

DESCRIPTIONS OF FIVE NEW SPECIES OF CRUSTACEA FROM MEXICO.

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PACHYCHELES MEXICANUS, nov. sp.

Plate II. Fig. 1.

Carapax broadly oval, about as broad as long, slightly convex antero-posteriorly; surface shining, but minutely granular through the lens; anterior portion of the carapax deflexed, triangular, and furrowed, a small white spot at the tip; neither spines nor teeth anywhere on the body; eyes small, supra-orbital border concave and inflated. Carpus as broad as long; three teeth on the anterior border; two slightly elevated ridges of granules on the superior surface; hand broad and large, the right larger than the left; fingers hooked at their extremities, denticulated; surface of the carpus and hand more coarsely granulated than the carapax; the granules extend to the ends of the fingers. Color red, with patches of a lighter shade; three posterior pairs of legs striped; the last article furnished with a few stiff hairs. Length of the carapax 0.18 inch; the hand 0.25 inch.

Habitat.—Gulf of Tehuantepec, Mexico.

PANULIRUS GRACILIS, nov. sp.

Plate II. Fig. 2.

Antennary ring armed with two spines, situated near together on the anterior border; behind these, and separated more widely from each other, are two rudimentary spines, seen through the lens; two stout horns projecting forward over the base of the ophthalmic peduncles; surface of the carapax covered with spines, larger anteriorly than posteriorly; also furnished with a few stiff hairs, attached mostly to the spines; epistoma armed with three spines; abdomen smooth; the transverse sulci, except the last, interrupted in the middle; a pit between the last nearly connects them, separated by two very narrow bands on either side of the pit. Color reddish-brown; external antennæ striped with bands of white. Length 0.9 inch.

Habitat.—Gulf of Tehuantepec, Mexico.

PALEMÓN DASYDACTYLUS, nov. sp.

Plate II. Fig. 3-3a.

Rostrum long and slender, reflexed, extends beyond the lamelliform appendages of the external antennæ; armed on the superior margin with nine or ten teeth, and six or seven on the inferior
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margin; the first tooth on the upper margin small, situated more directly on the carapax than, and separated from, the following six, which are situated together; the seventh and eighth separated by a wider space; last tooth quite small; apex of the rostrum pointed; the fifth tooth on the upper margin (counting from the carapax) nearly over the first on the lower margin; eighth over the last on the lower margin; those with but six teeth on the inferior margin have the last under the seventh of the superior margin; the first constant in its situation. Two external flagella of the internal antennæ united for a very short distance, smaller flagellum very short; all the others very long. First pair of legs short and slender; carpus more than twice the length of the hand; fingers half the length of the hand, slightly pubescent; second pair of legs very long; carpus not quite as long as the hand; fingers cylindrical and straight along their approximated surfaces, not as long as the palmar portion of the hand, densely downy; under surface of this pair of legs covered with spinules to the base of the fingers; the spinules on the carpus arranged in four parallel rows, of which the anterior and posterior rows contain the largest spinules. Posterior legs rough to the feel, pubescent.

This species can very readily be distinguished from *P. mexicanus* (Saussure), which it most closely resembles, by having six or seven teeth on the inferior margin of the rostrum. The carpus in *P. mexicanus* is longer than the hand, and the terminal segment of the abdomen is armed with three spines. In *P. dasydactylus* the terminal segment of the abdomen is armed with five spines—one in the middle, and one at either extremity, and a larger articulated one on either side of the middle.

Length from the tip of the rostrum to the end of the terminal segment 4.37 inches.

Habitat.—Tide-water of the Coatzacoalcos River, Isthmus of Tehuantepec.

PALÆMON SEXDENTATUS, nov. sp.

Plate II. Fig. 4-4a.

Rostrum long and slender, more relaxed than in the preceding species; longer than the lamelliform appendages of the external antennæ; armed on the superior margin with nine or ten teeth, and *six* on the inferior margin; sixth tooth on the upper margin over the first on the lower; the last on the lower margin half way

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between the eighth and ninth on the upper margin; those with but nine teeth on the superior margin have the first below under the space between the fourth and fifth; the last midway under the space between the seventh and eighth of the superior margin. Inner free flagella of a deep red color. Anterior pair of legs slender and delicate; carpus more than twice the length of the hand; hand slightly pubescent; second pair of legs slender, smooth on the upper surface; under surface beset with very minute spiniform granules, seen only through the lens; carpus longer than the hand, twice the length of the palmar portion of the hand; fingers cylindrical, straight, less than half the length of the hand; posterior legs smooth. Length 2.81 inches.

This species is very closely allied to *P. mexicanus* (Saussure), and may prove to be nothing more than a variety of that species. The measurements of the second pair of legs of *P. sexdentatus* agree with De Saussure's description, but differ widely from the measurements of his figure. *P. mexicanus* has but four or five teeth on the inferior margin of the rostrum. The terminal segment of the abdomen in *P. sexdentatus* is armed with three small teeth, and two longer movable spines situated one on either side of the middle tooth; the hand is very largely beset with hairs.

Habitat.—Same as the preceding.

PALÆMON FLUVIALIS, nov. sp.

Plate II. Fig. 5-5a.

Rostrum short, lanceolate, somewhat arched above; not as long as the lamelliform appendages of the external antennæ, reaching to the end of the second joint of the antennæ; superior margin armed with seven teeth, the inferior margin with two, situated near the point of the rostrum. One specimen of this species had but four teeth above and one below. Two flagella of the internal antennæ united for a very short distance; spines on the lateral portion of the carapax very small; first pair of legs slender; hand more than half the length of the carpus; hand of the second pair stout; carpus shorter than the palmar portion of the hand, gradually enlarged toward the hand; fingers cylindrical and straight, shorter than half of the hand, the same length as the carpus, beset with a few stiff hairs; legs smooth. Length 1.3 inches.

This is a fresh-water PALÆMON, taken from a tributary of the Coatzacoalcos River among the Cordilleras.

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