

## NEW DATA ON RARE AND INSUFFICIENTLY KNOWN SPECIES OF GROUND BEETLES (COLEOPTERA: CARABIDAE: NEBRIINAE, CARABINAE, OMOPHRONINAE, ELAPHRININAE, SCARITINAE, BROSCINAE) IN LITHUANIA

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### Introduction

The ground beetles (Carabidae) is comparatively well studied beetle's family in Lithuania. In most cases they were studied as bioindicators to determine the influence of some ecological factors to both agricultural (Tamutis, 2000; Tamutis *et al.*, 2004, 2007) and forest (Žiogas & Vaičiškuskas, 2007a, 2007b; Dapkus & Tamutis, 2008; Lynikienė, 2006) ecosystems. Some studies were devoted to the investigation of species composition and distribution in some important areas (Sharova & Grüntal, 1973, Dvilevičius *et al.*, 1988) or deal with exclusively faunistics and ecology (Ogijewicz, 1933; Pileckis & Monsevičius, 1995; Tamutis & Barševskis, 2014). Lots of single faunistic records are scattered in numerous publications and communications (Tamutis *et al.*, 2011). Despite the attention of entomologists to this beetles' family in Lithuania the knowledge on distribution of some species is still insufficient.

In current paper we present the new information on some rare or insufficiently known species of Nebriinae, Carabinae, Omophroninae, Elaphrininae, Scaritinae, Broscinae subfamilies.

### Material and methods

The data is based on the material collected by the authors Vytautas Tamutis (V.T.), Brigita Tamutė (B.T.), Romas Ferenca (R.F.) and other collectors: Kęstutis Arbačiauskas (K.A.), Teisutis Ašmenavičius (T.A.); Dalius Dapkus (D.D.), Elena Gaidienė (E.G.), Artūras Gedminas (A.G.), Povilas Ivinskis (P.I.), Saulius Karalius (S.K.), A. Kaulinis (A.K.), L. Kontenyte (L.K.), Aleksandras Meržijevskis (A.M.), Vidmantas Monsevičius (Vidm.M.), Virginijus Monsevičius (Virg.M.), Povilas Mulerčikas (P.M.), Norbertas Noreika (N.N.); Henrikas Ostrauskas (H.O.), Rimantas Pankevičius (R.P.), Simonas Pileckis (S.P.), Algimantas Ragelis (A.R.), Gintautas Steiblys (G.S.), Gintaras Slavinskas (G.Sl.), K. Tešerskis (K.T.), Vytautas Uselis (V.U.). All available published and unpublished data of findings was used to present the pattern of seasonal distribution of collected specimens in Lithuania. The main mass of material was collected using pitfall traps, other specimens mostly of such species as: *Notiophilus germinyi*, *Omophron limbatum*, *Blethisa multipunctatum*, *Elaphrus aureus*, *Clivina collaris* and *Miscodera arctica*, were collected surveyng specific habitats. For identification of species we used the keys suggested by K. Hürka (1996) and G. Müller-Motzfeld (2004). The

nomenclature follows Carabidae of the World database (Anichtchenko, 2007–2015) and Catalogue of Palearctic Coleoptera (Löbl & Smetana, 2003). The material is deposited in the collection of Kaunas Tadas Ivanauskas Zoological museum.

### List of localities

Localities	<sup>a</sup> Districts	Coordinates (WGS)
Akademija env.	Kaunas	54°54'16"N; 23°49'28"E;
Antalgė	Utena	55°30'08"N; 25°28'11"E;
Ariogala env.	Raseiniai	55°15'17"N; 23°28'44"E;
Aukštosios Miškas f.	Šakiai	54°59'05"N; 22°49'56"E;
Aukštumala bog	Šilutė	55°23'50"N; 21°20'43"E;
Ažuolų Būdos Miškas f.	Kazlų Rūda	54°43'13"N; 23°31'31"E;
Baluoša peat bog	Švenčionys	54°54'19"N; 25°51'09"E;
Birštonas env.	Birštonas	54°36'39"N; 24°01'58"E;
Braziūkai env. <sup>1</sup>	Kaunas	54°54'09"N; 23°29'00"E;
Braziūkai env. <sup>2</sup>	Kaunas	54°54'06"N; 23°29'01"E;
Braziūkai env. <sup>3</sup>	Kaunas	54°54'16"N; 23°28'47"E;
Bubių Miškas f.	Šiauliai	55°50'54"N; 23°08'36"E;
Čepkeliai Nat. R. <sup>1</sup>	Varėna	54°01'38"N; 24°28'04"E;
Čepkeliai Nat. R. <sup>2</sup>	Varėna	54°00'50"N; 24°35'04"E;
Čižiškės env.	Vilnius	54°56'28"N; 25°37'26"E;
Čižiūnai env.	Trakai	54°36'11"N; 24°34'00"E;
Dauškiai env.	Joniškis	56°21'08"N; 23°20'26"E;
Dituva env.	Klaipėda	54°33'33"N; 21°15'18"E;
Druskininkai env.	Druskininkai	54°02'09"N; 23°58'55"E;
Dubravos Miškas f. <sup>1</sup>	Kaunas	54°50'10"N; 24°09'08"E;
Dubravos Miškas f. <sup>2</sup>	Kaunas	54°49'32"N; 24°04'03"E;
Dubravos Miškas f. <sup>3</sup>	Kaunas	54°50'45"N; 24°04'02"E;
Dubravos Miškas f. <sup>4</sup>	Kaunas	54°50'02"N; 24°01'18"E;
Dūkštų ažuolynas f.	Vilnius	54°49'59"N; 24°57'12"E;
Dumaičiai env.	Mažeikiai	56°12'25"N; 22°04'10"E;
Dzidai env.	Šiauliai	55°49'52"N; 23°09'45"E;
Eržvilkas env.	Jurbarkas	55°15'33"N; 22°41'36"E;
Ežerėlis env. <sup>1</sup>	Kaunas	54°53'11"N; 23°35'20"E;
Ežerėlis peat bog	Kaunas	54°51'43"N; 23°40'43"E;
Gimbetišké env.	Akmenė	56°08'43"N; 22°33'18"E;
Girionys env.	Kaunas	54°51'51"N; 24°03'16"E;
Girininkai env.	Kaunas	54°50'31"N; 23°33'18"E;
Glitis bog	Tauragė	55°08'49"N; 22°28'44"E;
Glitiškės env.	Vilnius	54°59'01"N; 25°13'26"E;
Grybaulia env.	Varėna	53°59'51"N; 24°21'14"E;
Gyvoliai env.	Mažeikiai	56°12'59"N; 22°33'14"E;
Janaslavas env.	Lazdijai	54°09'50"N; 23°28'36"E;
Jiesia landscape rezerve	Kaunas	54°51'11"N; 23°56'16"E;
Joniškis env.	Joniškis	56°14'25"N; 23°36'39"E;
Josvainiai env.	Kėdainiai	55°14'33"N; 23°49'54"E;

