

## SOME DATA ON *SCOPULA VIRGULATA* (DENIS & SCHIFFERMÜLLER 1775) (LEPIDOPTERA, GEOMETRIDAE) IN LITHUANIA

*DALIUS DAPKUS*

Department of Biology and Chemistry, Lithuanian University of Educational Sciences, Studentų 39, LT-08106 Vilnius, Lithuania. E-mail: dalius.dapkus@leu.lt

### Introduction

*Scopula virgulata* (Denis & Schiffermüller 1775) is a Palearctic species widely distributed in Europe, while it is strongly threatened in many parts of central Europe due to the destruction of dry habitats, and in northern Europe due to the drainage of bogs (Hausmann, 2004).

R. Kazlauskas (1984) indicated *S. virgulata* as a rare species in the Baltic States. P. Ivinskis (1993) attributed it as rare indicating only two Lithuanian administrative districts (Jonava and Varėna) where the species was recorded. Later on some new data was collected from Artosios Pelkė bog (Ivinskis *et al.*, 1997), Žuvintas Palios and Notigalė Pelkė bogs, Palių Durpynas peatland, and Pakamšio Pelkė bog (Dapkus, 2003), so 7 administrative districts were mentioned in an annotated catalogue of Lithuanian Lepidoptera (Ivinskis, 2004). Some data was published later as well from Kamanų Pelkė and Kernavo Pelkė bogs and a bog bordering to lake Salaičiai (Švitra *et al.*, 2011, 2013).

Therefore, there are still insufficient studies of this species in Lithuania, so the aim of this article is to provide unpublished data on *Scopula virgulata* in Lithuania.

### Material and Methods

The data was collected during field studies in peat bogs and other habitats of Lithuania by D. Dapkus (D.D.), G. Švitra (G.Š.), V. Bačianskas (V.B.), Ričardas Kazlauskas (R.K.), T. Ūsaitis (T.Ū) and V. Uselis (V.U.) using standard entomological techniques. The majority of the material was collected with light traps, while single individuals were observed during a day time.

The material is preserved in the collections of Lithuanian University of Educational Sciences, Vilnius University, and private collections of G. Švitra, V. Bačianskas, V. Uselis and T. Ūsaitis.

### List of localities

Adučiškis telmological reserve	Ignalina district	55.268416, 26.700027
Alionių Pelkė bog	Širvintos district	55.012222, 25.177944
Artosios Pelkė bog (1)	Tauragė district	55.156944, 22.479333
Artosios Pelkė bog (2)	Tauragė district	55.173250, 22.463722
Aukštumalos Pelkė bog	Šilutė district	55.403666, 21.314055
Baltasamanės Pelkė Bog	Švenčionys district	54.954416, 25.921722
Čepkelių Raistas bog (1)	Varėna district	54.028277, 24.559472
Čepkelių Raistas bog (2)	Varėna district	54.016027, 24.443055
Čepkelių Raistas bog (3)	Varėna district	53.992138, 24.570500
Ginučiai	Ignalina district	55.383583, 25.997861

Gličio Ežeras env.	Tauragė district	55.146861, 22.482250
Kamanos Nat. R.	Akmenė district	56.302222, 22.650166
Kašėtos	Varėna district	54.091750, 24.373694
Lake Salaičiai env.	Švenčionys district	55.243444, 25.864916
Miškinių Ežeras env.	Radviliškis district	55.574250, 23.341861
Plynoji Pelkė bog	Tauragė district	55.323666, 22.150500
Rūgšteliškis	Utena district	55.463194, 26.004750
Svencelės Pelkė bog	Klaipėda district	55.487638, 21.322527
Žindulių Pelkė bog	Širvintos district	54.974361, 25.014638
Žuvintas Nat. R.	Alytus district	54.471083, 23.566166

