

Carapace about $\frac{3}{4}$ as long as broad, postero-lateral borders slightly convergent posteriorly. Regions fairly well marked, cervical suture deep, cardiac region swollen. Surface obscurely granulate, especially toward the lateral margins. Carapace and legs covered with a very short pubescence, with marginal fringes of hair. Antero-lateral margin granulate and acute as far as the widest portion of the carapace and marked by two obscure notches.

Fronto-orbital distance over $\frac{1}{2}$ width of carapace, front $\frac{1}{4}$ width of carapace, grooved in the middle line, faintly bilobed. Orbits piriform; eyes small, black.

Buccal cavern increasing in breadth from behind forwards; merus of maxillipeds with antero-lateral angle produced and rounded; exognath of moderate width.

Chelipeds heavy, especially the chelæ, and nearly smooth, except for marginal hairs. Arm projecting little beyond the carapace, with a subterminal tooth above. Wrist granulous at the inner angle, armed with a sharp tooth. Chelæ smooth and shining, with a granulate marginal line above and below; larger palm as high as its superior length, and with a prominent tooth on the outer side projecting over the dactylus, which has a basal tooth larger than the others.

Third pair of legs over $2\frac{1}{2} \times$ length of carapace.

Dimensions. — ♂, length 7 mm., width 9.7 mm.

The merus of the outer maxillipeds is much more produced at the antero-external angle than in *Typhlocarcinus* Stimpson.

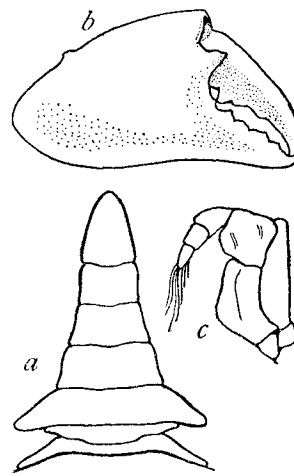


Fig. 27. *Rhizopa gracilipes*, Koh Chang, ♂, 9.7 mm. wide: a, abdomen; b, chela; c, maxilliped.



Fig. 28. Maxilliped of *Typhlocarcinus villosus*, Koh Chuen, ♀, 8.9 mm. wide.

Typhlocarcinus villosus Stimpson.

Typhlocarcinus villosus ALCOCK, LXIX, 322, 1900.

20 miles ESE. of Koh Samit, 13—14 fath., sandy mud, shells; II. 2; 2 ♀. 15 miles E. of Koh Chuen, 10 fath., shell bottom; II. 2; 2 ♀ (1 ovig.). Gulf of Rayong, 7—10 fath., sand, mud, shells; II. 8; 1 ♂ 1 ♀. 2 miles S. of Koh Tulu, 10 fath., sandy mud, shells; II. 9, 2 ♂ 5 ♀. N. of Koh Kut, 10 fath.; I. 23; 1 ♂.

Typhlocarcinus nudus Stimpson.

Plate I, fig. 6.

Typhlocarcinus nudus ALCOCK, LXIX, 322, 1900.

Singapore, 2—3 fath.; XII. 4; 1 ♂ 2 ♀. Between Koh Kahdat and Koh Kut, 6 fath., sandy clay; I. 9; 3 ♂ 1 ♀. S. of Koh Bidang, 9 fath., mud, shells; I. 18; 1 ♂ 1 ♀. W. of Koh Kong, 10—15 fath.; I. 24; 1 ♂ 1 ♀. 12 miles E. of Koh Mak, 20 fath. (large seine); I. 28; 1 ♂. 7 miles NW. to W. from Koh si Chang, 10 fath., mud; II. 24; 1 ♀. N. of Koh Kut, 10 fath.; I. 23; 1 juv.



Fig. 29. Maxilliped of *Typhlocarcinus nudus*, Singapore, ♀, 6.5 mm. wide.

Scalopidia spinosipes Stimpson.

Plate II, fig. 2.

Scalopidia spinosipes ALCOCK, LXIX, 325, 1900.

Off Koh Kut, 6 fath.: I. 26; 1 ♀ juv. S. of Koh Kut, 17—20 fath., mud (large seine); I. 28; 2 ♂ 2 ♀. 20 miles S. of Koh Samit, 20 fath., mud; I. 31; 3 ♂ 6 ♀ (1 ovig.). 35 miles W. of Koh Chang, 30 fath., clay; I. 31; 1 ♀ juv.

The largest ♂ (Koh Samit) is 14 mm. long, 19.5 mm. wide. The third, fourth and fifth segments of the ♂ abdomen are incompletely fused.

Camatopsis rubida Alcock and Anderson.

Camatopsis rubida ALCOCK, LXIX, 329, 1900.

12 miles E. of Koh Mak, 20 fath., large seine; I. 28; 1 ♂.

Megæsthesius Rathbun.

Megæsthesius RATHBUN, Proc. Biol. Soc. Washington, XXII, 112, 1909.

Allied to *Camatopsis* Alcock (Investigator Deep-Sea Brachyura, p. 75, 1899) but differs in having the eyes unpigmented, the movable part of the antennules not only excluded from the fossettes, but immensely stout, the buccal cavern anteriorly narrowed and arcuate, the outer maxillipeds touching each other, the ischium as broad as long and broader than the merus, which is subtriangular and bears the palp at its summit, exognath short and narrow.

Megæsthesius sagedæ Rathbun.

Plate II, fig. 5.

Megæsthesius sagedæ RATHBUN, Proc. Biol. Soc. Washington, XXII, 112, 1909.

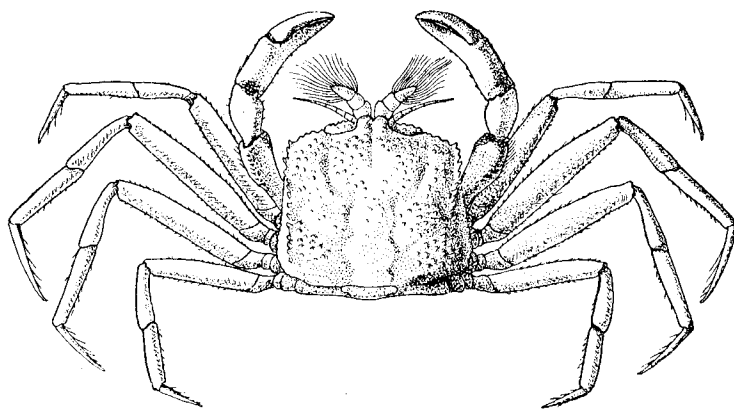


Fig. 30. *Megæsthesius sagedæ*, type ♂, 2.7 mm. wide.

Carapace pentagonal, the long postero-lateral borders parallel, forming distinct angles with the short antero-lateral borders which are in line with the orbits. Surface nearly naked, rough with sharp granules, which on the borders become spinules; very convex fore and aft, level from side to side. Front about one-fifth as wide as carapace,

bilobed by a deep groove, lobes arcuate. Eyestalks rough like the carapace, not pigmented. Epistome small. Pterygostomian region swollen.

Antennules immensely stout, the last two segments of the peduncle wider than the lobes of the front, the flagellum fringed with long hair which reaches to the sternum when the antennules are applied to the ventral surface. Antennæ slender, crowded by the antennules away from the front.

Chelipeds of the ♂ shorter and not much stouter than the legs, pubescent, rough; wrist suboval, bearing a spinule at the inner angle, fingers cylindrical, longer than the palm, the lower margin of which is spinulose.

Legs long and narrow, margins spinulose.

Abdomen of ♂ widest at the third segment; third to fifth segments fused. Length of ♂ 2·7 mm., width 2·7 mm., fronto-orbital width 1·8 mm., width of front 0·6 mm.

Singapore, 2–3 fath.; XII. 4; 1 ♂ type.

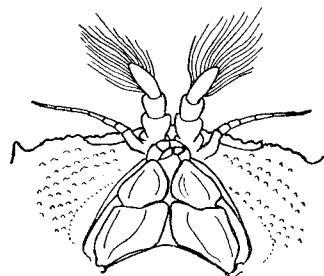


Fig. 31. *Megæsthesius sagedæ*, type ♂, 2·7 mm. wide, antero-ventral view.

Subfamily Typhlocarcinopsinæ Rathbun.

The first segment of the male abdomen covers the whole space between the last pair of legs. Otherwise, as in the Rhizopinæ, to which it bears the same relation that the Carcinoplacinae does to the Prionoplacinae. The type of the subfamily is

Typhlocarcinops Rathbun.

Typhlocarcinops RATHBUN, Proc. Biol. Soc. Washington, XXII, 112, 1909.

Differs from *Typhlocarcinus* Stimpson (cf. Alcock, LXIX. 321, 1900), chiefly in having the first segment of the ♂ abdomen very broad, covering the whole width of the sternum, and transversely grooved. Remainder of abdomen narrow.

Type and only species:

Typhlocarcinops canaliculata Rathbun.

Plate II, fig. 16.

Typhlocarcinops canaliculata RATHBUN, Proc. Biol. Soc. Washington, XXII, 112, 1909.

Carapace, chelipeds and legs sparingly hairy on the margins. Carapace three-fourths as long as wide, widest posteriorly, meso-gastric region faintly marked. Lateral margins granulate, entire.

Fronto-orbital width about three-fifths of the total width of the carapace; nearly half of the distance is occupied by the front. The latter widens anteriorly, is strongly

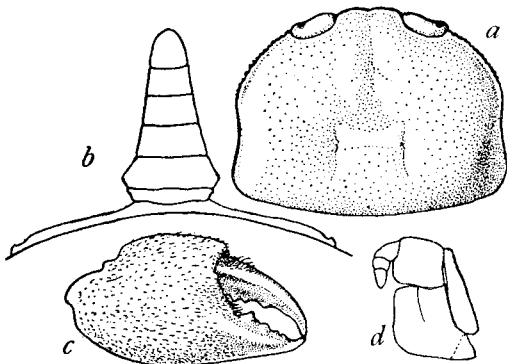


Fig. 32. *Typhlocarcinops canaliculata*, Koh Mak, ♂, 3·4 mm. wide: a, carapace; b, abdomen; c, chela; d, maxilliped.

deflexed, medially sulcate, lower margin arcuate, faintly emarginate in the middle. Orbits almost circular; eyes faintly pigmented.

