

ROBBER FLIES OF THE GENERA *LAPHRIA* AND *ASILUS* IN LITHUANIA (DIPTERA: ASILIDAE) – THE INSECT OF THE YEAR 2012: CAMPAIGN REVIEW AND RESULTS

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Introduction

The Lithuanian Entomological Society has announced the robber flies of the genera *Laphria* and *Asilus* as Insect of the Year 2012. The aim of the action was collection of the data on the distribution of these insects in Lithuania.

Asilus crabroniformis Linnaeus, 1758 is protected in several countries. It is included into the Red Data Book of several countries as Vulnerable (VU) - Denmark (Wind & Pihl, 2004), Sweden (Artdatabanken, 2010), as Regionally extinct (RE) - Estonia (Estonian..., 2011), Norway (Kålås *et al.*, 2006) and Finland (Kahanpää, 2010), is assigned to category III in Latvia (Piterāns, 2004) and considered endangered (category 2) in Germany (Wolff, 2011). In addition, the species is declining in Belgium (Tomasovic, 1998) and Holland (Verlinden, 1982). *Laphria gibbosa* (Linnaeus, 1758) is listed in Norwegian Red Data Book as endangered (EN) (Kålås *et al.*, 2006) and *Laphria flava* (Linnaeus, 1761) is listed in the Red Data Book of Denmark as a species of least concern (LC) (Wind & Pihl, 2004).

As there were only several sightings of above mentioned species known in Lithuania (Lešinskas & Pileckis, 1967; Eitminavičiūtė *et al.*, 1981; Podėnas, 1988b, 1988c; Podėnas & Pakalniškis, 1997), this publication adds to our sparse knowledge about the populations of these flies in our country and is a summary of all the available information.

Material and Methods

Insects were observed, or their pictures were taken using digital cameras. Some specimens were collected using an entomological net. Entomological collections of the Museum of Zoology of Vilnius University (MZVU), Lithuanian University of Educational Sciences (LEU) and Nature Research Centre (NRC) were also checked for robber flies.

During the period of 2007–2012 flies were observed or collected by V. Bačianskas (V.B.), Gūžytė (G), V.Klausa, A.Knystautas (V.K.A.K.). At least several specimens of museum insect material were collected by D.Dapkus (D.D.), H.Ostrauskas (H.O.), M.Ostreykova (M.O.), P. Ivinskis (P.I) while names of all other collectors are fully indicated in the text.

