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NEW AND RARE CHINESE CRABS

BY

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SEPARATE FROM

LINGNAN SCIENCE JOURNAL

Vol. 8

CANTON, CHINA,

December, 1929

LINGNAN SCIENCE JOURNAL
(CONTINUATION OF LINGNAAM AGRICULTURAL REVIEW).

PUBLISHED BY
LINGNAN UNIVERSITY, CANTON, CHINA

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* Names arranged alphabetically.

NEW AND RARE CHINESE CRABS

BY MARY J. RATHBUN

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During the last decade the activity of various organizations and individuals in China has made it possible to bring together large collections of decapod crustaceans. The result of a partial study of those specimens was indicated in the "Tentative List of Chinese Decapod Crustacea" published in the Lingnaam Agricultural Review, 1925, by Dr. Gee. Since then a considerable number of known species as well as the new forms described below have been added to the printed list.

Family PORTUNIDAE

Charybdis sowerbyi, n. sp.

Plate 5

Holotype.—Female; Foochow, Fukien, China; A. de C. Sowerby collector; Sept. to Nov. 1923; gift of R. S. Clark to U. S. National Museum; Cat. No. 59078.

Additional material.—A paper-shell female was taken at Keelung, Formosa, Aug. 18, 1922, by M. Oshima and presented to the U.S. National Museum by the Institute of Science, Taihoku, Formosa; Cat. No. 57452.

Description.—Belongs to the typical *Charybdis* group, in which the antennal flagellum is excluded from the orbit, the line that bounds the dorsum of the carapace posteriorly forms a curve with the postero-lateral borders, and there is no spine on the posterior border of the arm. There are no transverse ridges on the carapace behind the level of the last lateral spine

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or tooth. Surface covered with a short close pubescence. Carapace rather evenly convex; a little less than two-thirds its breadth. Transverse lines faint; the line between the last of the lateral teeth is slightly arched; a straight line crosses the middle of the gastric region and in front of it a pair of arched and well separated epigastric lines. Front between the orbits cut into eight sharp-pointed teeth, each pair distinct, median pair most advanced. Angles either side of the outer of the superior orbital fissures acute, subdentiform. Teeth of lateral margin spiniform, the first one subtruncate, having a lobe on its outer margin, the others narrower and similar. Posterior border with a broad, shallow sinus. Inner angle of lower border of orbit produced in a spine-tipped tooth.

Inner margin of arm with three large, unequal spines. A large spine at inner angle of carpus and four smaller spines on its outer surface, one of which is situated at the base of the posterior spine of the manus. The manus is stout, has two spines on each of the superior carinae, the distal pair at the extremity, the other pair near the middle of the palm, that on the inner carina nearer the wrist than the other; three outer carinae, one inner one. Merus of swimming feet a little over one and one-half times as long as wide; a strong spine near distal end of lower margin.

Measurements.—Female holotype, extreme length of carapace 44, width of same 67, fronto-orbital width 36.2, width of front between tips of inner orbital teeth 20.3 mm.

Relation.—Resembles *C. acuta* (A. Milne Edwards)² which is less convex, posterior margin arcuate, first two lateral teeth of carapace similar, no small carpal spine at base of manus spine, chelae more slender, only two carinae on outer surface of palm.

²*Goniosoma acutum* A. Milne Edwards, Nouv. Arch. Mus. Hist. Nat., vol. 5, 1869, p. 150, pl. 7, fig. 8-10.

Family **POTAMONIDAE****Potamon (Potamon) denticulatus** (Milne Edwards)

Plate 6; Plate 7, figs. 11-14.

This species distributed over a great part of China, has several variations some of which appear to be constant and referable to separate "forms" while other variations exist within each form.

Form *a*.—The two original type-specimens, both young, are not extant, but the first adult specimen in the Paris Museum, a male, was figured by A. Milne Edwards.³ The figures show a distinctly bilobed front. A male of this sort (pl. 7, fig. 12) is in the National Museum collection from Tcheuton, Szechuan, but along with it are a male (pl. 6, fig. 3) and female with a non-bilobed, nearly transverse, but slightly arched and wavy front. This is the type of front which prevails in this "form" of the species. The three specimens are alike in other respects; the lateral denticles of the carapace are small, not sharp and are somewhat irregular; the male abdomen (pl. 7, fig. 14) is subtriangular, gradually tapering, suddenly constricted at the base of the terminal segment.

Form *b*.—The carapace (pl. 6, fig. 4) is more convex than in form *a*, the gastric region much swollen, the lateral denticulate rim better defined, the denticles sharper, the abdomen (pl. 7, fig. 11) of the two males (57606 and 59271) more evenly triangular, that is, wider across the third segment whence it tapers regularly to the end of the sixth; the sides of the front are more oblique. One specimen (female, 58758) is intermediate between forms *a* and *b*, resembling the latter except as to its front which is not distinctly bilobed.

Form *c*. pl. 6, fig. 5. Somewhat flatter than form *a*. It has a deep arcuate branchial groove, concave inward, beginning near the end of the protogastric ridge and curving

³Nouv. Arch. Mus. Hist. Nat., Paris, vol. 5, 1869, pl. 10, figs. 3-36.

backward and inward nearly to the gastric region; the gastric ridges are more oblique than in the other forms; the lateral denticles are blunter and less conspicuous than in form *a*; the margin of the front is more like that of form *a*, is slightly bilobed, the edge bent down at the middle where the marginal granules are more feeble than elsewhere; the male abdomen (pl. 7, fig. 13) is much narrower than in form *a*, suboblong, the terminal segment constricted very little at the base, broadly rounded at the end.

LOCALITIES

Form *a*.

Streams of Chekiang; M. David; received from Paris Mus.; 1 male, 1 female (20304).

Foochow, Fukien; Dec. 1926; C. R. Kellogg; 2 females (61039).

Suifu, Szechuan; D. C. Graham, 1924; 1 male, 2 females (58759). From stomach of giant salamander; 1 male, 4 females (61880).

Tcheuton, Szechuan; L. David; received from Paris Mus.; 2 males, 1 female (29982).

Form *b*.

Ta Ming Hu, Tsinan, Shantung; lake inlet; Shantung University; 1 male, 1 female (59271).

Lung Tung stream, S.E. of Tsinan, Shantung; Shangtung University; 1 female (61881).

Hangchow, Chekiang; 1923; A. de C. Sowerby; gift of R. S. Clarke; 1 male (57606).

Between forms *a* and *b*.

Suifu, Szechuan; 1924; D. C. Graham; 1 female (58758).

Form *c*.

Near Yen-ping Fu, Fukien; in the mountains and streams to the south and west; 1922; A. de C. Sowerby; gift of R. S. Clark; 1 male, 1 young female (56731).

Foochow, Fukien; 1922; A. de C. Sowerby; gift of R. S. Clark; 1 female (56729).

Pe-Yeng-Tong, 1925; C. Ping; from Science Society of China; 1 male (59157).

Potamon (Potamon) grahami, n. sp.

Plate 10; Plate 11, fig. 33

Type-locality.—Suifu, Szechuan, China; 1923; D. C. Graham; holotype male, Cat. No. 58755, U. S. National Museum.

Description.—Very near *P. (P.) whiteheadi* Parisi⁴ from Hainan, indeed when compared with the photograph of the dorsal view of that species (pl. 7, fig. 1, Parisi), there appears to be no difference of consequence. In the holotype and sole specimen of *grahami* the chelipeds are of subequal size (pl. 10, fig. 30) instead of very unequal; this may be due to its smaller size than those of *whiteheadi* described and measured by Parisi. A striking difference lies in the form of the male abdomen: in *whiteheadi* (text-fig. 1c, Parisi), the abdomen is narrow-triangular from the third to the seventh segment, with a slight lateral constriction; in *grahami* the abdomen (pl. 10, fig. 30) is broader, triangular without constriction, the penultimate segment narrows rapidly toward its extremity, its length being half its basal width, while in *whiteheadi* the length is two-thirds its basal width.

The propodus of the larger or right cheliped is a little higher than that of the left one, and its palm more swollen, the lower outline more arcuate; fingers similar in the two chelae, the prehensile edges finely and irregularly dentate. A comparison of the front views of the two species (see Parisi's pl. 9, fig. 4), shows the front of *grahami* (pl. 11, fig. 33) to have less convergent sides and to be more abruptly rounded at the corners. The orbits are more transverse in direction in *grahami*, the lower margin horizontal, instead of sloping downward and outward as in *whiteheadi*. The median tooth

⁴Atti Soc. Ital. Sci. Nat., vol. 55, 1916, p. 153(5), text-fig. 1c, pl. 7, fig. 1, pl. 9, fig. 4.

of the epistome is much longer and more prominent, the merus of the outer maxillipeds is shorter and its inner distal margin where the palp is inserted is more distinctly concave than in the older species.

Measurements.—Male holotype, length of carapace 17.4, greatest width 22, fronto-orbital width 16.5, width of front 6.7, epibranchial width 19.4 mm.

Family XANTHIDAE

Heteropanope makiana, n. sp.

Plate 11, figs. 31 and 32

Type-locality.—Shyago, Formosa; Jan. 1923; M. Maki collector; from the Institute of Science (M. Oshima); 1 male holotype, Cat. No. 57497, U. S. National Museum.

Description.—Carapace transversely oval, evenly convex in all directions; regions faintly indicated; a deep median groove from gastric region to edge of front, and a shorter longitudinal groove either side of the front below the orbital border; a concavity in the median line of the front. Upper surface smooth posteriorly, covered with scattered granules as well as a few short lines of granules, as follows: One on the axis of the last lateral tooth bends obliquely forward across the branchial region; one arched forward on the hepatic lobe; opposite, on each protogastric region, a transverse, wavy line; a few short, irregular epigastric lines; a few granules near tip of third tooth and a larger group on fourth tooth. Margins of front, orbits and antero-lateral teeth coarsely granulate. Frontal lobes oblique, margins straight, separated by a large V; superior inner angle of orbit rectangular. The upper margin of the orbit has in its outer half two slightly marked closed fissures; a small emargination below the outer angle; inner tooth broad, triangular, projecting beyond the upper inner angle, but not as far as the outer angle of the front. The antero-lateral margin has the customary five prominences

of typical Panopeids; the first is the outer angle of the orbit which is advanced in a minute tooth; it is fused with the shallow lobe next it; the next or third tooth is shallow with a short anterior margin and a long arcuate outer margin following the general curve of the lateral border; the fourth and fifth teeth are acute, directed outward. The carapace is covered thinly with silky hairs, the under parts, the ambulatory legs and the basal half of the chelipeds are densely hairy. Lower surface of carapace granulate.

