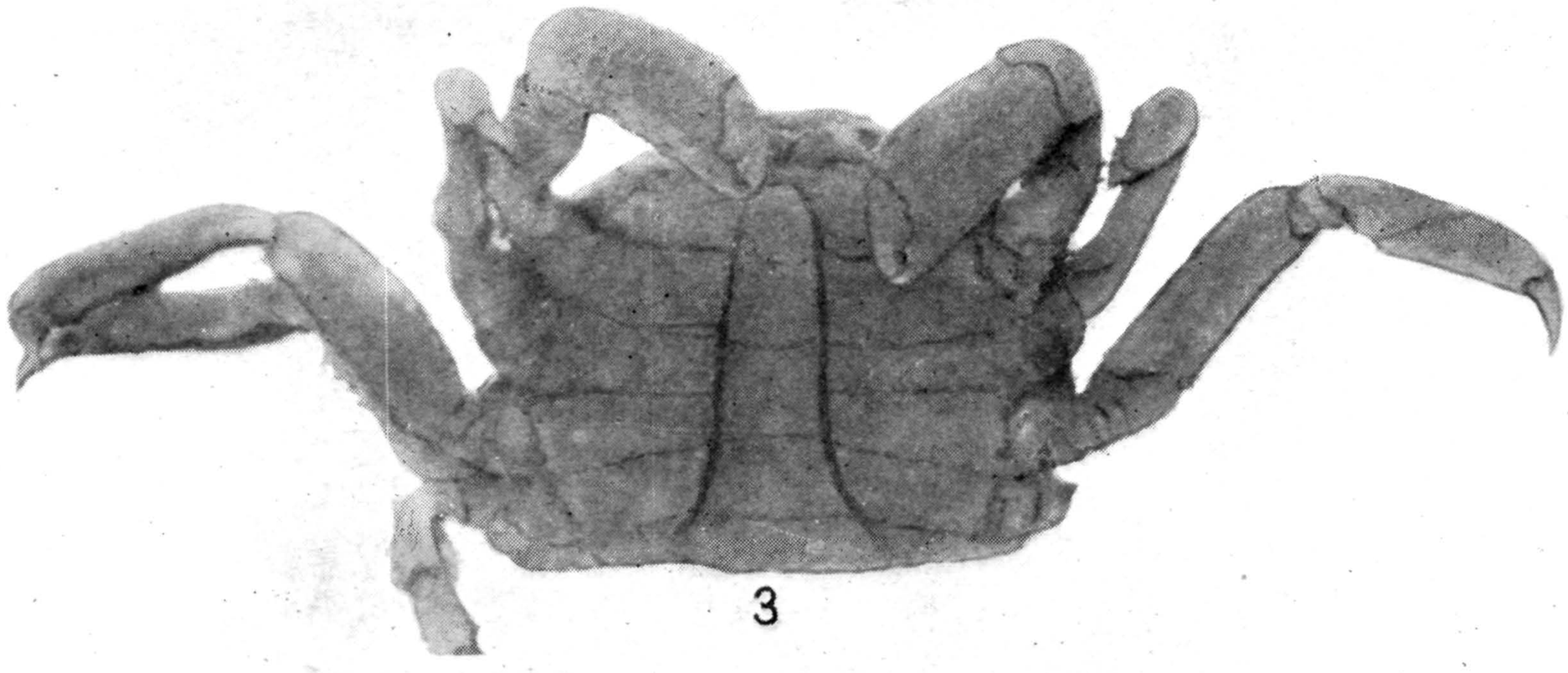

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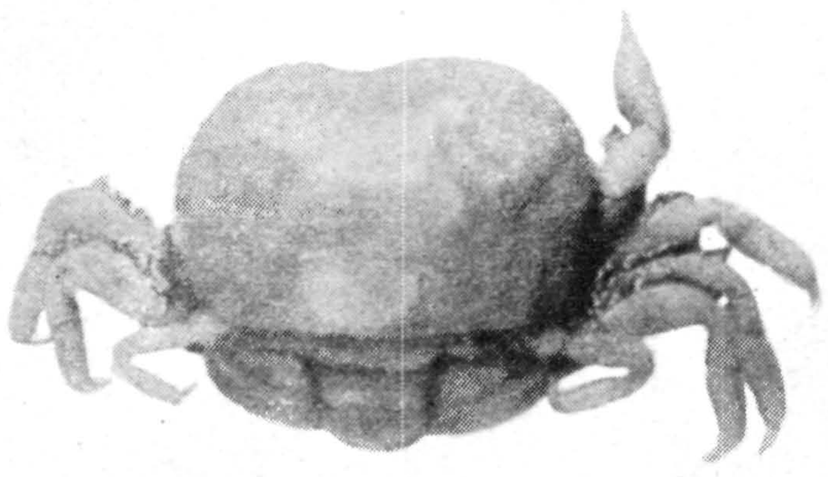
1. PINNOTHERES PUGETTENSIS. (PAGE 82.) 2, 3. P. MULINIARUM. (PAGE 81.)