Buccal cavity with sides parallel. Antero-external angle of merus of outer maxillipeds well marked but not produced.

Chelipeds about one and one-half times as long as carapace. Inner angle of wrist not prominent. Palm pubescent and on the lower half finely granulous.

Second and third legs subequal. Second pair longest, about twice as long as carapace.

Neither of the two specimens is adult, and the segments of the abdomen are not clearly marked; save for the broad first segment, the abdomen is very narrow, being at the third segment less than one-third the width of the sternum.

Length of type ♂ 2.7 mm., width 3.6 mm., fronto-orbital width 2 mm., frontal width 0.9 mm.

Between Koh Mesan and Cap Liant, 5–8 fath., sand, stones; H. 7; 1 ♂ type. S. of Koh Mak, 5–6 fath.; H. 17; 1 ♂.

Subfamily Hexapodinæ.

Thaumastoplax orientalis Rathbun.

Plate II, fig. 1.

Thaumastoplax orientalis RATHBUN, Proc. Biol. Soc. Washington, XXII, 113, 1909.

Carapace one and two-fifths times as broad as long; longitudinally very convex, transversely nearly level; naked and coarsely punctate, a faint H-shaped depression at the middle. Lateral borders marked by a raised line. The fronto-orbital distance, while about two-fifths as great as the extreme width of the carapace, occupies only a little more than half of the anterior margin, the so-called antero-lateral margin being angularly arcuate, its anterior portion transverse, a slight notch on the outer portion, postero-lateral margins sub-parallel; posterior margin convex, postero-lateral angle obliquely cut off above the insertion of the third leg.

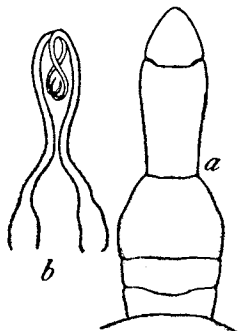


Fig. 33. *Thaumastoplax orientalis*, type ♂, 12.6 mm. wide: *a*, abdomen; *b*, abdominal appendages.

Front one-fourth the width of the carapace, posteriorly constricted, anterior margin concave, except for a broad shallow median tooth. Orbits transversely oval, appearing marginal in a dorsal view. Antennæ in the orbital hiatus; flagella three times as long as the major diameter of the orbit.

Epistome obsolete in the middle, narrow at the sides. Buccal cavity much broader than long, anteriorly arcuate, sides anteriorly divergent. Outer maxillipeds large, especially the palpus, which occupies the length of the cavity; a hiatus exists between the palpus and the ischium; there is a transverse fringe of hair across the middle of the maxillipeds, as well as a marginal fringe on the last two joints. Anterior half of

the maxillipeds nearly vertical. The maxilliped is shaped much as in the type species *T. anomalipes* Miers (Ann. Mag. Nat. Hist. (5), VIII, pl. XIV, fig. 2 b, 1881), but the propodus is as wide as long.

Chelipeds short, equal; merus with a superior subterminal spine; wrist smooth and bare except near the inner angle, where it is sharply granulate and hairy. Palms higher than long, granulate, granules arranged only partly in rows, lower edge bordered by a row of prominent sharp tubercles continued half way on the thumb. Dactylus spinulose above. Fingers narrowly gaping.

Second leg much larger than the first and third, which are subequal; upper margin of merus of second leg spinulose.

Margins of chelipeds and legs and also the pterygostomial regions long-hairy. Margins of sternal segments and of abdomen furry.

Third and fourth segments of ♂ abdomen fused, and also the fifth and sixth. The terminal segment projects between the tips of the dactyli of the two outer maxillipeds. The appendages of the first segment are much longer than the abdomen but do not project beyond it; their extremities being doubly recurved, forming together a figure 8.

Length of ♂ 9 mm., width 12.6 mm., width across front and orbits 5 mm., greatest width of front 2.8 mm.

Type locality. — N. of Koh Kut, 10 fath.; l. 23; 1 ♂.

This species differs from *T. anomalipes* Miers (Op. cit., p. 261, pl. XIV, fig. 2) in its narrower carapace, shorter, stouter claws and smaller third leg.

Thaumastoplax chuenensis Rathbun.

Thaumastoplax chuenensis RATHBUN, Proc. Biol. Soc. Washington, XXII, 113, 1909.

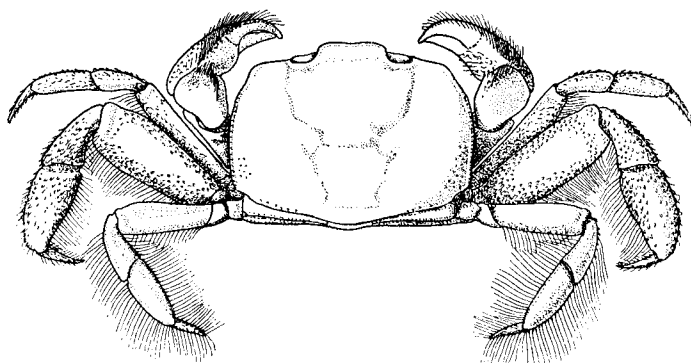


Fig. 34. *Thaumastoplax chuenensis*, type ♂, 4.8 mm. wide.

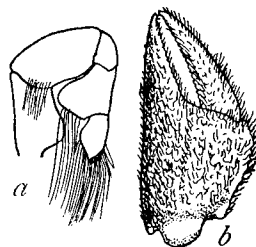


Fig. 35.

Thaumastoplax chuenensis,
type ♂, 4.8 mm. wide:
a, maxilliped; b, chela.

Differs from *T. orientalis* in a little narrower carapace, about one and one-third times as broad as long, with the gastric region sharply outlined, the cardiac region less distinctly so, the branchio-hepatic groove faint; antero-lateral margin less angled; fronto-orbital distance greater, one-half width of carapace; front widest at its lower

margin where it is nearly one-third as wide as carapace; epistome complete though narrow; legs narrower than in *T. orientalis*.

Founded on a young male, in which only the last segment of the ♂ abdomen is distinctly separated.

Length 3.5 mm., width 4.8 mm., width across front and orbits 2.5 mm., greatest width of front 1.5 mm.

Type locality. — Koh Chuen, 30 fathoms, shell bottom; II; 1 ♂.

Lambdophallus anfractus Rathbun.

Lambdophallus anfractus RATHBUN, Proc. Biol. Soc. Washington, XXII, 113, 1909.

Carapace subquadrilateral with the anterior angles rounded, one-half broader than long, convex fore and aft, anteriorly deflexed, slightly convex from side to side, gastric and cardiac regions well defined, surface short-pubescent and finely granulate and punctate. At the postero-lateral corners there is a small but very well marked lobe.

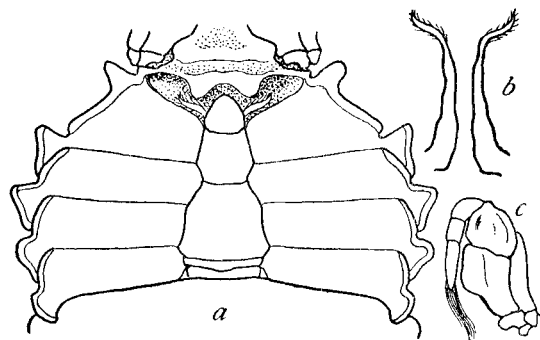


Fig. 36. *Lambdophallus anfractus*, type ♂, 7.2 mm. wide: a, sternum and abdomen; b, abdominal appendages; c, maxilliped.

Front nearly vertically deflexed, about one-fifth as broad as the greatest breadth of the carapace, subtruncate with the outer angles rounded, and with a median groove which bilobes the front in a dorsal view.

Orbit oblong-oval, about as wide as each lobe of the front and inclined downward and outward in a front view. Eyes almost immovable, pigmented.

Antennules transverse, septum narrow. Antennae more than twice as long as the major diameter of the orbit.

Epistome well defined. The buccal cavity narrows anteriorly. The inner margin of the ischium-merus is very convex, so that the space between the ischium joints is very nearly filled by the palpi, the propodal joint of which is less enlarged than in the type species *L. sexpes* (cf. pl. LXII, fig. 1 a, Illus. Zool. Investigator, Crust., pt. X). There are several fine oblique raised lines near the buccal cavity.

Chelipeds unequal in the ♂, equal in the ♀, the larger one in the ♂ one and one-half times as long as the carapace, finely granulate, fingers meeting only at tip, a low molariform tooth at base of dactyl.

Legs tomentose and granulate, third pair longest, a little more than twice as long as carapace, first pair shortest and narrowest, merus joints longitudinally furrowed.

Sternum finely granular; in the first segment is a transverse sinuous trench, to hold the curved and projecting extremities of the abdominal appendages.

The narrow ♂ abdomen has the first two segments short, no suture lines visible between the third, fourth and fifth segments, sixth segment nearly as long

as wide and widest near the middle, seventh segment subtriangular with convex sides. ♀ abdomen subovate, widest at the sinus between third and fourth segments, all segments distinct.

Length of type ♂ 4.7 mm., width 7.3 mm.

Record of specimens. — W. coast of Koh Chang, a little N. of the small islands, 10 fath., mud bottom, dead shells; I. 16; 1 ♀ ovig. Koh Chang, about 1 fath., coral; I. 17; 1 ♀. N. of Koh Kong, 8 fath., mud; I. 23; 2 ♀. Off Koh Kut, 6 fath.; I. 26; 2 ♂ (1 type) 5 ♀ (2 ovig.). 15 miles W. of Koh Kut, 30 fath., on *Chaetodiadema granulatum* Mortensen; 1 ♂. The Sound at Koh Chang, 3—5 fath., soft clay bottom; 1 ♂, 1 ♀.

Differs from the type species, *L. sexpes* Alcock (Jour. Asiat. Soc. Bengal, LXIX, p. 330, 1900) in its narrower carapace, and the different shape of the maxillipeds, abdomen and sternal trench.

