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Two new species of the genus *Lepidophthalmus* (Decapoda, Axiidea, Callianassidae) from coastal Pacific waters of Central America

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Abstract

Two new species of intertidal ghost shrimp are described from coastal Central American habitats of the eastern Pacific Ocean, bringing the total known membership of the genus to 18 species. *Lepidophthalmus natesi* **sp. nov.** from Colombia and Nicaragua shares with *Lepidophthalmus panamensis* **sp. nov.** from Colombia and Panama the lack of extensive ventral pleomere armor, especially in lacking a median ventral sclerite on the second pleomere. The absence of this plate is also a character of the eastern Pacific species *L. rafai* Felder & Manning, 1998, but the two new species differ from it in telson shape. Ventral armor including this plate is present in *Lepidophthalmus bocourti* (A. Milne-Edwards, 1870) and *L. eiseni* Holmes, 1904 which occur sympatrically with *L. natesi* **sp. nov.** in eastern Pacific tropical estuaries. As also known for at least *L. bocourti*, *L. natesi* **sp. nov.** invades and densely colonizes penaeid shrimp aquaculture ponds in regional estuarine settings. Individuals of *L. panamensis* **sp. nov.** are of smaller body size but also may be densely concentrated, especially in clayey substrates including those adjacent to intertidal rocks. Despite their similarities in the pleon and shape of the telson, the species can be readily separated by dentition of the cheliped fingers, relative length of the minor chela fingers, the second pleopod appendix of mature males, and egg size. The large eggs of *L. panamensis* **sp. nov.** suggest extremely abbreviated development. Characteristic coloration is described for both new species.

Key words: *Lepidophthalmus*, Callianassidae, ghost shrimp, eastern Pacific, Central America

Introduction

Following the landfall of Hurricane Mitch in October, 1998, impacts of heavy rain and mudslides included major damage to penaeid shrimp aquaculture developments on the Pacific coast of Nicaragua. Studies of those impacts included our surveys of burrowing decapods associated with culture ponds and surrounding habitats in coastal estuaries, which led to the discovery of several taxa new to science. One of those species, treated by Felder *et al.* (2003) as “*Lepidophthalmus* nov. sp.” but not formerly named, is herewith described and assigned a species name. While the aforementioned paper included molecular phylogenetic analyses based on 16S mtDNA, which clearly separated this particular new species from its then-known sympatric eastern Pacific congeners and a few others of the genus (Felder *et al.* 2003: fig. 7), it did not encompass a complete and comparative study of congeneric species. Of the three species collected in Nicaraguan estuaries, only the previously described *Lepidophthalmus bocourti* (A. Milne-Edwards, 1870) and *L. eiseni* Holmes, 1904 were shown to have the anterior pleon “ventrally plated”, as opposed to the relatively unplated condition found in “*Lepidophthalmus* nov. sp.” (Felder *et al.* 2003: figs. 3 A, B). However, the ventrally unplated pleon was also known to characterize eastern Pacific materials from other than Nicaragua, one species being *Lepidophthalmus rafai* Felder & Manning, 1998 from southwestern Colombia. Yet other eastern Pacific materials collected from Panama were found to lack conspicuous ventral plating, these having been included as “*Lepidophthalmus* nr. *bocourti*” in an earlier allozyme analysis of limited representatives by Staton *et al.* (2000). However, the much smaller body size of Panamanian materials in itself suggested they were unlikely conspecific with the apparently new Nicaraguan species. Conspicuous characters of its telson immediately separated it from *Lepidophthalmus rafai*, thus setting the stage for its inclusion in the present study.