Zootaxa 3407: 37–48 (2012)
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

Morphological and molecular evidences for the existence of two new species of *Homalometron* (Digenea: Apocreadiidae), parasites of cichlids (Osteichthyes: Cichlidae)

G. PÉREZ-PONCE DE LEÓN[1], U. RAZO-MENDIVIL[2] & LETICIA GARCÍA-MAGAÑA[3]

[1]*Departamento de Zoología, Instituto de Biología, Universidad Nacional Autónoma de México. Ap. Postal 70-153. C.P. 04510, México D.F., México. E-mail: ppdleon@ibiologia.unam.mx*

[2]*Instituto de Ecología, A. C., Red de Biología Evolutiva, km. 2.5 ant. carretera a Coatepec, Xalapa, Veracruz, C. P. 91070. E-mail ulises.razo@inecol.edu.mx*

[3]*Laboratorio de Parasitología, División Académica de Ciencias Biológicas, Universidad Juárez Autónoma de Tabasco. Carretera Villahermosa-Cárdenas, Km 0.5, entronque a Bosques de Saloya, Villahermosa, Tabasco., México. E-mail parasitotab@hotmail.com*

Abstract

Two new species of *Homalometron* Stafford, 1904 are described, one from the Sinaloan cichlid *Cichlasoma beani* (Jordan) in the upper Río Santiago basin, Northwestern Mexico, and the other one from the Mayan cichlid *Cichlasoma urophthalmus* (Günther) and the Redhead cichlid *Vieja synspila* (Hubbs) in Southeastern Mexico and Guatemala. *Homalometron octopapillatum* **n. sp.**, from the intestine of the Sinaloan cichlid, differs from all congeners by having four pairs of oral papillae surrounding the mouth and by having vitellaria restricted to the hindbody. In addition, this new species is only found in that species of cichlid, which only occurs in river basins of Northwestern Mexico. The second species, *Homalometron mesoamericanum* **n. sp.**, was considered to be conspecific with the type species, *Homalometron pallidum* Stafford, in several published accounts on the cichlid parasite fauna of Southeastern Mexico; however, detailed morphological examination of museum specimens as well as freshly collected specimens, along with a comparison through molecular data with *H. pallidum* from its natural distribution range in North America, allowed us to confirm that this represents, in fact, an undescribed species. The new species is distinguished from other congeners by the combination of the following characters: lack of papillae around the mouth opening, the anterior extension of the vitellaria (up to the anterior border of ovary), two compact eyespots next to pharynx and a large size (1,30–3,19). In this paper we followed an integrative taxonomy approach in which morphological characters are used in combination with data on two nuclear ribosomal markers (sequence divergence values and phylogenetic analysis), as well as data on host association and geographic distribution, to give further support to the recognition and description of two new species.

Key words: Digenea, *Homalometron*, *Homalomentron mesoamericanum* **n. sp.**, *Homalometron octopapillatum* **n. sp.**, *Cichlasoma beani*, *Cichlasoma urophthalmus*, *Vieja synspila*, molecular markers, new species, Mexico, Guatemala

Introduction

The genus *Homalometron* is the largest among the Apocreadiinae, comprising more than 20 species occurring mostly in marine fishes, with a few members found in brackish and freshwater fishes (Cribb 2005). Several species have been described in the Americas in either brackish or freshwaters, two of them were recorded in North America (*Homalometron pallidum* Stafford, the type species, as a parasite mainly of fundulids and exhibiting a brackish water life cycle, and *Homalometron armatum* MacCallum, in centrarchids and *Aplodinotus grunniens* Rafinesque) in the U.S.A. (Hoffman 1999), one more in Central America (*Homalometron lesliorum* Parker, Curran, Overstreet and Tkach), and two more in South America (*Homalometron papilliferum* [Szidat] in *Percichthys trucha* Valenciennes, and *Homalometron pseudopallidum* Martorelli in *Gymnogeophagus australis* Eigenmann, both in Argentina) (Kohn *et al*. 2007). The type-species, *H. pallidum* has been also reported as a parasite of cichlids in Southeastern Mexico and in Brazil (see Pérez-Ponce de León *et al*. 2007; Kohn *et al*. 2007).

Accepted by N. Dronen: 5 Jun. 2012; published: 2 Aug. 2012