FOR EXPLANATION OF PLATE SEE PAGE 427.



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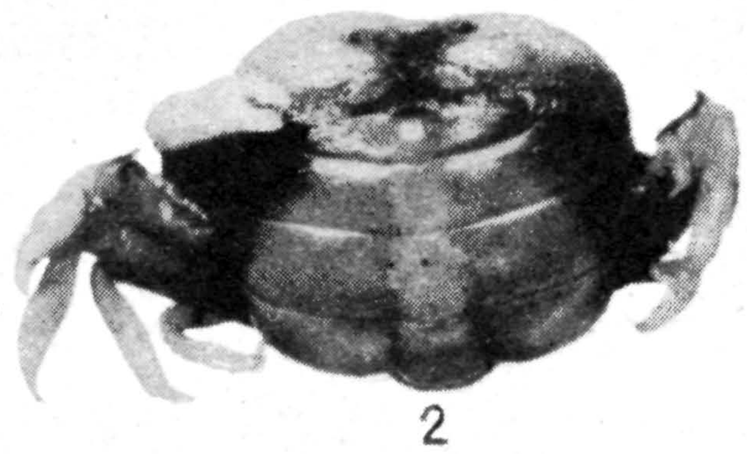

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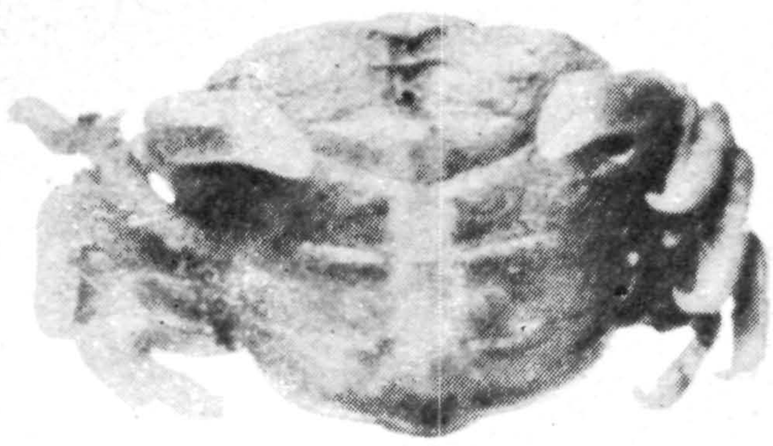

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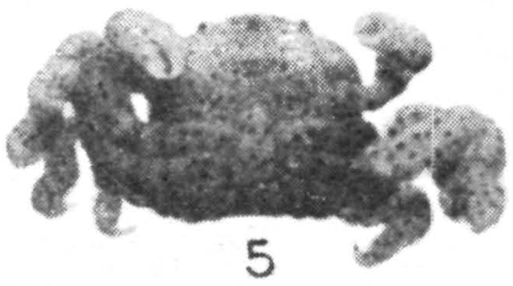

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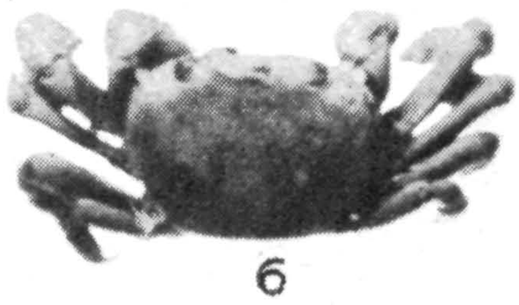

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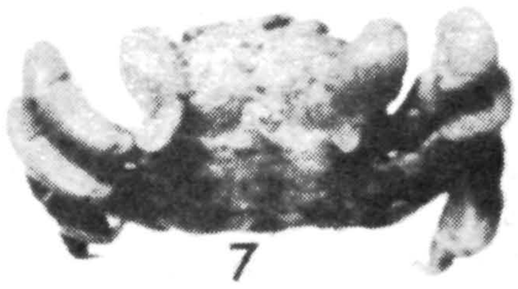

