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## ***Bregmosina*, a new Neotropical genus of Limosininae (Diptera: Sphaeroceridae)**

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### **Abstract**

*Bregmosina*, a new genus of Limosininae (Diptera, Sphaeroceridae), is described on the basis of five new species from Central and South America. The genus is characterized by a broad head, swollen face, large oral cavity, a single pair of very large cruciate interfrontal bristles, short, broad fore tarsomeres and swollen hind tarsomeres one and two. The unusual male genitalia, including a longitudinally split sternite 5, strongly indicate that the genus is monophyletic. All species are probably associated with treefalls.

**Key words:** Sphaeroceridae, Neotropical Diptera, Limosininae, *Bregmosina*

### **Introduction**

*Bregmosina* **new genus** is a distinctive genus of Sphaeroceridae characterized by many derived characters including a very broad head, swollen face, large mouth, and unusual frontal chaetotaxy with only a single very large, cruciate pair of interfrontal bristles. The short, broad fore tarsomeres and the grossly swollen tarsomere two on the hind leg are unusual, and the male terminalia are exceptionally distinctive. The genus is remarkably uniform in non-abdominal characters. Male genitalia differ widely between species although some markedly derived features, such as the deeply divided sternite five, are common to all members of the genus. Females have compact terminalia with the epiproct (tergite 10) completely lost. *Bregmosina* keys out as “undescribed genus B” in Marshall and Buck (2010).

Most known specimens of *Bregmosina* were collected in association with freshly fallen trees in Costa Rican and Ecuadorian cloud forests, where the larvae probably develop in the mats of fresh decomposing foliage associated with such treefalls. This specialized habitat is apparently preferred by several other sphaerocerids, especially species in the huge genus *Pterogramma*, as well as other acalyptrates such as those in the recently described family Inbiomyiidae. Several specimens, including all the Venezuelan material studied, were taken in flight intercept traps.

### **Material and methods**

Male and female terminalia were examined after clearing whole abdomens in hot 10% KOH solution and subsequent neutralization in glacial acetic acid. Cleared structures were preserved in glycerin and pinned below specimens in microvials.

**Terminology.** Morphological terminology follows Marshall and Buck (2010).

**Acronyms of depositories:** CMNH (Carnegie Museum of Natural History, Pittsburgh, Pennsylvania, U.S.A.); CNCI (Canadian National Collection of Insects, Ottawa, Ontario, Canada); DEBU (School of Environmental Sciences, University of Guelph, Guelph, Ontario, Canada); INBC (Instituto Nacional de Biodiversidad, Santo Domingo de Heredia, Costa Rica); MIZA (Museo del Instituto de Zoología Agrícola Francisco Fernández Yépez; Universidad Central de Venezuela, Maracay, Venezuela); QCAZ (Departamento de Biología, Pontificia Universidad Católica del Ecuador, Quito, Ecuador).