A new species of the caridean shrimp genus *Ogyrides* Stebbing, 1914 (Decapoda: Ogyrididae) from the eastern tropical Pacific

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Abstract

The caridean shrimp *Ogyrides wickstenae* sp. nov. is described from Mazatlán, Pacific coast of Mexico. The new species is most closely related to *O. tarazonai* Wicksten & Méndez, 1988 and *O. hayi* Williams, 1981, sharing with them a single spine on the dorsal midline of the carapace. However, the new species can be distinguished from the two allied species by the presence of a single small spine on the second endopodal segment of the third maxilliped and the five-segmented carpus of the second pereopod. A key for the Eastern Pacific species of *Ogyrides* is provided.

Key words: Caridea, marine shrimp, Ogyrididae, new species, East Pacific, Mexico, intertidal

Introduction

The genus *Ogyrides* Stebbing, 1914, is the unique representative of the caridean family Ogyrididae. *Ogyrides* is characterized by the presence of a very short rostrum; the completely exposed, slender, parallel-running eyestalks with small terminal cornae; the first two pairs of pereopods chelate and nearly equal in size, the carpus of the second pereopod subdivided into four or five segments; a broad and obtusely pointed telson; and a penaeidean thelycum-like structure (Hay & Shore 1918; Williams 1984; Holthuis 1993). This genus contains 10 species distributed along tropical and subtropical coasts around the world (De Grave & Fransen 2011). Three species of *Ogyrides* have been described from American waters: *Ogyrides hayi* Williams, 1981, from the western Atlantic; *O. tarazonai* Wicksten & Méndez, 1988 from Peru and Nicaragua in the eastern Pacific; and *O. alphaerostris* (Kingsley, 1880), an apparently amphi-American species (Williams 1981; Wicksten & Méndez 1988; Hendrickx 1993, 2005). According to De Grave & Fransen (2011), *O. limicola* Williams, 1955, *O. occidentalis* (Ortmann, 1893) and *O. yaquiniensis* Armstrong, 1949, all three from the western Atlantic, are currently considered to be junior synonyms of *O. alphaerostris*.

In the Pacific coasts of Mexico, *O. alphaerostris*, a species with 3–14 dorsal spines on the carapace, has been recorded from Bahía de Todos Santos, Baja California (Carvacho & Olson 1984), and Mazatlán (Wicksten 1983; Hendrickx & Wicksten 1987; Hendrickx 1993). In 2012, while sampling in the intertidal areas of two beaches of Mazatlán, two specimens of *Ogyrides* with only one anterior middorsal spine on the carapace were collected and later identified as a hitherto undescribed species. In this paper, a new species, *O. wickstenae*, is described and illustrated in detail. An identification key to the American Pacific species is provided.

Material and methods

The collection localities, Isla de la Piedra, located south to the Mazatlán harbor and Playa “Roca del Mar”, located in the tourist area of Mazatlán, are protected by Isla Chivos, and Isla Venados, Isla Pájaros and Isla Lobos,
respectively. These sites are characterized by a slight slope and moderate waves. The sediment type in Isla de la Piedra is fine sand and medium sand in “Roca del Mar”.

Both specimens were collected by hand, using a plastic sieve. Drawings were prepared with the aid of a camera lucida mounted onto Leica M60 stereomicroscope. Terminology follows Williams (1984) and Wicksten & Méndez (1988). The carapace length (CL, in mm) was measured from the level of the posterior margin of the orbit to the midpoint of the posterior margin of the carapace. Type material is deposited in the Regional Collection of Invertebrates (EMU), in Mazatlán, Mexico.

**Taxonomy**

**Family Ogyrididae Holthuis, 1955**

**Genus Ogyrides Stebbing, 1914**

*Ogyrides wickstenae* sp. nov.

Figs. 1–3

**Material examined.** Holotype: 1 male (CL= 5.4 mm), Mazatlán, Sinaloa, Mexico, Isla de la Piedra, 23°11′10″N, 106°24′40″W, sand, intertidal, 5 November 2012, coll. JSB and MAP (EMU-9789); paratype: 1 female (CL= 4.7 mm), Playa “Roca del Mar”, 23°14′31″N, 106°27′13″W, sand, intertidal, 8 February 2012, coll. Daniela Ríos and JSB (EMU-9790).

