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Calyptraeotheres sp. nov. (Crustacea: Decapoda: Pinnotheridae), symbiont of the slipper shell *Crepidula striolata* Menke, 1851 (Mollusca: Gastropoda: Calyptraeidae) from the Gulf of California, Mexico

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Abstract

Calyptraeotheres camposi **sp. nov.** is described from the Gulf of California, Mexico. The new species is close to *C. granti* (Glassell, 1933) and *C. pepeluisi* Campos & Hernández-Ávila, 2010 from the Mexican Pacific and to *C. hernandezi* Hernández-Ávila & Campos 2006 from the Western Atlantic. These four species feature a third maxilliped with a 2-segmented endopod palp and the exopod with unsegmented flagellum. *Calyptraeotheres camposi* **sp. nov.** differs from *C. granti* and *C. hernandezi* by having the eyes visible in dorsal view, the carapace with arcuate anterolateral margins, the dorsal, longitudinal depressions connected with the transversal depression, and the propodus of pereiopod 2 equal or slightly longer than the carpus. From *C. pepeluisi* it is distinguished by the absence of a transversal depression on the carapace and the longitudinal depressions not connecting, the carpus and propodus of the third maxilliped being sub-trapezoidal and sub-conical, respectively, in lieu of subrectangular, and the inner surface of the fixed finger nude instead of bearing short setae near the cutting edge and ventral margin.

Key words: limpet crab, Pinnotheridae, symbiosis, Mexican Pacific

Resumen

Calyptraeotheres camposi **sp. nov.** es descrita del golfo de California, México. La nueva especie se asemeja a *C. granti* (Glassell, 1933) y *C. pepeluisi* Campos & Hernández-Ávila, 2010 del Pacífico mexicano y a *C. hernandezi* Hernández-Ávila & Campos 2006 del Atlántico oeste. Estas cuatro especies poseen el palpo del endópodo del tercer maxilípedo con 2 segmentos y el exópodo con un flagelo no segmentado. *Calyptraeotheres camposi* **sp. nov.** difiere de *C. granti* y *C. hernandezi* por tener ojos visibles en vista dorsal, el caparazón con márgenes anterolaterales arqueados, las depresiones longitudinales dorsales conectando con la depresión transversal y el propodio de los pereiópodos 2 es igual o ligeramente más largo que el carpo. De *C. pepeluisi* se distingue por que en ésta última la depresión transversal está ausente y las depresiones dorsales del caparazón no se conectan posteriormente, el carpus y el propodio del tercer maxilípedo son subtrapezoidal y subconico repectivamente, en lugar de subrectangular y la superficie interna del dedo fijo es desnuda en lugar de llevar setas cortas cerca del borde cortante y del margen ventral.

Introduction

Brachyuran crabs of the family Pinnotheridae in the Mexican Pacific are relatively well known, in great part due to the extensive study of this group of crabs by Ernesto Campos (see Campos 2006, 2009). The family is represented in the Mexican Pacific by 47 species (Hendrickx 1995; unpublished). Samples of hermit crabs were collected during a research program of the CRIP (Centro Regional de Investigación Pesquera), Sinaloa, onboard a commercial shrimper in the southern Gulf of California, Mexico. Specimens of the hermit crabs *Dardanus*

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& McDermott (2004) previously mentioned an association between the pinnotherid crab *Calyptraeotheres granti* (as *Fabia granti*) that resides in the mantle cavity of *Crepidula* cf. *nivea* C.B. Adams, 1852. Campos (1990), however, concluded that *Crucibulum spinosum* (Sowerby, 1824) is the preferred host of *Calyptraeotheres granti,* because this mollusk possesses a suitable space between the cephalic area and the shell for the crab to be able to grow to maturity.

Key to female of species of American *Calyptraeotheres* Campos, 1990
[after Campos (1990, 1999), Hernández-Ávila & Campos (2006), Campos & Hernández-Ávila (2010)]

1. Endopod of maxilliped 3 palp 2-segmented; no minute dactylus inserted subdistally on the ventral margin of propodus 2
- Endopod of maxilliped 3 palp 3-segmented; minute dactylus inserted subdistally on the ventral margin of propodus. 5
2. Carapace with front arcuate, with short, middle, shallow depression; lateral margin subparallel; eyes not visible in dorsal view . . . . . *C. granti*
- Carapace with lateral margin arcuate; eyes visible in dorsal view 3
3. Carapace suborbicular with two cervical depressions converging posteriorly but not connecting . . . . . *C. pepeluisi*
- Cervical depressions converging and connecting posteriorly 4
4. Carapace with front subrectangular; cervical depressions converging and connected posteriorly by T-shaped transversal depression. Posterior margin concave . . . . . *C. hernandezi*
- Carapace with front arcuate, cervical depressions converging, connected posteriorly by a transversal depression. Posterior margin straigth . . . . . *C. camposi* **sp. nov.**
5. Carapace with two cervical depressions converging, connected by a shallow, transverse V-shaped depression. Posterior margin M-shaped in the middle . . . . . *C. politus*
- Cervical depressions parallel, not reaching to the transversal depression. Posterior margin rounded . . . . . *C. garthi*

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