List of localities

Elektrėnai district	Varliškės	54°46'29,7"N, 24°51'54,5"E;
Ignalina district	Ginučiai	55°23'08,2"N, 25°59'38,3"E;
	Juodupė bog	55°24'37,1"N, 26°03'28,6"E;
Kaišiadorys district	Darsūniškis env., Naginukų	54°43'22,8"N, 24°10'51,0"E;
	Miškas f.	
	Žašliai env.	54°52'29,6"N, 24°35'21,5"E;
Kazlų Rūda district	Runkių Miškas f.	54°48'41,9"N, 23°31'01,8"E;
Kelmė district	Kražiai	55°36'48,5"N, 22°41'18,0"E;
Klaipėda municipality	Smiltynė	55°42'02,6"N, 21°06'56,7"E;
Mažeikiai district	Kegrių Miškas f.	56°12'42,3"N, 22°32'01,7"E;
Neringa district	Juodkrantė	55°32'40,5"N, 21°07'16,9"E;
Panevėžys district	Stumbriškis env.	55°51'46,9"N, 24°33'20,6"E;
Pasvalys district	Žadeikoniai	56°11'23,02"N, 24°22'31,7"E;
Raseiniai district	Sargeliai env.	55°28'56,9"N, 23°27'13,5"E;
Šalčininkai district	Rūdininkai Giria f.	54°21'35,1"N, 25°04'39,9"E;
Šiauliai district	Mikaičiai env.	56°13'20,5"N, 23°07'1,8"E;
	Paežeriai	55°57'15,9"N, 22°48'11,7"E;
Širvintos district	Žinduliai bog	54°59'04,8"N, 25°00'30,7"E;
Švenčionys district	Burbliškė	54°57'05"N, 25°43'06"E;
	Jedlinavas	54°57'59"N, 25°41'23"E;
	Pakretuonė	55°16'55,7"N, 26°05'02,5"E;
	Švenčionėliai	55°10'37,5"N, 25°59'49,3"E;
Tauragė district	Eičių Miškas f.	55°10'06,5"N, 22°30'33,4"E;
	Glitis Lake env.	55°08'46,4"N, 22°28'25,3"E;
	Tauragės Miškas f.	55°17'50,5"N, 22°18'04,5"E;
Telšiai district	Užgiriai env.	55°57'41,9"N, 22°10'31,7"E;
Trakai district	Tamašiava	54°35'48,2"N, 24°34'46,7"E;
Varėna district	Marcinkonys env.	54°03'39,8"N, 24°23'37,5"E;
	Puvočiai env.	54°06'58,6"N, 24°18'11,3"E;
	Skroblus river bank	54°03'37,1"N, 24°17'56,8"E;
	Spengla	54°21'31,7"N, 24°46'07,9"E;
	Trikampis lake env.	54°05'01,3"N, 24°20'07,8"E;
Vilnius city	Baltupiai	54°43'09,9"N, 25°17'06,8"E;
	Karoliniškės	54°41'31,4"N, 25°12'35,4"E;
	Pūčkoriai env.	54°41'17,0"N, 25°21'26,8"E;
	Paneriai env.	54°37'49,1"N, 25°10'14,8"E;
	Verkiai	54°45'16,1"N, 25°18'02,5"E;
	Vilnius	54°41'N, 25°16'E;
	Vingis park [Zakret]	54°41'16,7"N, 25°14'16,9"E;
	Žalieji ežerai lakes	54°47'32,7"N, 25°19'12,8"E;
Vilnius district	Mostiškės env.	54°46'25,5"N, 25°38'54,9"E;
	Elniakampis env.	54°47'22,9"N, 24°58'18,2"E;

List of species***Laphria gibbosa* (Linnaeus, 1758)**

Vilnius env., 1840-1850, 1♂1♀ (S.Gorski); Burbliškė, 15 07 1923, 1♀; 25 07 1926, 1♂ (M.O.); Pūčkoriai env., 04 07 1923, 1♀; Paneriai env., 10 07 1923, 1♀; Elniakampis env., 19 07 1931, 1spec.; 24 07 1932, 1♀ (all leg. unknown); Ginučiai, 18 07 1975, 1spec. (R.Balaševičiūtė); 20 07 1975, 1spec. (V.K.A.K.); Puvočiai, 14 07 1977, 1♀; 15 07 1979, 1♂ (leg. unknown); 02 07 1984, 1♀ (Mitkaitė); 27 06 1987, 1♂ (leg. unknown); 29 06 1987, 1♀ (Šeduikis); 03 07 1987, 1♀; 20 07 1987, 1♀ (leg. unknown); 21 07 1993, 1♀ (M.Muraška); 25 07 1993, 1♂ (G.); 03 07 1995, 1♀ (D.Kuodys); Trikampis lake env., 30 06 1987, 1♀ (leg. unknown. all MZVU); Juodupė bog, 15 08 1991, 1spec. (H.O., NRC); Žašliai env., 27 08 1993, 1spec. (Žilinskaitė, MZVU); Varliškės, 20 07 1994, 1spec. (H.O., NRC); Glitis lake env., 29 07 1994, 1spec. (D.D., NRC); Rūdininkai Giria f., 14 07 1996, 1♀ (R.Kazlauskas, MZVU); Pakretuonė, 29 08 1997, 1spec. (H.O., NRC); Paežeriai, 16 07 1998, 1spec. (P.I., NRC); Eičių Miškas f., 25 07 1998, 1♀ (R.Gasparavičiūtė, MZVU); Žinduliai bog, 10 07 2001, 1♀ (D.D., LEU); Tauragės Miškas f., 23 07 2008, 1spec. (V.B.); 30 07 2009, 1♂ (photo V.Uselis); 09 08 2011, 1♂ (G.Kijauskaitė); Mikaičiai env., 25 08 2011, 1spec. (R.Ginkus); Baltupiai, 05 07 2012, 1♂ (photo D.Jankevičius); Runkių Miškas f., 26 07 2012, 1spec. (V.B.); Stumbriškis env., 04 08 2012, 1spec. (D.Uogintas)