Juknaičiai env.	Šilutė	55°18'08"N; 21°40'54"E;
Juodeikiai env.	Joniškis	56°14'21"N; 23°13'07"E;
Juodkrantė env.	Neringa	55°32'46"N; 21°06'06"E;
Juškinės Miškas f.	Šakiai	55°01'14"N; 23°26'53"E;
Kajackaraistis env. <sup>1</sup>	Kazkų Rūda	54°47'56"N; 23°37'22"E;
Kajackaraistis env. <sup>2</sup>	Kazkų Rūda	54°48'10"N; 23°37'24"E;
Kalnelis env.	Joniškis	56°14'31"N; 23°33'23"E;
Kalviai env.	Jurbarkas	55°04'21"N; 23°21'21"E;
Kamanos Nat. R.	Akmenė	56°16'15"N; 22°37'09"E;
Kamšos Miškas f.	Kaunas	54°53'37"N; 23°50'26"E;
Karmazinai env.	Vilnius	54°49'02"N; 24°56'09"E;
Katra env.	Varėna	53°59'27"N; 24°35'30"E;
Kaunas <sup>1</sup>	Kaunas	54°52'31"N; 23°57'15"E;
Kaunas <sup>2</sup>	Kaunas	54°54'03"N; 23°55'10"E;
Kazlų Rūda env.	Kazlų Rūda	54°44'26"N; 23°28'58"E;
Kepalių Miškas f.	Joniškis	56°13'55"N; 23°39'38"E;
Kiminiškė env.	Mažeikiai	56°17'43"N; 22°11'47"E;
Krivasalis env.	Ignalina	55°18'53"N; 25°53'46"E;
Kruonis env.	Kaišiadorys	54°44'53"N; 24°14'28"E;
Kuodiškiai env.	Rokiškis	56°05'14"N; 25°17'05"E;
Lapnugaris landscape R.	Neringa	55°34'38"N; 21°07'47"E;
Linkaičiai env.	Joniškis	56°11'38"N; 23°28'29"E;
Lyduvėnai env.	Raseiniai	55°30'01"N; 23°05'26"E;
Margininkai	Kaunas	54°47'35"N; 24°02'54"E;
Maželių Miškas f.	Joniškis	56°17'26"N; 23°35'33"E;
Meištinės Miškas f.	Kaunas	54°53'18"N; 23°35'09"E;
Merkinė	Varėna	54°10'03"N; 24°12'35"E;
Mickiškė env.	Tauragė	55°17'40"N; 22°31'58"E;
Miknaičiai env.	Šakiai	54°44'23"N; 23°09'02"E;
Nagliai Nat. R.	Neringa	55°29'08"N; 21°06'01"E;
Naujasis Daugėliškis env.	Ignalina	54°36'11"N; 24°34'00"E;
Nemajūnų Miškas f.	Birštonas	54°45'26"N; 25°26'13"E;
Nemunėlio Radviliškis env.	Biržai	56°23'20"N; 24°45'56"E;
Nida env.	Neringa	55°18'21"N; 21°00'28"E;
Noreikiškės env.	Kaunas	54°53'12"N; 23°50'13"E;
Novaraistis peat bog	Kaunas	54°56'34"N; 23°24'58"E;
Pabariukai env.	Kelmė	55°37'18"N; 23°04'25"E;
Pabradė env.	Švenčionys	54°59'54"N; 25°45'25"E;
Padumblys env.	Ignalina	55°17'49"N; 26°02'28"E;
Paežerių Miškas f.	Šiauliai	55°57'35"N; 22°49'05"E;
Pakalniškiai env.	Akmenė	56°16'56"N; 22°58'05"E;
Paketuriai env.	Kupiškis	55°50'57"N; 24°58'06"E;
Palanga airport env.	Palanga	55°59'22"N; 21°05'49"E;
Paliepės Miškas f.	Varėna	54°06'43"N; 24°18'57"E;
Paminėlė env.	Švenčionys	55°14'45"N; 25°44'57"E;
Panemunės Šilas f.	Kaunas	54°52'51"N; 23°58'50"E;
Paryžinės Miškas f.	Kaunas	54°57'38"N; 23°26'51"E;