This species has a suspicious resemblance to *Hexapus sexpes* de Man (Arch. f. Naturg., LIII, 1, p. 322, pl. XIII, fig. 3, 1887), but the author does not mention a sternal trench. I doubt if the species represented by him is the same as *H. sexpes* de Haan or *H. sexpes* A. Milne Edwards which appear also to be distinct from each other. The type of *Cancer sexpes* Fabricius (Entomol. Syst., Suppl. p. 344, 1798) is not extant, so that the specific name can perhaps not well be retained for de Haan's species.

(?) *Hexaplax*, sp.

Tung Kaben, 6 fath., sand, mud, phanerogams; II. 22; 1 ♂, young and soft shell, about 1.8 mm. wide.

This specimen has the form of carapace and front of *H. megalops* Doflein¹, also large reniform black eyes set in orbits similar to those of that species. The specimen is devoid of chelipeds and legs and is in too bad shape to be described with accuracy.

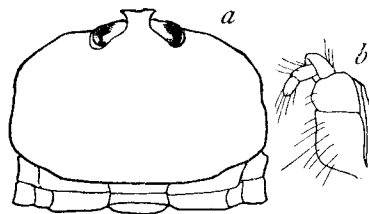


Fig. 37. *Hexaplax*, sp., ♂, 1.8 mm. wide: *a*, body, showing front flattened out, instead of curving downward in its natural position; *b*, maxilliped.

Family Xanthidæ.

Subfamily Xanthinæ.

Cymo melanodactylus de Haan.

Cymo melanodactylus ALCOCK, LXVII, 174, 1898.

Koh Kahdat, coral and coral blocks, 1 fath.; I—II; 2 ♂, 1 ♀.

¹ *Brachyura "Valdivia"*, p. 122, pl. XXXI, fig. 3—4, pl. I, fig. 7, 1904.

Xantho scaberrimus Walker.

Xantho (Lophoxanthus) scaberrimus ALCOCK, LXVII, 116, 1898.

Koh Chuen, 30 fath., shell bottom; II; 1 juv., 7.3 mm. in width. Unlike the adult, the fronto-orbital distance is more than half as great as the width of the carapace; the legs are longer and narrower than in the adult.

Leptodius exaratus (Milne Edwards).

Xantho (Leptodius) exaratus ALCOCK, LXVII, 118, 1898.

Coast of Lem Ngob, 0--1 fath., stones and sand; XII; 1 ♂. Koh Chik, rocky coast; I. 30; 1 ♂ 2 ♀ (1 ovig.). Koh Chang, 1 fath., coral; I--III; 1 ♂.

Leptodius sanguineus (Milne Edwards).

Xantho (Leptodius) sanguineus ALCOCK, LXVII, 119, 1898.

Koh Kahdat, 1 fath., coral and coral blocks; I--II; 1 ♀. Koh Chang, 1 fath., coral; I--III; 1 ♀.

These specimens are the *nodosus* form, figured by Dana (pl. XI, figs. 14a--g, Crust. U. S. Expl. Exped.) in which the tips of the lateral teeth are much thickened and strongly produced.

Cycloxanthops lineatus (A. Milne Edwards).

Plate II, fig. 15.

Cycloxanthus lineatus ALCOCK, LXVII, 124, 1898.

Koh Chuen, 30 fath., shell bottom; I. 2; 1 ♀ juv. Between Koh Kut and Koh Kahdat, 10 fath., shell bottom; I. 10; 1 ♀. Between Koh Mesan and Cap Liant, 9 fath.; II. 4; 1 ♂. N. of Koh Chuen, 15 fath., mud, shells; II. 5; 3 ♂ 5 ♀. Koh Kam, 5 fath., gravel; II. 6; 1 ♂ 1 ♀ ovig. Gulf of Rayong, 7--10 fath., sand, mud, shells; II. 8; 2 ♂. Koh Chuen, 30 fath., shell bottom; II; 1 ♂ 1 ♀. Koh Lan, 30 fath., mud; III. 2; 2 juv.

The specimens are all smaller than the type, the largest one (♂, Koh Kam) measuring 5.5 mm. long and 7.3 mm. wide; the outer angle of the orbit is more prominent than in larger specimens, forming a little blunt tooth similar to the next tooth on the antero-lateral margin.

Actæa nodulosa White.

Actæa nodulosa ALCOCK, LXVII, 148, 1898.

Koh Chuen, 30 fath., shell bottom, II; 1 ♀. Koh Kram, 30 fath.; III. 2 and 21; 2 ♂ juv.

Actæa savignyi (Milne Edwards).

Actæa granulata ALCOCK, LXVII, 151, 1898. Not *Cancer granulatus* LINNÆUS, 1758.

Between Koh Kut and Koh Kahdat, 10 fath., shell bottom; I. 10; 1 ♀ juv. 15 miles E. of Koh Chuen, 10 fath., shell bottom; II. 2; 1 ♀ ovig. Koh Kam, 5 fath.,

gravel; II. 6; 1 ♂ juv. 1 ♀ juv. Koh Chuen, 30 fath., shell bottom; II; 2 ♀ juv. Koh Kram, 30 fath.; III. 2 and 21; 1 ♀ juv.

Actæa calculosa (Milne Edwards).

Actæa calculosa ALCOCK, LXVII, 152, 1898.

Between Koh Mesan and Cap Liant, 9 fath.; II. 4; 1 ♂ 2 ♀ juv. Between Koh Mesan and Koh Chuen, 30 fath., stones; II. 5; 1 ♂. Between Koh Mesan and Koh Chuen, 38 fath., stones; II. 7; 1 ♂. Between Koh Mesan and Cap Liant, 5—8 fath., sand, stones; II. 7; 1 ♂ 1 juv. Koh Kram, 30 fath.; III. 2 and 21; 1 ♀ juv.

Platypodia granulosa (Rüppell).

Lophactæa granulosa ALCOCK, LXVII, 101, 1898.

Singapore, coral reef; XII. 5; 1 ♂.

Atergatis ocyroe (Herbst).

Atergatis floridus ALCOCK, LXVII, 98, 1898.

Koh Kahdat, among corals; II. 13; 2 ♂. Koh Chang, 1 fath., corals; I—III; 1 ♀ ovig. 4 juv.

Atergatis dilatatus de Haan.

Atergatis dilatatus ALCOCK, LXVII, 96, 1898.

Koh Chang, 1 fath., corals; I—III; 1 ♂ 1 juv.

Subfamily **Carpiliinæ**.

Chlorodiella niger (Forskål).

Chlorodius niger ALCOCK, LXVII, 160, 1898.

Koh Kahdat, coral and coral blocks, 1 fath.; I—II; 5 ♂ 5 ♀ (2 ovig.) 4 juv. Koh Chang, coral, 1 fath.; I—III; 2 ♂ 1 ♀.

Carpilodes rugipes (Heller).

Actæodes rugipes HELLER, S. B. K. Akad. Wiss. Wien, Math.-Naturw. Cl., XLIII, 1. Abth., 330, pl. II, fig. 20, 1861.

Carpiloxanthus rugipes HELLER, Reise Novara, Crust., 17, 1865.

Carpilodes rugipes A. MILNE EDWARDS, Nouv. Arch. Mus. Hist. Nat., Paris, I, 229, pl. XII, fig. 4, 4a, 4b, 1866.

Koh Chang, coral, 1 fath.; I—III; 2 ♀.

Carpilodes lophopus Alcock.

Plate II, fig. 18.

Carpilodes lophopus ALCOCK, LXVII, 84, 1898; Illus. Zool. Investigator, part VII, pl. XXXVI, fig. 2, 1899.

15 miles E. of Koh Chuen, 10 fath., shell bottom; II. 2; 1 ♀. Between Koh Mesan and Koh Chuen, 30 fath., stones; II. 5; 1 ♀. North side of Koh Mesan, 10—15 fath., stones, shells; II; 1 ♂ 1 ♀. Koh Chuen, 30 fath., shell bottom; II; 3 ♀.

The largest specimen (♀ between Mesan and Chuen) is 6.5 mm. long and 10.5 mm. wide. All are more distinctly areolated than the one figured by Alcock. The areola 1 M (of Dana) is distinct; 2 M is longitudinally divided, and there is a triangular areolet in front of the outer half; a square supra-orbital areolet; D and E are fused; 1 L, 2 L and 3 L are fused and eroded; 1 R and 2 R are fused with S; 4 L is fused with T; 5 L and 6 L are each distinct; the transverse groove across the posterior part of the carapace is deep.

Hypocolpus haanii Rathbun.

Cancer (Xantho) granulatus DE HAAN, Fauna Japon., Crust., p. 65, pl. XVIII, fig. 3, 1837. Not *Cancer granulatus* LINNÆUS, 1758.

Hypocaelus granulatus A. MILNE EDWARDS, Nouv. Arch. Mus. Hist. Nat., Paris, I, 296, pl. XVI, fig. 6, 6 a, 1866. HENDERSON, Trans. Linn. Soc. London, (2), Zool., V., p. 358, pl. XXXVI, fig. 12, 1893.

Hypocolpus haanii RATHBUN, Proc. Biol. Soc. Washington, XXII, p. 114, 1909.

Koh Kram, 30 fath.; III. 2 and 21; 1 ♂ 1 juv.

Subfamily Etisinæ.

Chlorodopsis melanochira A. Milne Edwards.

Chlorodopsis melanochira ALCOCK, LXVII, 168, 1898.

Singapore, coral reef; XII. 5; 1 ♂ 1 juv. Koh Kahdat, 1 fath., sandy bottom, sponges, dead corals; I. 11; 3 ♂ 1 ♀ ovig. 3 juv. Koh Kahdat, among algæ; II. 19; 1 ♂. Koh Kahdat, 1 fath., coral and coral blocks; I—II; 4 ♂ 6 ♀ 2 juv. Koh Chang, 1 fath., coral; I—III; 7 ♂ 10 ♀ (3 ovig.) 18 juv.

