

Scientific note

## First record of *Americabaetis alphas* (Insecta: Ephemeroptera: Baetidae) from Colombia

Primer registro de *Americabaetis alphas* (Insecta: Ephemeroptera: Baetidae) para Colombia

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**Abstract:** The species *Americabaetis alphas* is recorded for the first time from the Colombian territory based on nymphs collected in Caldas and Huila departments. The species was previously known from several countries in South America and from Nicaragua in Central America.

**Key words:** Mayflies. Taxonomy. Distribution. Neotropic.

**Resumen:** Se registra por primera vez para el territorio Colombiano la especie *Americabaetis alphas* a partir de ninfas colectadas en los departamentos de Caldas, Huila y Tolima. Esta especie había sido registrada para varios países de Suramérica y para Nicaragua en Centroamérica.

**Palabras clave:** Efémeras. Taxonomía. Distribución. Neotrópico.

### Introduction

Baetidae is among the most diverse families of the Ephemeroptera order in the Neotropical region (Barber-James *et al.* 2008), even so, the knowledge on their taxonomy and distribution in the Colombian territory is incipient with only 18 genera and 26 species recorded (Dias *et al.* 2009). For the genus *Americabaetis* Kluge the only species so far recorded is *Americabaetis robacki* (Lugo-Ortiz & McCafferty, 1994) from the Amazon region (Domínguez *et al.* 2002). The species *Americabaetis alphas* Lugo-Ortiz & McCafferty, 1996 was first described based on specimens from Argentina, Bolivia, Brazil, Chile and Paraguay (Lugo-Ortiz & McCafferty 1996); subsequently was reported from Nicaragua by Meyer *et al.* (2008). Although the presence of this species in northern South America is not unexpected, this record is important as it contributes to the understanding of the distribution and biogeography of these insects. In addition, this report aims to encourage the taxonomic accuracy in the identification of aquatic insects for ecological studies, as these organisms are proven bioindicators of water quality (Cummins *et al.* 2005; Buss & Salles 2007).

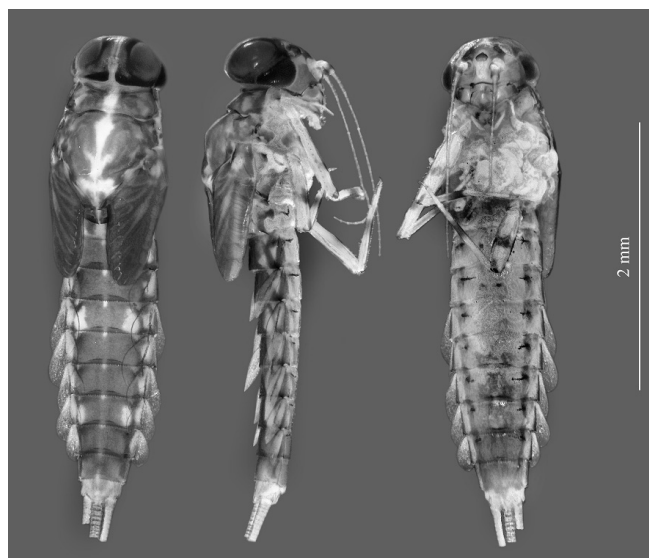
Taxonomic keys by Salles *et al.* (2010) and Domínguez *et al.* (2006), original descriptions of Lugo-Ortiz & McCafferty (1996) and permanent mounts of important structures following Waltz & McCafferty (1987) methodology were used for the identification of the specimens housed at the CEBUC (Colección Entomológica del programa de Biología de La Universidad de Caldas, Manizales, Colombia).

### Comments

This represents the first report of the species *A.alphas* from Colombia, which can be differentiated from its congeners by the following combination of characters: frontal keel

present; lingua apically pointed; labium with glossae 0.8 times the length of paraglossae, segment II of the labial palpi with a strong distomedial projection; and posterior margin of abdominal terga with pointed spines (Domínguez *et al.* 2006). As this species is sexually dichromatic, the males have a pronounced color pattern as shown in Fig.1 while females possess a more discrete pattern ranging from brown to pale yellow.