Pašilių Miškas f.	Kėdainiai	55°14'12"N; 23°57'26"E;
Pažaislis env.	Kaunas	54°52'27"N; 24°01'15"E;
Perloja env.	Varėna	54°14'22"N; 24°25'01"E;
Pervalka env.	Neringa	55°25'02"N; 21°06'49"E;
Plikiai env.	Klaipėda	55°46'25"N; 21°14'19"E;
Plokštinė	Plungė	56°01'01"N; 21°51'23"E;
Pogarenda env.	Varėna	53°56'09"N; 24°28'33"E;
Punios Šilas f.	Alytus	54°30'55"N; 24°02'59"E;
Puvočiai env.	Varėna	54°06'53"N; 24°18'03"E;
Raguviškiai env.	Kretinga	55°51'37"N; 21°23'21"E;
Ramoniškė env.	Mažeikiai	56°11'05"N; 22°36'09"E;
Ramuldava env.	Anykščiai	55°35'21"N; 25°12'07"E;
Randamonys env.	Varėna	54°03'19"N; 24°13'01"E;
Ratnyčia env.	Druskininkai	53°59'43"N; 24°02'07"E;
Ratnyčios Miškas f.	Druskininkai	53°59'21"N; 24°01'06"E;
Reibiniškių Miškas f.	Joniškis	56°15'46"N; 23°20'06"E;
Reiskiai env.	Plungė	55°51'35"N; 21°35'22"E;
Renavas env.	Mažeikiai	56°13'43"N; 22°03'46"E;
Ringovė Entomological R.	Kaunas	55°03'03"N; 23°31'08"E;
Romainiai park	Kaunas	54°55'30"N; 23°49'30"E;
Rubuliai env.	Kretinga	55°53'52"N; 21°25'10"E;
Saldutiškis env.	Utena	55°21'07"N; 25°49'07"E;
Satkūnų Miškas f.	Joniškis	56°16'59"N; 23°39'16"E;
Šeimyniškiai	Anykščiai	55°30'37"N; 25°04'17"E;
Senasis Daugėliškis env.	Ignalina	55°20'40"N; 26°16'34"E;
Sėlų Miškas f.	Šalčininkai	54°22'15"N; 25°16'34"E;
Šilėnai env.	Vilnius	54°45'26"N; 25°26'13"E;
Simokai env.	Šakiai	54°44'21"N; 23°09'07"E;
Siponys	Birštonas	54°31'24"N; 23°59'51"E;
Šiauduva env.	Šilalė	55°34'34"N; 22°13'51"E;
Šimonių Giria f.	Anykščiai	55°41'26"N; 25°10'17"E;
Škėvonys env.	Birštonas	54°36'16"N; 24°00'11"E;
Skriaudžių Miškas f.	Prienai	54°45'11"N; 23°37'39"E;
Slydžiai env.	Šiauliai	55°49'55"N; 23°09'27"E;
Smalininkai env.	Jurbarkas	55°04'17"N; 22°36'07"E;
Smiltynė env. <sup>1</sup>	Klaipėda	55°42'54"N; 21°06'03"E;
Smiltynė env. <sup>2</sup>	Klaipėda	55°40'46"N; 21°06'34"E;
Tabariškiai env.	Kaunas	54°52'18"N; 23°46'58"E;
Tartokių Miškas f.	Vilnius	54°49'41"N; 25°21'15"E;
Tervydoniai env.	Šakiai	55°01'38"N; 23°26'36"E;
Trakai env.	Trakai	54°38'42"N; 24°54'59"E;
Traklaukas env.	Tauragė	55°16'22"N; 22°32'27"E;
Užgiriai env.	Marijampolė	54°27'22"N; 23°21'27"E;
Užuožerės Miškas f.	Varėna	54°01'31"N; 24°25'38"E;
Vaišniūnai env.	Ignalina	55°23'23"N; 26°06'05"E;
Varėna env.	Varėna	54°13'20"N; 24°32'18"E;
Varlaukis env.	Jurbarkas	55°19'10"N; 22°40'23"E;

Varliškės env.	Elektrėnai	54°46'37"N; 24°52'28"E;
Varniai env	Telšiai	55°44'28"N; 22°21'53"E;
Varnikai env.	Trakai	54°39'10"N; 24°58'46"E;
Ventės Ragas env.	Šilutė	55°20'36"N; 21°11'47"E;
Verkiai env.	Vilnius	54°46'00"N; 25°18'07"E;
Vidzgiris Botanical R.	Alytus	54°22'46"N; 24°01'57"E;
Viešvilė Nat. R. <sup>1</sup>	Tauragė	55°10'35"N; 22°28'18"E;
Viešvilė Nat. R. <sup>2</sup>	Jurbarkas	55°07'11"N; 22°24'53"E;
Viešvilė Nat. R. <sup>3</sup>	Jurbarkas	55°08'22"N; 22°27'11"E;
Viešvilė Nat. R. <sup>4</sup>	Jurbarkas	55°07'20"N; 22°25'01"E;
Viešvilė Nat. R. <sup>5</sup>	Tauragė	55°08'24"N; 22°29'39"E;
Viršužiglis env.	Kaunas	54°50'09"N; 24°11'59"E;
Vytautas park	Kaunas	54°53'52"N; 23°56'08"E;
Vytinėlės Miškas f.	Ukmergė	55°13'35"N; 24°44'55"E;
Zapyškis env.	Kaunas	54°55'33"N; 23°39'26"E;
Žeimiai env.	Joniškis	56°15'05"N; 23°18'00"E;
Želsva env.	Marijampolė	54°26'24"N; 23°26'39"E;
Zervynos	Varėna	54°06'56"N; 24°30'14"E;
Žiegždrių Miškas f.	Kaunas	54°53'13"N; 24°05'13"E;
Žydeikiškės env.	Kaišiadorys	54°48'21"N; 24°20'10"E.

