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Short communication

First representative of the genus *Helius* Lepeletier and Serville, 1828 (Diptera, Limoniidae) from the Lower Cretaceous Álava amber (Spain)

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ABSTRACT

Helius alavensis sp. nov., one of the oldest representative of the genus *Helius* Lepeletier and Serville, 1828 (Diptera: Limoniidae), is described from the Álava amber (Lower Cretaceous, upper Albian), northern Spain. This is the first representative of the subfamily Limoniinae and of the genus *Helius* described from this fossil resin.

1. Introduction

The oldest representatives of the genus *Helius* Lepeletier and Serville, 1828 are known from the Early Cretaceous. They are also among the oldest representatives of the subfamily Limoniinae. Until now, four species of the genus *Helius* have been described from the Cretaceous, but none of them from the Álava amber, Spain. Two of them are known from the Central Lebanon Lower Cretaceous outcrop of Hammana-Mdeyrij: *Helius lebanensis* Kania, Krzemiński and Azar, 2013 and *Helius ewa* Krzemiński, Kania and Azar, 2014. Two others are known from the Upper Cretaceous, Turonian – *Helius botswanensis* Rayner and Waters, 1990 from Botswana and *Helius krzeminskii* Ribeiro, 2002 from Burma (Tanai village), described as a first Cretaceous representative of *Helius*.

A wider spectrum of species of the genus *Helius* have been recorded from the Cenozoic. Nine species are known from Eocene Baltic amber (Loew, 1850; Meunier, 1906; Krzemiński, 1985, 1993; Podenas, 2002; Kania, 2014). Three species are known from the Oligocene of Germany, Rott-am-Siebengebirge (Statz, 1934, 1944), and the USA, North Montana (Krzemiński, 1991), and three from the Miocene of Russia, Stavropol, Caucasus (Krzemiński, 2002).

Currently 18 species of *Helius* are known from fossils, 12 of them from amber outcrops and six from compression deposits of different periods and localities. In the Recent fauna, the genus *Helius* is worldwide distributed and comprises ca. 200 species, most of them found in South and South-Eastern Asia (Oosterbroek, 2015).

This paper presents the discovery of a new species, *Helius alavensis* sp. nov., from the Lower Cretaceous Álava amber deposit. The newly described species is the fifth known species of *Helius* from the Cretaceous, but is the first representative of the genus *Helius* and the second limoniid described from this locality (Krzemiński and Arillo, 2007).

2. Material and methods

The study is based on a specimen from the Lower Cretaceous (upper Albian) amber of Álava (Barrón et al., 2015). The specimen was found in the Peñacerrada I outcrop (northern Spain) located in the northern slope of Sierra de Cantabria, near the village of Moraza (Burgos Province), in the southern limit of the Basque-Cantabrian Basin (Peñalver and Delclòs, 2010) (Fig. 1A–B). The specimen is

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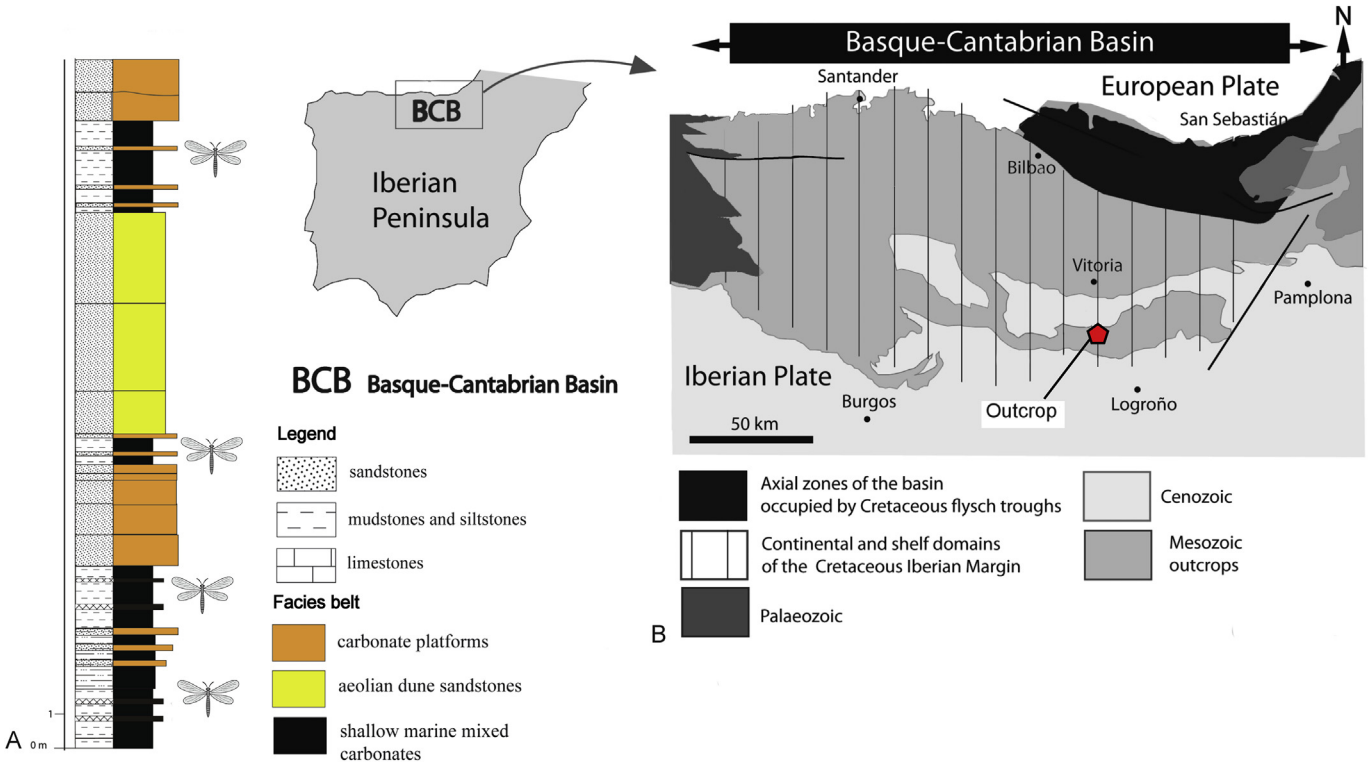