Chelipeds (pl. 11, fig. 32) very unequal in the male; the right is larger in the holotype, but smaller in the male paratype. Merus short and stout, margins and lower surface granulate, a short subdistal tooth on upper margin. Carpus nearly as broad as long, a groove parallel to the distal margin, upper-outer surface coarsely granulate, a small acute tooth at inner angle, more pronounced in the minor cheliped. Palms thick, the larger one unusually heavy for the size of the body, upper margins convex, lower margins lightly sinuous. In the major palm the coarse granulation embraces the upper two-thirds of the outer surface and the upper third of the inner surface; fingers stout, a slight gape at base, grooves shallow, punctate; the fixed finger has two prehensile lobes, the dactylus a single shallow basal lobe. In the minor palm the granulation covers both surfaces except for a smooth patch at distal end inside; fingers deeply grooved, granulate on the basal portion, not gaping, prehensile edges unevenly dentate. Ambulatory legs with margins finely haired, tips of dactyli strongly curved, light colored.

Measurements.—Male holotype, entire length of carapace 9.7, width at last tooth 13.7, fronto-orbital width 8.2, width of front 3.7, length of major propodus of cheliped 12.4, greatest height 7, length of minor propodus 8.7, greatest height 4.2 mm.

Additional localities.—Japan: Taniyama, Satuma; in holes in rocks; T. Urita; 1 male, Cat. No. 48361, U. S. National Museum.

China: Muiwha; S.F. Light; 1 male. In this specimen, 13 mm. wide, the granulation is sharper and more prominent than in the holotype. The teeth of the antero-lateral margin appear finely denticulate, the upper surface of minor wrist and palm is rough with acute granules.

Relation.—Similar in form to *H. indica* de Man⁵, which has fewer granulated lines on the carapace and almost smooth chelipeds.

Family GONEPLACIDAE

Ser, n. gen.

(*Ser*, an inhabitant of China)

Belongs to the subfamily Carcinoplacinae, in which the base of the third segment of the male abdomen covers the whole space between the legs of the last pair. Otherwise much as in *Speocarcinus* of the Prionoplacinae.

Carapace subcylindrical. Fronto-orbital width not more than half width of carapace. Margin of front half of carapace squarish, sides slightly converging posteriorly. Eyes small, filling orbits, their stalks tapering to the cornea. Antennules transverse. Basal article of antenna not reaching front, the next article standing in the orbital hiatus. Epistome of good width. Buccal cavity widened anteriorly, maxillipeds filling the gape, merus broader than long. Chelipeds of male very unequal. Third pair of legs longest. Dactyls slender, those of last pair of legs curved backward instead of downward. First segment of male abdomen covering the sternum; all segments separate. *Genotype.*—*Ser fukiensis*, n. sp.

⁵Jour. Linn. Soc. London, vol. 22, 1887, p. 53, pl. 3, figs. 1 and 2.

Ser fukiensis*, n. sp.*Plate 12**

Type-locality.—Liuwutien, Fukien, China; from mud flats; May 28, 1924; E. C. Yuh collector; received through S. F. Light; 1 male holotype; Cat. No. 61879, U. S. National Museum.

Description.—Covered with a short velvety coat except on the fingers. Chelipeds and legs long-hairy, hairs arranged in about seven rows on outside of palms. Anterior half of carapace strongly deflexed; posterior half moderately convex antero-posteriorly, flat from side to side except along the postero-lateral borders. Furrows at inner branchial angles deep; gastro-cardiac furrow less deep; hepatic region distinct; gastric region faintly divided into three subregions; a median furrow runs from the mesogastric region to the edge of front. Fronto-orbital distance less than half width of carapace. Front a trifle wider than the combined orbits, slightly advanced, bilobed, lobes arcuate, margins rimmed. Orbits horizontal, subtriangular, a large outer emargination continued backward in a closed fissure; upper border raised, but not rimmed, concave as a whole and continuous with the frontal margin; two slight superior notches between which the edge is advanced in a shallow lobe. Antero-lateral margin acute; tooth at orbit insignificant; behind it are three notches, successively broader and deeper, forming three teeth; the first is lobiform, the second crescentic with sharp tip, the third is narrow, spiniform, continuing the line of the postero-lateral margin forward and outward. Postero-lateral margin blunt and thick, without marginal line. Posterior margin sinuous, slightly concave at middle. From below its outer extremities, an oblique ridge runs forward across the subbranchial regions. Epistome deep, lower part at least bare, edge bi-emarginate.

Chelipeds stout; merus with a small subdistal tooth on upper margin; carpus with a strong, acute pyramidal tooth directed strongly inward. Palms thick and high, upper and

lower margins convex; fingers long, deflexed, the dark color not embracing their bases nor extreme tips. Six rows of long hair on dactyls of ambulatory legs.

Abdomen of male: The second segment is about three-fifths as wide as the first and is invaginated in the third, which reaches the coxae of the last pair of legs and narrows rapidly to the distal end; four remaining segments narrow, the distal angles of the sixth segment swollen and smooth; terminal segment longer than broad. The appendages of the second segment are bent obliquely upward just beyond the middle and the extremities are curled downward in a ring.

The female (only a soft-shelled specimen is at hand) has subequal chelae, approaching in size the minor chela of the male; the fingers are shorter than in the male. The first segment of the abdomen reaches across the sternum; the remainder is suboval in form and does not nearly cover the sternum.

Measurements.—Male holotype, length of carapace 17, width of same at lateral angles 23.3, width posteriorly 21, width of front and orbits 10.6, width of front 5.7 mm.

Material examined.—Besides the type-specimen, a male with a large Rhizocephalid parasite attached to the abdomen was taken, exact locality not given. A male and a female are from Santu, North Fukien, September, 1923, the female collected by T'ang. All of the specimens were received through Dr. S. F. Light.

Family PINNOTHERIDAE

Subfamily ANOMALIFRONTINAE, n.

General shape of body, external maxillipeds and male abdomen as in the Xenophthalminae. Eyes minute, orbits dorsal, obliquely transverse. Front between the eyes narrow. The epistome, the anterior part of the buccal frame and the basal portion of the antennae are pushed forward and upward beyond the frontal margin so as to be visible in dorsal view.

Anomalifrons n. gen.

Body broadly transverse behind, anteriorly arched. The antero-lateral margin begins considerably in front of the eyes, at the base of the outer antenna where it coincides with the upper border of the buccal frame. A carina leads obliquely and unevenly backward from the upper or posterior rim of the orbit and joins the lateral margin in front of the middle. Epistome short and narrow; it and the anterior buccal frame are white and polished. Basal article of the antenna horizontal, from it the movable portion of the antenna rises perpendicularly. Genotype, *A. lightana*, n. sp.

Anomalifrons lightana n. sp.

Plate 13, figs. 37-39

Type-locality.—Guantao, near Foochow, Fukien, China; Sept. 1923; Tang collector; received from S. F. Light; 1 male, Cat. No. 61878, U. S. National Museum.

Description.—Extreme width of carapace about one and one-half times its length. Body subcylindrical, dorsal surface rough with coarse, uneven punctae and fine wrinkles, and covered with a thin pubescence, edges hairy. A blunt, transverse ridge, obtusely angled forward on the median line, crosses the gastric and branchial regions. Two longitudinal furrows run backward from just behind the inner angle of the orbit to a line part way down the cardiac region; these furrows are interrupted by the transverse ridge, and are deeper and further apart behind the ridge. Another pair of gastric furrows is situated outside the first pair; they are longitudinally curved and concave to each other, and partially penetrate the transverse ridge; just behind them there is a pit at inner angle of branchial region; a depression either side of the postcardiac region. The anterior end of the mesogastric region is depressed; from it a groove runs to the margin of the front. Branchial region uneven. Lateral margin of carapace near its middle bilobed, lobes very

shallow, the posterior one the longer. Posterior margin nearly straight, turned up slightly at the ends. Front between the eyes suboblong, widening a little distally, most advanced at middle, margins of lobes straight as seen from above, arcuate viewed from in front, being filled with the bulging antennules. Eyes slender, tapering to a small, dull cornea. Orbits outwardly without definition. Basal segment of antenna broader than long; movable part gradually diminishing, and a little longer than the width of the front. Upper margin of buccal frame rimmed, the rim set off by a groove. The narrow ribbon-shaped epistome is arcuate, retreating. The margin of the buccal cavity is subcircular, the outer maxillipeds nearly filling it except for a triangular gap between the ischia; merus and ischium subequal in length, broader than long; articles of palp broad. Exognath slender, concealed in outer view.

Chelipeds of male strong, especially the chelae, smooth, unarmed, similar to those of full grown *Xenophthalmus pinnotheroides* White.⁶ Margins thinly hairy; merus longer than broad, increasing to the distal end which is prominent at the upper margin; carpus suboval from above, narrowing to a long point at the articulation with the propodus. Chelae arched in a longitudinal direction; dorsal aspect suboval; palms thick, longer than wide; fingers broad at base, tapering to a blunt tip, gape triangular; a long low prehensile tooth on the proximal three-fifths of the dactylus. Third ambulatory leg lacking, also dactylus of last leg. Margins of legs hairy; surface of merus of first leg and of merus, carpus and propodus of second leg furry. First leg much slenderer than second and reaching to the end of its propodus; dactyli of both flattened, triangular; fifth smaller than first and not overreaching carpus of second. Third and fourth abdominal segments of male of subequal length; fifth and sixth one and one-half times as long as the preceding, and of subequal

⁶Ann. Mag. Nat. Hist., vol. 18, 1846, p. 178, pl. 2, fig. 2.

length; fifth constricted near its proximal end; sixth diminishing slightly in width toward its distal end; terminal segment triangular, a little broader at base than it is long, tip rounded.

Measurements.—Male holotype, median length of carapace 9.8, length to outside of buccal swelling 10.1, greatest width in front of third ambulatory leg 14.8, width across posterior margin between coxae of legs of last pair 11.3, width between tips of eyes 3.2, width of interorbital front 1.7 mm.

Additional material.—Two small specimens, male and female, were taken at Foochow, 1924, by C. R. Kellogg; Cat. No. 58732, U. S. National museum. In both the chelipeds are slender and similar; the abdomen of the female is longitudinally broadly oval.

Family GRAPSIDAE

Subfamily VARUNINAE

The genera *Brachynotus* and *Hemigrapsus*⁷

The genus *Brachynotus* de Haan⁸, genotype *B. lucasi* (Milne Edwards⁹) is, I think, distinct from typical *Hemigrapsus* Dana (genotype, *H. crassimanus* Dana¹⁰). It differs in its greater width of carapace and orbits, which are not nearly filled by the eyes; the narrow and distinctly bilobed front, the margin of which is not produced well beyond the antennular cavities, but is identical with the upper margin of these cavities; in addition there is close to and above the lobes a second marginal line parallel to the true margin but not continued to the orbital angle giving the front a double edge; the suborbital or stridulating ridge of the male is formed chiefly by two long smooth tubercles, and inwardly

⁷See Tesch, Siboga Exped., 39c, 1918, pp. 102-103.

⁸Fauna Japon., Crust., 1833, p. 5; 1835, p. 34.