## Results

Adučiškis telmological reserve, 16 06 2007, 2 spec. (G.Š.); Alionių Pelkė bog, 16 07 1986, 1 spec. (R.K.); Artosios Pelkė bog (1), 13–20 06 1995, 4 spec., 04 07–27 06 1995, 1 spec., 18–25 06 1996, 1 spec., 25 06–02 07 1996, 2 spec., 02–09 07 1996, 4 spec., 16–23 07 1996, 1 spec., 15–21 06 1998, 1 spec., 22–28 06 1998, 3 spec., 29 06–05 07 1998, 1 spec. (V.U.); Artosios Pelkė bog (2), 06 07 1992, 1 spec. (V.U.); Aukštumalos Pelkė bog, 21 06 2005, 1 spec. (D.D.); Baltasamanės Pelkė Bog, 14 06 2013, >10 spec. (T.Ū.); Čepkelių Raistas bog (1), 12–15 07 2006, 1 spec. (D.D.); Čepkelių Raistas bog (2), 26 06 1972, 2 spec. (R.K.); Čepkelių Raistas bog (3), 26 06–02 07 2006, 29 spec. (D.D.), 02–09 07 2006, 11 spec. (D.D.); Ginučiai, 14–25 07 1975, 4 spec. (R.K.); Gličio Ežeras env., 09 07 1994, 1 spec. (G.Š.); Kamanos Nat. R., 15 06 2013, >5 spec. (V.B.); Kašėtos, 25 06 2016, 1 spec. (T.Ū.); lake Salaičiai env., 17 06 2007, 1 spec. (G.Š.); Miškinių Ežeras env., 16 06 2012, 2 spec. (V.B.); Plynoji Pelkė bog, 20 06 2005, 2 spec. (D.D.); Rūgšteliškis, 17–24 07 2000, 2 spec. (G.Š.); Svencelės Pelkė bog, 19 06 1986, 2 spec. (V.U.); Žindulių Pelkė bog, 08 07 1976, 4 spec. (R.K.); Žuvintas Nat. R., 22 06 2005, 1 spec. (D.D.).

## Discussion

The data shows that *Scopula virgulata* is distributed throughout Lithuania (Figure 1) and can be quite abundant in some specific habitats, but in general it is a very local species.

It is already known that some lepidopteran species are found on dry sandy environments in Central Europe while they prefer peatlands in southern Fennoscandia (Mikkola, Spitzer, 1983). *S. virgulata* is considered to be a xerothermophilous species living on dry, sandy steppe habitats in Central Europe, while it is found in dry sites on peat bogs in northern Europe (Hausmann, 2004). It is known from scattered localities in Polish lowlands and submontane regions, inhabits sunny slopes, dry meadows and glades (Buszko, 2000), while it is quite common in peat bogs of Belarus (Sushko *et al.*, 2008) and is considered as tyrphobiotic (strongly associated with bogs) species in southern Finland (Väisänen, 1992).

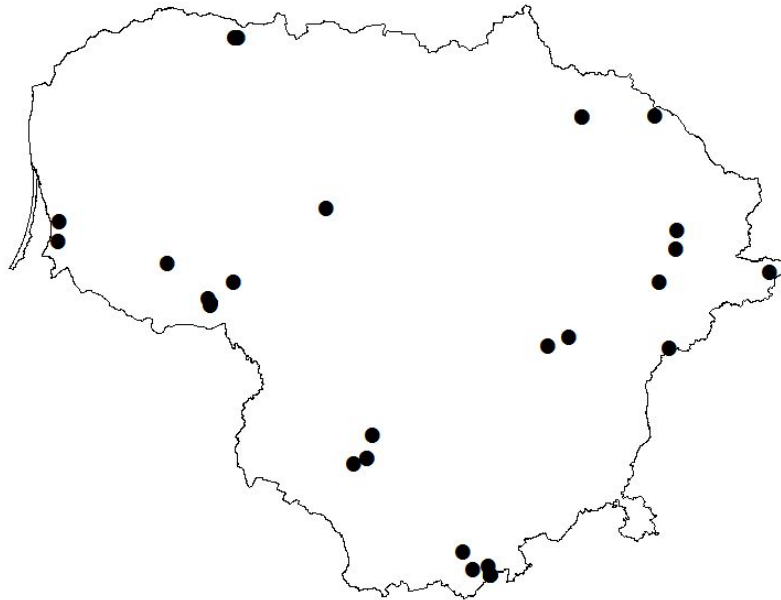


Figure 1. The distribution of *Scopula virgulata* in Lithuania.

According to R. Kazlauskas (1984), *S. virgulata* is more common in dry heathlands of bogs, while it is rarer in openings of pine forests. Only some specimens collected in Žindulių Pelkė, Alionių Pelkė, Svencelės Pelkė, Artosios Pelkė, and Čepkelių Raistas bogs are deposited in the collection of Vilnius University that was supervised by prof. R. Kazlauskas until 2014. Referring to this and additional data, *S. virgulata* was addressed to tyrphophilous species in Lithuania (Dapkus, 2001).