<sup>a</sup>The term 'districts' herein stands for all types of administrative units used in Lithuania since 2000 (i.e. municipalities, district municipalities and town municipalities)

## Annotated list of species

### Family CARABIDAE

#### Subfamily Nebriinae Laporte, 1834

#### Tribe Nebriini Laporte, 1834

#### *Nebria brevicollis* (Fabricius, 1792)

Akademija env., 16 08 2007, 1 spec. (V.T.); Birštonas env., 06 06 2001, 1 spec. (R.F.); Čižiūnai env., 17 06 1999, 2 spec. (P.I.); Daukšiai env., 15-30 08 2007, 7 spec. (T.A.); Dubravos Miškas f.<sup>1</sup>, 09 08 1981, 1 spec. (R.F.); Dūkštų ažuolynas f., 1 07 1995, 1 spec. (H.O.), 18 06 2009, 1 spec. (V.T.); Dumaičiai env., 9 05 1991, 1 spec. (Vidm.M.); Dzidai env., 12 07 1992, 05 04 2003, (1, 1) spec. (V.T.); Eržvilkas env., 21 08 1995, 1 spec. (G. Sl.); Girininkai env., 06 06 1994, 1 spec. (V.T.); Girionys env., 17 05 1989, 1 spec. (A.M.); Janaslavas env., 28 05 1990, 1 spec. (G.Sl.); Jiesia landscape rezerve, 13 06 1981, 07 08 1981, 07 07 1982, 13 08 1982, 28 07 1984, 30 07 1986, 19 08 1993, 24 06 2000 (5, 2, 1, 1, 2, 1, 2, 1) spec. (R.F.); Joniškis env., 15-30 08 2007, 1 spec. (T.A.); Josvainiai env., 13 06 1995, 1 spec. (G.Sl.); Juodeikių env., 15-30 08 2007, 12 spec. (T.A.); Juodkrantė env., 8 09 2005, 18 10 2005, (3, 7) spec. (P.I.); Kalnelis env., 15-30 08 2007, 1 spec. (T.A.); Kamanos Nat. R., 16 05 1991, 01-16 06 1991, 16 08 1991, 01-16 09 1991, (2, 3, 1, 4) spec. (Vidm.M.); Kamšos Miškas f., 21 05 1992, 29 03 2003, 21 04 2003, 15 06 2008, (3, 1, 1, 3) spec. (V.T.); Kaunas<sup>1</sup>, 09 06 1977, 27 07 1986, (1, 4) spec. (R.F.); Kaunas<sup>2</sup>, 02 04 2002, 2 spec. (V.T.); Kepalių Miškas f., 15-30 08 2007, 4 spec. (T.A.); Linkaičiai env., 15-30 08 2007, 1 spec. (T.A.); Margininkai, 16 05 1999, 20 06 1999,

(1, 3) spec. (V.T.); Maželių Miškas f., 15-30 08 2007, 1 spec. (T.A.); Merkinė env., 10 08 1981, 1 spec. (G.Sl.); Noreikiškės env., 03 08 1991, 15 06 2006, 25 05 2009, (1, 2, 2) spec. (V.T.); Paežerių Miškas f., 16 07 1998, 1 spec. (R.F.); Palanga aeroport env., 09 05 2001, 2 spec. (R. F.); Panemunės Šilas f., 19 08 1982, 1 spec. (R.F.); Pažaislis env., 27 07 2002, 1 spec. (V.T.); Perloja env., 28 05 1982, 1 spec. (Anonymous); Pogarenda env., 03 08 1977, 1 spec. (Vidm.M.); Punios Šilas f., 27 06 2008, 2 spec. (V.T.); Puvočiai env., 20 07 1979, 1 spec. (K.A.); Ramoniškė env., 23 06 1993, 1 spec. (Vidm.M.); Reibiniškių Miškas f., 15-30 08 2007, 8 spec. (T.A.); Reiskiai env., 10 09 1994, 15 07 2001, (1, 5) spec. (S.K.); Renavas env., 01 07 1991, 21 07 1992, (2, 3) spec. (Vidm.M.); Saldutiškis env., 06 07 1998, 1 spec. (V.T.); Satkūnų Miškas f., 15-30 08 2007, 5 spec. (T.A.); Senasis Daugėliškis env., 10 08 1991, 1 spec. (Vidm.M.); Šiauduva env., 31 07 1991, 1 spec. (G.Sl.); Škėvonys env., 16 09 1981, 1 spec. (G.Sl.); Slydžiai env., 22 07 1991, 06 05 1992, 03 08 2002, 09 03 2008, (4, 1, 1, 1) spec. (V.T.); Smiltynė env.<sup>2</sup>, 04-15 07 1983, 5 spec. (S.K.); Tartokių Miškas f., 01-20 06 2005, 11 07 2005, (4, 2) spec. (P.I.); Užgiriai env., 05 08 1999, 05 09 1999, (1, 1) spec. (Vidm.M.); Ventės Ragas env., 23 08 1988, 1 spec. (R.F.); Vidsgiris Botanical rezerve, 05 06 1998, 17 08 2001, (2, 2) spec. (R.F.); Viešvilė Nat. R.<sup>1</sup>, 12 06 1992, 1 spec. (Vidm. M.); Viešvilė Nat. R.<sup>4</sup>, 29 07 2008, 1 spec. (V.T.); Vytautas park, 07 08 2007, 1 spec. (A.M.); Vytinėlės Miškas f., 21 06 2004, 28 08 2004, (6, 7) spec. (N.N.); Zapyškis env., 24 05 2009, 1 spec. (Anonymous); Žeimiai env., 15-30 08 2007, 9 spec. (T.A.); Žydeikiškės env., 09 09 2001, 1 spec. (V.T.).

