

## NEW DATA ON NEW AND INSUFFICIENTLY KNOWN FOR LITHUANIAN FAUNA SPECIES OF ELACHISTINAE (LEPIDOPTERA: ELACHISTIDAE)

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### Introduction

The subfamily Elachistinae (family Elachistidae) belongs to the megadiverse lepidopteran superfamily Gelechioidea and contains presently 805 described species considered valid (Kaila, 2019). The larvae are obligate leaf miners, most species feed on monocotyledonous grasses and only some on dicotyledonous plants (Parenti & Varalda, 1994; Sruoga & Ivinskis, 2005). The moths are small, often cryptic, with a wingspan usually between 4 and 20 mm. Adults are poorly attracted to light and usually escape the general moth surveys and are poorly represented in museum and private collections. Therefore, the knowledge on species distribution is still insufficient. Since the monograph on Elachistidae of Lithuania (Sruoga & Ivinskis, 2005), only few papers dealing with the distribution of elachistid species in Lithuania have been published (Paulavičiūtė, 2006, 2008a, 2008b; Paulavičiūtė *et al.*, 2017; Paulavičiūtė & Inokaitis, 2018; Ostrauskas *et al.*, 2010a, 2010b; Sruoga & Ivinskis, 2011, 2017).

The purpose of this paper is to provide new distribution data on two new and another eleven Elachistinae species reported from 11 administrative districts in Lithuania.

### Material and Methods

Adult moths were collected by attracting them to mercury-vapour light and swept from low vegetation in the evening before sunset. The specimens were collected by Povilas Ivinskis (P. I.) and Jolanta Rimšaitė (J. R.). Adult specimens were examined externally using a MBS-10 and Euromex Stereo Blue stereomicroscopes. Genitalia were prepared following the standard method described by Robinson (1976) and Traugott-Olsen & Nielsen (1977). The male genital capsule was stained with fuchsin and female genitalia with chlorazol black (Direct Black 38/Azo Black). The genital morphology was examined using Novex B and Leica DM 2500 microscopes. The photographs of adults were taken using a Leica S6D stereomicroscope and Leica DFC290 digital camera. The photographs of genitalia were made using a Leica DM2500 microscope and a Leica DFC420 digital camera.

The material is deposited at the Laboratory of Entomology, Institute of Ecology of Nature Research Centre (Vilnius, Lithuania). Species new for the Lithuanian fauna are marked with an asterisk (\*).

## List of localities

Locality	Administrative district	Coordinates (LAT, LONG)
Antanai	Ignalina district	55.23635, 26.69279
Baltoji Vokė	Šalčininkai district	54.46516, 25.13101
Bariūnai	Joniškis district	56.26516, 23.65422
Bitėnai	Pagėgiai municipality	55.05942, 22.04707
Dukstyna	Ukmergė district	55.27963, 24.84829
Girėnų Miškas f.	Rietavas district	55.64454, 22.02925
Kalniškės	Vilnius district	54.84695, 25.17725
Kukliai	Švenčionys district	55.25846, 25.96190
Merkinė, 1.2 km S	Varėna district	54.14907, 24.16074
Padumbliai	Lazdijai district	54.02526, 23.67451
Perloja	Varėna district	54.20780, 24.37641
Rūdninkų Giria B. P.	Šalčininkai district	54.38547, 25.10742
Šešuva Botanical Reserve	Kaišiadorys district	54.93790, 24.24845
Vilnius, Gvazdikai	Vilnius district	54.75025, 25.37845

## List of species

***Perittia farinella* (Thunberg, 1794)**

Padumbliai, 26 06 2014, 1♂ (P. I. & J. R.).

***Perittia herrichiella* (Herrich-Schäffer, 1855)**

Bariūnai, 03 06 2015, 1♂ (P. I. & J. R.).

***Elachista utonella* Frey, 1856**

Vilnius, Gvazdikai, 07 07 2015, 1♂ (P. I. & J. R.).

***Elachista poae* Stainton, 1855**

Merkinė, 1.2 km S, 11 08 2017, 1♀ (P. I. & J. R.).

***Elachista alpinella* Stainton, 1854**

Bitėnai, 13 08 2015, 1♂ (P. I. & J. R.).

***Elachista luticomella* Zeller, 1839**

Dukstyna, 06 06 2017, 1♂ (P. I. & J. R.).

***Elachista pomerana* Frey, 1870**

Bariūnai, 03 06 2015, 1♂; Girėnų Miškas f., 06 08 2015, 2♂ (P. I. & J. R.).