**Description.** Carapace (Fig. 1A, B) about 0.5 times as long as abdomen. Rostrum triangular, acute, setose at tip; as long as extracorneal teeth. Extracorneal teeth rounded. Infracorneal teeth shorter than extracorneal, spiniform, pterygostomial angle moderately projected, rounded. Postrostral midline with single, movable spine.

Eyestalks (Fig. 1A, B) exceeding antennular peduncles by about 1.5 times corneal length, thickened at base, narrowest around mid-length; cornea small, well-pigmented, slightly dilated.

First and second antennular article (Fig. 1B) about equal in length if measured from antennular base; second article twice as long as broad; third article 0.5 times length of second. Stylocerite (Fig. 1A, B), ending in two strong, acuminate spines, superior spine almost reaching to distal margin of first article of antennular peduncle, inferior spine surpassing distal margin.

Antennal scale (Fig. 1C) rounded mesially, about 3.3 times longer than greatest width near base, exceeding second article of antennular peduncle. Carpocerite almost as long as antennular peduncle. Distoventral margin of basicerite bearing two small acute spines.

Third maxilliped (Fig. 1D) exceeding the distal article of antennules. First endopodal article with one small dorsolateral spine; mesial face of second article (Fig. 1E) with spaced short rows of brush-like setae; ratio of endopodal article lengths from proximal to distal: 1 : 0.6 : 0.25.

First pereopods (Fig. 2A) symmetrical, reaching 0.66 of penultimate antennular article. Ischium 0.6 times as long as merus, bearing rounded projection on proximoventral margin provided with a robust seta. Merus 4.5 times as long as broad. Carpus 4.5 times as long as distal width, distal width 1.4 times of proximal width. Chela about as wide as carpus, with fingers about 1.5 times palm length.

Second pereopod (Fig. 2B, C) with ischium 0.8 times merus length, bearing shallow notch on ventral margin proximally. Merus 0.8 times carpus length. Carpus five-segmented, length ratio of carpal articles from proximal to distal: 1 : 0.3 : 0.4 : 0.2 : 0.4.

Third pereopod (Fig. 2D) with ischium and merus each bearing one subterminal spine on ventral margin. Merus 1.2 times carpus length. Propodus moderately stout, 0.7 times carpus length, with setose margin. Dactylus spatulate, slightly longer than propodus.

Fourth pereopod (Fig. 2E, F) longer than third, with all segments furnished with long setae. Ischium about half as long as merus. Merus five times as long as broad. Carpus 0.6 times merus length. Propodus shorter than carpus, tapered distally. Dactylus curved, subpatulate, about half propodus length.

Fifth pereopod (Fig. 2G) longest, slenderer than preceding pereopods, unevenly setose. Ischium longer than merus. Merus eight times as long as broad. Carpus shorter than propodus, broadened distally. Propodus slightly shorter than dactylus, both with long setae. Dactylus subpatulate.
Thelycum-like structure of male (Fig. 1F) narrow and elongate, lying between bases of coxae of fourth pereopods, ventral to sternal plates, anteriorly reaching bases of third pereopods; anterior margin bearing V-shaped cleft; lateral margins nearly straight, posterior area partly fused to coxae of pereopods and sternum. Coxae of fifth pereopods with small lobes.

Male first pleopod (Fig. 3A) with endopod shorter than exopod, compressed subdistally, ending in appendix interna distally bearing 16 minute coupling, hook-shaped uncinuli. Male second pleopod (Fig. 3B) with endopod about as long as exopod, tapering at apex; appendix masculina short, with long setae; appendix interna subcylindrical, longer than appendix masculina, distal field with about 14 short mushroom-shaped uncinuli.

**FIGURE 1. Ogyrides wickstenae sp. nov.,** holotype, male from Isla de la Piedra, Mazatlán, Mexico (EMU-9789): A, carapace and cephalic appendages, dorsal view; B, carapace and cephalic appendages, lateral view; C, scaphocerite; D, third maxilliped, lateral view; E, distal segments of third maxilliped, mesial view; F, sternum of posterior thoracic segments and thelycum-like structure, ventral view; G, telson and uropods, dorsal view. Scale bar: 2 mm.
**FIGURE 2.** *Ogyrides wickstenae* sp. nov., holotype, male from Isla de la Piedra, Mazatlán, Mexico (EMU-9789): A, left first pereopod (cheliped), lateral view; B, right second pereopod, mesial view (setae omitted); C, chela and distal articles of carpus of second cheliped, lateral view; D, right third pereopod, lateral view; E, right fourth pereopod, lateral view; F, propodus and dactylus of fourth pereopod, mesial view; G, right fifth pereopod, lateral view. Scale bar: 1 mm.