⁹*Grapsus* (*Brachynotus*) *sedentatus* de Haan, Fauna Japon., Crust., 1835, p. 34 (not *Goneplax sedentatus* Risso, Hist. Nat. Eur. Merid., vol. 5, 18:6, p. 13, which is a wider form, 1:1.6 instead of 1:1.25, has an almost entire front instead of a lobed one and has no spine on the meropodites; Risso says "*brachiis unispinos*" = *Heterograpsus sedentatus* Lucas (new species), Explor. Sci. Algerie, Zool., vol. 1, 1846, p. 19, pl. 2, fig. 4 = *Brachynotus sedentatus* Milne Edwards, Ann. Sci. Nat., ser. 3, vol. 18, 1852, p. 161 (125), pl. 4, fig. 26, 26a = *Heterograpsus lucasi* Milne Edwards, Ann. Sci. Nat., ser. 3, vol. 20, p. 192 (158). *G. sedentatus* Risso is very likely an accidental variation of *G. rhomboides* (Linnaeus) from which it appears to differ only in having a third lateral spine on the carapace.

¹⁰Proc. Acad. Nat. Sci. Philadelphia, 1851, p. 250; U.S. Expl. Exped., vol. 13, Crust., part 1, 1852, p. 349, pl. 22, fig. 4a-d. *H. crassimanus* is distinct from *H. sanguineus* (de Haan): it is narrower than the latter, proportions 1:1.08 instead of 1:1.14, and the stridulating ridge is different; in female *crassimanus* it is formed of granules for the inner three-fifths, and separated tubercles (4 or 5) on the outer two-fifths; whereas in *sanguineus*, male and female, the ridge is finely striate.

a smooth ridge, no granules; the outer maxillipeds have the merus broader behind than in *Hemigrapsus*, and the ischium narrowing more rapidly toward the proximal end.

With *B. lucasi* I would associate one other species, *B. harpax* Hilgendorf¹¹, which although it does not possess all the distinctive characters of the genotype, is more nearly related to it than to *H. crassimanus*. The carapace is narrower than in *lucasi*, but the fronto-orbital distance is proportionately greater, so that the antero-lateral margin is not arcuate; the lobes of the front are similar in form to those of the type species, but the margin is distinct from but close to that of the antennular cavities; the suborbital or stridulating ridge of the male is formed of three long smooth tubercles and inwardly a crenulated ridge; the outer maxillipeds are further removed from the *Hemigrapsus* type than are those of *B. lucasi*; the merus is broader and squarer behind, and both merus and ischium are smooth (non-furrowed) except at the margins. *B. harpax*¹², already known from Aden, Atjeh (Sumatra) and Upolu (Samoa) has been taken in Formosa at Ryukyusho, Takao Province by M. Maki and transmitted to the U. S. National Museum by the Institute of Science through M. Oshima.

***Hemigrapsus sinensis* n. sp.**

Plate 14, figs. 46 and 47

Type-locality.—Santu, North Fukien, China; Sept. 1923; T'ang collector; received from S.F. Light; holotype female, Cat. No. 61877, U.S. National Museum.

Description.—Carapace uneven; H-depression in center of carapace deep; anterior portion of mesogastric region defined. Epigastric lobes high, granulate; many scattered granules on the gastric region, a few of which simulate a transverse protogastric line. A granulated line runs obliquely forward from the inner base of the last lateral tooth. A more finely granulated line runs obliquely backward from the middle of the postero-lateral margin; a similar line is above

¹¹ SB, Ges. Naturf. Freunde Berlin, 1892, p. 38.

¹² De Man, Zool. Jahrb., Syst., vol. 9, 1895, p. 124, pl. 29, figs. 26, 26a-d.

the coxae of the last two legs and not far from the carapace margin. The surface of the deflexed front is concave both sideways and antero-posteriorly, the anterior edge is faintly sinuous or bilobed. The orbit is very oblique, its upper margin forms a pronounced lobe. Antero-lateral margin arched, 3-toothed, outer margin of first or orbital tooth very convex, of second tooth less convex; third tooth small. Carapace diminishing in width behind the third tooth. The suborbital or stridulating ridge is acute and very finely granulate or crenulate. The edge of the epistome or anterior border of the buccal cavity is arched upward and forward beyond the line of the maxillipeds.

Chelipeds of female (male unknown) equal, rough with granules along the margins and on the outer surfaces. Upper and outer surface of palms with seven longitudinal rows of granules, three above, four outside. A large patch of hair on the distal half of outer surface, reaching the figures. A short lengthwise row of granules in middle of inner surface at thickest part of palm. The lowest of the external carinae of the palm is continued half way along the immovable finger. Three rows of granules occupy the proximal half of the upper surface of the dactylus. Ambulatory legs finely roughened. A spine near end of upper surface of first three legs. Carpus four-carinate, two carinae behind, one before, one above; last three articles rough with longitudinal lines of bristles.

Measurements.—Female holotype, length of carapace 9.8, greatest width of same 12, posterior width 10, fronto-orbital width 10, width of front 5.4 mm.

Relation.—This species is rougher than any other. In shape it approaches *H. penicillatus* (de Haan).¹³ It has more crests on the hand than in *H. pallipes* Milne Edwards.¹⁴

¹³*Grapsus (Eriocheir) penicillatus* de Haan, Fauna Japon., Crust., p. 60, pl. 11 fig. 5 (not 6).

¹⁴*Pseudograpsus pallipes* Milne Edwards, Hist. Nat. Crust., vol. 2, 1837, p. 82.

Subfamily SESARMINAE

Helice tridens tridens (de Haan)

Plate 7, figs. 6 and 7; Plate 8, fig. 16; Plate 9, figs. 20 and 21

Ocypode (*Helice*) *tridens* de Haan, Fauna Japon., Crust., p. 57, pl. 15, fig. 6 (♂), pl. 11, fig. 2 (♀ juv.); type-locality, Japan.

Helice tridens latimera Parisi, Atti Soc. Ital. Sci. Nat., vol. 57, 1918, p. 106, pl. 8, fig. 3; type-locality, China.

Measurements.—Length of carapace of male (57465) 25, width 31.1 mm.

Range.—The typical form of this species has been noted from Japan, Korea, Loo Choo Islands, Formosa, and China at Hong Kong (Koelbel, Tesch), Kiao-chau and Tsingtau in Shantung and Hankau on the Yang-tze Kiang (Balss).

Description.—In China there are five subspecies of this species which are determined by the character of the stridulating ridge below the orbit. In each form the ridge is different in the sexes. There is no ridge variation between subspecies, each is readily distinguished from the others. Aside from the ridge there appear to be no other subspecific characters except for slight differences in the proportions of the abdomen. In the male of the typical form there are 16 to 18 large spaced tubercles, which are largest in the middle of the ridge, below the cornea (pl. 9, fig. 21); at the inner end are 5 or 6 very small confluent granules. The tubercles are finely, vertically striate, the striae invisible to the naked eye. In the female (pl. 9, fig. 20) the tubercles are smaller, 20 to 23, and more uniform in size, interspaces wider than in the male. Female abdomen (pl. 7, fig. 7) very broad; terminal segment shorter and broader than in the other subspecies of which the female is known.

***Helice tridens formosensis*, n. subsp.**

Plate 8, fig. 18; Plate 9, fig. 22

Helice latimera Gee, Lingnaam Agric. Review, 1925, p. 164; probably not *H. tridens latimera* Parisi.

Type-locality.—Giran; Taihoku, Formosa; Aug. 1918; Taihoku Normal School; 1 male, Cat. No. 55371, U.S. National Museum.

Measurements.—Length of carapace of male holotype 25, width 32 mm.

Description.—In this subspecies the tubercles of the ridge are more numerous than in subspecies *tridens*, the larger ones about 21 in the male (pl. 9, fig. 22), somewhat vertically elongate and closer together than in *tridens*, with a few extra granules at the inner end. The tubercles are vertically striate. Abdomen of male (pl. 8, fig. 18) somewhat narrower than in typical *tridens*. Female not known.

***Helice tridens pingi*, n. subsp.**

Plate 7, fig. 10; Plate 8, fig. 15; Plate 9, figs. 23 and 24

Type-locality.—Hainan, China; Nov. 1924; C. Ping collector; 1 ♂, Cat. No. 59163, U.S. National Museum.

Measurements.—Length of carapace of male holotype 26, width 31.7 mm.

Description.—Stridulating ridge of male (pl. 9, fig. 23) high and flattened in the middle, tapering regularly to either end; not tuberculate but continuous, divided by narrow vertical grooves into numerous (50 to 67) sections, each of which is more finely and vertically striated. Ridge of female (pl. 9, fig. 24) made of very small separate tubercles or granules, 38 to 41 in number, which are subequal and similar, except for a few at either end of the ridge which tend to be elongate in the direction of the ridge and a little further apart. Abdomen of male (pl. 8, fig. 15) a little wider than in typical *tridens*.

Range.—From Chekiang Province to Hainan. Taken at Wenchow (H.W. Wu), Santu (S.F. Light), Foochow (A. de C. Sowerby), Guantao (T'ang), Amoy, on the beach and in sand and mud (S.F. Light) and at Hainan (C. Ping).

***Helice tridens wuana*, n. subsp.**

Plate 7, fig. 8; Plate 8, fig. 17; Plate 9, figs. 25 and 26

Type-locality.—Wenchow, Chekiang, China; H. W. Wu collector; received through S. F. Light; 1917, Cat. No. 61874, U. S. National Museum.

Measurements.—Length of carapace of male holotype 17.3, width 21 mm.

Description.—This subspecies has the fewest protuberances on the stridulating ridge. In the male (pl. 9, fig. 25) they number 11 to 14, in the female (pl. 9, fig. 26) 13 to 15, and are widely separated. Those of the male increase in size from the outer end to the fourth or fifth, the next five or six are large and equal, the inner two to four are smaller, transversely elongate and finely striated including the interspaces. In the female all the tubercles are elongate in the direction of the ridge and compressed. The outer one or two are smaller; several at the inner end of the ridge are short and crowded close together. Abdomen of male (pl. 8, fig. 17) less constricted between fifth and sixth segments than in other subspecies. Terminal segment of female (pl. 7, fig. 8) less invaginated in sixth segment than in other subspecies.

Range.—Japan, Korea, China; Wenchow (H. W. Wu), Muiwha (S. F. Light), Amoy (S. F. Light).

***Helice tridens tientsinensis*, n. subsp.**

Plate 7, fig. 9; Plate 8, fig. 19; Plate 9, figs. 27 and 28

Type-locality.—Tientsin, Chili, China; May 1901; M. L. Robb; holotype male, Cat. No. 25431, U. S. National Museum.

Measurements.—Length of carapace of type male 24.6, width 29.3 mm.

Description.—The male stridulating ridge (pl. 9, fig. 27) is more complex than in any other subspecies. In the outer half there are 26 to 27 spaced tubercles, beginning very small under the second lateral tooth of the carapace and gradually increasing in size until near the inner end of the cornea. There the ridge widens and is crossed by 6 narrow, smooth carinae, which successively overlap beginning with the outermost; the middle striae are the longest. The inner portion of the ridge consists of a narrow carina bearing 15 or 16 fine crenulations or granulations.