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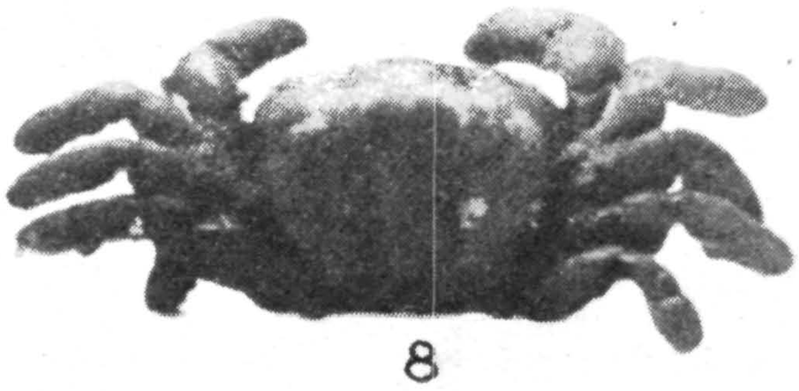

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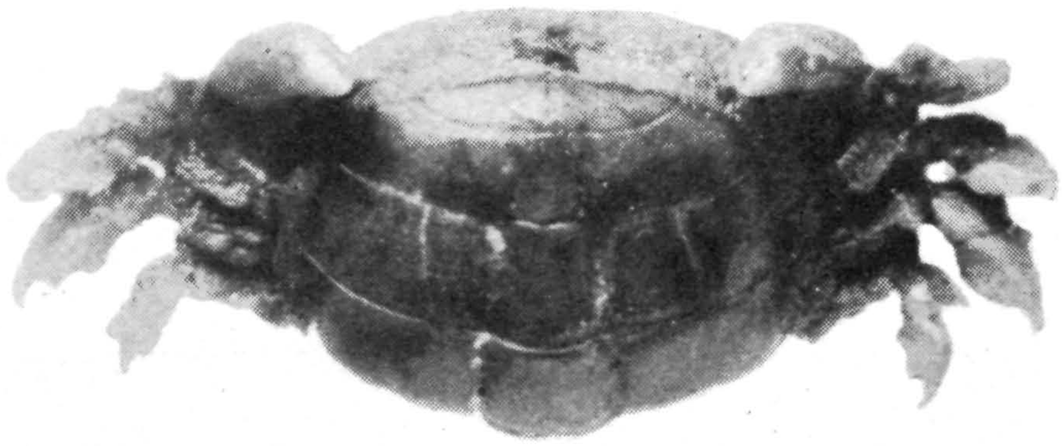

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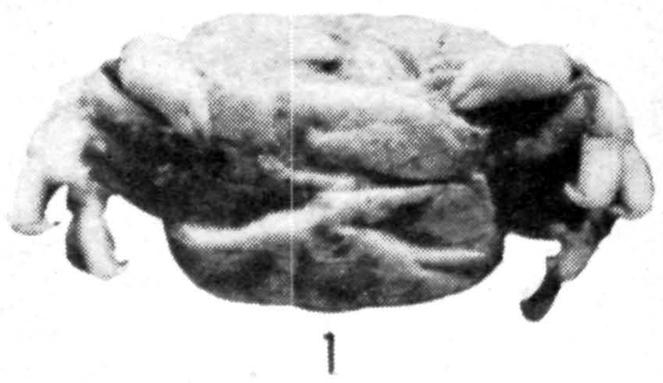
1–7. PINNOTHERES SERREI. (PAGE 84.) 8–11. P. BARBATUS. (PAGE 88.)

FOR EXPLANATION OF PLATE SEE PAGE 427.



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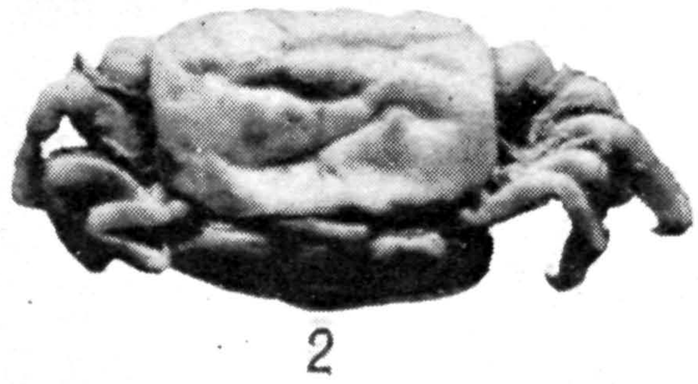

