

PARAPINNIXA CUBANA, A NEW PEA CRAB FROM CUBA
(CRUSTACEA: BRACHYURA: PINNOTHERIDAE)

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Abstract.—One male specimen of *Parapinnixa cubana*, new species, was collected on Diego Pérez Reef, Cuba. *Parapinnixa cubana* most closely resembles *P. magdalenensis* Werding & Müller, 1990, and can be distinguished from this and all other species of the genus by the shape and proportions of the carapace and chela.

Resúmen.—Un espécimen macho de *Parapinnixa cubana*, nueva especie, fue colectado en el Arrecife Diego Pérez, Cuba. *Parapinnixa cubana* se asemeja mayormente a *P. magdalenensis* Werding & Müller, 1990, y se puede distinguir de ésta y todas las otras especies del género por la forma y proporciones del caparazón y la quela.

During the study of the marine crustacean fauna of Cuba by J. C. Martínez-Iglesias and colleagues, Instituto de Oceanología, Academia de Ciencias de Cuba (ACC), one male pinnotherid specimen was collected on Diego Pérez Reef. The specimen was sent to me for study and proved to be a new species of *Parapinnixa*. The holotype of the new species has been deposited in the Crustacean Collection, ACC. Abbreviations used in this paper include: third maxilliped as MXP3, carapace length as CL, carapace width as CW, and pereopods as P1 (the cheliped) to P5. Measurements are in millimeters.

Parapinnixa cubana, new species

Figs. 1, 2

Material.—Diego Pérez Reef, Golfo de Batabano, Cuba, 20 m depth, Jul 1991, male holotype (CW = 3.0, CL = 1.8), coll. J. C. Martínez-Iglesias, ACC 1880.

Description of holotype.—Carapace elliptical, width 1.6 times length, dorsally and laterally with short setae (Fig. 1A); front deflexed, triangular, with shallow medial groove, covered with minute setae; posterior margin almost straight. Eyes large, fill-

ing orbits, extending far beyond anterior margin of carapace; orbital hiatus occupied by basal antennal article (Fig. 1B). Antennulae plicate in wide fossettes, fronto-orbital distance subequal to carapace length. Buccal area triangular, epistome linear. MXP3 (Fig. 2A–B) with merus widely triangular, outer and distal margin almost straight, outer margin with plumose setae; carpus rounded, with long setae, and longer than combined length of elongated propodus and minute, inconspicuous dactylus; dactylus distally with 2 long tufts of setae (Fig. 2C); exopod ovate, without flagellum (Fig. 2D).

P1 stout (Fig. 1C–D), as long as P2, merus dorsally subtriangular, with setae (Fig. 1C), lateroexternal surface trapezoidal and flattened (Fig. 1D); carpus rounded, setae shorter than those on merus. Chelae symmetrical, tomentose; length of palm subequal to height, longer than fingers. External surface of palm somewhat convex proximally, slightly concave distally, with fingers ornamented with several teeth; internal surface slightly swollen and with tuft of setae at summit, dorsally convex with tubercles, ventral margin somewhat sinuous. Fingers

