

FABIA TELLINAE, A NEW SPECIES OF COMMENSAL CRAB
(DECAPODA, PINNOTHERIDAE) FROM THE NORTHEASTERN
GULF OF MEXICO

BY

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Exploratory clam fishing in the northeastern Gulf of Mexico by the Marine Research Laboratory, Florida Department of Natural Resources (FDNR), produced several *Tellina magna* Spengler, a large orange bivalve. Many of these clams contained a new species of commensal pinnotherid, described below. Although five species of *Fabia* are known (Rathbun, 1918; Costa, 1970), this is the third reported from the western Atlantic.

Types of the new species are deposited in the Smithsonian Institution (USNM) and in the invertebrate collection of the FDNR Marine Research Laboratory (FSBC I). Measurements given for specimens refer to carapace length (cl) and carapace width (cw). The term P2 is an abbreviation for the second pereopod; other legs are similarly designated.

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Fabia tellinae n. sp. (figs. 1,2)

Holotype. — 1 ♀, cw 8.9 mm; Gulf of Mexico off NW Florida, 30°13'N 85°53'W; depth 12.2 m; "Hernan Cortez" cruise 82; 15 January 1970; USNM 137583.

Paratypes. — 2 ♀, cw 9.8-10.6 mm; Gulf of Mexico off NW Florida, 30°14'N 87°32'W; depth 10.1 m; "Hernan Cortez" cruise 82; 4 February 1970; USNM 137584. — 2 ♀, cw 7.5-10.1 mm; 1 ♂, cw 4.5 mm; Gulf of Mexico off NW Florida, 29°13'N 87°13'W; depth 5.5 m; "Hernan Cortez" cruise 82; 22 May 1970; USNM 137587. — 1 ♂, cw 4.5 mm; Gulf of Mexico off NW Florida, 30°13'N 87°29'W; depth 18.4 m; "Hernan Cortez" cruise 82; 18 February 1970; USNM 137586. — 2 ♀, cw 9.4-10.4 mm; 1 ♂, cw 4.9 mm; Gulf of Mexico off NW Florida; 30°14'N 87°32'W; depth 16.2 m; "Hernan Cortez" cruise 82; 14 February 1970; USNM 137585. — 3 ♀, cw 8.6-11.5 mm; 1 ♂, cw 5.0 mm; Gulf of Mexico off NW Florida, 30°20'N 86°13'W; depth 10.4 m; "Hernan Cortez" cruise 82; 16 January 1970; FSBC I 7623. — 1 ♀, cw 10.0 mm; Gulf of Mexico off NW Florida, 29°48'N 85°29'W; depth 14.3 m; "Hernan Cortez" cruise 82; 19 January 1970; FSBC I 7624. — 1 ♀, cw 8.1 mm; Gulf of Mexico off NW Florida, 30°23'N 86°35'W; depth 11.6 m; "Hernan Cortez" cruise 82; 31 January 1970; FSBC I 7625. — 1 ♀, cw 9.7 mm; Gulf of Mexico off NW Florida, 30°15'N 87°22'W; depth 13.7 m; "Hernan Cortez" cruise 82; 4 February 1970; FSBC I 7626.

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Diagnosis. — Females: Longitudinal sulci extending posteriorly on carapace from internal margin of orbit; no transverse sulci across front; propodus of chelipeds widened distally; P3 equal on both sides. Males: Carapace suboval, wider than long, longitudinal sulci present or absent; propodus of chelipeds widened distally; cutting edges of fingers lacking row of teeth on distal two-thirds.

Description. — Females: Carapace smooth, membranous, suboctagonal in outline, elevated along midline, at least 1.06 times wider than long (fig. 1A); frontal region produced anteriorly as broadly rounded lobe, deflexed ventrally; anterolateral margins rounded; posterior margin transverse; longitudinal sulcus originating at internal margin of each orbit and extending posteriorly about one-half length of carapace, space between sulci broader than long, slightly narrowed behind.

