



<http://dx.doi.org/10.11646/zootaxa.3915.4.2>

<http://zoobank.org/urn:lsid:zoobank.org:pub:B0302DE4-D9CD-44CC-91BD-82E6DE5AB0FA>

Redescription and taxonomic status of *Paguristes praedator* Glassell, 1937 and *P. oxyophthalmus* Holthuis, 1959 (Anomura: Paguroidea: Diogenidae), with an emendation to the diagnosis of the genus *Areopaguristes* Rahayu & McLaughlin, 2010

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Abstract

The taxonomic status of *Paguristes praedator* Glassell, 1937, and *Paguristes oxyophthalmus* Holthuis, 1959, is reevaluated, and the two species redescribed and illustrated in detail. Both species are transferred to the genus *Areopaguristes* Rahayu & McLaughlin, 2010, a genus previously defined to accommodate species of *Paguristes* sensu lato with 12 pairs of gills instead of 13. Two important characters in both species were found to differ or have not been mentioned in the current definition of *Areopaguristes*, i.e., the first maxilliped lacking epipod, and dactyls of second and third pereopods unarmed on the ventral margins. The presence of other diagnostically significant characters (e.g., lack of first pleopods in females) previously noted in other species of *Areopaguristes*, requires the generic emendation of this genus presented herein. With the transfer of *A. praedator* nov. comb. and *A. oxyophthalmus* nov. comb. to *Areopaguristes*, this genus now contains 27 species, of which nine occur in the Americas (four in the eastern tropical Pacific, and five in the western Atlantic).

Key words: Crustacea, Diogenidae, hermit crabs, *Areopaguristes*, new combination, eastern Pacific, western Atlantic

Introduction

With a total of 118 currently assigned species, *Paguristes* sensu stricto is the most speciose genus in the Diogenidae, and second only in number of species to *Pagurus*, of the Paguridae (McLaughlin *et al.* 2010). Despite various revisions and descriptions of new species published since first *Stratiotes* Thomson, 1899 and then *Areopaguristes* Rahayu & McLaughlin, 2010 (a replacement name for the preoccupied *Stratiotes* Thomson, 1899) were proposed for species previously in *Paguristes* sensu lato with 12 pairs of gills instead of 13, this group of diogenids (i.e., *Paguristes* sensu stricto, *Areopaguristes*) has remained one of the most taxonomically and morphologically problematic in the Paguroidea (e.g., Hendrickx & Harvey 1999; Rahayu 2005; Ayón-Parente & Hendrickx 2006, 2012; Komai 2009, 2010; McLaughlin 2008; Lemaitre & Felder 2012). In the eastern tropical Pacific, several new species of *Areopaguristes*, and a morphologically similar genus, *Tetralobistes* Ayón-Parente & Hendrickx, 2010, have been described, and taxonomic problems in various taxa resolved (Ayón-Parente & Hendrickx 2006, 2007, 2009, 2010b, 2012). In the western Atlantic, Lemaitre & Felder (2012) described a new species and provided a list of species from that region of *Paguristes* sensu stricto and *Areopaguristes*, although they inadvertently omitted *P. meloi* Nucci & Hebling, 2004 from the species of *Paguristes* sensu stricto.

During the revision of species of the family Diogenidae from the Mexican Pacific by Ayón-Parente (2009), the type material of *Paguristes praedator* Glassell, 1937 was studied, and numerous specimens of this species

than in *A. praedator*. Also, in *A. oxyophthalmus*, there are four spines on the posterior half of the propodus of the second pereopod, whereas there are usually six or seven (or rarely five) spines in at least larger specimens (SL >2.5 mm) of *A. praedator*.

Areopaguristes oxyophthalmus can be distinguished from the four other current western Atlantic congeners primarily by the short, blunt rostrum which does not exceed the lateral projections of the shield. One western Atlantic congener, *A. hummi*, does have a similarly short rostrum; however, in *A. hummi* the mesial margins of the ocular acicles are adjacent and each acicle has a multidentate anterolateral margin, whereas in *A. oxyophthalmus* the acicles are distinctly separated and the anterolateral margin of each acicle is entire.

Discussion

With the transfer of *Paguristes praedator* and *P. oxyophthalmus* to *Areopaguristes*, 27 species are now recognized in this genus, of which nine were originally described in *Areopaguristes* and 18 reassigned from *Paguristes sensu lato*. Although the nine species originally described in *Areopaguristes* have been documented in detail, several of the species reassigned from *Paguristes sensu lato* have remained poorly diagnosed or insufficiently illustrated (see Rahayu 2005).

Given the morphological similarity and parallel tropical distributions in the eastern Pacific and western Atlantic, *Areopaguristes praedator* nov. comb. and *A. oxyophthalmus* nov. comb. can be considered geminate species. Both share characters such as: rostrum short and not reaching distal level of lateral projections, ocular acicles ending in simple spine; antennal flagella with long setae ventrally; first maxilliped without epipod; dactyls of pereopods with ventral margin unarmed; first male pleopod with distal margin armed with simple and multifid teeth; and females lacking brood pouches.

Both *Areopaguristes praedator* nov. comb. and *A. oxyophthalmus* nov. comb. exhibit several significant characters (e.g., absence of epipod on first maxilliped, and lack of spines on ventral margins of dactyls of second and third pereopods) that were not considered in the original diagnosis of the genus *Areopaguristes* or mentioned in descriptions of these two species. Furthermore, Ayón-Parente & Hendrickx (2006, 2012) previously found that three eastern Pacific species (*A. mclaughlinae*, *A. lemaitrei*, and *A. waldoschmitti*) differ in important characters such as lack of first pleopods in females, from other congeners known from the Indo-West Pacific and western Atlantic (Rahayu 2005, McLaughlin 2008, Komai 2009, 2010, Lemaitre & Felder 2012). Thus, the need fulfilled in this study to emend the diagnosis of *Areopaguristes*.

Acknowledgements

The authors acknowledge with deep gratitude the cooperation and assistance provided by Joel W. Martin and George E. Davis (LACM CR), Harim Cha (SIO-C), Mary W. Wicksten (TCWC) and Victor Landa (CEC) during the stay by one of us (MAP) in their respective museum, and for loan of material. Thank to Rosa María Prol for providing material (project FONCICYT 94482). Thanks also to R. Gullede (USNM) for helping with some illustrations. One of us (MAP) was supported by a CONACyT grant (125847). Molluscs identifications were performed by Arturo Toledano-Granados. Ship time aboard the R/V "El Puma" (SIPCO, CORTES, GUAYTEC and BIOCAPESS cruises) was provided by the Instituto de Ciencias del Mar y Limnología, UNAM. The CORTES project was partly supported by CONACyT (PCCBNA-021996), Mexico.

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