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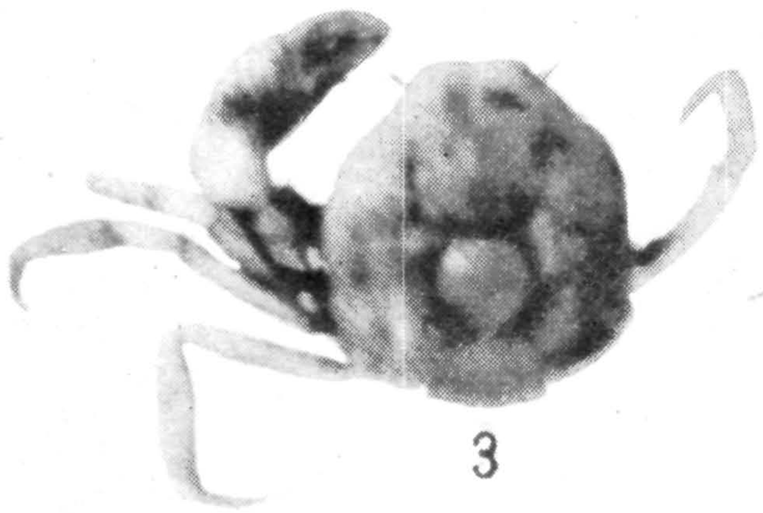

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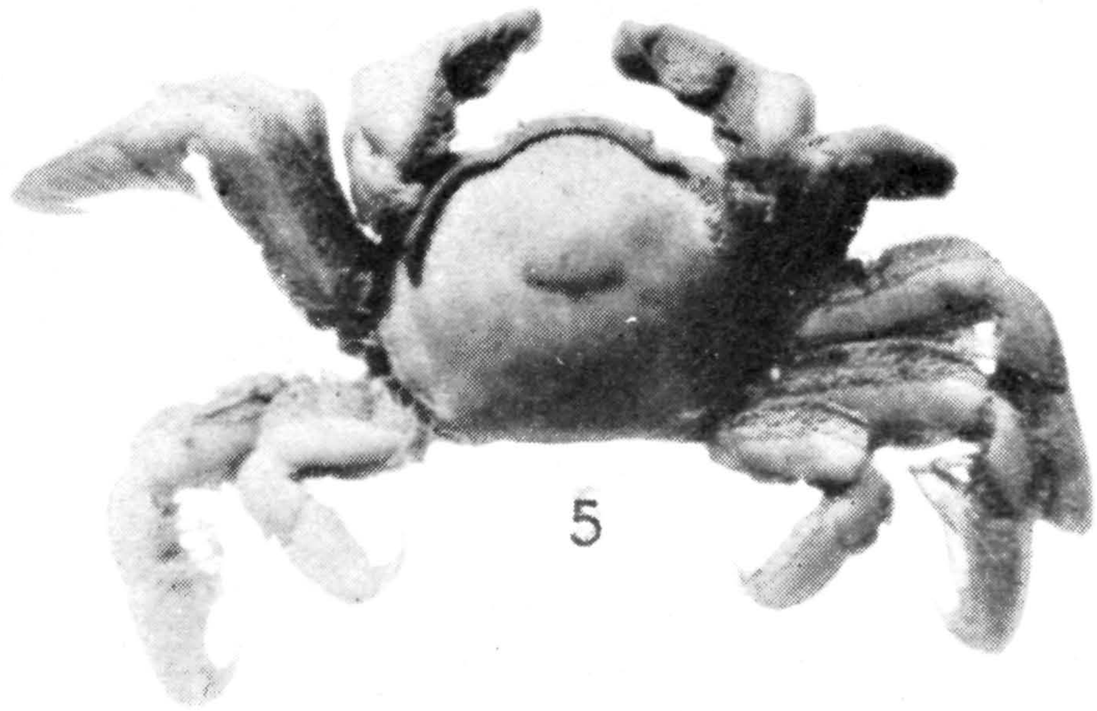

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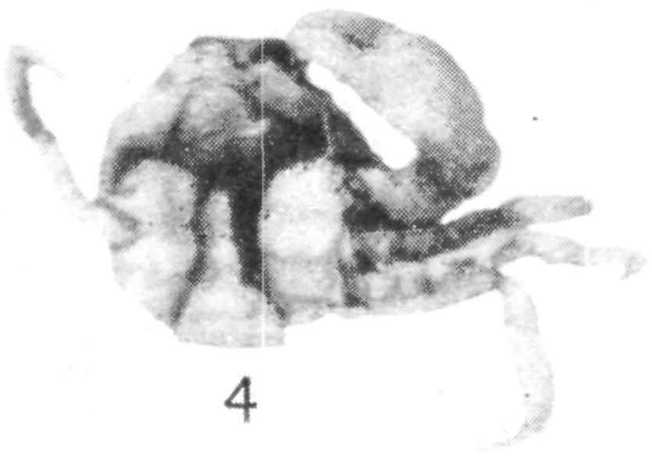

