



New Records and an Updated Checklist of the Family Lonchaeidae (Diptera) from Bulgaria

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Abstract: An updated checklist of the family Lonchaeidae of Bulgaria is provided. Nine new species are added to the fauna, with one species previously listed requiring confirmation. The fauna now numbers 14 species in five genera.

Key words: Diptera, West Palearctic, faunistics, Europe

Introduction

The Lonchaeidae are a small family of acalyptrate dipterans and form part of the superfamily Tephritoidea. Globally, 611 species are known in ten genera (MACGOWAN 2023). They are present in all zoogeographical realms where they occur in a wide range of habitat types (MACGOWAN 2020). In the Palearctic, there are approximately 140 described species in seven genera.

The Lonchaeidae are moderately small in size, 3–6 mm, stout-bodied and hairy flies with black halteres and, in most genera, with an entirely matt to entirely shiny black body colour. Many species exhibit a varying number of yellow tarsomeres; a few species have silvered faces or a partly orange antennal postpedicel. The wings are usually clear, though occasionally with a yellowish or brownish tinge. The females of all species have a very characteristic long, stiffened aculeus (ovipositor), which, when extended, can be as long as the pre-abdomen.

The aculeus is usually rather slim and pencil-like in appearance but, in some species, it is greatly flattened and broadened to form a blade-like structure.

In their review of the Lonchaeidae of Bulgaria and Montenegro, KEČEV & LANGOUROV (2019) recorded a total of five species in three genera from Bulgaria, with two of these, *Lonchaea peregrina* Becker, 1895 and *Silba fumosa* (Egger, 1864), being recorded for the first time. In the present paper, we add further nine species, including representatives of the genera *Priscoearomyia* Morge, 1963 and *Earomyia* Zetterstedt, 1842, which are recorded for the first time from Bulgaria.

Materials and Methods

The material used in this study originates from the collections of junior authors during the years 2014–2019. The specimens collected by authors of this study were sampled using mass collecting methods (Malaise traps, yellow pan water traps and sweep-

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ing vegetation) and voucher specimens were dried from alcohol. All specimens were identified by the senior author. Adults are micro-pinned and staged, with any dissected genitalia stored in glycerol-filled vials attached to the specimen pin. Voucher specimens are deposited in the collection of the Czech University of Life Sciences, Prague, Czech Republic (CULSP).

Nomenclature has been updated to follow MACGOWAN (2023). This particularly relates to the genus *Priscoearomyia* Morge, which in previous literature has been referred to as *Protearomyia* McAlpine.

The species recorded for the first time in Bulgaria are marked by asterisk (*).

Results

Family Lonchaeidae

Subfamily Dasiopinae

Dasiops Rondani, 1856

Dasiops latifrons (Meigen, 1826)

Recorded by KECHEV & LANGOUROV (2019). Additional records: Pavel Banya env., 42.62N 25.216E, 29.iv–9.v.2018, 3♂. The larvae form a braid-like gall in the stems of grasses in the genera *Cynodon*, *Cyperus* and *Elyrtigia*. Widespread in southern Europe.

**Dasiops mucronatus* Morge, 1959

Rhodopes, 5 km NE of Pamporovo, 41.674N 24.734E, 16–25.vi.2019, 1420 m a.s.l., meadow, 1♀. A species usually associated with meadow or dune systems where the larvae most probably develop in the stems or roots of herbaceous plants.

Subfamily Lonchaeinae

Tribe Earomyiini

Earomyia Zetterstedt, 1842

**Earomyia grusia* Morge, 1959

Rhodopes, 5 km W of Smolyan, 41.569N 24.631E, 25.vi.2016, 1260 m a.s.l., clearing in wood, 2♂. The larvae feed on the seeds of European silver fir (*Abies alba* Mill.).

**Earomyia viridana* (Meigen, 1826)

Pavel Banya env., 42.62N 25.216E, 29.iv–9.v.2018, lowland woodland, 1♂. Larval ecology unknown.

Priscoearomyia Morge, 1963

All members of this genus are associated with grassland or pasture environments where the larvae probably develop in the roots and stems of herbaceous plants.

**Priscoearomyia nigra* (Meigen, 1826)

Rhodopes, Yundola, 42.063N 23.854E, 30.vi.2016, 1300 m a.s.l., pasture, 1♂; Balkan Mt., Shipka Pass, 42.76N 25.31E, 21.vi.2017, 1240 m a.s.l., edge of *Fagetum*, 1♂; Rhodopes, Pamporovo, 42.748N 25.335E, 14–18.vi.2018, 1300–1600 m a.s.l., 1♂.