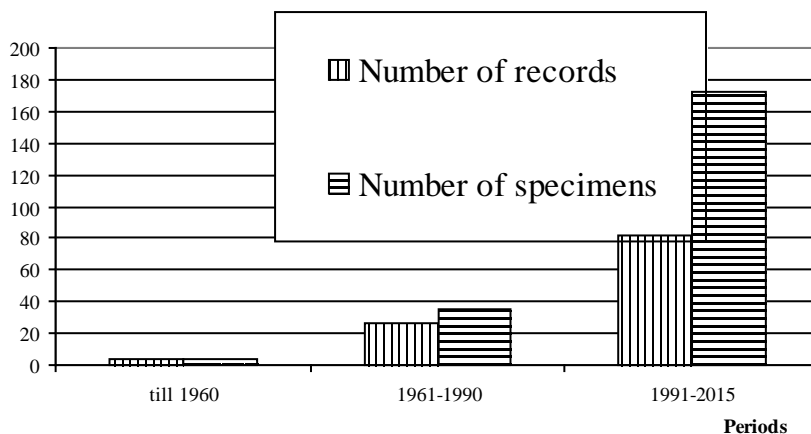


Fig. 1. Number of records and recorded specimens of *Nebria brevicollis* F. in Lithuania

Notes. This species is widely distributed in Europe, also noted for Siberia and Far East, Turkey, Algeria (Farkač & Janata, 2003), introduced to North America and is rapidly expanding its range in the western part of the country (LaBonte, 2011). The expansion of the distribution range of this species to the European north east and its population growth in the last decades have been detected in Europe as well, but still not widely discussed (O. Aleksandrowich personal comment). The assigning of this species as rare in Lithuania by Pileckis & Monsevičius (1995) is probably based on previous old single records (Ogijewicz, 1933; Pileckis, 1960, 1963). Assuming all available data on distribution of this species some tendencies of its population growth could be perceptible in Lithuania too (Fig. 1). Presently this species is frequent and widely distributed in

Lithuania; inhabits various habitats such as forests (preferably deciduous and mixed), water banks, meadows, arable lands, shrubby areas and likewise. Observations of adults in Lithuania: III: 2; IV: 4; V: 17; VI: 44; VII: 41; VIII: 80; IX: 15; X: 7.

***Leistus rufomarginatus* Duftschmid, 1812**

Jiesia landscape rezerve, 28 08 2006, 01 07 2009, 29 04 2011 (1, 1, 1) spec. (R.F.); Kamšos Miškas f., 27 02 2000, 1 spec. (V.T.), 01–15 07 2005, 11 spec. (P.M.), Ringovė Entomological reserve, 18 07 1996, 1 spec. (A.M.); 05 07 1998, 1 spec. (V.T.), 27 08 2003, 23 08 2005 (1, 2) spec. (R.F.); Romainiai park, 24 07 2007, 1 spec. (A.M.); Smalininkai env., 27 07 1995, 1 spec. (V.T.); Šeiminyškiai env., 15 08 2000, 1 spec. (Anonymous); Tervydoniai env., 29 08 2015, 1 spec. (R.F.); Vytautas park, 07 08 2007, 1 spec. (A.M.).

Notes. This species is natively distributed in central Europe and Caucasus, northern border of range reaches southern part of Sweden, Denmark, northern part of Poland and eastern Prussia (nower days – Kaliningad region) (Lindroth, 1992, Bercio & Folwaczny, 1979). However new records of this species in Lithuania and Latvia (Barševskis, 2001, Ferenca *et al.*, 2002; Ivinskis *et al.*, 2006) extends its distribution range to the northeast. Since the first record of this species in the western part of Lithuania in 1992 it spread to the east as far as 25° of eastern longitude. Almost all newly recorded specimens of *L. rufomarginatus* in Lithuania were found in the stands of deciduous trees. Observations of adults in Lithuania: II: 1; IV: 1; VI: 2; VII: 14; VIII: 8; X: 3.

***Leistus piceus* Frölich, 1799**

Bubių Miškas f., 10 07 1999, 1 spec. (G.Sl.); Ramoniškė env., 23 06 1993, 1 spec. (Vidm.M.).

Notes. It is poor known and seems to be extremely rare species in Lithuania; previously recorded from central part of the country (Šablevičius & Ferenca, 1995). The previous records of this species from Vilkija env. (Kaunas distr.), Juodkrantė and Preila environs (Neringa mun.) (Šablevičius, 2003; Ferenca 2014), Stalgėnai env. (Plungė distr.) (Šablevičius, 2003) were based on misidentifications and related to *Leistus ferrugineus* Linnaeus, 1758. *Leistus piceus* is distributed in central Europe (Farkač & Janata, 2003), and is considered as typical montane species (Burakowski *et al.*, 1973; Fritze & Blick, 2012); it is rare in lowlands, occasionally found in northwestern France, Belgium, northeastern Poland, Belarus, Latvia, Estonia, western Russia (Amiet, 1962; Desender, 1986; Burakowski *et al.*, 1973; Aleksandriwicz, 2014; Barševskis, 2003; Haberman, 1968; Alekseev, 2008; Kataev, 2004; Egorov, 2010).