The female ridge (pl. 9, fig. 28) consists of about 34 or 35 small tubercles resembling granules, which are close set and increase gradually in size from the outer end of the ridge to within 4 or 5 of the inner end where they diminish in size and are further apart. The tubercles at both ends of the ridge are elongate in the direction of the ridge.

The male abdomen (pl. 8, fig. 19) is wider than in the other subspecies of *H. tridens*, especially noticeable in fifth and sixth segments. The sixth segment of female abdomen (pl. 7, fig. 9) at its longest is proportionally longer than in other subspecies, and the terminal segment is most deeply invaginated.

Additional locality.—Pei-tai-ho, Chili; 1 female (A. de C. Sowerby).

***Sesarma (Holometopus) tangi*, n. sp.**

Plate 15

Type-locality.—Guantao, near Foochow, Fukien, China; July 1923; T'ang collector; received through S. F. Light; holotype male, Cat. No. 61875, U. S. National Museum.

Description.—Carapace much broader than long, strongly narrowed posteriorly. Front very broad, widest below, lower border slightly arched, outer corners rounded; upper border blunt, indefinite, divided by three shallow furrows, not continued to the lower rim; median furrow continued to the mesogastric fork defining the anterior end of that region. Orbits very oblique, outer tooth short, little advanced. Surface nearly smooth, covered with fine punctae, interspersed with occasional larger punctae; six of these form a transverse row near the upper limit of the front, two on each outer lobe and one on each inner one. The hepatic region is defined (1) by a longitudinal furrow stretching back from the inner line of the orbit and terminating in a pit and (2) by a transverse curved furrow subparalleling the orbital margin. Gastro-cardiac suture deeply impressed. Four oblique carinae on the outer branchial slope; the anterior one is continuous with the forward part of the lateral margin of the carapace, the others do not reach the marginal line. Inner suborbital tooth small, widely separated from the front. Outer angle of basal article of antenna produced sideways as far as the front. Buccal cavity broader than long, ischium and merus each very obliquely placed; the merus is proximally broad with the outer angle produced laterally.

Chelipeds very unequal (probably accidental) and similar. Merus and carpus with short, fine, transverse, granulated lines; merus with a small, subterminal notch in its lower margin. Palm (pl. 15, fig. 48) very high, swollen; outer surface punctate and pitted; inner surface with a row of tubercles on its upper half and parallel to the distal margin; upper margin a finely crenulated raised line, and below it on the inner slope a few short granulated lines, oblique or longitudinal. On the upper margin of the movable finger and occupying nearly half its length is a crest marked on its inner side with about twenty-three fine oblique striae and on its outer edge with the same number of rough crenulations: the crest terminates in the first of four sharp-edged and

evenly spaced tubercles. Terminal half of dactylus slender as is also the short fixed finger; a stout tooth on the prehensile margin of each finger adjacent to the hollowed tip; a few other small unequal denticles on the same margins; gape suboval. Last three articles of first three ambulatory legs furry. Abdomen of male suboblong, first segment widest, the others diminishing gradually in width to the sixth segment; terminal segment large, nearly as broad as long.

Measurements.—Male holotype, length of carapace 12.3, width of same at outer angle of orbits 16, posterior width 13.8, greatest width of front 10.4 mm.

Relations.—In general appearance this has considerable resemblance to *S. (H.) obtusifrons* Dana¹⁵ which, however, is widest behind the orbital angles, has a concave front and the fingers lack the characteristic ornamentation of our species.

Family **OCYPODIDAE**

Subfamily **MACROPHTHALMINAE**

Camptandrium elongatum, n. sp.

Plate 13, figs. 40-43

Type-locality.—Liuwutien (on mainland near Amoy), Fukien, China; May 28, 1924; E. C. Yuh collector; received from S.F. Light; holotype female, Cat. No. 61876, U. S. National Museum.

Description.—Entire surface covered with a short pubescence. Carapace (pl. 13, fig. 40) a little longer than broad, very high in the middle; a narrow longitudinal median area, from which the surface slopes downward on either side and at either end. The summit of the area is bordered on either side with unequal tubercles, and narrows at either end where there is a tubercle. The sides of the elevation are marked off from the rest of the carapace by a fine irregular groove.

¹⁵Crust. U.S. Explor. Exped., vol. 1, 1852, p. 355; atlas, 1855, pl. 22, fig. 9; Maui, Hawaiian Islands.

A paired tubercle about midway of the crest is large and high and forms the beginning of a short, obliquely transverse carina which runs downward and backward half way to the lateral margin. A little in front of it is another, parallel carina which crosses the lower half of the carapace and ends in a tubercle just above the margin. A much shorter but similar carina is in front of the postero-lateral angle. A small tubercle is on the dorsal surface of the epibranchial region. A bituberculate carina lies between the anterior median tubercle and the inner angle of the orbit; this forms a triangular space which is continuous with the front. Front steep (pl. 13, fig. 41) but not vertical, concave longitudinally and transversely; margin bilobed, lobes tuberculiform, well separated, advanced but little beyond the rounded anterior corners of the front. Orbit with upper margin obtusely angled, a slight emargination and closed fissure at the angle; inner half of margin thick and high, outer half slightly sinuous and nearly transverse, outer angle slightly dentiform; lower margin with an elongate lobe wedged in between the antenna and the adjacent lobe; also with a very deep and wide V-shaped emargination separating the outer angle from a large tooth at middle of border. This tooth is very thick and with another tooth further inward corresponds to the infraorbital crest which is present in the genus and which in this case is very thick and almost indistinguishably fused with the true orbital margin. The anterior surface of this bicuspid prominence is deeply hollowed into an oval cup. Antero-lateral margin of carapace sharp as far as the first branchial tooth. The whole lateral margin appears wavy and quadridentate, one hepatic tooth, one epibranchial, while the remaining two are not really marginal but terminate carinae as described above. In dorsal view the posterior angles of the carapace are subrectangular and are set off from the lateral margin by a broad sinus; posterior margin slightly arched. In a rear view the posterior surface is concave, rimmed, and transversely oblong with the middle third surmounted by a triangle; the lower edge appears straight and transverse, the superior outer angles are produced

laterally beyond the inferior angles. Eye-stalk very stout, subspherical, filling the orbit; cornea smaller but of good size, reaching laterally to the outer angle of orbit. Basal article of antenna short and broad, lying between the turned down front and the narrow inner orbital lobe. The edge of the epistome has a rounded sinus not far from the middle. Outer maxillipeds as in *C. sexdentatum* Stimpson, as figured by Kemp.¹⁶

Chelipeds small and weak in both sexes, (pl. 13, figs. 41 and 42) much shorter than the carapace; carpus a little shorter than the palm, palm in female widening to the distal end, less so in male (much smaller); fingers as long as palm, deeply spooned, moderately gaping for their proximal half. First three pairs of ambulatory legs strong, last pair much smaller but similar; merus more than twice as long as its greatest width which is not far from the proximal end whence it narrows gradually to the distal end; its upper and lower margins as well as a longitudinal crest behind are fringed with hair; propodus subcylindrical, about twice as long as its greatest diameter, and tapering gradually to the dactylus; dactylus slender, as long as the propodus, slightly curved, the light colored horny tip occupying a third of its length. Sternum of male concave. Abdomen gradually narrowing from the base to the last segment except for a constriction at the fifth segment where there is a concave sinus on either side through which gaps the appendages are visible; (pl. 13, fig. 42) third to sixth segments inclusive fused, divisions scarcely discernible; terminal segment suboblong, broadly rounded at the end; appendages of first segment with long slender tips which are curved upward and backward so that the stalk does not reach beyond the sixth segment. Abdomen of female subcircular, (pl. 13, fig. 43) with the terminal segment broad-triangular; third to sixth segments inclusive fused, although the suture between fifth and sixth is faintly visible.

¹⁶Mem. Indian Mus., vol. 5, 1915, text-fig. 14 on p. 237.

Measurements.—Adult female holotype, length of carapace 7.2, width of same 6.8, width at posterior margin 3.7, fronto-orbital width 5.6, width of front 3.8 mm. The males examined are much smaller. Male from same lot, length 5, width 4.4 mm.

Additional localities.—Tsimei, Fukien; tide flats, June 1923; S. F. Light; 3 males, 8 females. Poahlan; sand beach; May 29, 1924; E. C. Yuh collector; received through S. F. Light; 1 male.

Relation.—This species is closely related to *C. sexdentatum* Stimpson¹⁷ from Hong Kong but differs in being longer than broad, in the strongly marked longitudinal median elevation and the well delimited concave areas at either end of the carapace. The ambulatory legs are shorter and broader.

Subfamily SCOPIMERINAE

***Ilyoplax delsmanni yuhana*, n. subsp.**

Plate 14, figs. 44 and 45

Type-locality.—Santu, North Fukien, China; Sept. 1923; T'ang collector; holotype male, Cat. No. 61883, U.S. National Museum.

Description.—This form corresponds to the description of *I. delsmanni* de Man¹⁸ from the Bay of Batavia, except for the suborbital ridges. The thickened lower wall of the orbit has two rows close together of similar granules, the upper row has fewer granules (10-11) than the lower row (15-18) and is shorter than in *delsmani*, beginning further from the antenna. The carina (pl. 14, fig. 44) behind the orbital wall and separated from it by a deep groove has first (counting from the median line), a row of four large well-spaced tubercles followed by a smaller tubercle which begins a ridge as long as the space occupied by all the tubercles; the ridge is crossed by numerous (about 23) fine setiferous crenula-

¹⁷Proc. Acad. Nat. Sci. Philadelphia, vol. 10, 1858, p. 107. Smithson. Misc. Coll., vol. 49, 1907, p. 138, pl. 17, fig. 4. Kemp, Mem. Ind. Mus., vol. 5, 1915, p. 236, pl. 12, fig. 6, text-figs. 13 and 14.

¹⁸Zool. Meded. Rijks Mus. Nat. Hist., vol. 9, 1926, p. 16, 12 text-figs.

tions. In typical *delsmani*, the first half of this row is occupied by 8 or 9 unequal teeth or tubercles of which the middle three are the largest, and the outer portion of the ridge consists of 7 similar though smaller teeth which are entirely absent in the subspecies.

Additional localities.—All specimens were received through S. F. Light:

Tsimei, Fukien; tide flats; June 1923; 16 males, 20 females.

Liuwutien, on mainland near Amoy, Fukien: July 1923; H. W. Wu collector; 18 specimens. May 27 and 28, 1924, E. C. Yuh collector; 3 males, 1 female, 5 young.

This makes the seventh species of the genus to be found in China. The others are: *I. tenella* Stimpson,¹⁹ Canton River, brackish water, at Whampoa; *I. deschampsii* (Rathbun)²⁰, Shanghai and Whangpoo River; *I. ceratophorus* (Koelbel)²¹, Hongkong, Tsimei, Liuwutien and Poahlan; *I. orientalis* (de Man)²² Tsimei, Liuwutien and Santu; *I. stapletoni* (de Man)²³ Chung-ming; and *I. formosensis* Rathbun,²⁴ Muiwha.