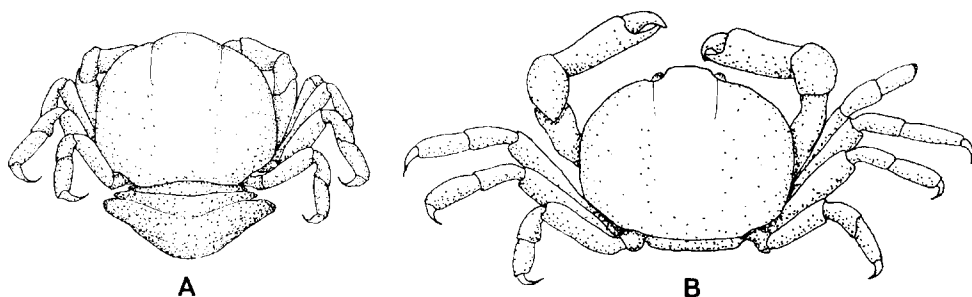


Fig. 1. *Fabia tellinae* n. sp. A, female paratype, cw 11.5 mm, FSBC I 7623 ($\times 20$); B, male paratype, cw 5.0 mm, FSBC I 7623 ($\times 50$).

Eyestalks suboval; cornea small, lightly pigmented. Basal segment of antennae short, broad; tip of flagella not overreaching dorsal margin of eyestalk.

Merus of third maxilliped broad, widened distally, distointernal angle obtuse (fig. 2A), carpus setose, short, longer than wide; propodus wider than carpus, setose, longer than broad, internal margin concave, external margin straight; dactyl slender, articulating on internal margin of propodus slightly distal to midpoint, nearly reaching distal border of propodus.

Chelipeds smooth, equal, stouter than pereopods (fig. 2B). Propodus elongate, increasing in width distally; ventral margin almost straight; dorsal margin concave; a wide row of setae on ventrointernal margin extending from near tip of claw to near proximal border of segment. Fingers shorter than palm, tips curved and crossing; immovable finger with row of small obtuse teeth on distal two-thirds of cutting edge, small blunt tooth on proximal edge of large basal sinus; dactyl with basal tooth that fits into sinus on immovable finger.

Remaining pereopods subcylindrical, relative lengths 3-4-2-5. Propodi setose on ventral margin, stouter and longer than carpi, broadened distally on P4 and P5, narrower distally on P2 and P3; ventral margin concave on P2, dorsal margin concave on P2, P4, and P5, margins subparallel on P3. Dactyls greater than one-

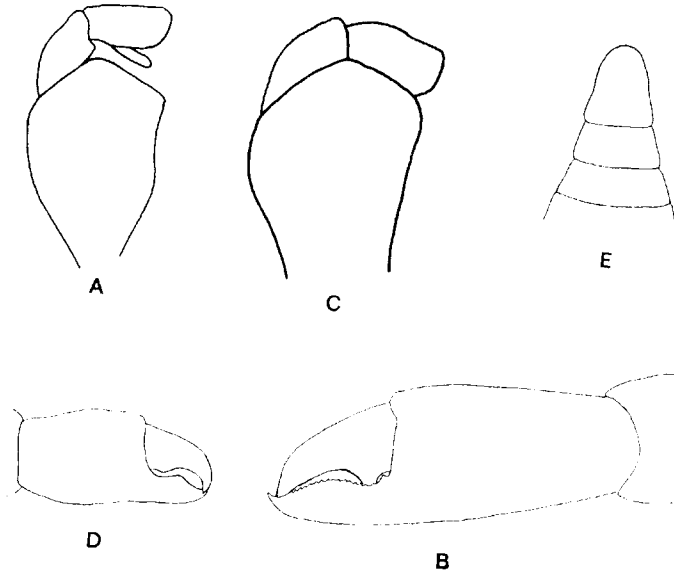


Fig. 2. *Fabia tellinae* n. sp. A, third maxilliped of female ($\times 167$); B, lateral view of left cheliped of female ($\times 84$); C, third maxilliped of male ($\times 330$); D, lateral view of right cheliped of male ($\times 84$); E, abdominal flap of male ($\times 84$).

half length propodi; subcylindrical proximally on P2 and P3, conical proximally on P4 and P5; tip of dactyls falcate, much longer on P2 than on P3, nearly as long as enlarged portion of dactyl on P4 and P5.

Abdomen as large or larger than carapace, broadly rounded, fringed with long setae except on posterior border.

Males: Much smaller than females. Carapace suboval in outline, at least 1.15 times wider than long, exoskeleton well calcified; a row of setae along antero-lateral border; frontal margin truncate, not deflexed as in females, produced beyond outline of carapace; lateral margins converging anteriorly; posterior border concave at insertions of P5, otherwise slightly convex (fig. 1B); longitudinal sulci as in females but shallower, often obscure.