**Tribe Notiophilini Motschulsky, 1850**

***Notiophilus germinyi* Fauvel, 1863**

Antalgė, 03 04 1977, 1 spec. (A.K.); Baluoša peat bog, 02–15 06 1999, 1 spec. (D.D.); Čepkeliai Nat. R.<sup>1</sup>, 15–29 07 1976, 19 08 1976, 02 09 1976, 6 06 1977, 01–20 06 1981, 11–17 08 1981, 04 08 1984, (2, 1, 1, 1, 2, 2, 1) spec. (Vidm.M.); 15 07 1985, 1 spec. (R.F.); Druskininkai env., 22 07 1995, 1 spec. (V.T.); Dubravos Miškas f.<sup>1</sup>, 04 10 1984, 1 spec. (R.F.); Ežerėlis env., 06 08 1982, 1 spec. (R.F.); Juodkrantė env., 24 08 1967, 1 spec. (E.G.), 08 10 2005, 1 spec. (P.I.); Merkinė, 26 06 2002, 1 spec. (A.M.); Viešvilė Nat. R.<sup>1</sup>, 15 07 2001, 1 spec. (V.U.); Viešvilė Nat. R.<sup>2</sup>, 12 06 2008, 1 spec. (V.T. & B.T.); Viešvilė Nat. R.<sup>3</sup>, 09 05 2008, 12 06 2008, 29 07 2008, (4, 1, 1) spec. (V.T. & B.T.); Zervynos, 15 07 1976, 16 06 1977, (1, 1) spec. (Vidm.M.).

Notes. This typical xerophilous species occurs in sandy or gravelly, weakly shaded or

open habitats: lichen rich pine heaths, dry meadows with low vegetation. Despite wide distribution range of this species (Farkač & Janata, 2003) in Lithuania it was found fairly locally and was known only from several districts (Ogijewicz, 1933; Barševskis, 2001, Ferenc, 2014). Observations of adults in Lithuania: IV: 1; V: 6; VI: 8; VII: 8; VIII: 13; IX: 7; X: 1.

### Subfamily **Carabinae Latreile, 1802**

#### Tribe **Carabini Latreile, 1802**

#### ***Carabus clatratus* Linnaeus, 1761**

Aukštosios Miškas f. (Baltkojai forestry), 10 06 1960, 1 spec. (S.P.); Ažuolų Būdos Miškas f., August 1958, 1 spec. (S.P.); Baluoša peat bog, 13 05 1999, 1 spec. (D.D.); Čepkeliai Nat. R.<sup>2</sup>, 25 05 1976, 19 06 1976, 19 06 1978, 25 06 1983, (1, 1, 1, 1) spec. (Virg.M.); Dubravos Miškas f.<sup>3</sup>, 15 07 1955, 1 spec. (S.P.); Glitiškės env., August 1960, 1 spec. (S.P.); Juknaičiai env., 10 06 1997, 12 05 1998, (1, 1) spec. (A.G.); Kazlų Rūda env., 17 07 1956, 1 spec. (E.G.); Nemunėlio Radviliškis env., June–August 1958, 2 spec. (S.P.); Padumblys env., 15 07 1955, 1 spec. (S.P.); Plokštinės Miškas f., 06 08 1997, 1 spec. (H.O.); Varėna env., June 1959, 1 spec. (S.P.); 02 06 1976, 1 spec. (Anonymous).

Notes. This species was considered as not rare in Lithuania and noted for central, eastern and southern parts of Lithuania without concrete data (Pileckis & Monsevičius, 1995). Full finding data previously was published only from few localities: Žuvintas Nat. R. (Zajančkauskas & Pileckis, 1968; Sharova & Grūntal 1973), Tyruliai bog (Ferenc, 2006), Trakai and Vilnius environs (Ogijewicz, 1933), Juodkrantė env. (Ferenc, 2003, 2014; Ivinskis *et al.*, 2004). Population of this species in Lithuania seems to decline; just six specimens have been detected during the last 35 years. This species is also regarded as rare and local in all Fenoscandian countries (Lindroth, 1992), in some countries of Europe it is included into the lists of officially protected species (Cinišis, 1998; Pawłowski *et al.*, 2002; Belova, 2004; Curikov, 2006; Ødegaard *et al.*, 2010; Rizun, 2011). Observations of adults in Lithuania: IV: 1; V: 5; VI: 12; VII: 4; VIII: 5; IX: 1.

#### ***Carabus convexus* Fabricius, 1775**

Čižiškė env., 06 06 2005, 02 07 2005, (1, 1) spec. (P.I.); Dubravos Miškas f.<sup>1</sup>, 03 08 1984, 10 08 1984, 23 08 1984, (1, 1, 1) spec. (R.F.); 27 04 1987, 1 spec. (A.R.); Karmazinai env., 29 07 2003, 1 spec. (R.F.); Kruonis env., 19 05 1991, 1 spec. (A.M.), Nagliai Nat. R., 30 05 2009, 1 spec. (R.F.); Palanga aeroport env., 09–30 05 2001, 3 spec. (R.F.); Randamonys env., 09 10 2001, 1 spec. (A.G.); Smiltynė env.<sup>1</sup>, 14 07 1982, 12 07 1983, 03 08 1983, 09 07 1984, 05 08 1984, (1, 1, 1, 1, 2) spec. (S.K.); Smiltynė env.<sup>2</sup>, 04–23 06 1995, 06–07 07 1995, (8, 4) spec. (V.T.); Šilėnai env., 29 07 2003, 1 spec. (R.F.); Šimonių Giria f., 08–11 06 1997, 1 spec. (R.P.); Tartokių Miškas f., 01–20 06 2005, 22 08 2005, (2, 3) spec. (P.I.); Vaišniūnai env., 14 06 1994, 1 spec. (R.P.); Verkiai env., 06 06 2005, 3 spec. (P.I.) Žiegdrių Miškas f., 20 08 1982, 1 spec. (R.F.).