ADDITIONS TO GEE'S LIST²⁵

(* indicates representation in the U.S. National Museum collection)

DORIPPIDAE:

- | | |
|---|--------------------------|
| * <i>Dorippe astuta</i> Fabricius | Amoy; *Tsimei. |
| * <i>Dorippe polita</i> Alcock and Anderson | *Tsimei; *Foochow. |
| * <i>Dorippe japonica</i> von Siebold | *Tsimei; *Amoy; Foochow. |
| * <i>Dorippe histrio</i> Nobili | *Foochow; *Yenting. |

LEUCOSIIDAE:

- | | |
|---|-----------------------|
| * <i>Arcania erinacea</i> (Fabricius) | *Tsimei. |
| * <i>Arcania undecimspinosa</i> de Haan | *Tsimei. |
| * <i>Ebalia sagittifera</i> Alcock | *Tsimei. |
| * <i>Philyra olivacea</i> Rathbun | Tsimei; *San-Mun Bay. |

¹⁹Smithson. Misc. Coll., vol. 49, 1907, p. 100.

²⁰Proc. U.S. Nat. Mus., vol. 46, 1913, p. 356, pl. 32, pl. 33, fig. 1.

²¹*Dioxiippe ceratophora* Koelbel, Wiss. Ergeb. Reise Bela Szechenyi in Ostasien 1877-1880, vol. 9, 1898, p. 573, pl. 1, figs. 8-12.

²²*Dioxiippe orientalis* de Man, Journ. Linn. Soc. London, vol. 29, 1888, p. 138, pl. 9, figs. 8-10.

²³*Tympanomerus stapletoni* de Man, Rec. Ind. Mus., vol. 2, 1908, p. 212, pl. 18, fig. 1.

²⁴Proc. Biol. Soc. Washington, vol. 35, 1921, p. 156. Maki and Tsuchiya, Rept. Dept. Agric. Govt. Research Inst. Taihoku, Formosa, vol. 3, 1923, p. 214.

²⁵Lingnaam Agricultural Review, 1925, pp. 156-166.

PORTUNIDAE:

- **Charybdis sowerbyi* Rathbun *Foochow.
Charybdis acuta (A. Milne Edwards) Amoy.
Charybdis merguensis (de Man) Liuwutien.
 **Ovalipes bipustulatus* (Milne Edwards) *Foochow.

POTAMONIDAE:

- **Potamon (Potamon) grahami* Rathbun *Suifu.

XANTHIDAE:

- Atergatis reticulatus* de Haan Kulangsu.
Leptodius distinguendus (de Haan) Santu.
 **Parapanope euagora* de Man *Tsimei; Amoy; Liuwutien.
 **Heteropanope makiana* Rathbun *Muiwha.
Pilumnus trichophorus de Man Tsimei.

GONEPLACIDAE:

- Ceratoplax ciliata* Stimpson N. China Sea.
 **Ser fukiensis* Rathbun *Liuwutien; Santu.
 **Eucrate crenata* de Haan Tsimei; Liuwutien; Amoy.
Rhizopa gracilipes Stimpson Hong Kong
 **Scalopidia spinosipes* Stimpson Near Hong Kong.

PINNOTHERIDAE:

- **Xenophthalmus obscurus* Henderson Tsimei; *Foochow; Santu.
 **Anomalifrons lightana* Rathbun *Guantao; Foochow.

GRAPSIDAE:

- **Hemigrapsus sinensis* Rathbun *Santu.
 **Metaplax elegans* de Man *Amoy, Liuwutien; Santu.
 **Metaplax indica* de Man *Tsimei.
Plagusia immaculata Lamarck China (exact locality not given).
 **Sesarma (Holometopus) tangi* Rathbun *Guantao.
 **Sesarma (Parasesarma) batavianum*. de Man, var. Tsimei; Poahlan; Liuwu- [tien; Amoy.
 **Sesarma (Parasesarma) pictum* (de Haan) *Tsingtao.
 **Sesarma (Chiromantes) siamensis* Rathbun Tsimei
 **Helice tridens pingi* Rathbun Wenchow; Santu; *Foo- chow; Guantao; *Amoy; *Hainan.
 **Helice tridens wuana* Rathbun *Wenchow; Muiwha; [Amoy.
 **Helice tridens tientsinensis* Rathbun *Tientsin; *Pei-tai-ho.

OCYPODIDAE:

- | | |
|---|---|
| * <i>Camptandrium elongatum</i> Rathbun | *Liuwutien; *Tsimei;
Poahlan. |
| <i>Cleistostoma dotilliforme</i> Alcock | *Tsimei; Santu. |
| * <i>Dotilla wichmanni</i> de Man | Tsimei; *Foochow;
Muiwha. |
| <i>Ilyoplax orientalis</i> (de Man) | Tsimei; Liuwutien;
Santu. |
| * <i>Ilyoplax ceratophora</i> (Koelbel) | *Tsimei; Liuwutien;
Poahlan. |
| <i>Ilyoplax formosensis</i> Rathbun | Muiwha. |
| * <i>Ilyoplax delsmanni yuhana</i> Rathbun | *Santu; *Tsimei;
*Liuwutien. |
| * <i>Macrophthalmus tomentosus</i> Eydoux
and Souleyet | *Tsimei; Amoy;
*Foochow; Santu. |
| * <i>Uca arcuata</i> (de Haan) | *Amoy; *Foochow; Santu. |
| * <i>Uca forcipata</i> (Adams and White) | Liuwutien; Wenchow;
*Foochow; Guantao;
Muiwha; Santu. |

MAJIDAE:

- | | |
|-------------------------------|----------|
| * <i>Doclea ovis</i> (Herbst) | *Tsimei. |
|-------------------------------|----------|

CORRECTIONS TO GEE'S LIST ²⁶

LEUCOSIIDAE:

Nursia lar (Fabricius) = *Nursia hardwickii* Leach.

XANTHIDAE:

Actaea savignyi Milne Edwards = *Actaea granulata* (Audouin).

Halimedes ochtodes (Herbst) = *Polycrernus verrucifer* Stimpson.

GRAPSIDAE:

Helice tridens tridens de Haan = *Helice latimera* Parisi.

The locality Pei-tai-ho, Chili, belongs to another subspecies.

Sesarma (*Parasesarma*) *plicatum* Latreille = *Sesarma affinis* (de Haan).

MAJIDAE:

**Hyas coarctatus ursinus* Rathbun for *Hyas coarctatus* Leach
Amoy; *Shanghai.

²⁶The first name is valid, the second a synonym.

EXPLANATION OF PLATES

PLATE 5

Charybdis sowerbyi, female holotype, nat. size.

Fig. 1. Right chela, outer side.

Fig. 2. Dorsal view of whole animal, nat. size.

PLATE 6

Potamon (P.) denticulatus, male, dorsal view, $x1\frac{1}{2}$.

Fig. 3. Form *a* (19982), straight front.

Fig. 4. Form *b* (59271).

Fig. 5. Form *c* (56731).

PLATE 7

Figs. 6-10. *Helice tridens*, nat. size.

Fig. 6. Subsp. *tridens* (57465), male, dorsal view.

Fig. 7. „ *tridens* (48334), female, abdomen.

Fig. 7. „ *wuana*, paratype, female, abdomen.

Fig. 9. „ *tientsinensis* (25431), female, abdomen.

Fig. 10. „ *pingi*, Amoy, female, abdomen.

Figs. 11-14. *Potamon (P.) denticulatus*.

Fig. 11. Form *b* (57606), male, abdomen, nat. size. [x2.

Fig. 12. Form *a* (29982), with bilobed front, male, dorsal view,

Fig. 13. Form *c* (59157), male, abdomen, nat. size. [x2.

Fig. 14. Form *a* (29982), male, with straight front, abdomen,

PLATE 8

Helice tridens male, abdomen, x2

Fig. 15. Subsp. *pingi* (59163)

Fig. 16. „ *tridens* (57465)

Fig. 17. „ *wuana*, holotype.

Fig. 18. „ *formosensis* (57462)

Fig. 19. „ *tientsinensis* (25431)

PLATE 9

Stridulating ridges of *Helice tridens*, $x1\frac{1}{2}$.

- Fig. 20. Subsp. *tridens*, female (48334).
Fig. 21. „ *tridens*, male (57465).
Fig. 22. „ *formosensis*, male (57462).
Fig. 23. „ *pingi*, male, (59163).
Fig. 24. „ *pingi*, female, Amoy (57).
Fig. 25. „ *wuana*, male, holotype.
Fig. 26. „ *wuana*, female, paratype, Wenchow.
Fig. 27. „ *tientsinensis*, male, holotype (left ridge).
Fig. 28. „ *tientsinensis*, female (25431).

PLATE 10

Potamon (P.) grahami, male, holotype, $x2$.

- Fig. 29. Dorsal view.
Fig. 30. Ventral view.

PLATE 11

- Fig. 31. *Heteropanope makiana*, male holotype, dorsal view, $x3$.
Fig. 32. Same specimen, ventral view, $x3$.
Fig. 33. *Potamon (P.) grahami*, male holotype, front view $x2$.

PLATE 12

Ser fukiensis, male holotype, $x1\frac{5}{8}$.

- Fig. 34. Dorsal view.
Fig. 35. Ventral view.
Fig. 36. Front view.

PLATE 13

Figs. 37-39. *Anomalifrons lightana*, male holotype, x2.

Fig. 37. Dorsal view.

Fig. 38. Ventral view, showing chelipeds.

Fig. 39. Ventral view, showing abdomen.

Figs. 40-43. *Camptandrium elongatum*.

Fig. 40. female holotype, dorsal view, x4.

Fig. 41. Same specimen, front view, x4.

Fig. 42. male paratype, ventral view, x6.

Fig. 43. female holotype, ventral view, x4.

PLATE 14

Fig. 44. *Ilyoplax delsmanni yuhana*, male paratype, stridulating ridge, x4.

Fig. 45. Same species, male holotype, dorsal view, x6.

Fig. 46. *Hemigrapsus sinensis*, female holotype, dorsal view, x3.

Fig. 47. Same specimen, ventral view, x3.