***Laphria flava* (Linnaeus, 1761)**

Vilnius, 22 06 1918, 1♀ (B.Howaldt); Karoliniškės, 22 06 1922, 1♀; Vingis park, 21 06 1924, 1♀; Žalieji ežerai lakes, 22 06 1924, 1♂; Verkiai, 02 06 1926, 1♀; Burbliškė, 25 07 1926, 1♂; Jedlinavas, 09 07 1927, 1♀ (all M.O.); Ginučiai, 19 07 1975, 1♀ (V.K.A.K.); Puvočiai, 22 07 1979, 1♀ (leg. unknown); Juodkrantė, 20 08 1984, 1♂ (Zabukaitė); 23 06 1985, 1♂ (D.Duoba); 30 06 1987, 1♂ (Kvečaitė); 30 06 1987, 1♀ (Laukaitis); 02 07 1987, 1♂ (D.Svirskis); 02 07 1987, 1♂ (I.Adamavičiūtė); Skroblus river bank, 02 07 1987, 1♂ (Šeduikis); 04 07 1987, 1♂ (leg. unknown); 05 07 1987, 1♂ (Kuodytė); 01 07 1993, 1♀ (L.Vaičiulytė); 25 07 1993, 1♀ (G.); 27 06 1995, 1♀ (E.Šireika); 29 06 1995, 1♀ (R.Gegelevičius); 30 06 1995, 1♂ (A.Riauba); 30 06 1995, 1♂ (M.Ryla); 02 07 1995, 1♀ (A.Subačius); 02 07 1995, 1♀ (V.Brūzga); 04 07 1995, 1♂ (A.Baravičiūtė) (all MZVU); Spengla, 22 08 1991, 1spec. (H.O.); Rūdininkai Giria f., 10 06 1997, 1spec. (S.Pakalniškis); Tamašiava, 30 06 1997, 1spec. (P.I.) (all NRC); Žadeikoniai, 19 07 2007, 1♂ (photo V.Grigonis); Kražiai, 31 05 2009, 1♀ (photo L.Mockus); Smiltynė, 21 07 2010, 1♀ (photo R.Gražulevičienė); Marcinkonys env., 29 06 2011, 1spec. (R.Bernotienė); Mostiškės env., 24 06 2012, 1♂ (T.Ūsaitis); Darsūniškis env., Naginukų Miškas f. 06 06 2012, 1spec. (V.B.); Kegrių Miškas f., 28 07 2012, 1spec. (R.Kinduris).

***Asilus crabroniformis* Linnaeus, 1758**

Pūčkoriai, 23 07 1922, 1spec. (leg. unknown); Burbliškė, 07 07 1926, 1spec; 07 08 1926, 1 spec.; Jedlinavas 19 07 1929, 1♂; (M.O.); Elniakampis env., 21 07 1931, 1♂; Užgiriai env., 12 08 1993, 1♀ (leg. unknown.) (all MZVU); Tamašiava, 13 07 2000, 1♂ (D.Džejytė, LEU); Švenčionėliai, 01 08 2010, 1♀ (photo V.Sipavičius); Sargeliai env., 16 08 2012, 1♂ (photo B.Gliwa).

