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PALMYRA AND FANNING
ISLANDS

BY
CHARLES HOWARD EDMONDSON

WITH

DESCRIPTIONS OF NEW SPECIES OF CRABS FROM PALMYRA ISLAND

BY MARY J. RATHBUN

BERNICE P. BISHOP MUSEUM

BULLETIN 5

WITH 2 PLATES

HONOLULU, HAWAII
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DESCRIPTIONS OF NEW SPECIES OF CRABS
FROM PALMYRA ISLAND

BY MARY J. RATHBUN

Maldivia palmyrensis, sp. nov.

Type.—Female; Palmyra Island; C. M. Cooke, collector; type-specimen in Bishop Museum, No. 312.

Carapace transversely oval, very convex from side to side, less so from front to back, the margin of the front visible in dorsal view. Indications of regions almost absent. Frontal and antero-lateral regions granulate. Front thin, edge granulate, nearly straight, outer corners rounded off, a slight median emargination, prolonged backward in a short groove. Of the 4 antero-lateral spinules, including that at the orbital angle, the second and third each have smaller spinules on their outer margins.

Chelipeds very unequal; merus short, armed with a longish spine at the distal end of the inner margin, two other, smaller, distal spines above, a subdistal spine on the upper margin; carpus, and upper and greater part of outer surface of manus armed with short, sharp, conical spines; the carpus has a large spine at the inner angle, a smaller marginal spine above and nearer the distal end. The spines of the manus are seriate, and for the most part arranged in alternating rows of large and small spines. The fingers are similar in the two chelae, white in the preserved specimen, bent slightly downward, their prehensile edges armed with a few unequal teeth which meet when the fingers are closed, while the tips cross. The roughness of the palms is continued on the dactyle in three superior rows of spines, reaching nearly half the length in the major chela, but more than half in the minor chela. The ambulatory legs are furnished with fine hairs, very scanty except on the dactylus; this terminates in a long, transparent, horny tip; besides the hairs, the segment is armed with a number of horny bristles; of these, two long stout ones are attached side by side over the nail and overlap the nail, reaching at least half way down its dorsal face; a few short bristles are further back, while two longitudinal rows of about four weak bristles each are on the lower or concave side of the dactylus. The armature would be very useful in clinging to algae or branching coelenterates.

Length of carapace of type female 3 mm. width 4.3 mm.

The genus *Maldivia*¹⁵ contains two earlier species, *M. symbiotica* Borradaile,¹⁶ the type species, found on a white gorgonian in 8 fathoms

¹⁵ Borradaile, Fauna and Geogr. Maldive and Laccadive Arch., vol. 1, part 3, 1902, p. 269.

¹⁶ *Op. cit.*, p. 270, text-fig. 60.

at the Maldive Islands; and *M. gardineri* Rathbun,¹⁷ from Salomon Island, western Indian Ocean. In *M. symbiotica* the length and width of the carapace are subequal and the chelipeds of equal size. *M. gardineri* is more nearly like the new species, having an oval carapace and unequal chelipeds; it has, however, a more deflexed front with a slighter median emargination; the antero-lateral margin is smoother, without spinules between the interspaces of the four teeth; the whole outer surface of the manus is rough, the protuberances of the major manus being bead-like tubercles and granules, while those of the minor manus are more or less conical, but not so sharp and spinelike as in *palmyrensis*: the fingers of major chela are rough except near the tips, tubercles beadlike or slightly pointed; the fingers of the minor chela are broader than in *palmyrensis*, prehensile edges entire, immovable finger smooth and punctate. In both of the oval species, the merus of the outer maxilliped is broader than long; in *gardineri* the anterior margin is nearly straight outside the notch and rounds into the outer margin; in *palmyrensis* the anterior margin is convex outside the notch.

The armature of the ambulatory dactyls is similar in these two species, indicating a habitat akin to that of the type-species.

Charybdis (Charybdis) cookei, sp. nov.

Type.—Male: Palmyra Island; C. M. Cooke, collector; type-specimen in Bishop Museum, No. 983.

In the subgenus *Charybdis* (=Goniosoma Alcock)¹⁸ there are combined the following characters: The antennal flagellum is completely excluded from the orbital hiatus; the ridge 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. Our species belongs to that section of the subgenus which has a ridge on the cardiac region and to that subsection which has also a ridge or two on the posterior half of the branchial region.

The species is of small size; carapace pubescent, the three anterior transverse ridges strong, the cardiac ridge blunter, continuous, the single branchial ridge short, not far from, and a little in advance of, the cardiac ridge. Of the frontal teeth, those of the median pair are narrow, arcuate; those of the submedian pair wide, subtruncate, a little oblique, less advanced; antennal pair narrower, more triangular and still less advanced; orbital pair least advanced, broad, obliquely triangular, tip rounded. Upper margin of orbit with two open, triangular marginations. Five antero-

¹⁷ Trans. Linn. Soc. London, ser. 2, vol. 14, 1911, p. 233, pl. 19, figs. 5 and 6.

¹⁸ Journ. Asiat. Soc. Bengal, vol. 68, 1899, p. 49.

lateral teeth, the first three similar, the fifth smaller, the fourth the smallest, very slender and crowded toward the third. Lobe on basal antennal segment, low, rounded. Inner suborbital angle obtuse.

Dorsal aspect of cheliped pubescent and granulate. Three spines on inner margin of merus. Inner spine of carpus strong, two spines on outer side of anterior margin, the lower very small, one spine on outer surface. Four spines on manus, one at articulation of carpus, two on the inner ridge of the upper surface and one on the outer ridge, the customary distal spine of this ridge being suppressed; three ridges on outer surface, the upper of which is incomplected and forms the boundary of the pubescent area; below it the surface is smooth; the second ridge is in line with the space between the fingers, the lowest ridge is continued to the extremity of the immovable finger.

The merus of the swimming leg is armed below with a strong subdistal spine while the propodus with a row of slender spines. The sixth segment of the male abdomen has arcuate lateral margins, the terminal segment is equilaterally triangular. Extreme length of the carapace of type male 8.2 mm., width of same between tips of last (or posterior) lateral teeth 12.2 mm.

C. longifrons (A. Milne Edwards)¹⁹ is the only other species of the some subsection of the subgenus *Charybdis*, which has just five antero-lateral teeth; it has however, six elongate frontal teeth of nearly equal size, the wrist and the palm are each armed with five teeth, and the spine at the lateral angle of the carapace is the longest of that series. The species is, moreover, larger and coarser than *C. cooki*.

¹⁹ *Goniosoma longifrons* A. Milne Edwards, Nouv. Arch. Mus. Hist. Nat., Paris, vol. 5, 1869, p. 155, pl. 7, figs. 1-5.