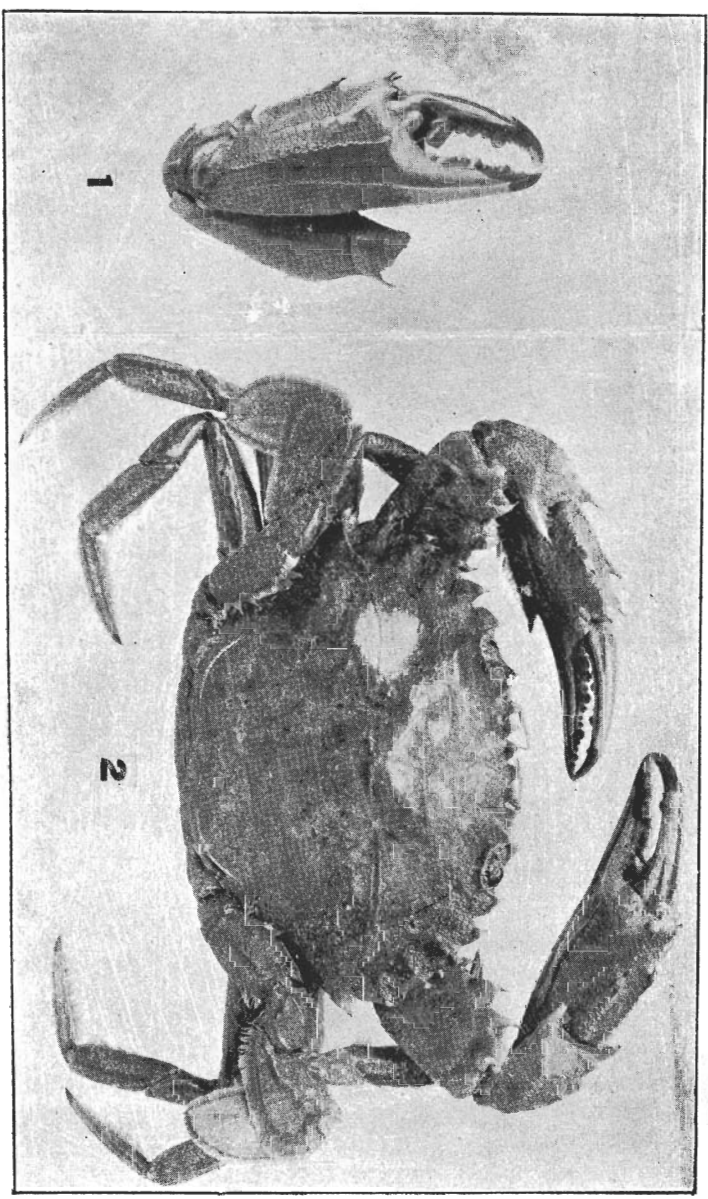
PLATE 15

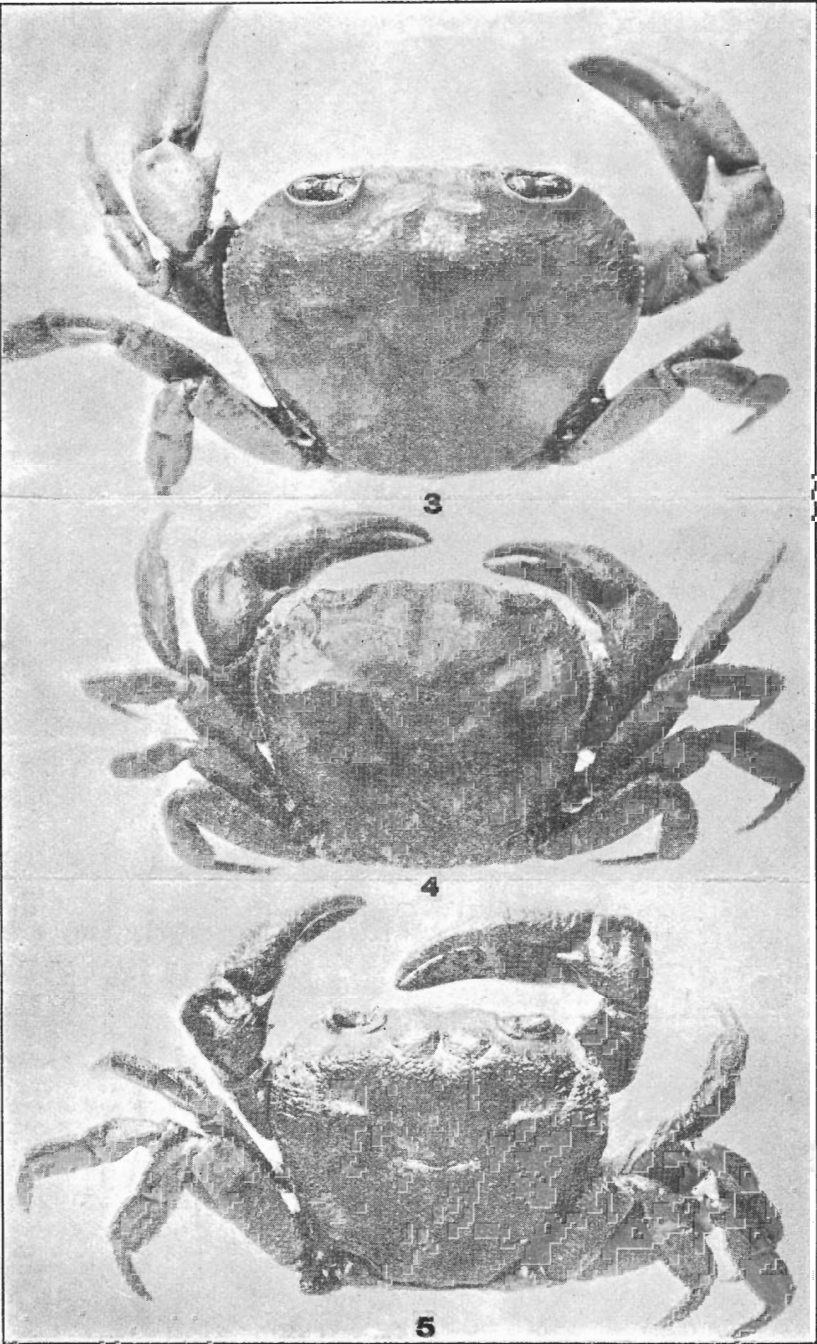
Sesarma (Holometopus) tangi, male holotype, x2⁵/₈.

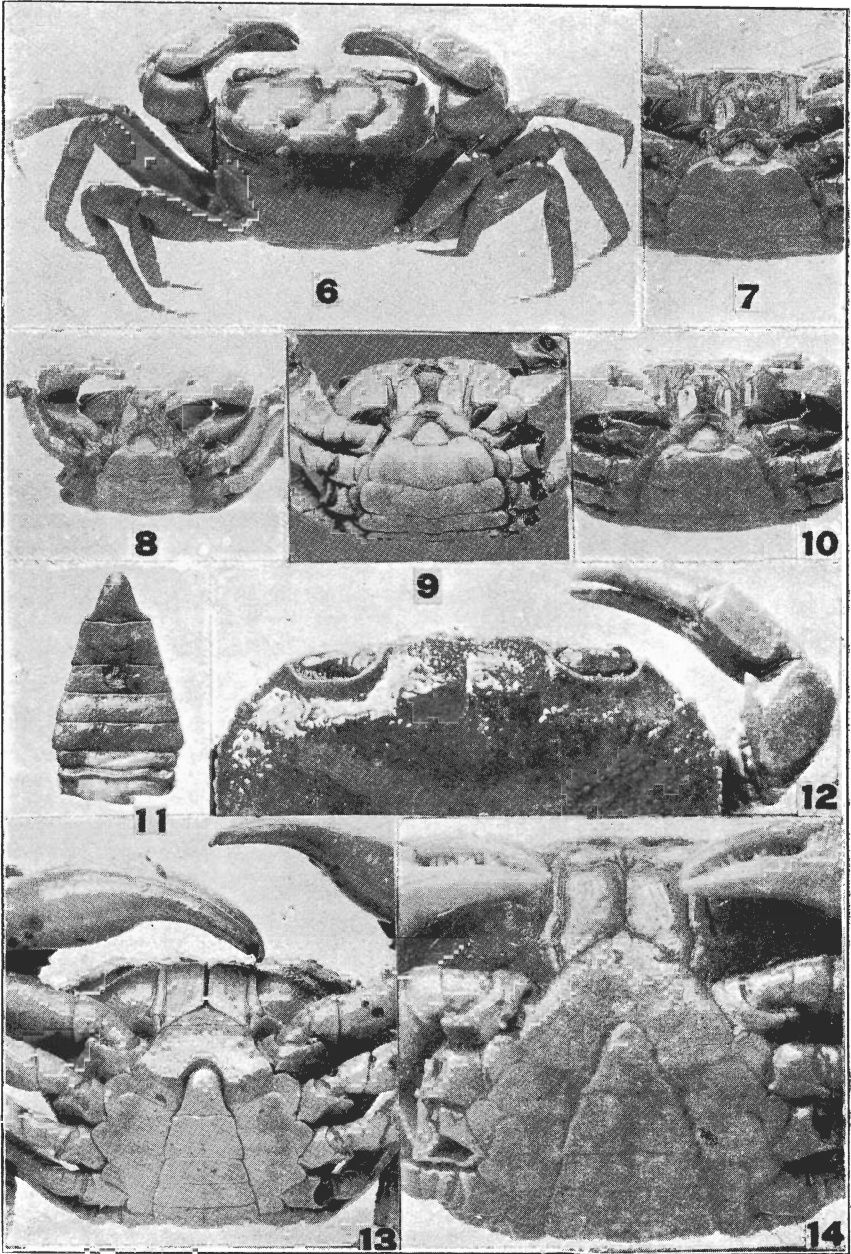
Fig. 48. Right chela, outer view.

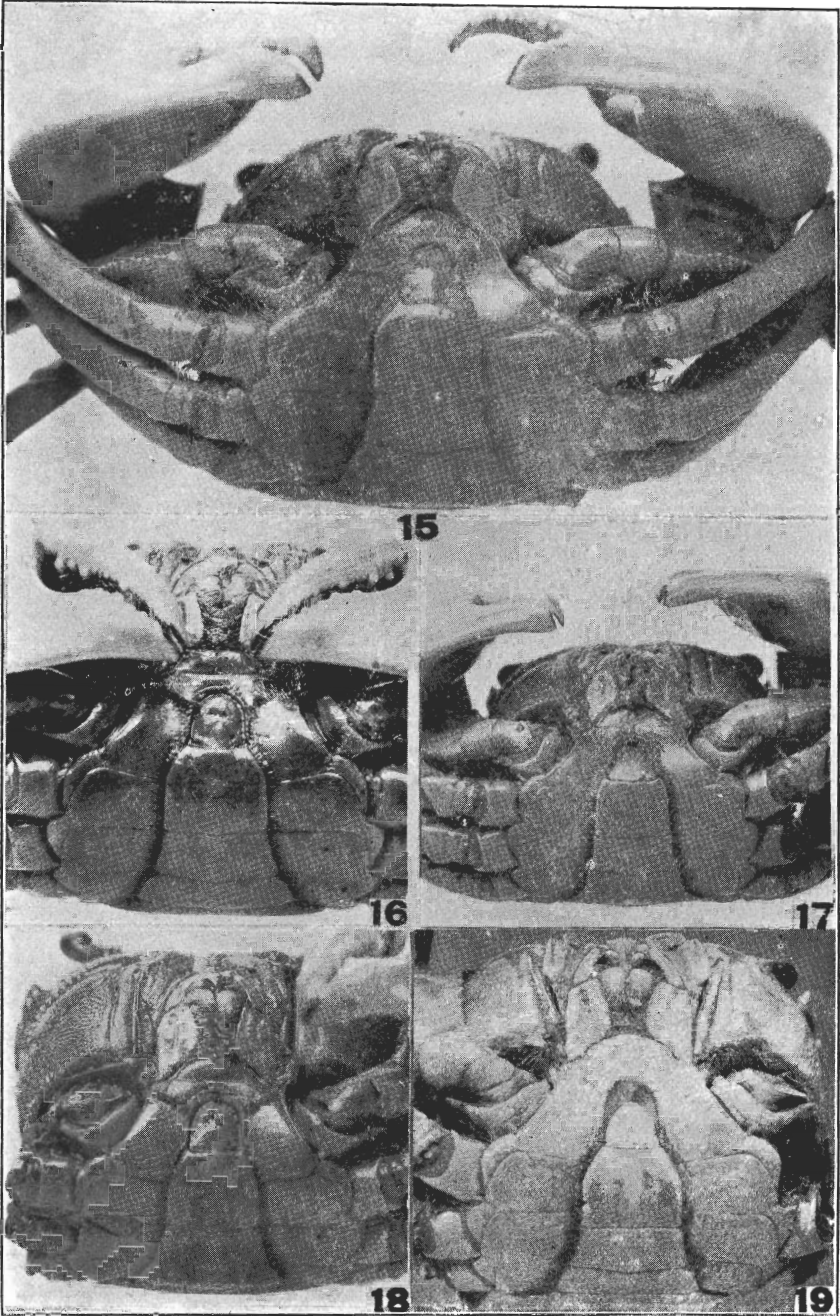
Fig. 49. Dorsal view of whole animal.

