

## ***Araeopteron ecphaea*, a new addition to the Bulgarian fauna (Insecta: Lepidoptera: Erebidae)**

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**Abstract.** A small macrolepidopteran, *Araeopteron ecphaea* (Hampson, 1914), is reported for the first time for Bulgaria. Photographs of the moth and its genitalia are provided. The vesica is illustrated and described for the first time.

**Key words:** faunistics, Macrolepidoptera, vesica.

### **Introduction**

The list of species of Macrolepidoptera of Bulgaria is considered to be mostly complete. Only a few new species have been added recently (e.g., Ignatov *et al.* 2013, Popović *et al.* 2014, Shtinkov & Kolev 2014, Kolev & Shtinkov 2016, Beshkov 2016, 2017a, 2017b, Beshkov & Junnilainen 2016, Kolev 2017) despite the active field work of several lepidopterists in the recent years. Communication between the authors revealed that *Araeopteron ecphaea* (Hampson, 1914) was collected independently by each of them in the southwestern corner of the country. No previous records of this species from Bulgaria were found.

### **Material and Methods**

**Material:** 1 ♂, SW Bulgaria, Blagoevgrad Province, community of *Quercus coccifera* near Kamenitsa, 200 m, UTM: 34T FM 8076 1257, 10.viii.2015, leg. B. Zlatkov (NMNHS); 1 ♂, SW Bulgaria, Blagoevgrad Province, 5 km N Sandanski, 130 m alt., UTM: 34T FM 8546 0749, 31.vii.-9.viii.2012, leg. L. Aarvik, O. Karsholt & N. Savenkov (ECKU); 1 ♂, SW Bulgaria, Blagoevgrad Province, Rupite place near Petrich, near Struma River, 110 m alt., UTM: 34T FL 8946 9320, 13.vi.2014, leg. B. Zlatkov (NMNH); 3 ♂♂, the same data but 16.vi.2014, leg. J. Junnilainen (RCJJ).

**Methods:** The moths were collected at artificial light: 160 W mercury vapour lamp powered by electric generator and 8 W fluorescent tube with UV emission (365 nm) powered by battery. The genitalia were dissected and illustrated following the procedures by Robinson (1976) and Zlatkov (2011). The systematics follows Zahiri *et al.* (2012).

#### **Abbreviations of private and institutional collections:**

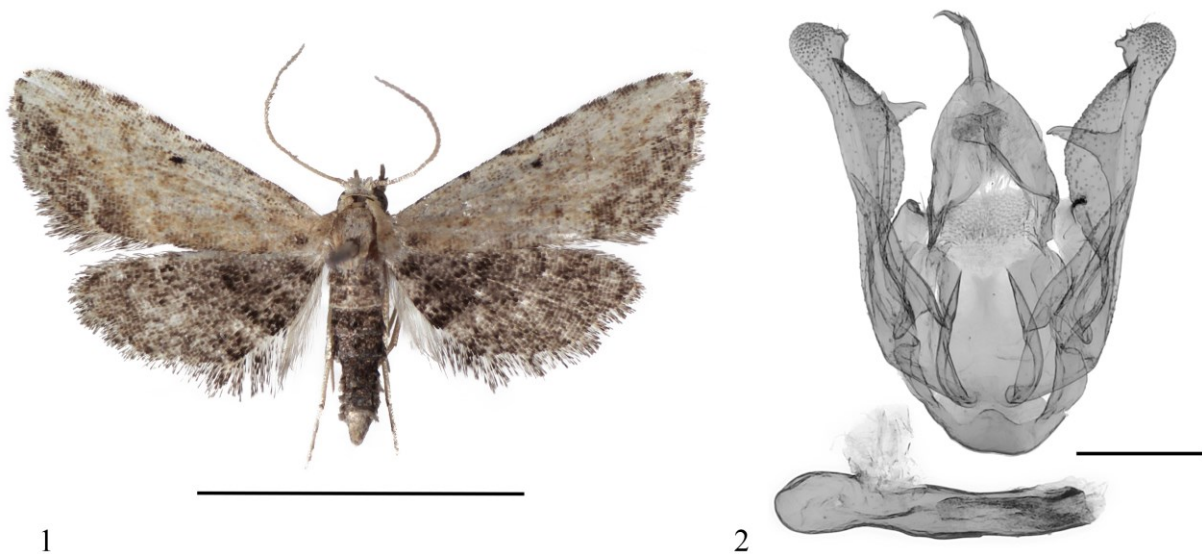
NMNHS      National Museum of Natural History, Sofia, Bulgaria  
ECKU        Collection of Ecology-Centre, Kiel University, Germany  
RCJJ        Research Collection Jari Junnilainen, Vantaa, Finland