Halimede de Haan.

Halimede DE HAAN, Fauna Japon., 35, 1835 (*fragifer*).

Andromeda GISTEL, Natur. Thierreichs, p. IX, 1848.

Polycremnus GERSTÄCKER, Arch. f. Natur., XXII, pt. 1, 120, 1856 (*ochtodes*).

Three species of this genus form a regular series according to the amount of ornamentation. They are as follows:

Halimede tyche (Herbst).

Cancer tyche Herbst, Naturg. d. Krabben u. Krebse, III, Heft 2, p. 35, pl. LII, fig. 3, 1801, Ostindien.

Cancer (Halimede) fragifer de Haan, Fauna Japon., Crust., p. 47, pl. XIII, fig. 4, 1835, Japan.

Halimede thurstoni Henderson, Trans. Linn. Soc. London (2), V, p. 360, pl. XXXVI, figs. 13, 14, 1893, Tuticorin.

Halimede ochtodes (Herbst).

Cancer ochtodes Herbst, Naturg. d. Krabben u. Krebse, I, p. 158, pl. VIII, fig. 54, 1783.

Polycremnus ochtodes Alcock, Jour. Asiat. Soc. Bengal, LXVII, p. 135, 1898 and synonymy.

Polycremnus verrucifer Stimpson, Smithson. Misc. Coll., XLIX, p. 49, pl. VI, fig. 1, 1907 and synonymy.

H. tyche has the carapace, wrist and palm covered with raised, flattened and distinctly separated prominences, as shown in de Haan's figures (of *fragifer*). These prominences are pitted or irregularly grooved. The type of *C. tyche* is in the Berlin Museum; it is a small specimen 9.5 mm. long by 11.4 mm. wide, and is undoubtedly the same as *H. fragifer*.

H. thurstoni has similar flattened prominences, but fewer of them; they are restricted to the antero-lateral and suborbital regions of the carapace, the surface of the wrist, and the upper and proximal half of the palm.

H. ochtodes is without flattened prominences, but the antero-lateral protuberances of the carapace are low and rounded, the wrist and supero-proximal surface of the palm are covered with rounded tubercles. *P. verrucifer* corresponds to the young of *H. ochtodes*.

As these three species present no other differences, it is quite probable that they were derived one from another in the order named, and it would not be surprising if intermediate forms existed. The young (at least of *H. thurstoni* and *H. ochtodes*) present greater inequalities of the surface than the old.

H. tyche is not represented in the Siam collection, but the other species were taken as follows:

Halimede thurstoni Henderson.

Plate I, fig. 19. Plate II, fig. 7.

Between Koh Kut and Koh Kahdat, 10 fath., shell bottom; I. 10; 1 ♂ juv. 1 juv. Koh Kam, 5 fath., gravel; II. 6; 1 ♀ juv. 2 juv. Between Koh Mesan and Cap Liant, 5--8 fath., sand, stones; II. 7; 1 ♂ juv. Koh Chuen, 30 fath., shell bottom; II; 1 ♂ juv. 1 ♀ juv. with Rhizocephalid. Between Koh Rin and Cliff Rock (N. of Koh Kram), 15 fath.; III. 2; 2 juv. N. of Koh Chuen, 15 fath., mud, shells; II. 5; 1 juv.

Halimede ochtodes (Herbst).

Plate I, fig. 4.

The gulf at Rayong, 7--10 fath., sand, mud, shells; II. 8; 1 ♀ ovig. Koh Kahdat, 4--5 fath., sand, stones, coral; II. 15--18; 1 ♀ juv. Koh Chuen, 30 fath., shell bottom; II; 1 ♂ with large Rhizocephalid. Koh Lan, 30 fath., mud; III. 2; 1 ♀ juv.

In young specimens the lateral projections are more acute than in the adult. Length of ovigerous ♀ 31 mm., width 42.6 mm.

This species has been recorded at Hong Kong (STIMPSON), Singapore (WALKER), Penang (ALCOCK), Madras Coast (ALCOCK), East India (HERBST), Indian Ocean (ADAMS and WHITE).

Subfamily Menippinæ.

Menippe convexa Rathbun.

Menippe convexa RATHBUN, Bull. U. S. Fish Comm. for 1903, pt. III, 861, pl. XI, fig. 4, 1906.

Fishing-weir at Koh Kong; I. 21; 1 ♂.

Length 9.7 mm., width 12.9 mm. Carapace a little narrower than the type ♀, regions slightly better marked, surface showing a close flat granulation, especially in the anterior half, lateral teeth stronger, more acute. Chelipeds more unequal than in the ♀. Fine dots of a dark color on the posterior part of the carapace, legs transversely banded.

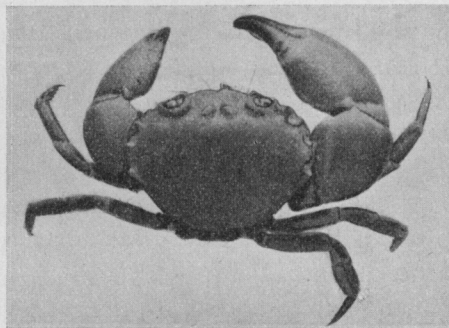


Fig. 38. *Menippe convexa*, Koh Kong, ♂, 12.7 mm. wide.

Myomenippe granulosa (A. Milne Edwards).

Menippe (Myomenippe) granulosa ALCOCK, LXVII, 179, 1898.

Coast of Lem Ngob, 0—1 fath., stones and mud; XII; 2 ♂ 5 ♀ 10 juv. Mangrove swamp, Lem Ngob; XII, 23, 24 and 27; 2 ♂ 2 ♀. Koh Chang, stony coast at low water; I; 1 ♂ 1 juv.

Eurycarcinus orientalis

A. Milne Edwards.

Eurycarcinus orientalis ALCOCK, LXVII, 210, 1898.

Mangrove swamp, Lem Ngob; XII, 23, 24 and 27; 1 ♀. Coast of Lem Ngob, 0—1 fath., stones, sand; XII; 4 ♂ 1 ♀ 5 juv. Koh Chang, stony coast at low water; I; 1 ♂ 1 ♀. Coast of Lem Ngob, above low water mark; XII, 28; 2 ♀ 8 juv. Gulf of Siam, without special locality; 1 ♂ 1 ♀. Koh Chang, coral, 1 fath.; I—III; 1 ♂ 4 ♀ (1 ovig.) 5 juv. Koh Chang, under stones on coast, extreme low water; I. 12; 1 ♂ juv.

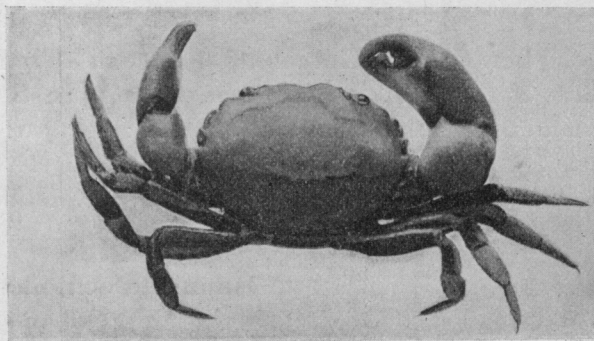


Fig. 39. *Eurycarcinus orientalis*, Lem Ngob, ♀, 13.5 mm. wide.

Pilumnus vespertilio (Fabricius).

Pilumnus vespertilio ALCOCK, LXVII, 192, 1898.

Singapore, coral reef; XII, 5; 6 ♂ 2 ♀. Between Koh Mesan and Cap Liant, 5—8 fath., sand, stones; II. 7; 1 juv. Koh Chang, 1 fath., coral; I—III; 1 juv.

Pilumnus longicornis Hilgendorf.

Pilumnus longicornis ALCOCK, LXVII, 193, 1898.

Koh Kram, 30 fath.; III. 2 and 21; 1 ♀ juv. Koh Kahdat, 5—8 fath., sandy mud, II. 16 and III. 4; 1 ♀ ovig. Gulf at Rayong, 7—10 fath., sand, mud, shells; II. 8; 1 ♀. Between Koh Mesan and Koh Chuen, 15 fath., stones; II. 6; 1 juv. Between Koh Mesan and Cap Liant, 5—8 fath., sand, stones; II. 7; 1 juv.

These specimens differ from the type in having the greater part of the outer surface of the large hand, granulous and hairy; this may be due to the smaller size of the specimens.

Pilumnus andersoni de Man.

Pilumnus andersoni ALCOCK, LXVII, 194, 1898.

15 miles east of Koh Chuen, 10 fath., shell bottom; II. 2; 1 ♀. Koh Chuen, 30 fath., shell bottom; I. 2; 2 ♀ 2 juv. Koh Chuen, 30 fath., shell bottom; II; 1 ♂ 5 ♀ (1 ovig.). Koh Kram, 30 fath.; III. 2 and 21; 6 ♂ 7 ♀ (2 ovig.) 12 juv. Koh Kahdat, 1 fath., coral, coral blocks; I—II; 2 ♂ 1 ♀ ovig. Koh Chang, 1 fath., coral; I—III; 2 ♂ 7 ♀ (1 ovig.) 12 juv.

The specimens are all small, the largest measuring 4 mm. long, 6 wide. The outer angle of the orbit is inclined to be spiniform, but the spine is very short, not approaching in size the other spines.

Pilumnus edamensis de Man.

Pilumnus edamensis DE MAN, Arch. f. Naturg., LIII, 1, p. 302, pl. XI, fig. 5, 1887.

Koh Kahdat, 1 fath., coral and coral blocks; I—II; 1 ♂. Koh Chang, 1 fath., coral; I—III; 3 ♀. Bay at south end of Koh Chang, among large oysters; III. 14; 1 ♂.

Pilumnus cærulescens A. Milne Edwards, var.

Plate I, fig. 15.

Pilumnus cærulescens ALCOCK, LXVII, 196, 1898.

Koh Kahdat, 1 fath., sandy bottom, sponges, dead coral; I. 11; 1 ♂ 2 ♀ (1 ovig.). Koh Kahdat, among algæ; II. 19; 1 ♂ juv. 1 ♀.