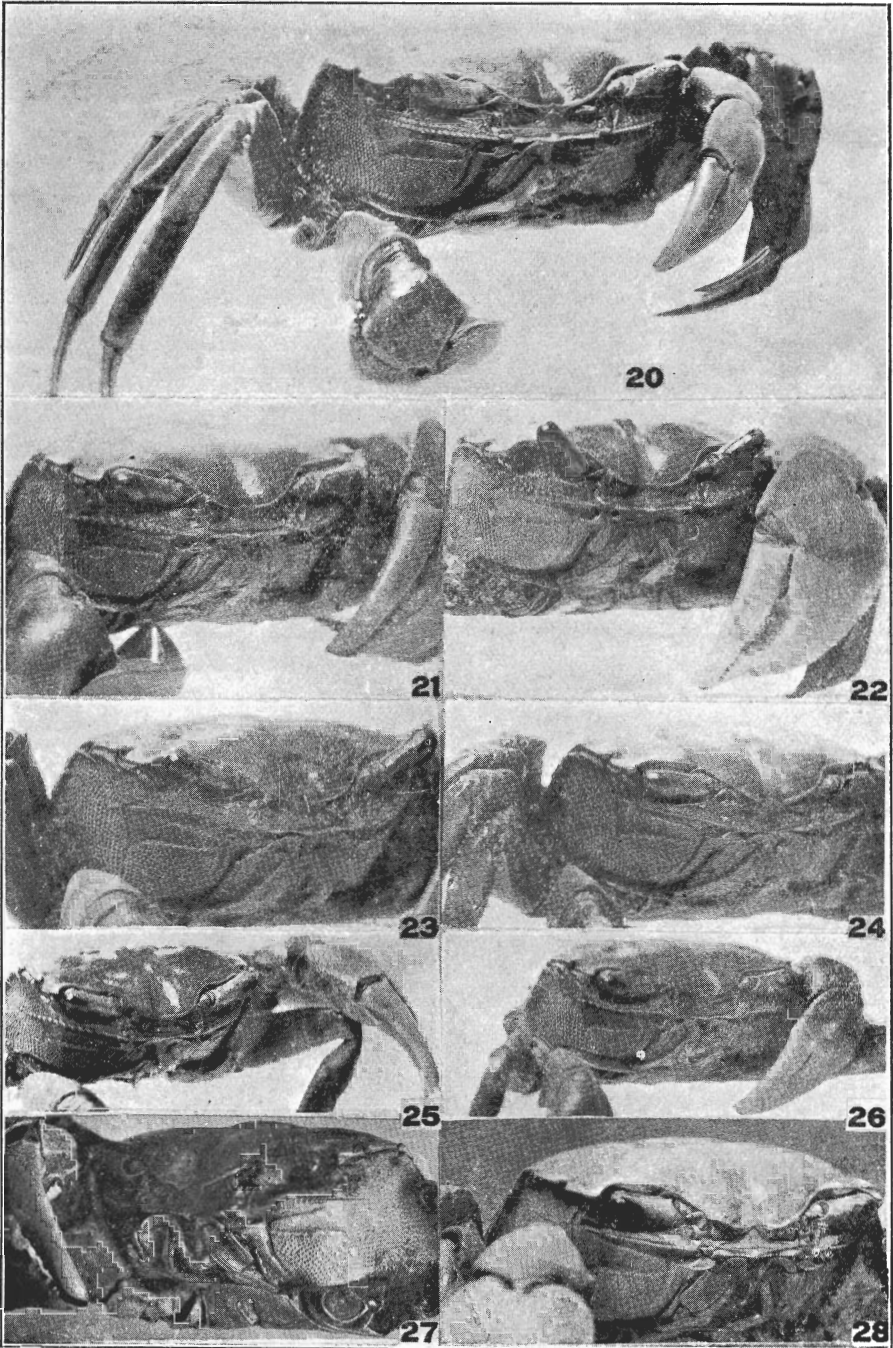
Fig. 50. Ventral view of same.