The species *A. alphas* has a wide distribution in South and Central America and can be found in very different types of habitats and altitudes (ranging from the sea level to 1,900 m),



**Figure 1.** *Americabaetis alphas* Lugo-Ortiz & McCafferty. Dorsal, lateral and ventral habitus of a male nymph.

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possibly due to its tolerance to environmental impacts (Salles *et al.* 2003, Buss & Salles 2007; Salles *et al.* 2010; Falcão *et al.* 2011). The specimens studied were associated with leaves and stony substrates in two Andean habitats.

**Material examined:** 4 nymphs. **COLOMBIA.** Caldas. Norcasia. Reserva Forestal Río Manso. 5°39'51" N 74°46'56" W. 187 m. 14/II/2012, Gutiérrez Y., Días L. G., Llano C. A., Benavides J. L. [CEBUC]. 3 nymphs. **Huila.** Neiva. Quebrada Los Micos. 2°52'50 N 75°06'07" W. 1555 m. Cuellar V. L. [CEBUC].

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### Literature cited

- BARBER-JAMES, H. M.; GATTOLIAT, J. L.; SARTORI, M.; HUBBARD, M. D. 2008. Global diversity of mayflies (Ephemeroptera, Insecta) in freshwater. *Hydrobiologia* 595: 339-350.
- BUSS, D. F.; SALLES, F. F. 2007. Using Baetidae species as biological indicators of environmental degradation in a Brazilian river basin. *Environmental Monitoring and Assessment* 130: 365-372.
- CUMMINS, K. W., MERRITT, R. W.; ANDRADE, P. C. N. 2005. The use of invertebrate functional groups to characterize ecosystem attributes in selected streams and rivers in southeast Brazil. *Studies on Neotropical Fauna and Environment* 40 (1): 71-90.
- DIAS, L. G.; ZUÑIGA, M. C.; BACCA, T. 2009. Estado actual del conocimiento del Orden Ephemeroptera en Colombia. pp. 236-253. En: *Rsumenes XXXVI Congreso Sociedad Colombiana de Entomología*, julio 29, 30 y 31, Medellín, Colombia.
- DOMÍNGUEZ, E.; ZUÑIGA, M. C.; MOLINERI, C. 2002. Estado actual del conocimiento y distribución del orden Ephemeroptera (Insecta) en la región amazónica. *Caldasia* 24 (2): 459-469.
- DOMÍNGUEZ, E.; MOLINERI, C.; PESCADOR, M. L.; HUBBARD, M. D.; NIETO, C. 2006. Diversidad acuática en América Latina. Volumen 2: Ephemeroptera de América del Sur. Pensoft, Sofía-Moscú. 647 p.
- LUGO-ORTIZ, C. R.; MCCAFFERTY, W. P. 1996. Taxonomy of the Neotropical genus *Americabaetis*, new status (Insecta: Ephemeroptera: Baetidae). *Studies on Neotropical Fauna and Environment* 31:156-169.
- FALCÃO, J. N.; SALLES, F. F.; HAMADA, N. 2011. Baetidae (Insecta, Ephemeroptera) ocorrentes em Roraima, Brasil: novos registros e chaves para gêneros e espécies no estágio ninfal. *Revista Brasileira de Entomologia* 55 (4): 516-548.
- MEYER, M. D.; BAUMGARDNER D. E.; MCCAFFERTY, W. P. 2008. The Ephemeroptera of Central America. Part 2: Nicaragua. *Transactions of the American Entomological Society* 134 (1-2): 133-146.
- SALLES, F. F.; FRANCISCHETTI, C. N.; ROQUE, F. O.; PEPINELLI, M.; STRIXINO, S. T. 2003. Levantamento preliminar dos gêneros e espécies de Baetidae (Insecta: Ephemeroptera) do estado de São Paulo, com ênfase em coletas realizadas em córregos florestados de baixa ordem. *Biota Neotropica* 3 (2): 1-7.
- SALLES, F. F.; RAIMUNDI, E. A.; BOLDRINI, R.; SOUZA-FRANCO, G. M. 2010. The genus *Americabaetis* Kluge (Ephemeroptera: Baetidae) in Brazil: new species, stage description, and key to nymphs. *Zootaxa* 2560: 16-28.
- WALTZ, R. D.; MCCAFFERTY, W. P. 1987. Revision of the genus *Cloodes* Traver (Ephemeroptera: Baetidae). *Annals of the Entomological Society of America* 80: 191-207.

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