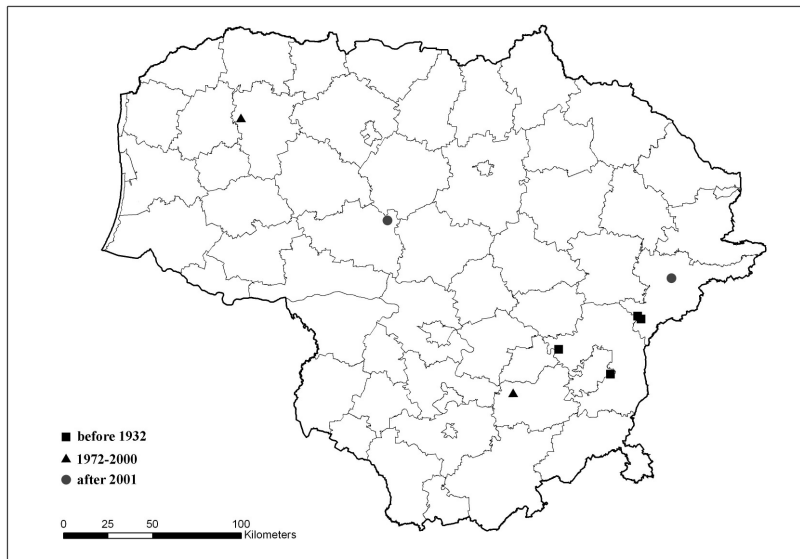


Fig. 1. Distribution map of *Asilus crabroniformis*

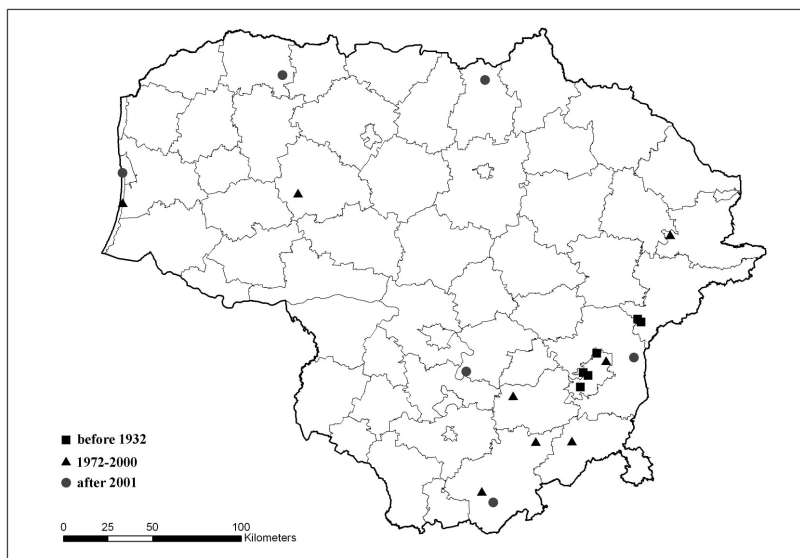


Fig. 2. Distribution map of *Laphria flava*

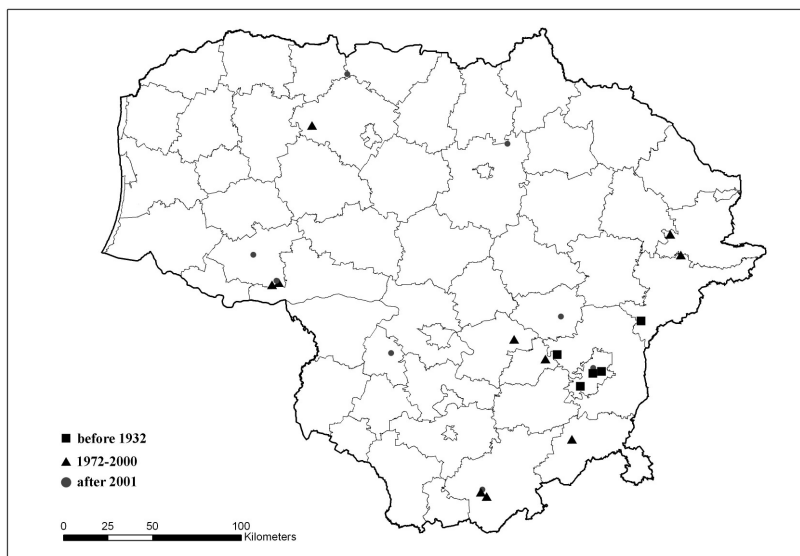


Fig. 3. Distribution map of *Laphria gibbosa*

Discussion

Laphria flava was first noted by Podėnas (1988b) from different parts of the country – Puvočiai, Druskininkai and Vilnius district Žemoji Veržuva env. and mentioned by the same author (Podėnas, 1988c) as rarely found in pine forests of Skroblus preserve, Southern Lithuania. This species was also earlier found in Čepkeliai Strict Nature Reserve (Podėnas & Pakalniškis, 1997). Due to the concentration of researchers around the capital, most of the known localities of this species were in the Eastern and South-Eastern part. However, latest records (Fig. 2) from Northern and Western parts prove that *Laphria flava* is distributed all along the country.

Laphria gibbosa was first mentioned by Podėnas (1988b) from Puvočiai and Perloja (Southern Lithuania), Biržai (Northern Lithuania) and Palanga (Western Lithuania) and noted as common but not abundant in pine forests and rare in mixed forests (Podėnas, 1988c) of Skroblus preserve, Southern Lithuania (Fig. 3). This species was also found in Čepkeliai Strict Nature Reserve and Viešvilė Strict Nature Reserve (Podėnas & Pakalniškis, 1997). Latest records of this species are available from Northern and western parts of the country (Fig. 3), so there is no sufficient data to judge about the rarity of *Laphria gibbosa* in Lithuania or worsening status of it's populations.