Corresponds well to ALCOCK'S description except that the hands are not closely granulate.

Pilumnus hirsutus Stimpson.

Pilumnus hirsutus STIMPSON, Smithsonian Misc. Coll., XLIX, 69, pl. IX, fig. 1, 1907. Cf. RATHBUN, Bull. Mus. Comp. Zool., XXXIX, 129, 1902.

Koh Kahdat, 1 fath., sandy bottom, sponges, dead corals; I. 11; 1 ♀ 3 juv. Between Koh Mesan and Koh Chuen, 25 fath., shells, II. 5; 1 juv. Koh Kam, 5 fath., gravel; II. 6; 3 ♂ 3 ♀ (1 ovig.). Between Koh Riat and Koh Mesan, 3—5 fath., algæ; II. 7; 1 ♀. Between Koh Mesan and Cap Liant, 5—8 fath., sand, stones; II. 7; 2 ♂ 1 ♀. Koh Kram, 30 fath.; III. 2 and 21; 2 ♂. Twelve miles east of Koh Mak, 20 fath., large seine; I. 28; 1 ♂.

A ♂ from Koh Kram is about the size of Stimpson's type and resembles his figure. The lobes of the front are more rounded and less oblique than in smaller specimens, edge minutely crenulate, and the median emargination shallower. Carapace very convex both ways. The projections of the chelipeds are sharp, spinulous. Besides the short pubescence of the surface there are numerous long hairs.

Length of carapace of ♂, 8.5, width 11.5 mm.

Pilumnus dorsipes Stimpson.

Plate I, figs. 3 and 9.

Pilumnus dorsipes STIMPSON, *Smithson. Misc. Coll.*, XLIX, 70, pl. IX, fig. 3, 3a, 1907.

Koh Kram, 30 fath.; III. 2 and 21; 1 ♀ juv.

Length 7.9 mm., width 10.4 mm. Corresponds to ALCOCK's description fairly well. There is a bunch of subhepatic granules. The surface of the wrist and chela is covered with blunt curved spines. STIMPSON's figure shows the legs somewhat shorter, and those of the last two pairs broader.

Pilumnus borradailei Rathbun.

Plate I, fig. 8.

Pilumnus borradailei RATHBUN, *Proc. Biol. Soc. Washington*, XXII, p. 113, 1909.

Carapace very flat except anteriorly, about $\frac{3}{4}$ as long as broad, covered with a dense short pubescence, and long hairs, forming a fringe on the anterior border of the carapace and abundant on the chelipeds even to the finger tips and on the legs. When denuded, the regions of the carapace are fairly well marked, the surface is finely punctate, and towards the antero-lateral regions a little granular.

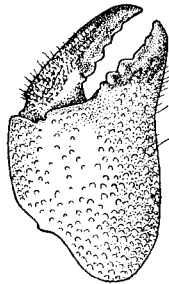


Fig. 40. Chela (denuded) of *Pilumnus borradailei*, Koh Chang, ♂, 9.4 mm. wide.

Fronto-orbital border $\frac{7}{10}$ of width of carapace, $\frac{1}{2}$ of this is occupied by the front, the two lobes of which are very oblique, convex, with a shallow median emargination, outer angles rectangular, rounded off and scarcely separated from the inner angle of the orbit. The outer of the two superior fissures of the orbit is small, the inner scarcely discernible; notch below the outer angle broad.

Antero-lateral margin crossed by three grooves which form four shallow lobes with granulated edges, which diminish in size from the first to the fourth. Postero-lateral margins slightly converging.

Chelipeds stout; merus broader than long; carpus almost smooth except for fine granules along the distal margin; palms wider than their superior length, surface covered with numerous but not contiguous small pearly granules, which are continued half way along the fingers; only the distal half or less of the fingers is dark-colored. Third pair of legs twice as long as carapace. Legs unarmed.

Length of type ♂ 7.4 mm., width 10 mm., fronto-orbital width 7.1 mm., width of front 3.5 mm.

Koh Kahdat, 1 fath., coral and coral blocks; I—II; 1 ♂ 1 ♀. Koh Chang, 1 fath., coral; I—III; 2 ♂ (1 is type).

Nearest to *P. pilosus* Fulton and Grant¹, from which it differs in lacking the naked triangular area on the palms, in having the fingers meeting when closed, and in its greater hairiness (judging from the figures of *P. pilosus*).

***Actumnus setifer* (de Haan).**

Actumnus setifer ALCOCK, LXVII, 202, 1898.

Between Koh Mesan and Cap Liant, 5—8 fath., sand, stones; II. 7; 1 ♀. Koh Kahdat, 4—5 fath., sand, stones, coral; II. 15—18; 2 ♂ 2 ♀. North side of Koh Mesan, 10—15 fath., stones, shells; II; 1 ♂ 1 ♀. 15 miles east of Koh Chuen, 10 fath., shell bottom; II. 2; 2 ♀ (1 ovig.).

***Actumnus changensis* Rathbun.**

Actumnus changensis RATHBUN, Proc. Biol. Soc. Washington, XXII, p. 114, 1909.

Surface almost bare, only occasional hairs, both long and short, which in no way disguise the markings.

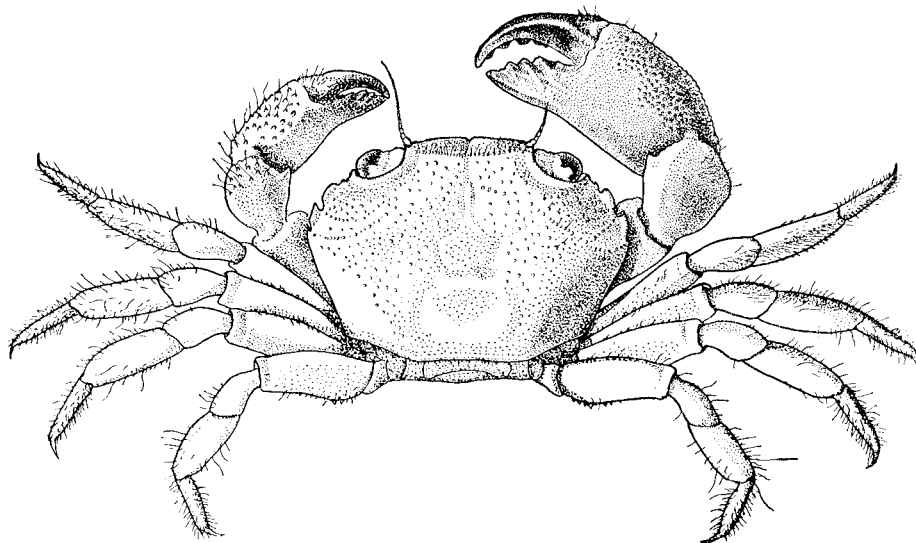


Fig. 41. *Actumnus changensis*, Koh Chang, ♂, 5.7 mm. wide.

Carapace $\frac{2}{3}$ as long as broad, regions very slightly indicated, viz., the mesogastric and cardiac; epigastric lobes slightly elevated. Frontal and antero-lateral regions dotted with separated granules; an indistinct line of granules curves inward and forward from the last lateral tooth.

Front $\frac{1}{3}$ as wide as carapace, bilobed, with a median notch, each lobe slightly convex and separated from the orbital angle by a rectangular notch.

¹ Proc. Roy. Soc. Victoria, XIX (n. s.), p. 7, pl. IV, fig. 1—4, 1906.

Orbital margin not fissured above, a triangular notch below the outer angle. The antennary flagellum arises in the orbital hiatus.

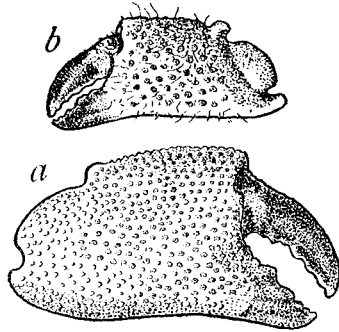


Fig. 42. *Actumnus changensis*, Koh Chang, ♂, 5.7 mm. wide: a, right chela; b, left chela.

There are three antero-lateral teeth, the first subtruncate, the second and third acutely pointed. Between the first tooth and the orbital angle there is a spinule. Postero-lateral margins considerably longer than the antero-lateral, straight.

Chelipeds very unequal, granulous, granules small, beadlike, and dense on the palms. Pollex of larger hand short, with four principal teeth. The dark color does not quite cover the surface of either thumb.

Dimensions. — ♀, length 3.8 mm., width 5.7 mm.

Koh Chang, 1 fath., coral; I—III; 3 ♂ 2 ♀ (1 ♀ type).

In shape resembles *A. tomentosus* Dana (pl. XIV, figs. 2a—c, Crust. U. S. Expl. Exped.) which has the carapace without granules and covered with a tomentum.

Actumnus squamosus (de Haan).

Cancer (Pilumnus) squamosus DE HAAN, Fauna Japon., Crust., p. 50, 1835.

Actumnus squamosus A. MILNE EDWARDS, Nouv. Arch. Mus. Hist. Nat., Paris, I, p. 286, pl. XVIII, fig. 6, 6a, 6b, 6c, 1866.

20 miles E. S. E. of Koh Samit, 13—14 fath., sandy mud, shells; II. 2; 1 ♂. Between Koh Mesan and Cap Liant, 9 fath.; II. 4; 1 ♂. Off Koh Sakait, 5—6 fath., sand; II. 23; 1 ♀ ovig. Koh Chuen, 30 fath., shell bottom; II. 1 ♂ 1 ♀. Between Koh Rin and Cliff Rock, (N. of Koh Kram), 15 fath.; III. 2; 1 ♀. Koh Kam, 5 fath., gravel; II. 6; 3 ♂ 3 ♀ (1 ovig.) 2 juv.

Parapleurophrycoides roseus Nobili.

Parapleurophrycoides roseus NOBILI, Bull. Mus. Hist. Nat., Paris, 1906, No. 5, p. 9.