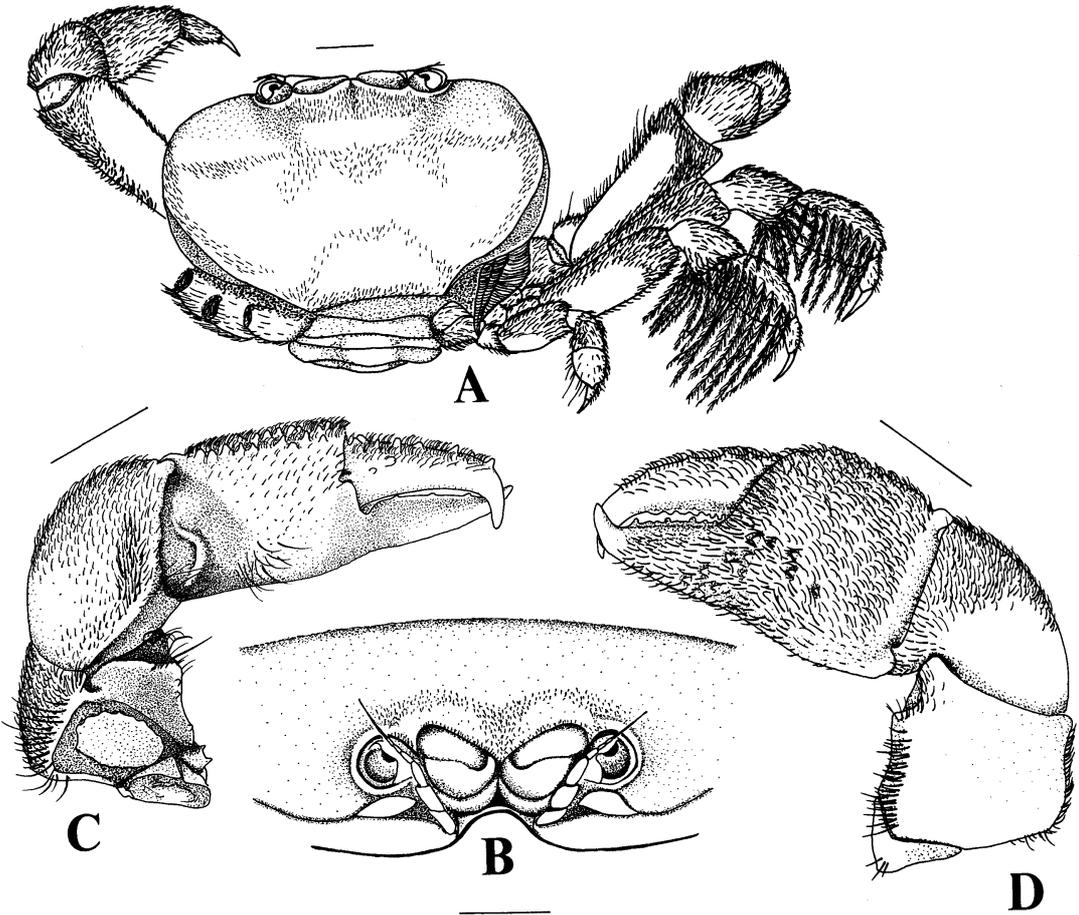


Fig. 1. *Parapinnixa cubana*, new species, male holotype, A, Dorsal view; B, frontal view; C and D, left cheliped, inner and outer view respectively. Scales equal 0.5 mm. Plumose setae omitted on dactylus and ventral margin of carpus and propodus of P3 and P4; subacute teeth not visible on inner surface of dactylus in C.

triangular, curving at tip where they cross; cutting surface of both fingers with row of subacute teeth. Dorsal surface of dactylus with crest of 7 subacute and acute teeth.

Walking legs (Fig. 1A) decreasing in length and width from P2 to P5, meri flattened, dorsally and ventrally pubescent, P5 much the shortest. Carpi dorsally subelliptical and convex, laterally subtriangular, with short setae. Propodi tapering distally. Fringe of extremely long plumose setae on outer surface of carpus, propodus and dactylus of P3 and P4, others placed on ventral margin of carpus and propodus of same legs. Dactyli triangular, naked at long corneus tip, those

of P2 to P4 somewhat falcate, that of P5 straighter.

Abdomen (Fig. 2E) with 7 free somites, third widest and with convex lateral margins, fourth through seventh gradually tapering, seventh longest, subtriangular, its length/width ratio 1.66.

Gonopods (Fig. 2F) almost straight toward proximal third, folding mesially and tapering distally, ending in pore of spermatid channel.

Comparison with other species of Parapinnixa.—*Parapinnixa cubana* mainly differs from its congeners as follows: *P. nitida* (Lockington 1876), *P. glasselli* Garth, 1939,