## Results and Discussion

Familia Erebidae Leach, [1815]  
 Subfamilia Boletobiinae Grote, 1895  
 Tribus Araeopteronini Fibiger, 2005

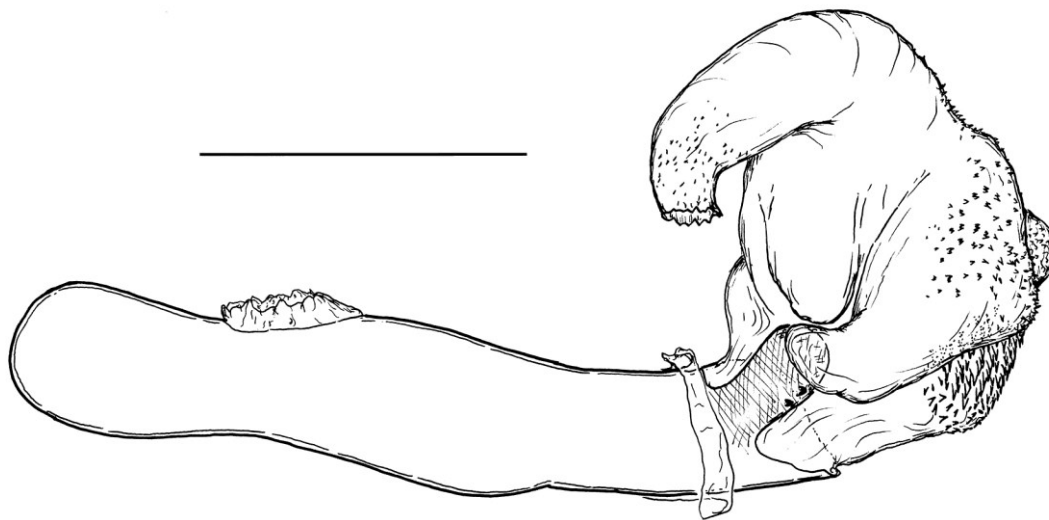
### *Araeopteron ecphaea* (Hampson, 1914)

The genus *Araeopteron* Hampson, 1893 comprises about 40 described (and many undescribed) small moths, which are mainly distributed in the Old World tropics. The records listed above represent a new genus and species for the Bulgarian fauna. Previously, 19 species (in 10 genera) from the family Boletobiinae were known from Bulgaria (Beshkov 2000, Zahiri *et al.* 2012). In Europe, *A. ecphaea* is recorded from Spain (including the Balearic Islands), Italy (including Sicily), Greece (including Crete) (Fibiger & Skule 2013) and France (Corsica) (Fibiger *et al.* 2007). This species has a mainly Afrotropical distribution and is known also from Turkey, Egypt, Morocco, Yemen, Nigeria, Zaire, Malawi, Kenya, Tanzania, and Namibia. The first records from Europe are from 1990 (Fibiger & Agassiz 2001). Its discovery in Bulgaria may confirm the speculation that *A. ecphaea* rapidly expanded its range in the Mediterranean (Fibiger *et al.* 2007). However, this small species might have been simply overlooked by lepidopterists (who often collect mainly Macrolepidoptera), which could be an alternative explanation for why it was not reported previously from Bulgaria despite of its characteristic appearance (Fig. 1: 1).