About 15 miles W. of Koh Kut, about 30 fath. (s. m.); I. 28; 1 juv., 1.25 mm. long, 1.4 mm. wide, front 0.6 mm.

This corresponds very well with NOBILI's preliminary description. The eyes are of huge size, projecting sideways beyond the orbits. Outer angle of orbit spiniform, as is also the lower inner angle; lower margin serrulate. Antenna standing loosely in the orbit, the joint following the basal joint barely reaching the front.

Heteropanope sexangula Rathbun.

Plate II, fig. 6.

Heteropanope sexangula RATHBUN, Proc. Biol. Soc. Washington, XXII, p. 114, 1909.

Carapace narrow, hexagonal, little convex, surface tomentose, uneven, a blunt transverse ridge on each frontal lobe, and on each protogastric lobe, and a few irregular nodules on the branchial region.

Front strongly deflexed, its lower edge bearing four small well separated lobes, the inner pair more produced (or lower down), the outer pair distinctly separated from the orbital angles.

The upper margin of the orbit has two very small notches; below the outer angle is a very large notch.

The short antero-lateral margin is cut into four teeth, first three blunt, fourth largest, acute; first fused with orbital angle, third minute.

Chelipeds and legs tomentose; chelipeds unequal in the ♀, stout, $1\frac{1}{2}$ times as long as carapace. Merus with a superior, subterminal spine; wrist nodular, with a sharp inner spine; palms granulate except on the distal portion of the larger one. Legs slender.

Length of ovigerous ♀ 5.2 mm., width 7 mm.

Gulf of Siam (special locality not given), 1 ♀.

This species in form resembles *H. eucratoides* Stimpson (Smithson. Misc. Coll., XLIX, 64, pl. VIII, fig. 2, 2a, 1907) which is a much smoother species, the hand being quite smooth.

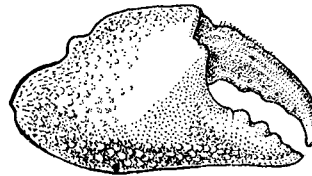


Fig. 43. Chela of *Heteropanope sexangula*, type ♀, 7 mm. wide.

Subfamily Oziinæ.

Epixanthus frontalis (Milne Edwards).

Epixanthus frontalis ALCOCK, LXVII, 185, 1898.

Koh Chik, rocky coast; I. 30; 3 ♂ 2 ♀.

Subfamily Eriphiinæ.

Eriphia sebana smithii Mac Leay.

Eriphia levinana var. *Smithii* ALCOCK, LXVII, 216, 1898.

South coast of Koh Chang, sand (shrimp-net); I. 18; 1 ♀.

Subfamily Trapeziinæ.

Trapezia cymodoce (Herbst).

Trapezia cymodoce ALCOCK, LXVII, 219, 1898.

Koh Kahdat, coral and coral blocks, 1 fath.; I—II; 1 ♀.

Tetralia glaberrima (Herbst).

Tetralia glaberrima ALCOCK, LXVII, 223, 1898.

Koh Kahdat, coral and coral blocks, 1 fath.; I—II; 7 ♂ 9 ♀ ovig. 2 juv.

Family Potamonidæ.

Subfamily Potamoninæ.

Potamon (Potamon) brousmichei Rathbun.

Potamon (Potamon) brousmichei RATHBUN, Nouv. Arch. Mus. Hist. Nat. (4), VI, 272, fig. 12 in text, pl. X, fig. 6, 1904.

River on Koh Chang; I. 5; 4 ♂ 2 ♀ 4 juv. Koh Kul, in little mountain river; 1 juv. Bay at Klong Salakpet (River on Koh Chang); III. 14; 1 ♂. Klong Salakpet (River on Koh Chang); III. 15; 2 juv.

Family Portunidæ.

Subfamily Carupinæ.

Carupa læviuscula Heller.

Carupa læviuscula ALCOCK, LXVIII, 26, 1899.

Koh Chang, among corals, 1 fath.; III; 1 ♀.

Subfamily Portuninæ.

Scylla serrata (Forskål).

Scylla serrata ALCOCK, LXVIII, 27, 1899.

Coast at Lem Ngob, 6 specimens.

“Caught in great numbers in the mangrove. It is eaten by the natives; its flavor I found quite excellent”.

Portunus sanguinolentus (Linnæus).

Neptunus sanguinolentus ALCOCK, LXVIII, 32, 1899.

At South point of Koh Chang in Sargassum; I. 8; 2 juv. (1 minute). Koh Kahdal, 1 fath., sandy bottom, sponges, dead corals; I. 11; 1 juv. (minute). 18 miles West of Koh Chang, surface; I. 31; 12 juv. (mostly minute). North of Koh Samit, surface; II. 3; 1 juv. (minute). Between Koh Mesan and Koh Chuen, on and under plants, surface; II. 5; 2 juv. North of Koh Chang, under leaves, seaweed, etc.; II. 10; 17 juv. N. side of Koh Chang, under leaves, surface; III. 8; 3 juv. (minute). South of Koh Chang, under floating Sargassum, “rain, not sun”; III. 13; 4 juv. (minute). South of Koh Chang, under floating Sargassum; III. 16; 2 juv. (minute).

Portunus pelagicus (Linnæus).

Neptunus pelagicus ALCOCK, LXVIII, 34, 1899.

Coast at Lem Ngob; XII. 30. 99; 3 specimens. Coast at Lem Ngob (scine); XII. 26; 5 ♂ 1 ♀ (all young). Coast at Lem Ngob, 0--1 fath., stones, mud; XII;

2 ♂ 2 ♀ 5 juv. Coast of Koh Kong; I. 23; 4 ♀ juv. Fishing-weir at Koh Kong; I. 21; 1 ♂. The shore outside the Mangrove at the Station on Koh Chang; III. 11; 2 juv. Outside mangroves on Koh Chang, very shallow water; III. 18; 1 juv.

Portunus (Achelous) gladiator (Fabricius).

Neptunus (Amphitrite) gladiator ALCOCK, LXVIII, 35, 1899 (Not *Amphitrite media* STIMPSON).

Between Koh Mesan and Cap Liant, 9 fath.; II. 4; 2 juv. Koh Kam, 5 fath., gravel; II. 6; 1 ♂. Between Koh Riat and Koh Mesan, 3–5 fath., sand, algæ; II. 7; 1 juv. Gulf of Rayong, 7–10 fath., sand, mud, shells; II. 8; 1 juv.

Portunus (Achelous) hastatoides (Fabricius).

Neptunus (Hellenus) hastatoides ALCOCK, LXVIII, 38, 1899.

Singapore, 2–3 fath.; XII. 4; 3 ♂ 4 ♀ (1 with Rhizocephalid). Between Koh Kut and Koh Kahdat, 10 fath., shell bottom; I. 10; 2 ♀. S. of Koh Bidang, 9 fath., mud, shells; I. 18; 1 ♀. N. of Koh Kong, 8 fath., mud bottom; I. 23; 1 ♂ 2 ♀. N. of Koh Kut, 10 fath.; I. 23; 1 ♂ juv. 1 ♀ juv. West of Koh Kong, 10–15 fath.; I. 24; 1 ♂. East of Koh Chang, 6 fath., seine; I. 25; 2 ♂ 4 ♀ (1 with Rhizocephalid). Koh Kahdat, 8–10 fath., mud; I. 27; 5 ♂ 8 ♀ (4 ovigerous). Off North point of Koh Kut, 10 fath. (large seine); I. 27; 3 ♂ 1 ♀. West of North end of Koh Kut, 11 fath.; I. 27; 2 ♀ (1 ovigerous). South of Koh Kut, 17–20 fath., mud (large seine); I. 28; 2 ♀ (1 ovig.). 15 miles west of Koh Kut, 30 fath., (s. m.); I. 28; 1 ♀, 1 juv. 10–12 miles west of Koh Chang, 20 fath., mud; I. 29; 1 ♂ 3 ♀. Sound at Koh Chang, 3–5 fath., soft clay bottom; 11 ♂ j., 17 ♀ j. 20 miles south of Koh Samit, 20 fath., mud; I. 31; 2 ♂ 4 ♀. 4–6 miles south of Koh Samit, 14–18 fath.; II. 1; 1 ♀ with Rhizocephalid, 1 juv. Koh Kam, 10 fath., gravel; II. 6; 1 ♀. Between Koh Mesan and Cap Liant, 5–8 fath., sand, stones; II. 7; 1 ♂. Gulf of Rayong, 7–10 fath., sand, mud, shells; II. 8; 1 ♂. Koh Kahdat, 5–8 fath., sandy mud; II. 16 and III. 4; 1 ♀. Tung Kaben, 6 fath., sand, mud, phanerogams; II. 22; 1 ♀.

Portunus (Achelous) spinipes (Miers).

Neptunus (Hellenus) spinipes ALCOCK, LXVIII, 39, 1899.

S. of Koh Kut, 17–20 fath., mud (large seine); I. 28; 2 ♂ 1 ♀. 10–12 miles west of Koh Chang, 20 fath., mud; I. 29; 5 ♂. 20 miles south of Koh Samit, 20 fath., mud; I. 31; 2 ♂.

Portunus (Achelous) tenuipes (de Haan).

Neptunus (Hellenus) tenuipes ALCOCK, LXVIII, 42, 1899.

4 miles S. of Koh Sakait, 9 fath., shell bottom; II. 3; 1 ♀ ovig. Gulf of Rayong, 7–10 fath., sand, mud, shells; II. 8; 1 ♂. Koh Kam, 5 fath., gravel; II. 6; 1 ♂ juv. Between Koh Riat and Koh Mesan, 3–5 fath., sand, algæ; II. 7; 1 juv. 6 miles east of Cap Liant, 9 fath., shell bottom; II. 7; 2 ♀. Koh Kahdat, 4–5 fath.,

sand, stones, coral; II. 15–18; 7 ♂. Koh Kahdat, 5–8 fath., sand, mud; II. 16 and III. 4; 2 juv.

Portunus (Achelous) tuberculosus (A. Milne Edwards).

Neptunus (Hellenus) tuberculosus ALCOCK, LXVIII, 42, 1899.

