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THE PINNOTHERES CONCHARUM COMPLEX
(CRUSTACEA, DECAPODA, FAMILY PINNOTHERIDAE)

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INVERTEBRATE
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INTRODUCTION

A critical examination of the specimens of *Pinnotheres concharum* (Rathbun) in the collections of the U. S. National Museum reveals that the males of at least two different species of *Fabia* have not been recognized. The species of *Fabia* here in question are *Fabia subquadrata* Dana and *Fabia lowei* Rathbun. Wells in 1928 synonymized all males of *Pinnotheres concharum* with *Fabia subquadrata*. These males and the immature females found with them represent both *Fabia subquadrata* and *Fabia lowei*. *Fabia lowei*, because of the earlier specific designation of its males and immature females, must now be known as *Fabia concharum* (Rathbun).

The holotype of *Pinnotheres concharum*, originally *Cryptophrys concharum*, is an immature female of 5.0 mm. in carapace width. Synonymies, revised diagnoses of the females of the species, and preliminary descriptions of the males follow.

Fabia subquadrata Dana
Figure 1, A, D, G, H

Type locality. — Puget Sound; Holotype not extant.

Fabia subquadrata Dana 1851:253; Rathbun 1918:102-103; Wells 1928:286-289, includes all males of *Pinnotheres concharum*.

Cryptophrys concharum Rathbun 1893:250, part: not specimens from San Diego (USNM 17498).

Raphonotus subquadratus Rathbun 1904:186, part: not specimen from Monterey.

Pinnotheres concharum Rathbun 1918:86-87, part: USNM Nos. 49628, 39129, 17502, 18410, 23929 only; USNM 45611 lost; specimen from Stewarts Point, California not seen.

Diagnosis of female. — Front sharply deflexed with transverse sulcus across vertical front between orbits; manus of cheliped widening distally, bearing two rows of hair along lower margin.

Description of male. — Carapace subhexagonal, hard, dorsally flattened; antero-lateral and fronto-orbital margins bearing a continuous