Fig. 1. A. Stratigraphic profile of the Penacerrada I outcrop; after Barrón et al., 2015; modified. B. Geographical and geological setting with location of the studied section; after Barrón et al., 2015; modified.

housed in the Museo de Ciencias Naturales de Álava, Vitoria, Spain. The specimen was studied using a Nikon SMZ 1500 stereomicroscope equipped with a Nikon DS-Fi1 camera and the measurements were taken with NIS-Elements D 3.0 software. The drawings for the analysis were based on the specimen and photographs.

3. Systematic palaeontology

Order Diptera Linnaeus, 1758
Family Limoniidae Speiser, 1909
Subfamily Limoniinae Speiser, 1909

Genus *Helius* Lepeletier and Serville, 1828
Subgenus *Helius* Lepeletier and Serville, 1828
Type species: *Helius longirostris* (Meigen, 1818)

Helius alavensis sp. nov.
(Figs. 2–4)

Diagnosis. Rostrum elongated, almost equal in length to palpus; antenna longer than rostrum and longer than palpus; last palpal segment as long as the preceding all taken together.
Etymology. The specific name is derived from Álava (Spain).
Material examined. Holotype specimen MCNA-9112 (sex undefined), Peñacerrada I, Álava, Spain, housed in the Museo de Ciencias Naturales de Álava, Vitoria, Spain.
Horizon and locality. Peñacerrada I, Basque-Cantabrian Basin (Álava, Spain), upper Albian.
Description. Small species, the body is dark brown.

Head (Figs. 2A, 4A–B): small, 0.35 mm long, with huge eyes, rostrum elongated, 0.42 mm long, with convex nasus, slightly

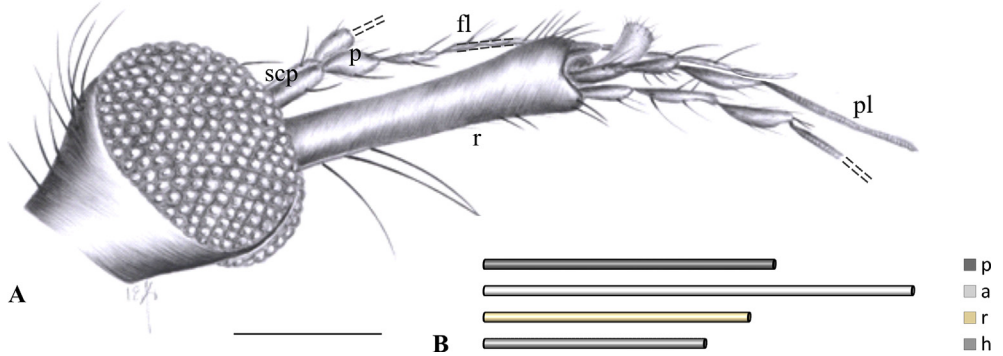

Fig. 2. A–B. *Helius alavensis* sp. nov. No. MCNA-9112 (sex undefinied), holotype. A. head, B. diagram illustrating the relationship between the length of rostrum (r), antenna (a), palpus (p) and head (h). Abbreviations of head (h): a – antenna; fl – flagellomeres; pl – palpi; p – pedicel; r – rostrum; scp – scape. Scale bar = 0.2 mm.