**Priscoearomyia rameli* (MacGowan, 2014)

Rhodopes, 25 km SSW of Plovdiv, 41.934N 24.679E, 20.vi.2015, 1590 m a.s.l., meadow, 1♂; Pirin, 6 km SE of Bansko, 41.47N 23.29E, 1.vii.2016, 1300–1600 m a.s.l., 1♂; Rhodopes, Pamporovo, 42.748N 25.335E, 14–18.vi.2018, 1300–1600 m a.s.l., 1♂.

**Priscoearomyia withersi* (MacGowan, 2014)

Balkan Mt., 13 km SW of Troyan, 42.787N 24.624E, 15–22.vi.2017, 1350 m a.s.l., woodland and meadow, 1♂.

Tribe Lonchaeini

Lonchaea Fallén, 1820

Lonchaea carpathica Kovalev, 1974

Recorded by KECHEV & LANGOUROV (2019). A species characteristic of central and eastern Europe. The larvae probably develop in tree rot-holes.

**Lonchaea chorea* (Fabricius, 1781)

Rhodopes, Pamporovo env., 41.65N 24.73E, 22–24.vi.2014, 1600 m a.s.l., meadow, 1♂; Pavel Banya env., 42.62N 25.216E, 29.iv–9.v.2018, lowland woodland, 1♂; Rhodopes, Pamporovo, 42.748N 25.335E, 14–18.vi.2018, 1300–1600 m a.s.l., 1♂; Pamporovo env., 41.6N 24.7E, 14–25.vi.2019, 1400–1600 m a.s.l., 1♂.

A very common species. The larvae of which are associated with a wide range of decaying organic material.

**Lonchaea collini* Hackman, 1956

Rhodopes, Pamporovo env., 41.65N 24.73E, 22–24.vi.2014, 1600 m a.s.l., meadow, 1♂. The larvae develop beneath the bark of recently dead conifers.

? *Lonchaea fugax* Becker, 1895

Lonchaea fugax was included in the list by KECHEV & LANGOUROV (2019) on the basis of a record by DOYCHEV et al. (2016). DOYCHEV et al. (2016) reported the puparia of *L. fugax* in *Ips typographus* L. (Coleoptera, Curculionidae) galleries in dead trees of *Picea abies* (L.) H. Karst at 1550 m a.s.l. in the Bistrishko Branishte Biosphere Reserve, Vitosha Mountain. However, species of *Lonchaea* are difficult to identify and a positive determination in most cases depends on the examination of the male terminalia. In this case, the authors based their identification on a single female. Additionally, the majority of species of *Lonchaea* tend to favour either

deciduous trees or coniferous trees with only a few species occurring in both. All authenticated rearing records of *L. fugax* indicate that it is a species whose larvae inhabit a range of deciduous trees, especially poplars (MACGOWAN & ROTHERAY 2008: 112). As a result, although this species is common in Europe, its presence in Bulgaria requires confirmation.

***Lonchaea peregrina* Becker, 1895**

One female specimen recorded by KECHEV & LANGOUROV (2019: 86). A species whose larvae are most frequently associated with the dead wood of Poplar trees.

****Lonchaea sylvatica* Beling, 1873**

Rhodopes, 9 km NE of Dospat, 41.67N 24.26E, 23.vi.2016, 1170 m a.s.l., meadow near wood, 1♂. A common European species whose larvae develop in the dead wood of both coniferous and deciduous trees.

***Silba* Macquart, 1851**

***Silba fumosa* (Egger, 1864)**

3♂ and 7♀ recorded by KECHEV & LANGOUROV (2019: 86). A common species in Southern Europe. The larvae develop in a wide range of organic matter including decaying vegetables, silage, compost and manure as well as in the stem bases of annual plants (MACGOWAN & ROTHERAY 2008).

Discussion

The fauna of the family Lonchaeidae of Bulgaria is poorly documented and the species reported here represent a further stage in cataloguing the fauna. The majority of the species listed are relatively common in the Mediterranean area. None of the countries immediately adjoining Bulgaria has a comprehensive catalogue of the Lonchaeidae, although

MACGOWAN et al. (2020) published an initial list of 11 species recorded in Turkey. The nearest countries with reasonably complete modern checklists are Italy, where 32 species of Lonchaeidae have been recorded (MACGOWAN 2021), and Hungary, where 43 species have been recorded (MACGOWAN 2007). It is anticipated that after further studies the fauna of the family Lonchaeidae of Bulgaria will be found to be of a similar size and to consist of ca. 30 to 40 species.

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