***Elachista humilis* Zeller, 1850**

Antanai, 23 06 2013, 1♂ (P. I. & J. R.); Šešuva Botanical Reserve, 07 06 2011, 3♂ (P. I.).

***Elachista adscitella* Stainton, 1851**

Kalniškės, 23 06 2012, 1♂ (P. I.); Kukliai, 03 07 2015, 1♂ (P. I. & J. R.).

***Elachista bisulcella* (Duponchel, 1843)**

Bitėnai, 13 08 2015, 2♂; Girėnų Miškas f., 06 08 2015, 1♂ (P. I. & J. R.).

***Elachista distigmatella* Frey, 1859**

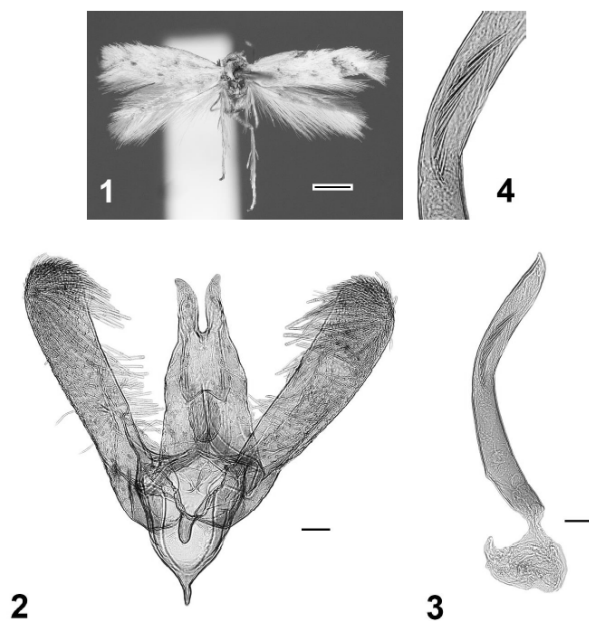
Baltoji Vokė, 26 06 2017, 2♂; Kukliai, 03 07 2015, 3♂; Perloja, 02 08 2014, 1♂ (P. I. & J. R.).

**\**Elachista dispilella* Zeller, 1839**

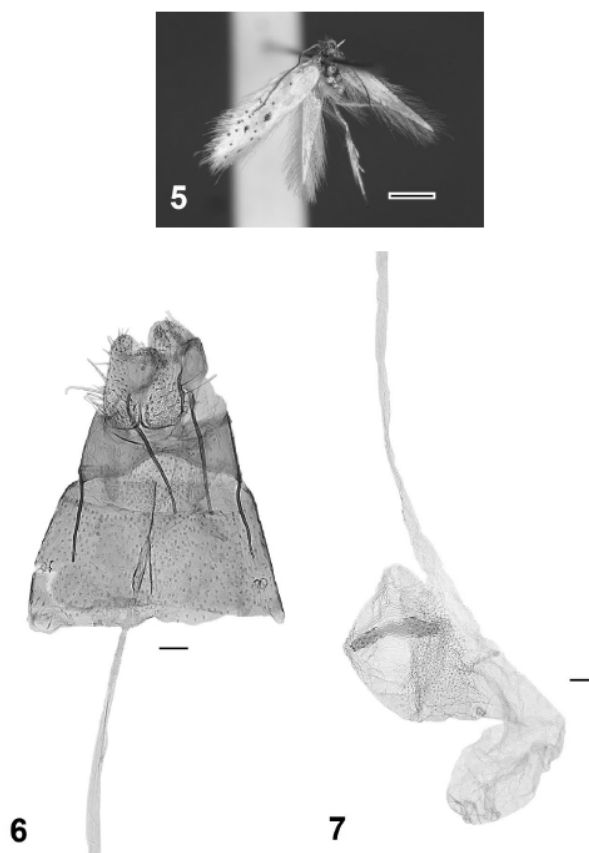
Rūdninkų Giria B. P., 25 06 2016, 1♂ (P. I. & J. R.).

**\**Elachista dispunctella* (Duponchel, 1843)**

Rūdinkų Giria B. P., 19 06 2016, 1♀ (P. I. &amp; J. R.).



Figs 1–4. *Elachista dispunctella*, adult male. 1, moth. Scale bar 1 mm; 2, male genitalia, general view (phallus removed); 3, phallus; 4 – cornuti. Genitalia slide VS478. Scale bar 0.1 mm.



Figs 5–7. *Elachista dispunctella*, adult female. 5, moth (right forewing missing). Scale bar 1 mm; 6, caudal part of female genitalia; 7, ductus and corpus bursae. Genitalia slide VS477. Scale bar 0.1 mm.