*Scopula virgulata* was recorded from the Artosios Pelkė bog in 1995–1998, but it was not registered in a light trap operating at the edge of the bog at the same trapping time. *S. virgulata* was observed in the Čepkelių Raistas peat bog in 2000–2002 and 2006 (in big numbers), while it was not registered at the edge of the bog in 2007. Only some specimens of *S. virgulata* were captured outside bogs in Lithuania. It was recorded in Ginučiai environs in 1975 (no specimens are preserved) and from Rūgštelėškis environs in 2000, but the nearest peat bog is located at about 3 km from these finding sites (B. Šablevičius, pers. comm.). It was registered in a wet meadow surrounded by pine forest along the Grūda river near Kašėtos in 2016. So the main habitats of *S. virgulata* in Lithuania are open peat bogs with scattered pine trees.

*S. virgulata* is usually bivoltine species flying from mid-May till mid-September with a gap between generations in mid-July or late July (Hausmann, 2004). According to available data, it is found from the end of May till the end of July in Lithuania, with the flying peak at the end of June. Some data was not included in this report if it was not possible to check it, as *S. virgulata* can be easily misidentified with a similar species *Idaea sylvestraria*.

### Acknowledgements

The author is very thankful to the colleagues Giedrius Švitra, Vytautas Uselis, Vitalijus Bačianskas, and Tomas Ūsaitis who have provided data on *Scopula virgulata*, as well as to Bronius Šablevičius who gave some information on habitats of Rūgštelėškis and Ginučiai environs.

## References

- Buszko J. 2000. *Atlas motyli Polski. Część III. Falice, wycinki, miernikowce (Thyatiridae, Drepanidae, Geometridae)*. Warszawa.
- Dapkus D. 2001. Macrolepidoptera of Lithuanian peatbogs. *Norwegian Journal of Entomology* 48: 161–166.
- Dapkus D. 2010. Check-list of butterflies and moths of the Notigalė bog (Northern Lithuania). *New and Rare for Lithuania Insect Species* 22: 91–100.
- Ivinskis P. 1993. *Check-list of Lithuanian Lepidoptera. Lietuvos drugių sąrašas*. Vilnius.
- Ivinskis P., Uselis V., Dapkus D. 1997. Drugiai (Lepidoptera). In: *Lietuvos valstybinių rezervatų flora ir fauna [Flora and fauna of Lithuanian strict nature reserves]*. Vilnius, 103–133.
- Ivinskis P. 2004. *Lepidoptera of Lithuania*. Vilnius.
- Hausmann A. 2004. *The Geometrid Moths of Europe. Sterrhinae Vol. 2*. Apollo Books, Stenstrup.
- Kazlauskas R. 1984. *Lietuvos drugiai [Butterflies and moths of Lithuania]*. Vilnius: Mokslas.
- Mikkola K., Spitzer K. 1983. Lepidoptera associated with peatlands in central and northern Europe: a synthesis. *Nota lepid.* 6 (4): 216–229.
- Sushko G. G., Kulak A. V., Solodovnikov I. A., Piskunov V. I. 2008. Moths (Lepidoptera: Geometridae, Drepanidae, Lassiocampidae, Saturniidae) of peat bogs of the Belarusian Lakeland. *Vestnik VGU* 1 (47): 150–154 (in Russian).
- Švitra G., Bačianskas V., Ūsaitis T., Lukoševičius D. 2011. Four new and 153 rare for the Lithuanian fauna Lepidoptera species recorded in 2011. *New and Rare for Lithuania Insect Species* 23: 67–93.
- Švitra G., Bačianskas V., Ūsaitis T. 2013. 156 rare for the Lithuanian fauna Lepidoptera species recorded in 1995, 2011–2013. *New and Rare for Lithuania Insect Species* 25: 37–62.
- Väisänen R. 1992. Distribution and abundance of diurnal Lepidoptera on a raised bog in southern Finland. *Ann. Zool. Fennici* 29: 75–92.

## Kai kurie duomenys apie *Scopula virgulata* (Denis & Schiffermüller 1775) (Lepidoptera, Geometridae) Lietuvoje

D. DAPKUS

## Santrauka

Straipsnyje pateikiami apibendrinti literatūros šaltiniuose skelbti, autoriaus ir kitų entomologų Lietuvoje surinkti duomenys apie pilkasparnį sprindžiuką (*Scopula virgulata*). Pateiktos radvietės, stebėjimo datos, individų skaičius, stebėtojai, paplitimo žemėlapis, aptartas paplitimas, prielaidumas pelkių buveinėms ir skraidymo laikotarpis Lietuvoje.

Received: October 20, 2016