Eyes evident in dorsal view, suboval, lightly pigmented.

Third maxilliped with merus wide, expanded distally, distal margin broadly concave, distointernal border rounded (fig. 2C); carpus subcylindrical, much smaller than propodus; propodus broad, subrectangular; dactyl small, almost reaching distal border of propodus, articulating on internal margin of propodus just proximal to midpoint.

Chelipeds stout, lacking row of teeth on distal two-thirds of cutting edges of fingers (fig. 2D), otherwise similar to those of female. Remaining pereopods subcylindrical, relative lengths 3-4-2-5; propodi setose on ventral margin, concave dorsally, straight ventrally; dactyls subconical proximally, tips falcate.

Abdomen narrow, triangular, confined to sternal depression, composed of two subrectangular segments proximally, one large triangular segment distally (fig. 2E).

Color. — Females: Carapace translucent white. Internal viscera seen through anterior portion of carapace as large, orange-yellow lobes, and ventrally as wide, longitudinal orange-yellow stripe traversing entire length of abdomen. Males. Entire body pale pinkish-cream.

Size. — Largest female, cw 11.5 mm, cl 10.1 mm; largest male, cw 5.0 mm, cl 4.1 mm.

Habitat. — Commensal in the bivalve, *Tellina magna* Spengler. Females were generally found in the mantle cavity; males were usually located in the excurrent siphon. Males were often covered with fine "mud" which is probably pseudofeces. Both males and females occurred in the same clam but no more than one member of either sex was found in a single host.

Distribution. — Northeastern Gulf of Mexico from off Cedar Keys, Florida to Alabama in depths of 5.5 to 18.0 m on sand bottom. The range of *F. tellinae* is probably much wider as the host occurs from North Carolina to south Florida and in the Caribbean (Abbott, 1968).

Etymology. — The name of the species is derived from that of its host, *Tellina magna*.

Discussion. — *Fabia tellinae* n. sp. is most closely related to *F. subquadrata* Dana and *F. lowei* (Rathbun) from the east Pacific, all three species having P3 equal on both sides. *F. tellinae* differs from *F. subquadrata* in possessing a more rounded carapace, larger dactyli on P2 through P5, in the shape of the third maxilliped, and in lacking transverse sulci on the frontal area. Both species have the propodus of the chelipeds broadened distally. The shape of the third maxillipeds, distally widened propodus of the cheliped, and differences in dactyl morphology distinguish *F. tellinae* from *F. lowei*.

In *F. tellinae* P3 is equal on both sides, differentiating it from its western Atlantic congener, *F. byssomiae* (Say), which has P3 markedly longer on the right than on the left side.

I was unable to obtain material of *F. sebastianensis* Costa, a Brazilian form known only from the female holotype. However, the original description reveals several characters which distinguish this species from *F. tellinae*. The third pereopods are the longest and the eyes are never visible in dorsal view in females of *F. tellinae*, while the fourth pereopods are longest and the eyes are visible in dorsal view in females of *F. sebastianensis*. Further, the chelipeds of *F. tellinae* differ from those of *F. sebastianensis* by having the propodus much wider proximally, a larger, more proximal basal tooth on the dactyl, and a dentate, as opposed to a smooth, cutting edge on the immovable finger.

The short description of male *F. subquadrata* by Wells (1928) is the only one previously available for the genus. Males of *F. tellinae* differ from those of *F. subquadrata* in having the carapace wider than long, in lacking a setose margin on the chela, and by their smaller overall size.

Key to females of western Atlantic *Fabia*

1. Eyes visible in dorsal view *F. sebastianensis* Costa
 Eyes not visible in dorsal view 2
2. P3 longer on right than on left side; transverse sulcus across frontal region *F. byssomia* (Say)
 P3 equal on both sides; no transverse sulcus across frontal region *F. tellinae* n. sp.

RÉSUMÉ

Fabia tellinae, espèce nouvelle de la famille des Pinnotheridae, provenant de l'Atlantique occidentale, est décrite. Cette espèce est apparentée à *F. subquadrata* Dana et à *F. byssomia* (Say); les caractères distinctifs de ces trois espèces sont énumérés.

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