**Discussion**

*Perittia farinella* is a rare species in Lithuania, known from the southeastern part of the country. Earlier it was known only from 13 localities in 8 administrative districts (Sruoga & Ivinskis, 2005, 2011). This is the first record of *P. farinella* in Lazdijai administrative district.

*Perittia herrichiella* is a rare species in Lithuania, known mainly from the eastern and western parts of the country. Earlier it was known only from 7 localities in 7 administrative districts (Sruoga & Ivinskis, 2005, 2017; Paulavičiūtė, 2006, 2008a). This is the first record of *P. herrichiella* in Joniškis administrative district.

*Elachista utonella* was known from 20 administrative districts (Sruoga & Ivinskis, 2005, 2011, 2017; Paulavičiūtė, 2008a, b). This is the second record in Vilnius administrative district.

*Elachista poae* was known only from 7 localities in 7 administrative districts (Sruoga & Ivinskis, 2005). This is the first record of *E. poae* in Varėna administrative district.

*Elachista alpinella* was known from 20 administrative districts (Sruoga & Ivinskis, 2005). This is the first record of *E. alpinella* in Pagėgiai municipality.

*Elachista luticomella* was known only from 8 administrative districts (Sruoga & Ivinskis, 2005, 2011). This is the first record of *E. luticomella* in Ukmergė administrative district.

*Elachista pomerana* was known from 16 administrative districts (Sruoga & Ivinskis, 2005, 2011; Paulavičiūtė, 2006, 2008a, b). This is the first record of *E. pomerana* in Joniškis and Rietavas administrative districts.

*Elachista humilis* was known from 18 administrative districts (Sruoga & Ivinskis, 2005, 2011; Paulavičiūtė, 2008a, b). This is the first record of *E. humilis* in Kaišiadorys administrative districts and the second record in Ignalina administrative district.

*Elachista adscitella* previously was known only from 14 administrative districts in Lithuania (Sruoga & Ivinskis, 2005, 2017; Paulavičiūtė, 2008b). This is the first record of *E. adscitella* in Švenčionys administrative district.

*Elachista bisulcella* is a rare species in Lithuania, previously was known only from 5 administrative districts (Sruoga & Ivinskis, 2005; Paulavičiūtė, 2006, 2008b). This is the first record of *E. bisulcella* in Pagėgiai municipality and Rietavas administrative district.

*Elachista distigmatella* is a rare species in Lithuania, previously was known only from 6 administrative districts (Sruoga & Ivinskis, 2005; Paulavičiūtė, 2006 (as *E. dispilella*), 2008a, b). This is the first record of *E. distigmatella* in Švenčionys administrative district and the second record in Šalčininkai and Varėna administrative districts.

*Elachista dispilella* is a new species for the Lithuanian fauna (Figs 1–4). The current concept of this species was recently proposed by L. Kaila (Kaila *et al.*, 2015). According to verified records, this species is distributed in Austria, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Italy, Poland, Russia (European part, Caucasus, Buryatia), Slovakia, Sweden, Switzerland, Turkey and Ukraine (Kaila *et al.*, 2015; Kaila, 2019; Sruoga *et al.*, 2017). The earlier records of *E. dispilella* in Lithuania (Ivinskis, 1993, 2004; Sruoga, 1998; Zagorenko, Sruoga, 2001; Paulavičiūtė, 2006) is based on misidentification of *E. distigmatella*.

*Elachista dispunctella* is a new species for the Lithuanian fauna (Figs 5–7). The current concept of this species was recently proposed by L. Kaila (2015). According to

verified records, this species is distributed in Austria, Croatia, Czech Republic, France, Germany, Greece, Hungary, Ireland, Kazakhstan, Latvia, Poland, Russia (European part, Caucasus), Slovakia, Switzerland, Turkey, U.K. (England, Wales) and Ukraine (Kaila, 2015, 2019; Sruoga *et al.*, 2017).

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### **Nauji duomenys apie naujas ir mažai ištirtas Lietuvos faunos Elachistinae (Lepidoptera, Elachistidae) rūšis**

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#### **Santrauka**

Straipsnyje pateikti nauji paplitimo duomenys apie 13 mažai ištirtų Lietuvos faunos Elachistinae, 2 iš jų – *Elachista dispilella* ir *E. dispunctella* – naujos Lietuvos faunoje. Iš viso registruota 16 naujų radviečių 11-oje Lietuvos rajonų. Kiekvienai rūšiai nurodytos tikslios sugavimo vietos, datos, individų skaičius ir rinkėjas. Pateiktos naujų Lietuvos faunoje rūšių identifikacijai svarbių morfologinių struktūrų iliustracijos.

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