Female first pleopod (Fig. 3C) with endopod shorter and more slender than exopod, with long setae. Female second pleopod (Fig. 3D) with endopod bearing appendix interna, latter long, about 0.7 length of endopod, distally with eight short mushroom-shaped uncini.

Telson (Fig. 1G) subtriangular, about twice as long as maximum width, with slight lateral prominences; dorsal surface with low ridges and two pairs of spines situated at same distance from lateral margins anterior and posterior.
to telson mid-length, respectively; posterior margin bluntly projecting medially, with two pairs of posterolateral spines inserted posterior to distal pair of dorsal spines, mesial spines longer than lateral. Endopod and exopod of uropods long, slender, exceeding posterior margin of telson.

**Etymology.** The new species is named to honor Dr. Mary K. Wicksten in recognition of her important contribution to the study of carideans from eastern tropical Pacific.

**Distribution.** Known only from type locality, Mazatlán, Mexico.

**Remarks.** *Ogyrides wickstenae* sp. nov. resembles *O. tarazonai* from the Pacific coasts of Nicaragua and Peru and *O. hayi* from the western Atlantic by the presence of a single postrostral spine on the carapace. However, the new species can be distinguished from both the latter species by the number of articles in the carpus of the second pereopod: five in *O. wickstenae* sp. nov. instead of four in *O. tarazonai* and *O. hayi*; and the presence of a small distal spine on the first endopodal article of the third maxilliped, which is not mentioned in the description of the other two species. The new species is also distinguishable from *O. tarazonai* by the third pereopod being armed with one distal spine on ischium and merus instead one spine solely in merus in *O. tarazonai*. The telson in *O. wickstenae* sp. nov. is proportionally longer than in *O. tarazonai*, with the posterolateral spines situated posterior to the distal spines, whereas in *O. tarazonai*, these spines are inserted at the same level as the posterior spines (Wicksten & Méndez 1988: fig. 1b). *Ogyrides wickstenae* sp. nov. can be additionally differentiated from *O. hayi* by the longer spines of the antennular stylocerite, which in the new species are reaching the distal margin of the first antennular article vs. about 0.7 in *O. hayi* (Williams 1984: fig. 75b). The second antennular article is about twice as long as the third article in the new species, whereas in *O. hayi*, it is about three times longer. The telson in *O. wickstenae* sp. nov. has two pairs of posterolateral and two pairs of dorsal spines, whilst the telson of *O. hayi* is armed with only one pair of dorsal spines, without lateral spines.

**FIGURE 3.** *Ogyrides wickstenae* sp. nov., holotype, male from Isla de la Piedra, Mazatlán, Mexico (EMU-9789): A, first pleopod; B, second pleopod; paratype female from Playa "Roca Mar", Mazatlán, Mexico (EMU-9790): C, first pleopod; D, second pleopod; all in mesial view. Scale bar: 1 mm.
According to Williams (1981), O. alpaherostris can be found in estuaries or near-shore waters on a variety of bottoms and from the intertidal to 52 m. In Mazatlán, O. alpaherostris and O. wickstenae sp. nov. seem to prefer different depths. According to Hendricks & Wicksten (1987), O. alpaherostris is widely distributed in the bay of Mazatlán, where it was collected by grab samples at depths ranging from 5 to 18 m, whilst the new species was collected intertidally on two sandy beaches.

**Key to species of Ogyrides currently known from the eastern Pacific**

A. Carapace with several (3–14) dorsal, postrostral spines ........................................... Ogyrides alpaherostris

A’. Carapace with one dorsal, postrostral spine .................................................. B

B. Carpus of second pereopods subdivided into 5 articles; third pereopods with ischium armed with spine .................................................. Ogyrides wickstenae sp. nov.

B’. Carpus of second pereopods subdivided into 4 articles; third pereopods with ischium unarmed ........ Ogyrides tarazonai

**Acknowledgements**

The authors are grateful to Mary K. Wicksten (Texas A&M University) for her kind comments and corrections of the first manuscript draft and to Daniela Ríos Elósegui for her help during field work. The authors are thankful to Arthur Anker and Tomoyuki Komai for their useful comments and corrections to the submitted manuscript. MAP thanks CONACyT, Mexico, for the grant received during his postdoctoral stay at CUCBA, Universidad de Guadalajara, Jalisco.

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