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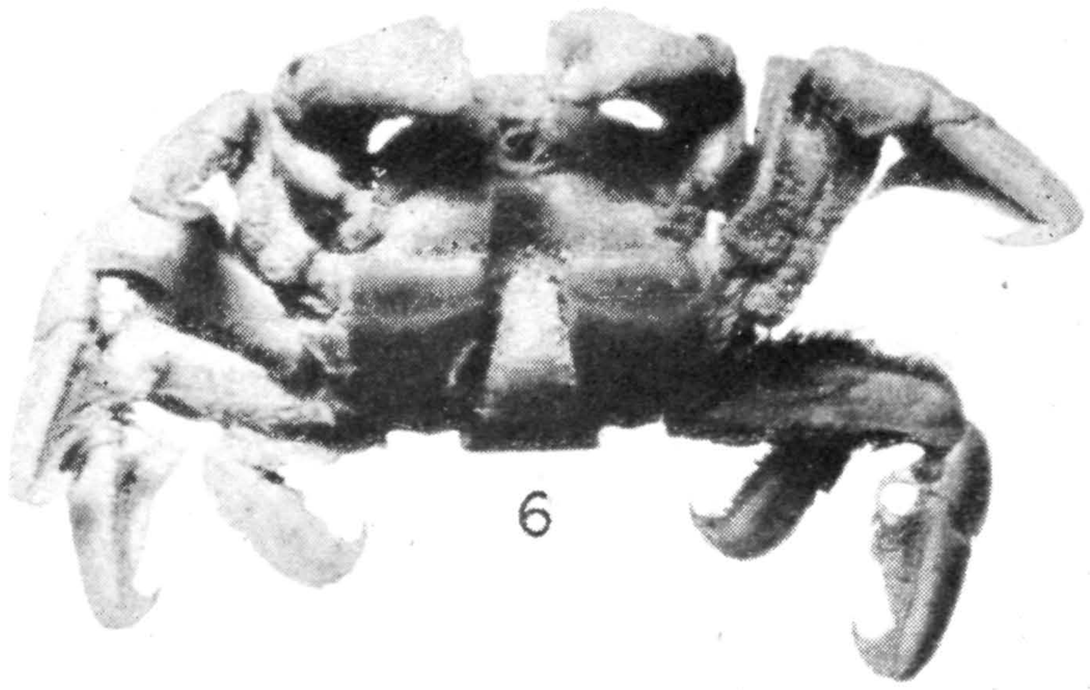

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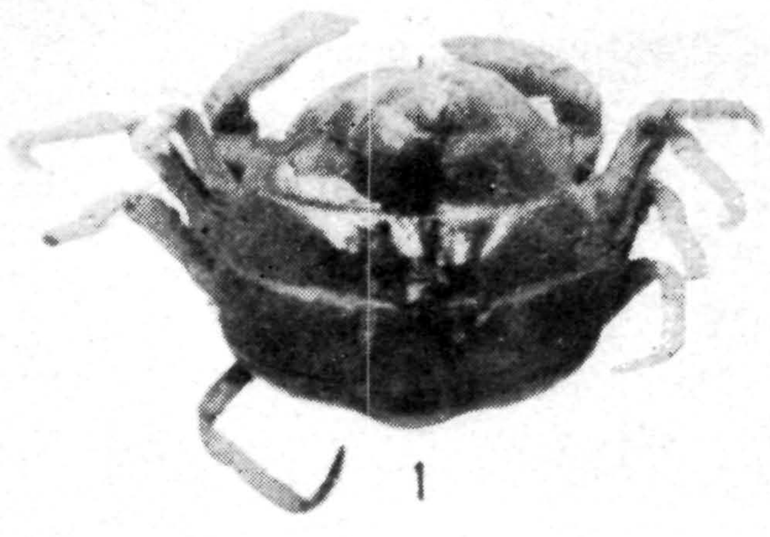
1, 2. PINNOTHERES STROMBI. (PAGE 90.) 3–6. P. CONCHARUM. (PAGE 86.)

FOR EXPLANATION OF PLATE SEE PAGE 427.



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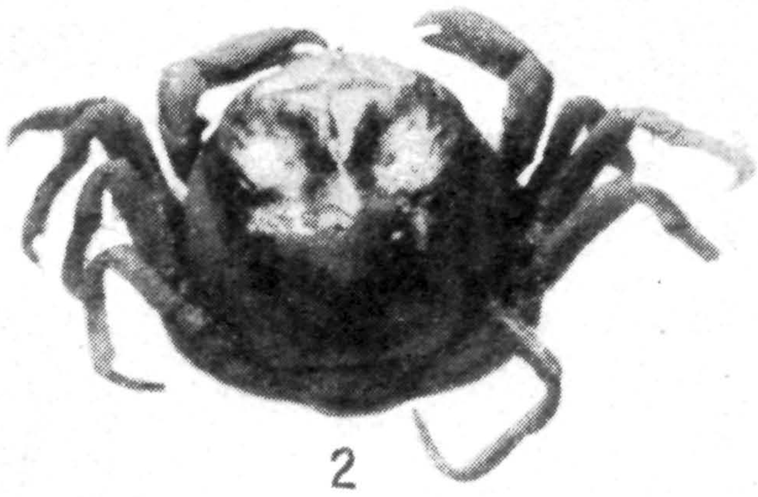