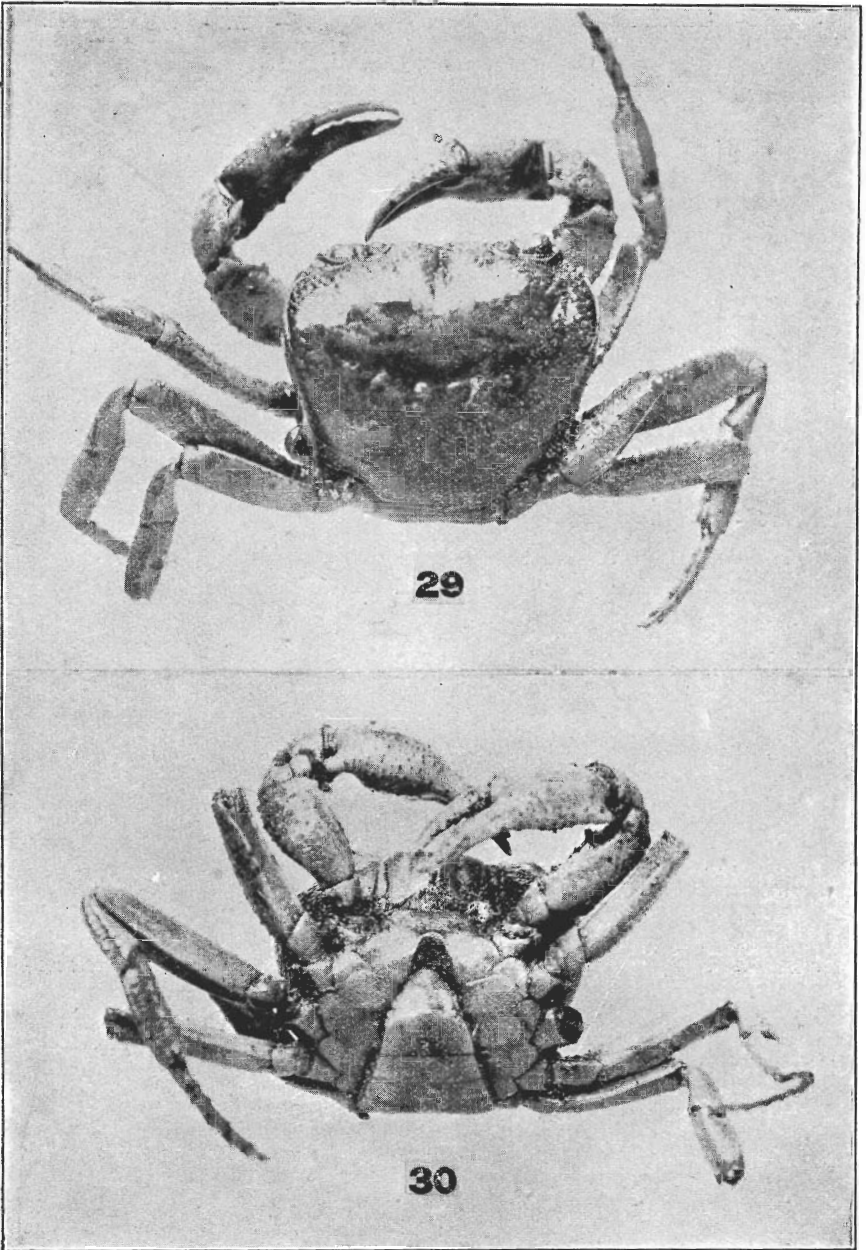


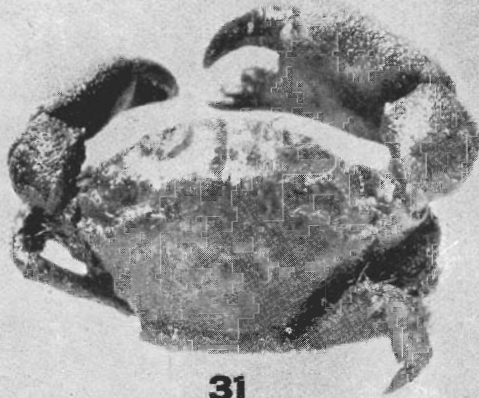








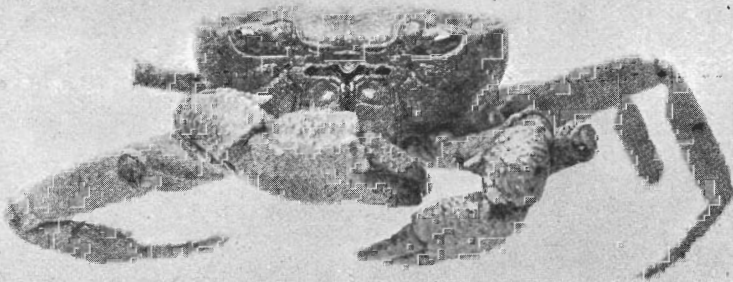




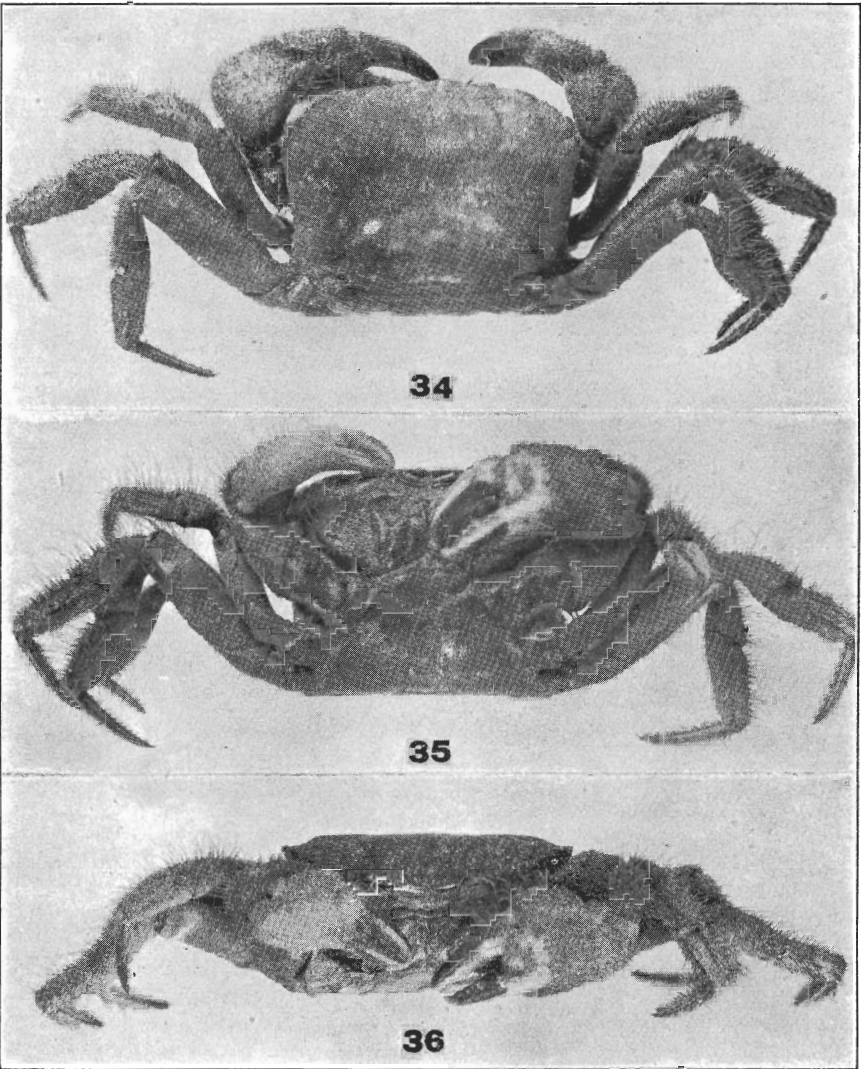
31

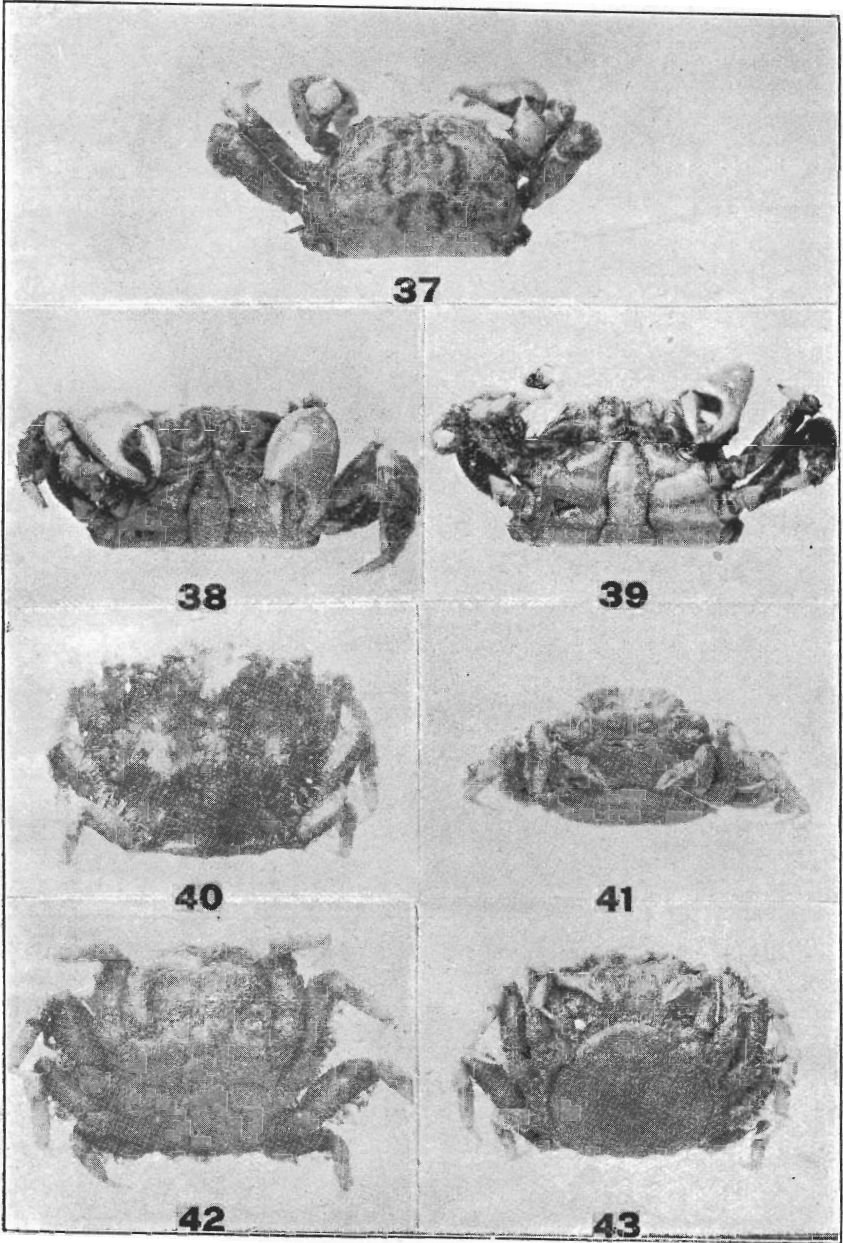


32



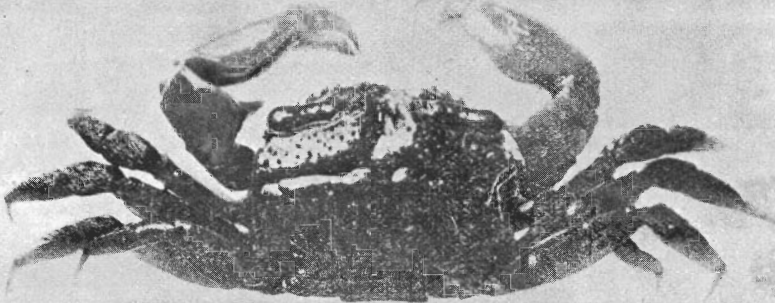
33



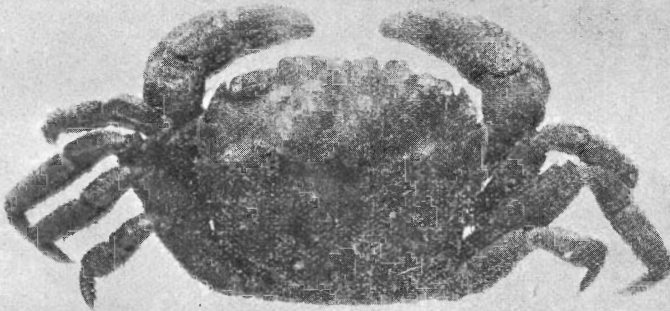




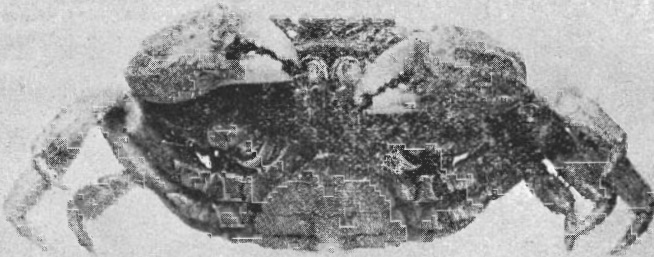
44



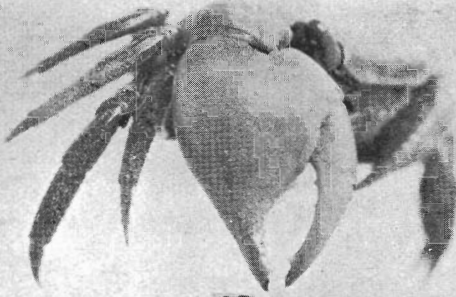
45



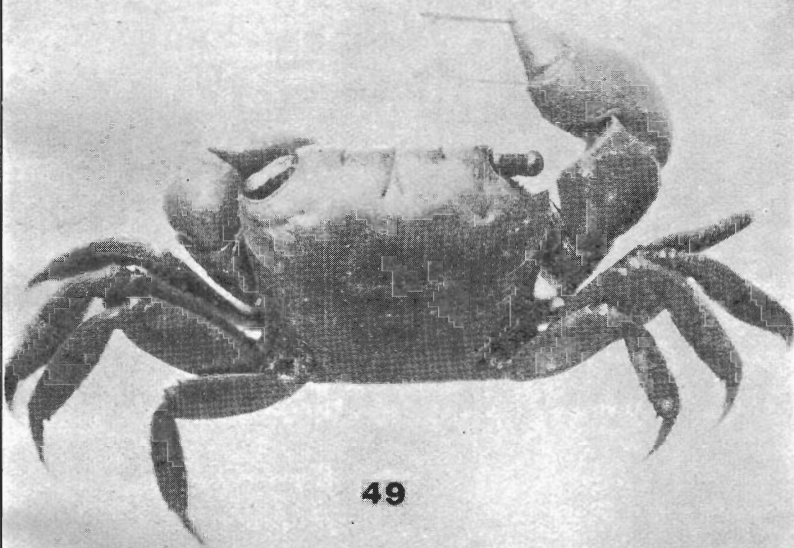
46



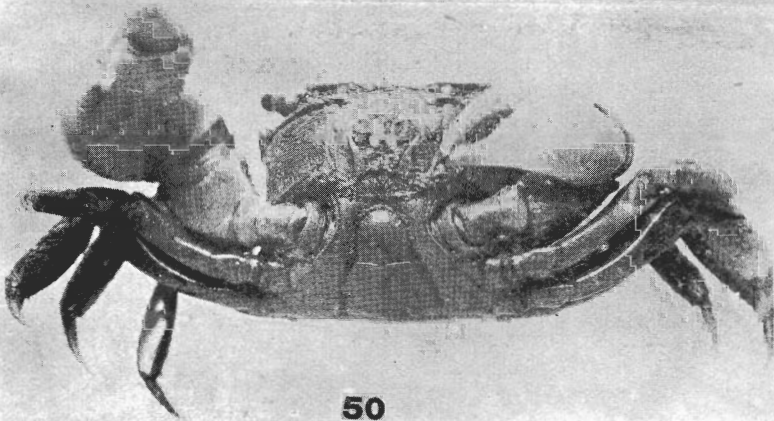
47



48



49



50