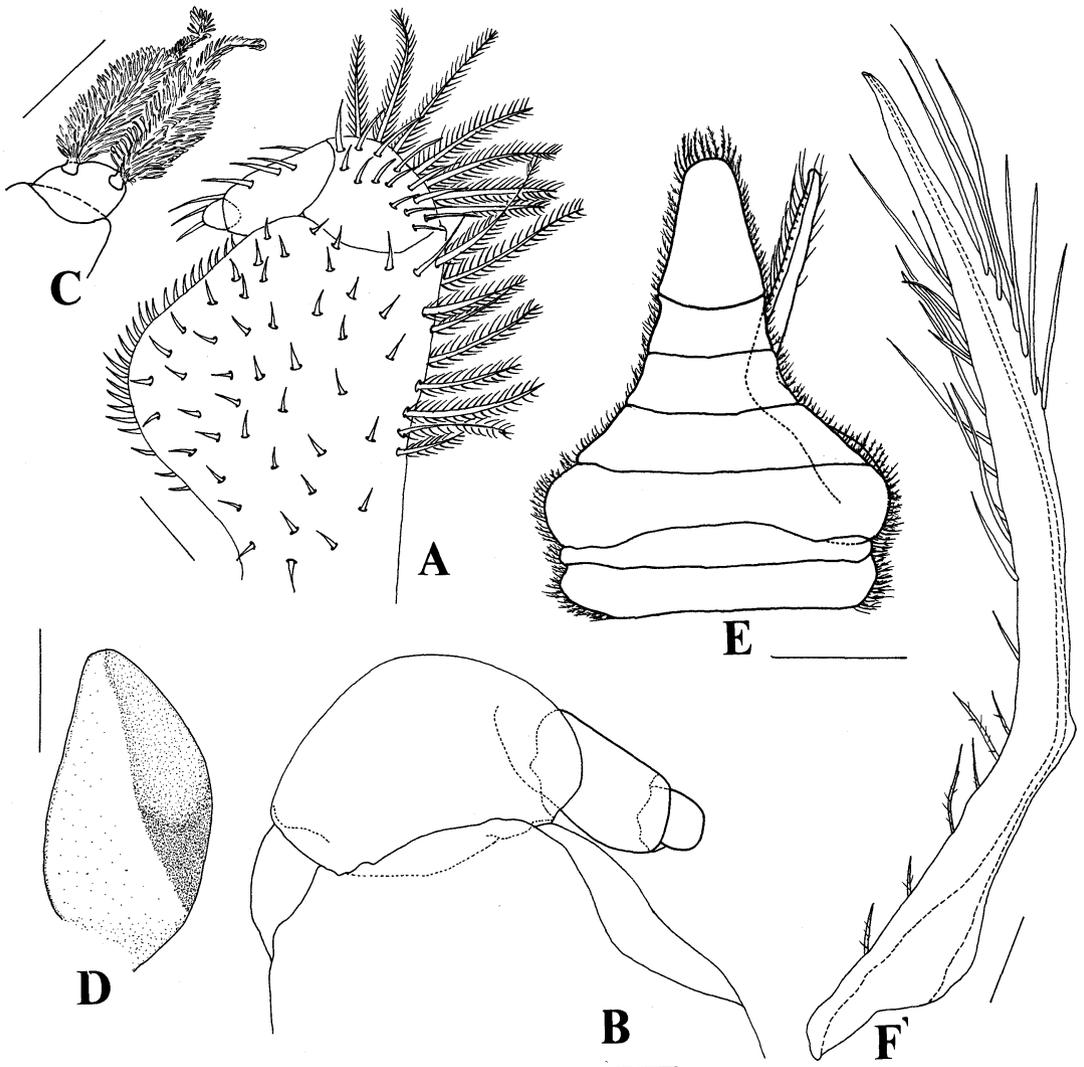


Fig. 2. *Parapinnixa cubana*, new species, male holotype. A–D, third maxilliped; A, outer view; B, palp, inner view; C, dactylus; D, exopod; E, abdomen; F, gonopod. Scales equal 0.125 mm (A–B, D, F), 0.05 mm (C), 0.5 mm (E).

and *P. hendersoni* Rathbun, 1918 have a CW which is more than twice the CL, instead of 1.6 as in *P. cubana*. In addition, the three former species have two rows of hairs on the outer surface of the smooth palm, which contrast with the absence of such hairs and the presence of sub-acute and acute tubercles on the surface of the palm in *P. cubana* (see Garth 1939: plate 9, fig. 4; Williams 1984: fig. 358). *Parapinnixa af-*

finis Holmes, 1900 has the dactylus of the chela hooked and a row of hairs on the surface of the palm which are lacking in *P. cubana* (see Glassell 1933: fig. 1–2). *Parapinnixa bouvieri* Rathbun, 1918, and similarly *P. affinis*, have small eyes (see Williams 1984: fig. 357) and the fronto-orbital width about one third the CW, whereas *P. cubana* has large eyes and the fronto-orbital width larger than one third the CW. In ad-

dition P3 and P4 are smaller in *P. bouvieri* than in *P. cubana*. *Parapinnixa beaufortensis* Rathbun, 1918 has a tuft of hair on either side of the dorsal surface of the carapace near the lateral margin, which are absent in *P. cubana*. A male specimen identified with hesitation as *P. beaufortensis* by Werding & Müller (1990: fig. 1a and 1e) has, in addition to the tufts noted above, a less elongated abdomen and more robust gonopod than does *P. cubana*.

Parapinnixa cubana most closely resembles *P. magdalenensis* Werding & Müller (1990). The two species are easily distinguished by the articles of the palp on MXP, and the pattern of setation on the carapace, chelipeds and walking legs. Furthermore the antero-lateral margin of the carapace is crenulate in *P. magdalenensis* but not in *P. cubana*; the merus of the cheliped is more elongated and possesses tubercles in *P. magdalenensis* than in *P. cubana*. Finally, the posterior margin of the carapace is wider than the fronto-orbital margin, and the gonopod is more robust in *P. magdalenensis* (see Werding and Müller 1990: fig. 2a–e) than in *P. cubana*.

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Literature Cited

- Garth, J. S. 1939. New brachyuran crabs from the Galapagos Islands.—Allan Hancock Pacific Expedition 5(2):9–29.
- Glassell, S. A. 1933. Notes on *Parapinnixa affinis* Holmes and its allies.—Transactions of the San Diego Society of Natural History 7(27):319–330.
- Holmes, S. J. 1900. Synopsis of California stalk-eyed Crustacea.—Occasional papers of the California Academy of Science 7:260 pp.
- Lockington, W. N. 1876. Remarks on the Crustacea of the West coast of North America, with a catalogue of the species in the museum of the California Academy of Science.—Proceedings of the California Academy of Science 7:145–156.
- Rathbun, M. J. 1918. The grapsoid crabs of America.—United States National Museum Bulletin 97:1–461.
- Werding, B., & H. G. Müller. 1990. Die Gattung *Parapinnixa* Holmes 1894 an der Nordküste Kolumbiens, mit Beschreibung von *Parapinnixa magdalenensis* n. sp. (Crustacea: Decapoda: Pinnotheridae).—Senckenbergiana Biologica 70(1/3):221–227.
- Williams A. B. 1984. Shrimps, lobsters and crabs of the Atlantic coast of the eastern United States, Maine to Florida. Smithsonian Institution Press, Washington, xvii + 550.

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