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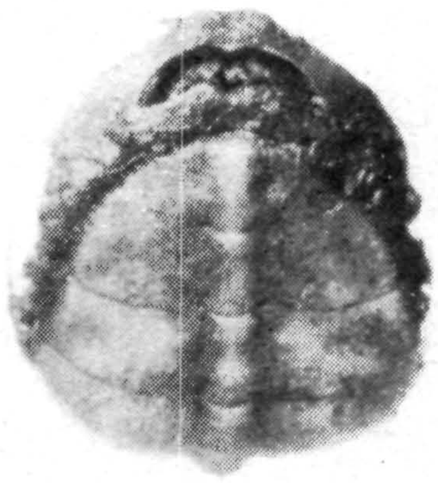

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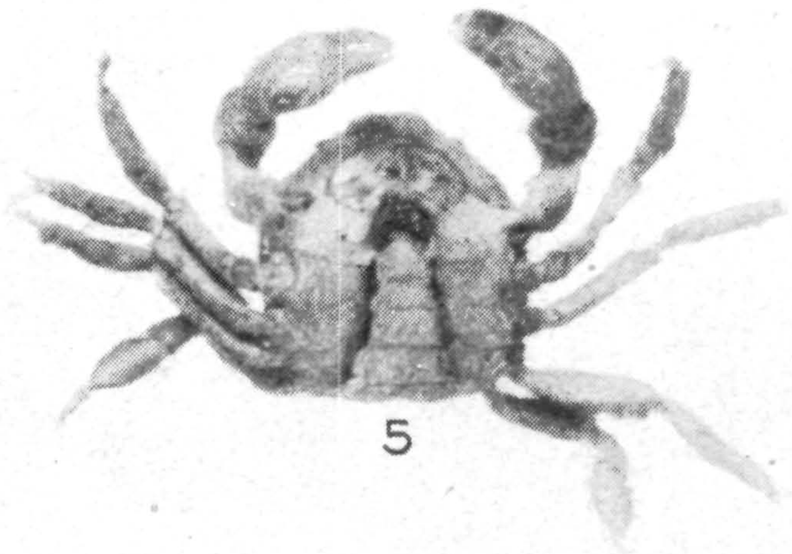

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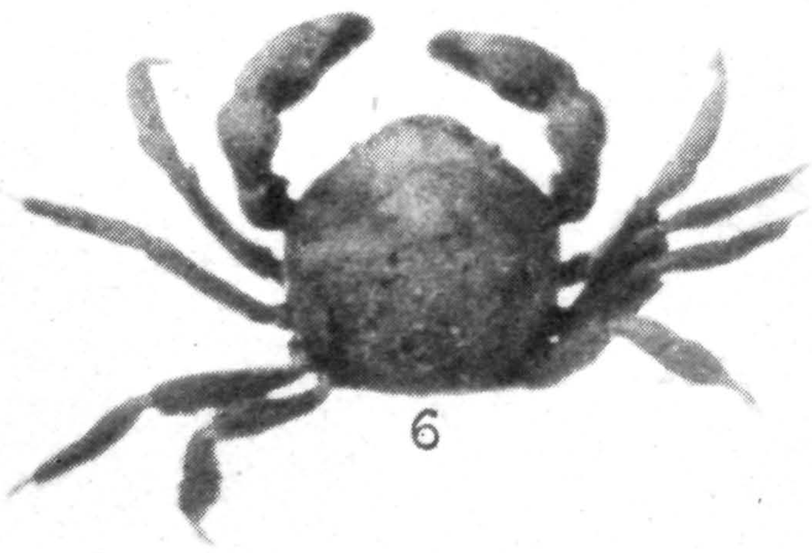