The larvae of *Asilus crabroniformis* are associated with surface-dry dung, with only cattle and rabbit dung being chosen (Pinchen *et al.* 1998). They take approximately 2 years to develop and are thought to feed on dung-beetle larvae and other dung and soil borne invertebrates. As the number of people involved in traditional agricultural activities is diminishing in Lithuania, especially in less productive soils of Eastern and Southern parts of the country, the availability of cattle dung is also diminishing, thus putting in danger all species that are dependent on it and *Asilus crabroniformis* is one of those species.

Lešinskas & Pileckis (1967) mentioned *Asilus crabroniformis* as present in Lithuania, although no locality was given, so the sole data on this species was from Aukštaitija NP (Eitminavičiūtė *et al.*, 1981). Museum holdings show that this species was collected in Vilnius region during the first part of the XX century, but later was also caught or seen in the Western (Užgiriai env), Eastern (Švenčionėliai) and Central part (Sargeliai env.) of the country (Fig. 1). Latest sightings of 2010 and 2012 suggest there are still several viable populations, but more thorough studies are needed to determine the actual situation of the species that should be one of the candidates for the Red Data Book.

Acknowledgements

Authors are grateful to all the people who have sent their sightings of those amazing flies.

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Akcijos „Metų vabzdys 2012 - *Laphria* ir *Asilus* genčių plėšriamūsės (Diptera: Asilidae)“ apžvalga ir rezultatai

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Santrauka

Straipsnyje pateikiami Lietuvos entomologų draugijos vykdytos akcijos „Metų vabzdys 2012 - *Laphria* ir *Asilus* genčių plėšriamūsės (Diptera: Asilidae)“ rezultatai. Apžvelgiami duomenys apie akcijos metu aptiktas kamaniškąją (*Laphria flava*) ir kuprotąją (*Laphria gibbosa*) plėšriamuses bei vapsviškąją musę plėšrūnę (*Asilus crabroniformis*), jų paplitimą Lietuvoje kartu apimant ir šalies muziejuose saugomus vabzdžius.

Received: 05 November, 2012