Between Koh Kut and Koh Kahdat, 10 fath., shell bottom; I. 10; 1 ♂. Between Koh Mesan and Cap Liant, 5–8 fath., sand, stones; II. 7; 1 juv. S. of Koh Mak, 5–6 fath.; II. 7; 1 juv. Koh Kahdat, 4–5 fath., sand, stones, coral; II. 15–18; 1 ♀. Koh Kahdat, 5–8 fath., sandy mud; II. 16 and III. 4; 1 ♂. Koh Kram, 30 fath.; III. 2 and 21; 2 ♀ (1 ovig.).

Portunus (Achelous) brockii (de Man).

Neptunus (Hellenus) brockii ALCOCK, LXVIII, 43, 1899.

Koh Kahdat, 4–5 fath., sand, stones, coral; II. 15–18; 1 juv. S. of Koh Mak, 5–6 fath.; II. 17; 2 ♂. Sound at Koh Chang, 3–5 fath., soft clay bottom; 1900; 1 ♂.

Portunus (Achelous) granulatus (Milne Edwards).

Neptunus (Achelous) granulatus ALCOCK, LXVIII, 45, 1899.

Koh Kahdat, 4–5 fath., sand, stones, coral; II. 15–18; 6 ♂ 2 ♀.

Portunus (Lupocycloporus) gracilimanus (Stimpson).

Neptunus (Lupocycloporus) whitei ALCOCK, LXVIII, 44, 1899.

Amphitrite gracilimanus STIMPSON, Smithson. Misc. Coll., XLIX, 77, pl. X, fig. 3, 1907

Singapore, 2–3 fath.; XII. 4; 1 ♂. Between Koh Kut and Koh Kahdat, 10 fath., shell bottom; I. 10; 1 ♂ 1 ♀. Between Koh Mesan and Cap Liant, 9 fath.; II. 4; 3 juv. Koh Kram, 5 fath., gravel; II. 6; 1 juv. Gulf of Rayong, 7–10 fath., sand, mud, shells; II. 8; 2 juv. Tung Kaben, 6 fath., sand, mud, phanerogams; II. 22; 2 juv. Koh Chuen, 30 fath., shell bottom; II; 5 ♀. Koh Lan, 30 fath., mud; 1 ♂ 1 juv. Between Koh Rin and Cliff Rock (N. of Koh Kram), 15 fath.; III. 2; 1 ♀.

Portunus (Lupocycloporus) innominatus Rathbun.

Neptunus (Lupocycloporus) gracilimanus ALCOCK (not STIMPSON) LXVIII, 45, 1899.

Portunus (Lupocycloporus) innominatus RATHBUN, Proc. Biol. Soc. Washington, XXII, p. 114, 1909.

Koh Kahdat, 8–10 fath., mud; I. 27; 1 ♀ ovig. 10 miles E. of Koh Mak, 20 fath., large seine; I. 28; 1 ♂.

Besides the distinguishing characters given by Alcock, the antero-lateral teeth are irregular, the 2nd, 3rd, 4th and 6th being smaller than the others.

Portunus (Xiphonectes) longisp. nosus (Dana).

Neptunus (Hellenus) longispinosus ALCOCK, LXVIII, 40, 1899.

Koh Kahdat, 1 fath., sandy bottom, sponges, dead corals; I. 11; 1 ♂. S. of Koh Mak, 5—6 fath., II. 7; 2 juv. Koh Kahdat, 4—5 fath., sand, stones, coral; II. 15—18; 25 ♂ 25 ♀ (13 ovig.).

Subfamily **Thalamitinæ.**

Lissocarcinus boholensis Semper.

Lissocarcinus boholensis SEMPER, in Nauck, Zeits. Wiss. Zool., XXXIV, pp. 60 and 67, 1880.

15 miles West of Koh Kut, in Salpæ, 1 ♀ immature.

This small specimen is very little broader than long (3.7 mm. long, 3.8 mm. broad)¹. The anterior two-thirds of the carapace approaches a circular form, the postero-lateral margins are concave, and meet the broad and lightly concave posterior margin (which is half as wide as the carapace) at a blunt obtuse angle. Dorsal surface nearly flat and crossed by fine transverse lines, which are very apparent and fairly continuous on the anterior half but posteriorly become fainter and more broken.

Fronto-orbital distance very little less than extreme width. Front strongly projecting and (exclusive of orbital angles) about one-third width of carapace, bilobed, with a distinct median emargination and a short median furrow, each lobe sloping backward and outward and with nearly straight margin. Inner orbital angle subacute. Orbit large, its upper border entire. Eye very large.

Antero-lateral border thin, cut into five (including the orbital) short blunt teeth, scarcely projecting, and indicated more by the furrows between them.

Basal joint of antenna narrow, its outer angle produced. The exclusion of the flagellum from the orbit is very slight. Antennules very large, obliquely folded.

Chelipeds stout, but little longer than carapace; surface finely roughened. Inner angle of wrist dentiform. Hands full, wider than their superior length, two granular ridges above and one or more obscure ridges on outer surface. Fingers deeply grooved, not gaping, and crossing some distance behind the tips. Legs narrow, first three pairs as long as chelipeds; merus of last pair one and one-half times as long as wide, its posterior border, as well as that of the merus, smooth.

Shape of carapace and front something as in *L. polybioides* Adams & White (cf. Alcock, LXVIII, p. 19, 1899), but anterior and posterior margins wider, orbits much larger, side teeth more as in *L. orbicularis* Dana (cf. Alcock, op cit., p. 20).

Charybdis cruciata (Herbst).

Charybdis (Goniosoma) crucifera ALCOCK, LXVIII, 51, 1899.

Fishing-weir at Koh Kong; I. 21; 2 ♀. S. of Koh Kut, 17—20 fath., mud (large seine); I. 28; 1 ♀ 2 juv. Paknam-wen; II. 11; 1 ♀. 18 miles W. of Koh

¹ NAUCK says, on page 67, "länger als breit", but on page 60 the dimensions are given as 14 mm. long, 17 broad. Cf. footnote on page 18.

Chang, surface; I. 31; 6 juv. S. of Koh Chang, under floating sargassum, "rain, no sun"; III. 13; 1 juv. 35 miles W. of Koh Chang, 30 fath., clay; I. 31; 1 juv.

***Charybdis lucifera* (Fabricius).**

Plate II, fig. 10.

Charybdis (Goniosoma) quadrimaculata ALCOCK, LXVIII, 54, 1899.

Coast of Lem Ngob, 0—1 fath., stones and mud; XII; 1 ♀. Fishing-weir at Koh Kong; I. 21; 1 ♂ 1 ♀ ovig.

In one of the cotypes before me of *Goniosoma quadrimaculatum* A. Milne Edwards from Batavia (pl. II, fig. 10) the first antero-lateral tooth is bluntly angled on its outer margin, but this is not the case in the three smaller specimens from the Gulf of Siam. In the two largest individuals examined the orbit is one-third as wide as the front, and in the smallest individual the orbit is somewhat wider.

***Charybdis annulata* (Fabricius).**

Charybdis (Goniosoma) annulata ALCOCK, LXVIII, 54, 1899.

Coast of Koh Kam; II. 5; 1 ♀.

***Charybdis affinis* Dana.**

Plate II, fig. 11.

Charybdis (Goniosoma) affinis ALCOCK, LXVIII, 56, 1899.

Coast of Lem Ngob (seine); XII. 26; 1 ♂.

***Charybdis anisodon* (de Haan).**

Portunus anisodon DE HAAN, Fauna Japon., Crust., p. 42, 1835.

Mouth of the river Paknam-wen, in Chinamen's tow-nets; I. 30; 1 ♀. Sound at Koh Chang, 3—5 fath., soft clay bottom; 1900; 2 juv.

***Charybdis callianassa* (Herbst).**

Charybdis (Goniosoma) callianassa ALCOCK, LXVIII, 57, 1899.

Fishing-weir at Koh Kong; I. 21; 1 ♂. Off Koh Kut, 6 fath.; I. 26; 1 ♀. Mouth of Paknam-wen (in Chinamen's tow-nets); I. 30; 3 ♂ 1 ♀.

***Charybdis variegata* (Fabricius).**

Charybdis (Goniosoma) variegata ALCOCK, LXVIII, 60, 1899.

Koh Kam, 5 fath., gravel; II. 6; 1 ♀ ovig. Koh Kahdat, 4—5 fath., sand, stones, coral; II. 15—18; 1 juv.

***Charybdis natator* (Herbst).**

Charybdis (Goniosoma) natator ALCOCK, LXVIII, 61, 1899.

Between Koh Mesan and Cap Liant, 9 fath., II. 4; 1 ♂ juv.

***Charybdis ornata* (A. Milne Edwards).**

Charybdis (Goniohellenus) ornata ALCOCK, LXVIII, 64, 1899.

Between Koh Kahdat and Koh Kut, 6 fath., sandy clay; I. 9; 2 juv. 20 miles south of Koh Samit, 20 fath., mud; I. 31; 1 ♂ juv. Koh Kahdat, 5–8 fath., sandy mud; II. 16. and III. 4; 1 ♂.

***Thalamita crenata* (Latreille).**

Thalamita crenata ALCOCK, LXVIII, 76, 1899.

Koh Chang, stony coast at low water; I; 1 ♂. Koh Chang; II. 12; 1 ♂.

***Thalamita prymna* (Herbst).**

Thalamita prymna ALCOCK, LXVIII, 78, 1899.

Singapore, coral reef; XII. 5; 1 ♀ with Rhizocephalid. Koh Lom (West of Koh Chang); III. 9; 1 ♀.

***Thalamita chaptali* Audouin.**

Thalamita chaptali ALCOCK, LXVIII, 80, 1899.