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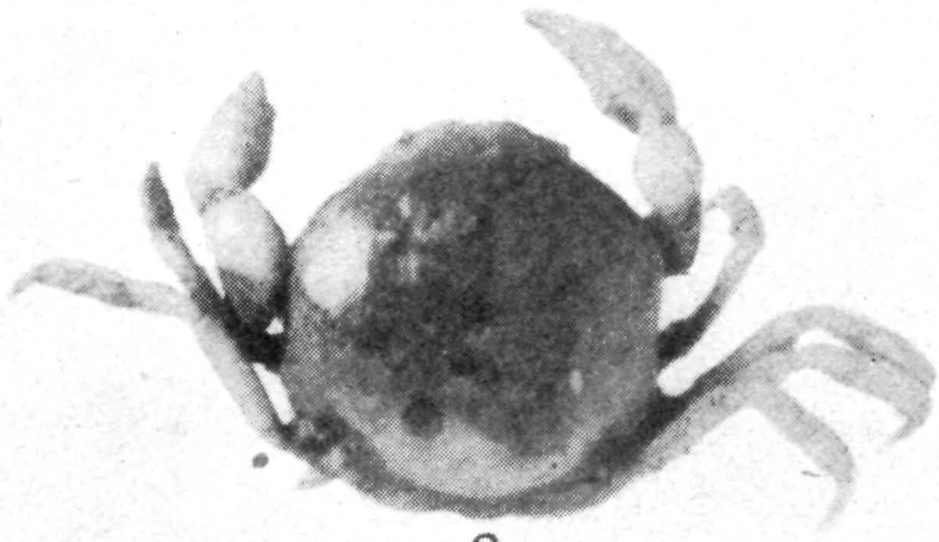

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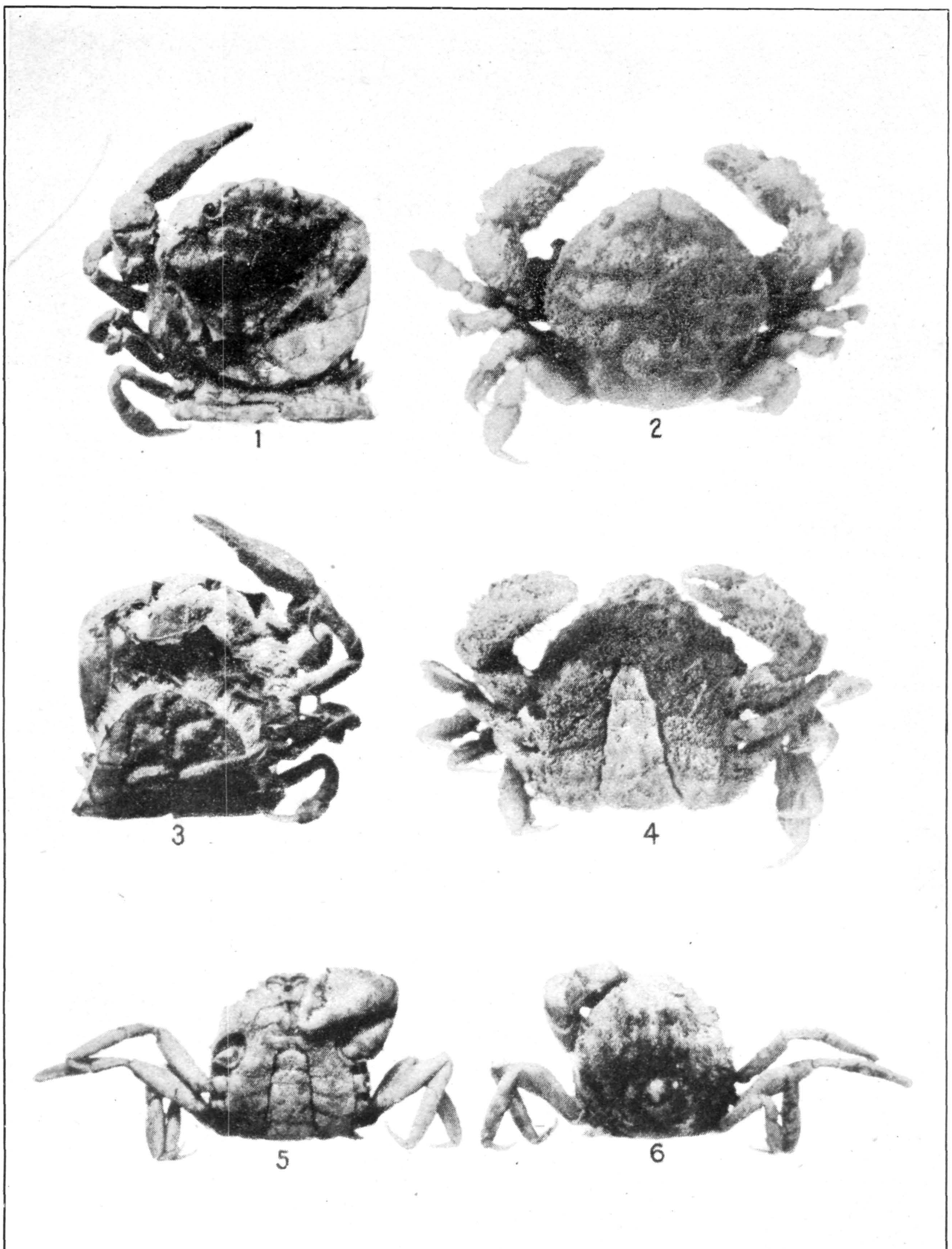
1, 2. PINNOTHERES RETICULATUS. (PAGE 93.) 3, 4. P. MOSERI. (PAGE 94.) 5–8. P. TAYLORI. (PAGE 97.)

