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## ***Neoeubria inbionis* Shepard & Barr, a new genus and new species of Neotropical water penny beetle (Coleoptera: Psephenidae: Eubriinae), with a key to the adult Eubriinae of the Neotropic Zone**

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### **Abstract**

*Neoeubria inbionis*, **new genus and new species**, is described from Costa Rica, Nicaragua, Panama and Ecuador. All life stages are described and illustrated, and a key to adults of the Eubriinae genera of the Neotropics is provided. *Neoeubria* is one of the most basal genera of the Eubriinae.

**Key words:** Costa Rica, Nicaragua, Panama, Ecuador, aquatic insect

### **Introduction**

The family Psephenidae has experienced increased research interest and activity in the last decade or so, a major milestone of which was the publication of a phylogeny of the family by Lee *et al.* in 2007. Much of the research has focused on the fauna of the Oriental and Australasian biogeographic zones, largely due to the studies of Chi-Feng Lee and colleagues who have described many new genera and an abundance of new species from that region (Lee & Jäch 1995; Lee & Yang 1996; Lee *et al.* 1999, 2001). Although the psephenids of Africa are still largely uncollected and unknown, a few recent papers have been published on the South African fauna (Lee *et al.* 2003a, 2003b; Shepard & Lee 2007). Together, these studies have led to a completely new understanding of the subfamilies Eubrianacinae and Eubriinae. In the Neotropical biogeographic zone, research which centers on the subfamily Psepheninae is being conducted primarily by Roberto Arce-Pérez and collaborators (Arce-Pérez 2004; Arce-Pérez & Novelo-Gutiérrez 2000, 2001; Arce-Pérez & Shepard 2001; Arce-Pérez *et al.* 2012). As a result of worldwide efforts, there is now a better understanding of the evolution of the Psephenidae and clearer definitions of almost all known genera.

Globally, the subfamily Eubriinae is comprised of 14 described, valid genera, and known but undescribed genera, including *Neoeubria* **gen. n.** Three genera with 10 species have been described from the Neotropics: *Dicranopselaphus* Guérin-Meneville from Mexico and Guatemala (5 species); *Ectopria* LeConte from Panama and Brazil (4 species); and *Tycheapsephus* Waterhouse from Chile (1 species). It is probable that three of the *Ectopria* species belong in *Dicranopselaphus* and one belongs in *Tycheapsephus*. We have recently collected specimens in Costa Rica and Panama of *Eubria* Germar, which is known only from the Palearctic, or a genus near *Eubria*.

During field work in January 2000, supporting the efforts of the Instituto Nacional de Biodiversidad (INBio) to catalog the beetles of the protected areas of Costa Rica, we collected 24 larvae and one pupa of an undescribed genus of eubriine psephenid at Parque Nacional Rincón de la Vieja in Guanacaste Province. We attempted, but failed, to rear the pupa to into an adult. A second visit to the site by the senior author in June 2001 yielded three additional larvae and three pupae, and of these, two pupae successfully metamorphosed into a male and a female adult. A third visit in 2003 by both authors yielded only larvae. Seven additional adults, all from Ecuador, were subsequently discovered in the collection of the California State Collection of Arthropods (CSCA) of the California Department of Food and Agriculture in Sacramento. In addition to those from Rincón de la Vieja, Costa Rica, larvae have been examined from Nicaragua, Panama and from one other site in Costa Rica.

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