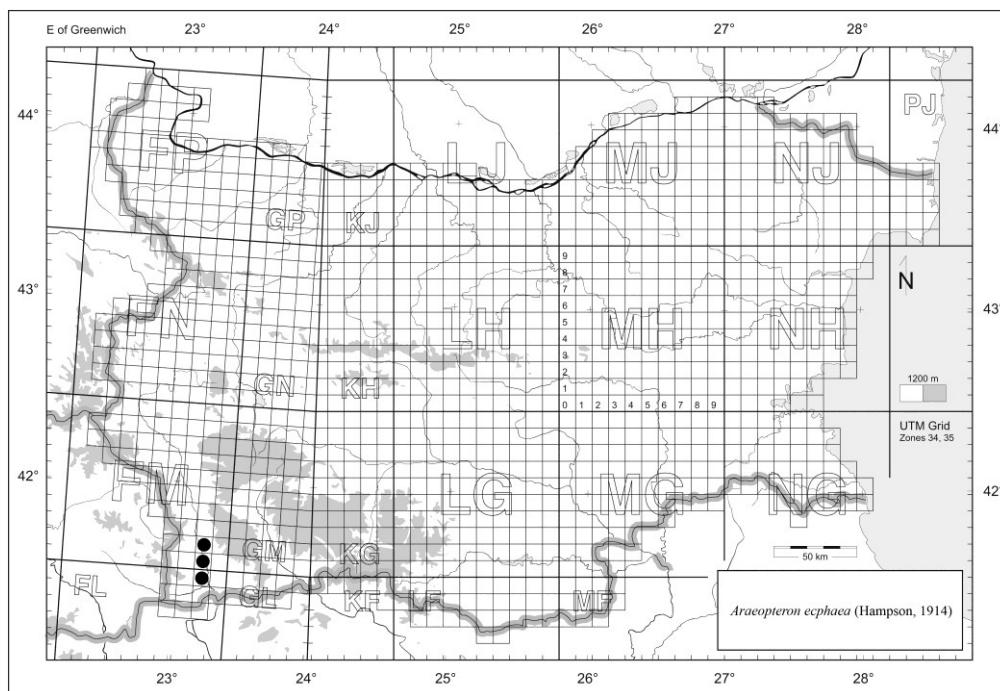


**Fig. 1.** *Araeopteron ecphaea*: 1 - Male, Kamenitsa, 10.viii.2015. Scale bar 5 mm. 2 - Male genitalia with phallus (bottom), the median surface of the valvae is shown. Rupite, 13.vi.2014. Scale bar 250  $\mu$ m.

**Genitalia.** The male genitalia of a Bulgarian specimen are illustrated on (Fig. 1: 2). The structure of the everted vesica was previously unknown (Fig. 2). It is more or less subspherical, with two larger diverticula on the left side and a small one on the right side near the emergence of the dutus ejaculatorius. The posterior surface is densely covered with large acanthae. Small sparse acanthae are present on the left side, where the phallic tube projects on the vesica forming a sclerotised plate with several spines.



**Fig. 2.** Phallus of *A. ecphaea* with vesica everted, left lateral view. Specimen from Fig. 1. Scale bar 250  $\mu$ m.



**Fig. 3.** Distribution of *A. ecphaea* in Bulgaria (black circles), UTM grid 10x10 km.

**Biology.** The early stages and the host-plant are unknown. The moth is apparently associated with wet habitats, including riverbanks (specimens from Rupite) and irrigation canals (specimen from Kamenitsa), which coincides with earlier observations (Fibiger & Agassiz 2001). The Bulgarian specimens were all collected by artificial light. The known distribution of the species in Bulgaria is shown on Fig. 3.

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