Koh Kahdat, 4–5 fath., sand, stones, coral; II. 15–18; 1 ♂, 6 mm. wide, with narrow hands, rather faintly marked, 2 spines (1 acute) on arm; penult segment of abdomen twice as wide as long. 1 ♀ ovigerous, 10·7 mm. wide, with stoutish hands, more strongly marked; 3 acute spines on arm. 1 ♀ ovigerous, 22·2 mm. wide by 16·1 long, is narrower than typical *chaptali* or *sima*, has the side teeth of *chaptali*, the frontal lobes inclining to *sima*, the hand stout, with strong markings, only the anterior one of the outer row being obsolete, 3 acute spines on arm. 35 miles West of Koh Chang, 30 fath., clay; I. 31; 1 ♂, 4 mm. wide. N. of Koh Chang, under leaves, seaweed, etc.; II. 10; 1 ♂ with lateral teeth acute, resembling those of *T. poissonii*; chelipeds narrow, hands feebly ridged. Cf. Borradaile, Fauna Maldive Ids., I, pp. 201–202, 1902, for the variations in this species and its allies.

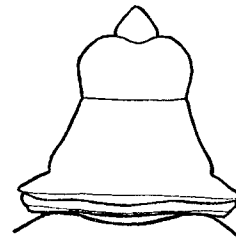


Fig. 44. Abdomen of *Thalamita chaptali*, Koh Chang, ♂, 6·3 mm. wide.

***Thalamita sima* Milne Edwards.**

Thalamita sima ALCOCK, LXVIII, 81, 1899.

Koh Chuen, 30 fath., shell bottom; I. 2; 2 juv. 15 miles E. of Koh Chuen, 10 fath., shell bottom; II. 2; 1 ♀, 1 juv. Between Koh Mesan and Cap Liant, 9 fath.; II. 4; 1 ♀ with Rhizocephalid. Between Koh Mesan and Koh Chuen, on and under plants, surface; II. 5; 1 juv. Koh Kam, 5 fath., gravel; II. 6; 4 ♂ 6 ♀ 17 juv. Between Koh Riat and Koh Mesan, 3–5 fath., sand, algæ; II. 7; 2 juv. Between Koh Mesan and Cap Liant, 5–8 fath., sand, stones; II. 7; 2 juv. Koh Kahdat, 4–5 fath., sand, stones, coral; II. 15–18; 1 juv. Koh Kahdat, 4–5 fath., sand,

stones, coral; II. 16; 1 juv. Tung Kaben, 6 fath., sand, mud, phanerogams; II. 22; 1 ♀ ovig. Koh Chuen, 30 fath., shell bottom; II; 1 juv. Koh Chang, 1 fath., coral; I--III; 1 juv. (both 3rd and 4th side teeth rudimentary).

Thalamita imparimanus Alcock.

Thalamita imparimanus ALCOCK, LXVIII, 87, 1899; Illus. Zool. Investigator, Crust., VIII, pl. XLVII, figs. 3, 3 a, 1900.

North of Koh Chang, under leaves, seaweed, etc.; II. 10; 1 ♂. Differs from the original description in having three spinules present on the outer surface of the wrist; no denticle at base of first side tooth. Between Koh Mesan and Cap Liant, 5–8 fath., sand, stones; II. 7; 1 juv., with a strong denticle at base of first side tooth; also spinules on wrist.

Subfamily Podophthalminæ.

Podophthalmus vigil (Fabricius).

Podophthalmus vigil (FABRICIUS) MIERS, Challenger Rept., Zool., XVII, 207, 1886.

Sound at Koh Chang, surface; I. 15; 1 ♀. (The legs thrown off after it was put in spirit). Fishing-weir at Koh Kong; I. 21; 4 ♂ 2 ♀.

Family Atelecyclidæ.

Subfamily Thiinæ.

Kraussia nitida Stimpson.

Kraussia nitida RATHBUN, Bull. Mus. Comp. Zool., XXXIX, 132, plate, fig. 13, 1902; STIMPSON, Smithsonian Misc. Coll., XLIX, 87, pl. X, fig. 4, 1907.

North side of Koh Mesan, 10–15 fath., stones, shells; II; 1 juv.

Subtribe Dromiacea.

Superfamily Dromiidea.

Family Dromiidæ.

Dromidia cranioides de Man.

Dromidia cranioides ALCOCK, LXVII, 138, 1899.

Between Koh Mesan and Cap Liant, 5–8 fath., sand, stones; II. 7; 1 ♀. Koh Chuen, 30 fath., shell bottom; II; 1 ♂, concealed under large sponge. N. of Koh Samit, surface; II. 3; was taken a specimen, one of the later larval stages of a Dromiid, perhaps this species, the last legs strongly resembling those of the adults examined.

Dromidia unidentata (Rüppell).

Dromidia unidentata ALCOCK, LXVII, 139, 1899.

Koh Chuen, 30 fath.; II; 1 ♀ with Rhizocephalid attached to, and concealed by, the abdomen. Koh Kram, 30 fath.; III. 2 and 21; 1 ♂. Koh Kahdat, 5–8 fath., sandy mud; II. 16, III. 4; 1 juv.

Cryptodromia canaliculata Stimpson.

Cryptodromia canaliculata ALCOCK, LXVII, 142, 1899; STIMPSON, Smithson. Misc. Coll., XLIX, 176, 1907.

Between Koh Mesan and Koh Chuen, 30 fath., stones; II. 5; 1 ♂ juv.

A small specimen, only 4.1 mm. long. The nodules of the wrist and hand are very strong; on the wrist are four large, and two or three small nodules; and on the upper surface of the palm five large nodules.

Conchœcetes artificiosus (Fabricius).

Conchœcetes artificiosus ALCOCK, LXVIII, 151, 1899.

20 miles E. S. E. of Koh Samit, 13–14 fath., sandy mud, shells; II. 2; 1 ♂ 1 ♀. Koh Chuen, 30 fath., shell bottom; II; 1 ♂.

The ♂ from Koh Chuen is half grown and seems intermediate between *C. andamanicus* Alcock (op. cit., p. 152) and typical *artificiosus*; the front is cut into two triangular teeth, with the inferior denticle slightly visible in dorsal view; there is a rudimentary tooth on the upper border of the orbit; no traces of lateral teeth, the sides being arcuate; subhepatic region not bounded by distinct rows of tubercles or granules.

EXPLANATION OF PLATES.

Plate I.

- Fig. 1. *Leucosides urania*, Koh Kahdat, ♂, 24.9 mm. wide.
-- 2. *Pseudophilyra tridentata*, between Koh Mesan and Koh Chuen, ♂, 6.9 mm. wide.
-- 3. *Pilumnus dorsipes*, Koh Kram, ♀ juv., 10.4 mm. wide, dorsal view. Same specimen as fig. 9.
-- 4. *Halimede ochtodes*, Koh Kahdat, immature ♀, 17.5 mm. wide.
-- 5. *Cryptopodia lavimana*, between Koh Mesan and Koh Chuen, ♀, 26.1 mm. wide.
-- 6. *Typhlocarcinus nudus*, between Koh Kahdat and Koh Kut, ♂, 6.2 mm. wide.
-- 7. *Parthenope (Pseudolambrus) harpax*, Koh Chuen, ♀, 27.7 mm. wide.
-- 8. *Pilumnus borradalei*, type ♂, 10 mm. wide.
-- 9. -- *dorsipes*, ventral view. Same specimen as fig. 3.
-- 10. *Chasmocarcinops gelasimoides*, ♂, in *Amussium pleuronectes*. ⁴¹.
-- 11. *Arcania siamensis*, type ♀, 24.5 mm. wide.
-- 12. *Persephona elegans*, Koh Chang, ♂, 9.4 mm. wide.
-- 13. *Pseudophilyra melita*, between Koh Riat and Koh Mesan, ♀, 11.3 mm. wide.
-- 14. *Leucosides longifrons pulcherrima*, Koh Kahdat, ♂, 18 mm. wide.
-- 15. *Pilumnus caeruleus*, Koh Kahdat, ♂, 10.4 mm. wide.
-- 16. *Leucosides haswelli*, Koh Chuen, ♂, 17.2 mm. wide.
-- 17. *Ebalia woodmasoni*, Koh Kahdat, ♀, 6.7 mm. wide.
-- 18. *Mortensenella forceps*, Koh Chang, ♂, 6.8 mm. wide.
-- 19. *Halimede thurstoni*, Koh Kam, ♀, 20.8 mm. wide.

Plate II.

- Fig. 1. *Thaumastoplar orientalis*, type ♂, 12.6 mm. wide.
-- 2. *Scalopidia spinosipes*, Koh Samit, ♂, 19.5 mm. wide.
-- 3. *Macrophthalmus convexus*, Koh Chang, ♂, 19.5 mm. wide.
-- 4. *Mertonia lanka*, between Koh Mesan and Cap Liant, ♀, 5.3 mm. wide.
-- 5. *Megasthesius sagedæ*, type ♂, 2.7 mm. wide.
-- 6. *Heteropanope sexangula*, type ♀, 7 mm. wide.
-- 7. *Halimede thurstoni*, Koh Kam, juv., 6.8 mm. wide.
-- 8. *Pinnotheres cardii*, between Koh Chuen and Koh Chang, ♀, 5.8 mm. wide.
-- 9. -- *parvulus*, Lem Ngob, ♀, 8.5 mm. wide.
-- 10. *Charybdis lucifera* (Fabricius). Cotype of *Goniosoma quadrimaculatum* A. Milne Edwards, ♂, 58.1 mm. wide.
-- 11. *Charybdis affinis*, Lem Ngob, ♂, 43.6 mm. wide.
-- 12. *Chasmocarcinops gelasimoides*, Koh Chang, ♂, 13.1 mm. wide.
-- 13. *Xenophthalmus obscurus*, Koh Kut, ♂, 9.1 mm. wide.
-- 14. *Asthenognathus hexagonum*, type ♀, 7.8 mm. wide.
-- 15. *Cycloxanthops lineatus*, north of Koh Chuen, ♂, 7.2 mm. wide.
-- 16. *Typhlocarcinops canaliculata*, type ♂, 3.6 mm. wide.
-- 17. *Philyra olivacea*, type ♂, 7.8 mm. wide.
-- 18. *Carpilodes lophopus*, between Koh Mesan and Koh Chuen, ♀, 10.5 mm. wide.