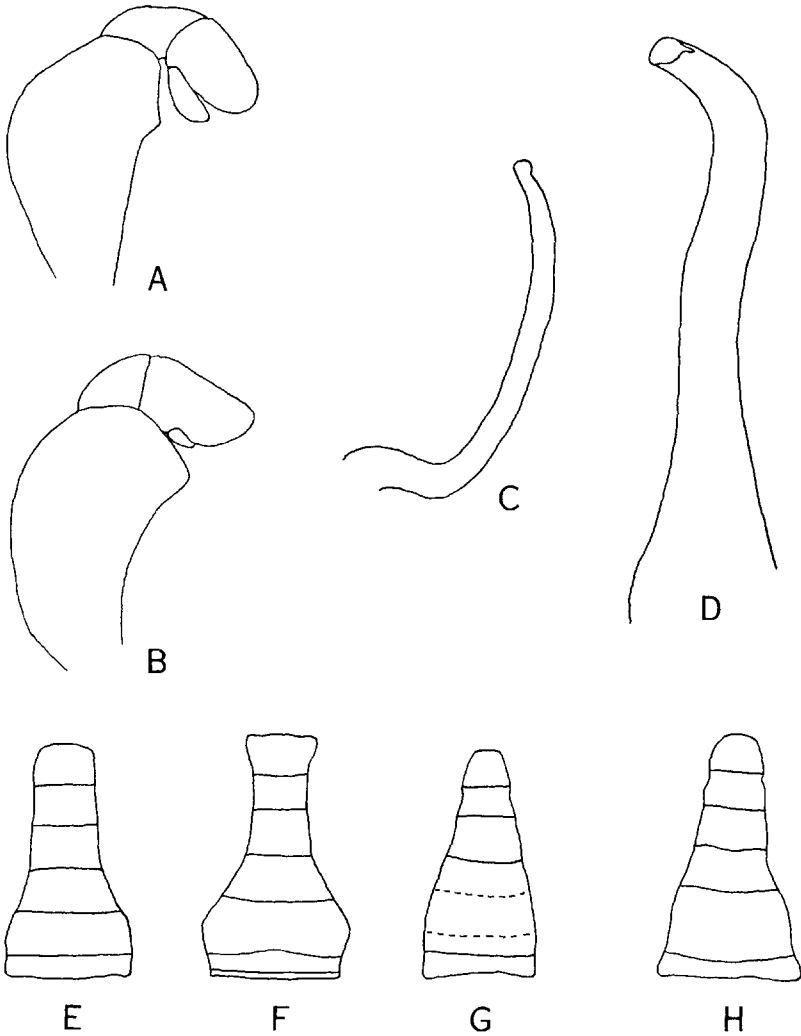


Figure 1. *Fabia subquadrata* Dana and *Fabia concharum* (Rathbun). A. Third maxilliped, x 30, *Fabia subquadrata*; B. Third maxilliped, x 30, *Fabia concharum*; C. Right ♂ Gonopod, x 30, *Fabia concharum*; D. Right ♂ Gonopod, x 30, *Fabia subquadrata*; E. ♀ Abdomen, x 15, *Fabia concharum*; F. ♂ Abdomen, x 15, *Fabia concharum*; G. ♀ Abdomen, x 15, *Fabia subquadrata*; H. ♂ Abdomen, x 15, *Fabia subquadrata*.

margin of short, dense pubescence; posterior margin convex; frontal margin projected, medially sulcate beneath pubescence; orbits large, directed laterally.

Chelae with manus bearing a dense pubescence on upper and lower margins; immovable finger bearing a large serrate lobe on upper margin; movable finger bearing one large, proximally directed tooth on lower margin, upper margin bearing a tuft of dense pubescence.

Ambulatory legs with segments flattened, margins densely pubescent. Dactyli large, sub-equal, curved.

Abdomen with terminal segment semi-circular, lateral margins of penultimate segment distally depressed.

Measurements. — ♂ USNM 74898: length of carapace 4.5 mm., width of carapace 5.1 mm.; ♀ USNM 23928: length of carapace 9.1 mm., width of carapace 11.1 mm.

Range. — Akutan Pass, Alaska to La Jolla, California.

Habitat. — Reported hosts (from various authors): intertidal to 200 m., in *Strongylocentrotus purpuratus*, *Modiolus modiolus*, *Mytilus californianus*, *Venericardia ventricosa*, *Siyela gibbsii*, *Mya arenaria*, *Mytilus edulis*, *Cardita borealis*, *Saxidomus giganteus*, *Tapes*, *Pachydesma crassitelloides*, *Echini*.

Fabia concharum (Rathbun)

Figure 1, B, C, E, F

Type locality. — San Diego Bay, California; Holotype, immature ♀ USNM 17498.

Cryptophrys concharum Rathbun 1893:250, part: not specimens from Puget Sound (USNM 17502).

Raphonotus lowei Rathbun 1900:590.

Fabia lowei Rathbun 1918:104-105.

Pinnotheres concharum Rathbun 1918:86-87, part: USNM Nos. 17498, 25428, 50443 only; USNM 45611 lost; specimen from Stewarts Point, California not seen.

Diagnosis of female. — Front sharply deflexed, lacking transverse sulcus across vertical front between orbits; manus of cheliped not widening distally, bearing one row of hair along lower margin.

Description of male. — Similar to *F. subquadrata*. Differing in that the terminal segment of the abdomen widens distally with distal margin slightly deflexed; sixth segment of abdomen hairless with margins sub-parallel; immovable finger bearing two small teeth or lobes on upper margin; propodus of third maxilliped subtriangular with sharp outer distal angle produced beyond the gently rounded inner distal angle; gonopods more curved and more slender near the base than in *F. subquadrata*.

Measurements. — ♂ USNM 50443: length of carapace 3.0 mm., width of carapace 2.9 mm.; ♀ USNM 23437 (cotype): length of carapace 10.0 mm., width of carapace 12.5 mm.

Range. — San Pedro, California to Magdalena Bay, Baja California.

Habitat. — Reported hosts (from various authors): *Modiolus modiolus*, *Modiolus capax*, *Parapholas californica*, *Bornea pacifica*, *Pachydesma crassatelloides*, *Tapes*, *Donax levigatus*, *Mya californica*.

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