FOR EXPLANATION OF PLATE SEE PAGE 427.



1–4. PINNOTHERES SHOEMAKERI. (PAGE 95.) 5, 6. P. ORCUTTI. (PAGE 98.)

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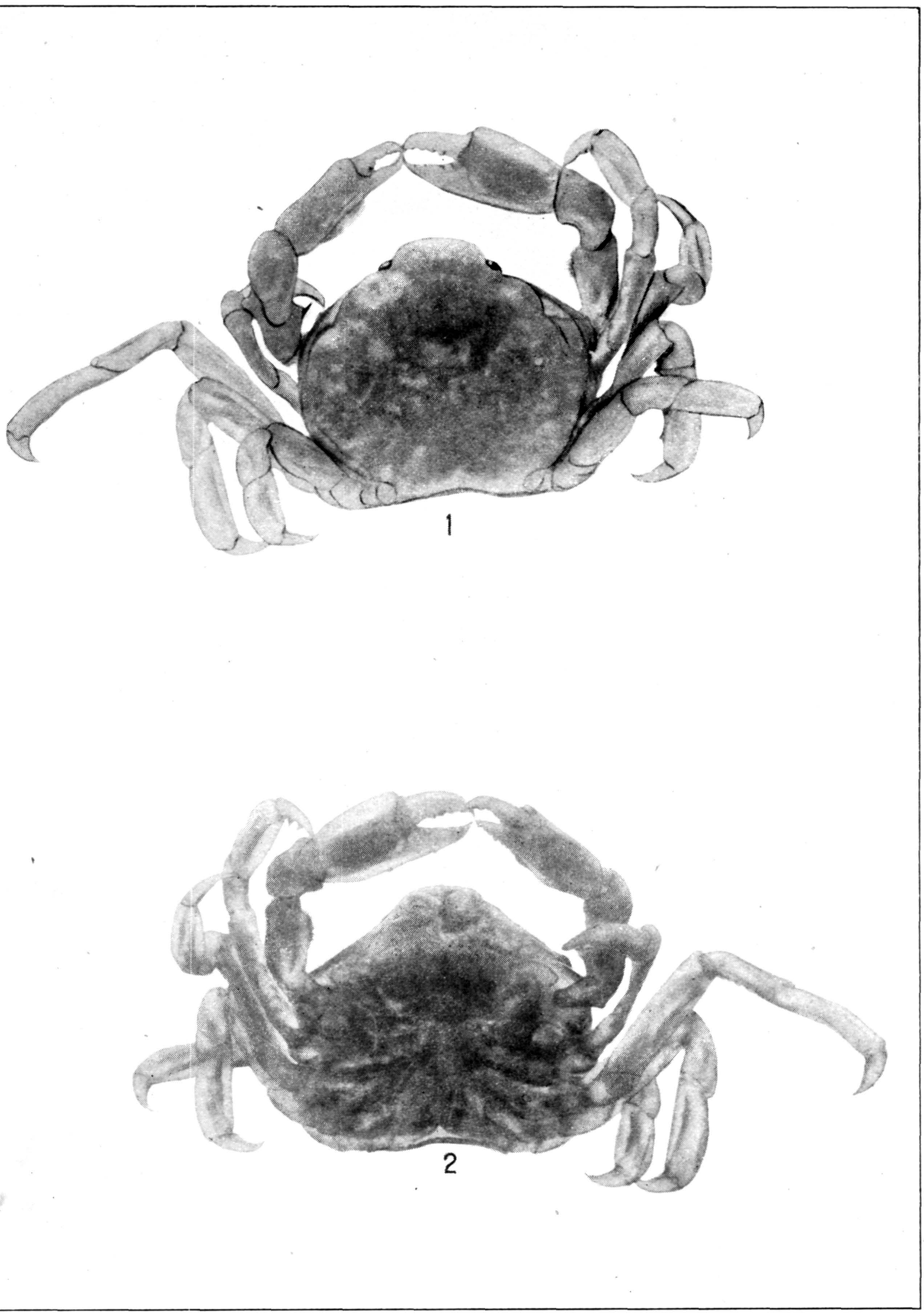

PINNOTHERES HEMPHILLI. (PAGE 99.)

FOR EXPLANATION OF PLATE SEE PAGE 428.