Notes. This species is widely distributed in Central Europe and Caucasus, but rare in the northern areas (Lindroth, 1992; Cinišis, 1998; Pawłowski *et al.*, 2002; Hyvärinen *et al.*, 2010; Ljunberg *et al.*, 2010; Ødegaard *et al.*, 2010). In Lithuania this species is local and almost everywhere sporadic. It occurs either in dry or semidry deciduous and coniferous forests. Most numerous specimens were observed in Pine forests of Curonian Spit (Ferenc 2014). Observations of adults in Lithuania: IV: 16; V: 18; VI: 37; VII: 27;



VIII: 19; X: 2; XI: 6.

***Carabus nitens* Linnaeus, 1758**

Aukštumala bog, June 2003, 1 spec. (V.U.); Dituva env., 3 07 1985, 1 spec. (S.K.); Druskininkai env., 15 06 1996, 1 spec. (V.T.); Dubravos Miškas f.<sup>4</sup>, 6 06 1999, 1 spec. (R.F.); Ežerėlis peat bog, 19 05 1985, 1 spec. (R.F.); Glitis bog, 5 06 1996, 1 spec. (V.U.); Kajackaraistis env.<sup>1</sup>, 27 07 1986, 1 spec. (R.F.); Kamanos bog, 16 05 1984, 1 spec. (K.A.); Novaraistis peat bog, 20 08 2001, 1 spec. (A.G.); Paryžinės Miškas f., 31 05 2009, 1 spec. (G.S.); Plikiai env., 1 05 1987, 1 spec. (S.K.).

Notes. This European species is widely distributed in the country, but everywhere is sporadic; listed in the Red Data book of Lithuania as rare species (Ferenca, 2007). Almost all specimens of this species have been detected in dry, open or slightly shaded places with sand or peat soils: heaths, moors, clear cuts, openings; no catches in agricultural lands. The populations of this remarkable species have declined severely in recent decades in many countries of Central Europe (Assman & Janssen, 1999), and are officially protected in many European countries. Observations of adults in Lithuania: IV: 4; V: 50; VI: 53; VII: 20; VIII: 3; X: 2; XI: 6.

***Carabus violaceus andrzejusci* Fischer von Waldheim, 1823**

Braziūkai env.<sup>2</sup>, 27 07 2015, 1 spec. (V.T. & B.T.); Braziūkai env.<sup>3</sup>, 21 08 2011, 2 spec. (V.T. & B.T.); Čepkeliai Nat. R.<sup>1</sup>, 09 06 1977, 08 06 1978, 30 10 1978 (1, 1, 4) spec. (Vidm.M.); Juškinės Miškas f., 20 05 2000, 25 08 2011 (2, 1) spec.. (R.F.); Krivasalis env., 20 07 1974, 2 spec. (Vidm.M.); Meištinės Miškas f., 21 06 2006, 1 spec. (A.M.); Nagliai Nat. R., 16 06 2005, 08 09 2005 (2, 8) spec. (P. I.); Nida env., 16 05 2002, 1 spec. (R.F.); Pabradė env., 13 07 1996, 10 spec. (H.O.); Paliepės Miškas f., 17 05 2012, 2 spec. (K.T. & L.K.); Paminėlė env., 11 08 1991, 1 spec. (Vidm.M.); Pogarenda env., 10 07 1977 1 spec. (Vidm.M.); Ramuldava env., 12 08 1988, 1 spec. (S.K.); Ratnyčios Miškas f., 10–21 05 1995, 1–27 06 1995 (4, 43) spec. (V. T.); Smiltynė env.<sup>1</sup>, 29 07 1983, 12–14 08 1983 (1, 4) spec. (S.K.); Vaišniūnai env., 14 07 1975, 2 spec. (Vidm. M.); Varliškės env., 03–24 07 1991, 03–27 07 1993, 21 06 1993, 14 07 1993 (4, 5, 4, 5) spec. (H.O.); Varnikai env., 29 06 1994, 1 spec. (H.O.); Vidzgiris Botanical reserve, 30 07 1988, 17 08 2001 (1, 1) spec. (R.F.).

Notes. This subspecies is noted just for ten countries in Central Europe: Belarus, Central European Russia, Estonia, Latvija, Lithuania, Moldova, Poland, Romania, Slovakia and Ukraine (Bousquet *et al.*, 2003). It is typical forest species considered as rare in Lithuania (Pileckis & Monsevičius 1995), included into the Red lists of some European countries (Kataev & Krivohatskij, 2004; Trautner *et al.*, 2005, Aleksandrowicz, 2014). In Lithuania this species is distributed widely but not evenly, most frequently observed in Curonian Spit (Žiogas & Zolubas, 2005; Ferenca 2014) and Southern part, but remains sporadic in other areas; occurs mainly in pure pine stands or with a small admixture of *Picea* or *Betula* species. Observations of adults in Lithuania: II: 1; V: 14; VI: 79; VII: 71; VIII: 21; X: 5.

Subfamily **Omophroninae Bonelli, 1810**

Tribe **Omophronini Bonelli, 1810**

***Omophron limbatum* (Fabricius, 1777)**

Ariogala env., bank of Dubysa r., 05 06 1992, 1 spec. (V.T.); Braziūkai env.<sup>1</sup>, bank of sand pit, 01 06 2008, 1 spec. (A.M.); Dubravos Miškas f.<sup>2</sup>, bank of sand pit, 15 05 1994, 3 spec. (R.F.); Katra env., 01 08 1984, 1 spec. (Vidm.M.); Eržvilkas env., bank of Šaltuona r., 11 05 2012, 4 spec. (V.T.); Girininkai env., bank of sand trench, 04 06

