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A new species of *Margotrema* (Digenea, Allocreadiidae) from the leopard splitfin *Xenotaenia resolanae* (Cyprinodontiformes, Goodeidae) from west-central Mexico

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A new species of *Margotrema* is herein described from the intestine of the freshwater fish *Xenotaenia resolanae* from the Cuzalapa River, Jalisco State, on the Pacific slope of west-central Mexico. The new species was first recognized after a molecular phylogenetic analysis which explored the genetic variation at the intraspecific level of *Margotrema* spp across central Mexico. Sequences of mitochondrial (COI) and nuclear (ITS1) genes were obtained for 125 individuals, and a general mixed Yule-coalescent analysis (GMYC) for species delimitation of both genes allowed the recognition of an independent evolutionary lineage, representing an undescribed species of *Margotrema*. Detailed morphological observations allowed the species description. The new species is easily distinguished from the other valid species of the genus, *M. bravoae*, by having vitelline follicles restricted to the region between the pharynx and the ventral sucker a wider and more prominent ventral sucker, larger eggs, and symmetrical testes.

The genus *Margotrema* included two species, *M. bravoae* Lamothe-Argumedo, 1970, from the goodeid *Girardinichthys multiradiatus* Meek from La Lagunilla, Estado de México (Lamothe-Argumedo 1970), and *M. guillerminae* Pérez-Ponce de León, 2001 from the cyprinid *Notropis calientis* Jordan and Snyder, and the goodeid *Allophorus robustus* (Bean) from Lake Zacapu, Michoacán (Pérez-Ponce de León 2001). These species were distinguished mainly on the basis of relative length of caecae. While exploring the genetic diversity of *Margotrema* spp. in their goodeid hosts across central Mexico (in 15 localities representing seven hydrological systems), Martínez-Aquino *et al.* (2013) found evidence to synonymize *M. guillerminae* with the type-species, *M. bravoae*, and to recognize an independent genetic lineage (Lineage I), parasitizing the endemic goodeid *Xenotaenia resolanae* in the Cuzalapa river, a tributary of the Marabasco River Basin. The helminth fauna of *X. resolanae* had been studied by Martínez-Aquino *et al.* (2009); the species of *Margotrema* was erroneously determined as *M. guillerminae* based on the extension of the caeca along body, a character that results from intraspecific morphological variability and is not reliable, in these digeneans, as a taxonomically important trait to distinguish species. After the molecular analyses, a closer look at the morphology of specimens (museum and freshly collected material) was then undertaken for specimens allocated to Lineage I, concluding it represented a new species. We describe the new species in this paper.

Specimens were stained with Mayer's paracarmine and Gomori's thrichrome, mounted as permanent slides using Canada balsam and deposited at the CNHE (Colección Nacional de Helmintos). For SEM study, specimens were post fixed in 1 % OsO₄ for 1 hr, dehydrated through a graded series of ethyl alcohol and then critical point dried with CO₂. Specimens were mounted on metal stubs, coated with gold, and examined in a Hitachi Stereoscan Model S-2469N at 15 kV. Measurements are presented in micrometers, as range followed by the average and standard deviation in parentheses.

***Margotrema resolanae* n. sp.**

(Fig. 1A–C)

Host. *Xenotaenia resolanae* Meek.

Locality. Cuzalapa River, Jalisco State, west-central Mexico. 19°30'32.1" N, 104°17'45.6" W.

Specimens deposition. CNHE, Holotype 6868, paratypes 6869; CNHE 6880.

Etymology. This species is named after the host species (*Xenotaenia resolanae*) to which the digenean exhibits a strong host-specificity.