

A NEW PINNIXID COMMENSAL WITH A HOLOTHURIAN
(CRUSTACEA: DECAPODA)¹

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ABSTRACT

A new species of pinnixid crab (*Pinnixa leptosynaptae*) was found associated with a synaptid holothurian (*Leptosynapta crassipatina*) at Bald Point near Panama, Florida.

Pinnixa leptosynaptae sp. n. (Figs. 1-6)

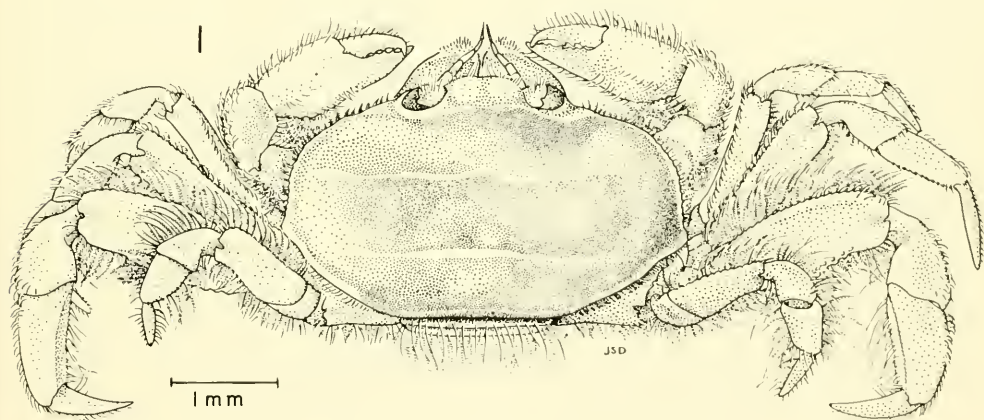
Diagnosis: Dorsal aspect marked by four transverse ridges appearing as dark red lines on a light background.

Types: Male holotype and female allotype (catalog numbers 99389 and 99390) have been deposited in the United States National Museum. Paratypes deposited at the same museum include two adult males and four females, only one of which is mature. All material was collected from Bald Point at the entrance to Ochlockonee Bay, Franklin

County, Florida, in 1955, the types on Dec. 1, the paratypes on Dec. 28.

Description: Carapace less than twice as wide as long, subrectangular, anterolateral angles more broadly rounded than posterolateral. Dorsal surface bearing four prominent transverse ridges, most anterior ridge uniting raised orbital margins posteriorly; second extending across branchial region and ending just short of lateral margins; third ridge crossing cardiac region, beginning at posterolateral furrows and being most prominent medially; fourth ridge lying just inside posterior border and curving forward to level of third ridge at either end. A pair of obscure ridges midway between second and third ridges, nearly reaching lateral margins and separated by a median interspace subequal to their combined lengths. Frontal margin setose and slightly advanced beyond orbits. Carapace otherwise bare except for a few, short, backward-curving bristles near

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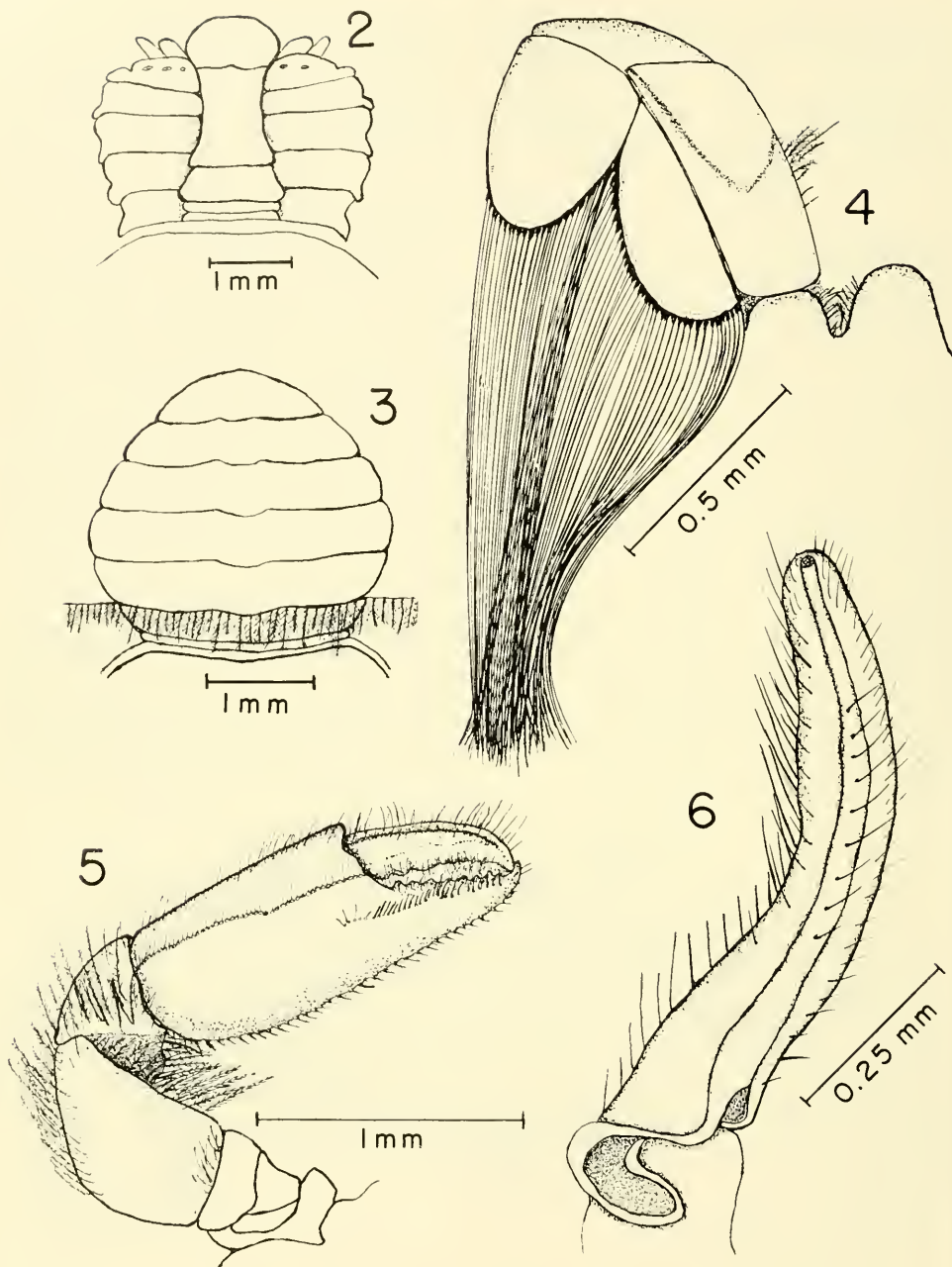


1. Male holotype, dorsal view.

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2. Abdomen and thoracic sternum of male holotype. 3. Abdomen of female paratype. 4. Left third maxilliped. 5. Right cheliped of male in ventral view. 6. Right first pleopod of male.

anterior margin. Orbits ovoid; antennae short, little longer than interorbital space.

Chelipeds stout, equal; chela swollen, with sparse, short bristles and hairs on dorsal third, otherwise bare except for median row of hairs extending from gape posteriorly on outer surface and short row fringing gape ventrally; inner surface with diagonal row of hairs from gape to posteroventral angle, and a row fringing ventral margin. Fingers toothed, strong; movable finger strongly curved, with tip crossing on inside to reach margin of lower finger.

Third walking leg longest; second, first and fourth shorter in order. Legs flattened, first two rather narrow; third leg heavy, merus and propodus triangular in cross section, with tuberculate ventrolateral margins. Margins of meri and propodi of last two pereopods fringed with curved, red hairs. All dactyli fringed on upper margin with minute hairs, fourth fringed on both margins. Dactyli as long as propodi except on fourth pereopod.

Third maxilliped with unusually long plumose hairs originating from: a line on inner surface of merus, a margin on inner side of carpus, a diagonal line on inner side of propodus, and distal margins of propodus and dactylus.

Male abdomen narrow, bare, concave laterally; first two segments narrower than third, which is wide and trapezoid-shaped; fourth, fifth, and sixth fused; seventh wide, with rounded sides and slightly indented anterior margin.

Measurements (mm): Male holotype; carapace length 2.3, width 3.7, fronto-orbital width 1.5, chela length 1.5, dactyl length 0.6, height of manus 0.6, merus of third walking leg length 1.6, width 0.9. Female allotype; carapace length 2.1, width 3.9.

Variations: Female is generally like male, with abdomen fully developed in allotype,

less so in paratypes. Ridges on carapace are variable in prominence, especially the sixth, which also varies in its distance from the posterior border, in some cases being contiguous with the border.

Color: The background color of the carapace varies from light cream to darker shades. The most conspicuous color marks are the bright red lines which mark the transverse ridges. These markings fade in alcohol. Dark red setae occur in some areas.

Habitat: *P. leptosynaptae* was found only on the body of *Leptosynapta crassipatina* Clark (Holothurioidea: Apoda), on which it usually occurred near the anterior end, although never at the mouth region. The ridges and hairs on the carapace may enable the crab to cling to the rough holothurian since it was always found with its dorsal surface appressed to the host. The crabs averaged about one per ten *Leptosynapta*, never more than one occurring on a single host. Large specimens of *Leptosynapta* measuring up to 10 inches in length were preferred by the crabs. The holothurians were dug from the outermost sand bar, which was exposed at very low tide. On May 24, 1956, about 40 *Leptosynapta* were dug from this bar but this species of *Pinnixa* was not found.

Remarks: Although this species is apparently not closely allied to any other members of the genus, it seems to have a slight affinity with *P. transversalis* (H. Milne-Edwards and Lucas) from the Pacific coast of South America and *P. faxoni* Rathbun from Trinidad. This affinity is noted in the general shape of the chelae and the male abdomen. It is readily distinguished by the many transverse ridges on the carapace and the smaller size.

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