1992, 1 spec. (V.T.); Gyvoliai env., bank of Virvytė r., 25 07 1999, 5 spec. (Vidm.M.); Grybaulia env., 1 08 1984, 3 spec. (Vidm.M.); Jiesia lanscape rezerve, bank of Jiesia r., 28 04 1994, 2 spec. (R. F.); Kajackaraistis env.<sup>2</sup>, bank of sand pit, 11 06 1992, 1 spec. (R.F.); Kalviai env., bank of Nemunas r., 19 07 1999, 1 spec. (R.F.); Kiminiškė env., 02 08 1991, 3 spec. (Vidm.M.); Lyduvėnų env., bank of Dubysa r., 26 07 2006, 2 spec. (V. T.); Mickiškė env., bank of Šešuvis r., 31 07 2008, 4 spec. (V.T. & B.T.); Simokai env., bank of Šešupė r., 09 05 2012, 4 spec. (V.T. & B.T.); Nemajūnų Miškas f., bank of sand pit, 20 06 2009, 1 spec. (G.S.); Nida env., 24 06 1991, 30 06 2007, beach of Baltic Sea (4, 1) spec. (V.T.); Pakalniškiai env., bank of sand pit, 20 06 2015, 2 spec.. (V.T. & B.T.); Paketuriai env., 23 05 1994, 1 spec. (R.P.); Pervalka env., 13 07 2000, 1 spec. (R.F.); Puvočiai env., 30 06 1993, 1 spec. (Anonymous); Reiskiai env., 16 07 1994, 1 spec. (S.K.); Siponys env., bank of Nemunas r, June 1980, 1 spec. (G.Sl.); Škėvonys env., bank of Nemunas r., 28 05 2005, 1 spec. (V.U.); Tabariškiai env., bank of sand trench, 01–05 06 1992, 6 spec. (V.T.); Traklaukas env., bank of Šešuvis r., 11 07 2008, 1 spec. (V.T.); Varniai env. July 1966, 1 spec. (S.P.); Viršužiglis env., bank of Kauno marios pond, 14 07 1994, 14 06 2006, (1, 1) spec. (V.T.); Želsva env., 04 08 1999, 2 spec. (Vidm.M.).

Notes. West Palaearctic species widely distributed Central and Southern Europe (Hürka, 2003), but rare in northern border of its distribution range (Lindroth, 1992; Pawłowski *et al.*, 2002). It was considered as rare species in Lithuania as well (Pileckis & Monsevičius, 1995) and was mentioned just for several localities before (Sharova & Grüntal, 1973; Ferenca, 2004, 2006; Ivinskis *et al.*, 2009; Ferenca 2014). Assuming new findings we conclude that this species is quite frequent and widely distributed in Lithuania; inhabits sandy banks of various water bodies, sometimes even in relatively small or newly made ones, like sand quarries, pits, trenches and etc. Observations of adults in Lithuania: IV: 2; V: 20; VI: 22; VII: 25; VIII: 10.

### Subfamily **Elaphrinae** Erichson, 1837

#### Tribe **Elaphrini** Erichson, 1837

#### ***Blethisa multipunctata* (Linnaeus, 1758)**

Aukštumala bog, 03–31 05 2003, 1 spec. (V.U.); Juknaičiai env., 10 06 1997, 1 spec. (A.G.); Lapių Miškas f., 28 05 2009, 1 spec. (R.F.); Margininkai, 05 06 1994, 1 spec. (V.T.); Smiltynė env.<sup>1</sup>, 12 07 1985, 1 spec. (S.K.); Trakai env., 23 04 1966, 1 spec. (E. G.).

Notes. This species is widely distributed in temperate and boreal zones of Eurasia and North America (Goulet *et al.*, 2009). The data on distribution of this species in Lithuania is poor. Previous records were known only from Curonian Spit (Šablevičius, 2003; Ivinskis *et al.*, 2004; Ferenca, 2014), Žuvintas Nature reserve and Tyruliai bog (Ferenca, 2006). As rare species it is listed in the Red lists of some European countries (Pawłowski *et al.*, 2002). This stenotopic hygrophilous species occurs on the banks of stagnant or slow-flowing fresh or brackish waters (Lindroth, 1992). Lithuanian catches: IV: 1; V: 7; VI: 6; VII: 2; VIII: 3; X: 5.

#### ***Elaphrus aureus* P.W.J. Müller, 1821**

Ariogala env., 09 05 1979, 1 spec. (Anonymous); Eržvilkas env., bank of Šaltuona r., 11 05 2012, 1 spec. (V.T.); Gimbetiškė env., 17 05 1991, 2 spec. (Vidm. M.); Jiesia Landscape rezerve, bank of Jiesia r., 05 08 1981, 28 04 1994, (1, 1) spec. (R.F.);

Pabariukai env., bank of Dubysa r., 12 07 2008, 2 spec. (V.T.); Pašilių Miškas f., bank of Ašarėna r., 18 05 1994, 1 spec. (R.F.); Raguviškiai env., bank of Minija r., 12 06 2000, 2 spec. (S.K.); Ramoniškė env., bank of Uogys r., 26 06 1991, 09 08 1993, (1, 1) spec. (Vidm.M.); Rubuliai env., bank of Minija r., 14 04 1989, 4 spec. (S.K.); Viešvilė Nat. R.<sup>4</sup>, bank of Viešvilė r., 31 07 2008, 5 spec. (V.T. & B.T.); Varlaukis env., bank of Šešuvis r., 07 05 2012, 6 spec. (V.T. & B.T.).

Notes. This European species is widely distributed in Central Europe (Goulet, 2003), rare in northern border of its distribution range (Barševskis, 2003; Günther & Hölscher, 2004; Aleksandrowicz, 2014). In Lithuania this species was considered as very rare (Pileckis & Monsevičius 1995). Just few records from Zarasai environs (Pileckis, 1968), Lomena Landscape reserve (Gedminas *et al.*, 1996) and Kartenalė Entomological reserve (Ferenca *et al.*, 2002) have been published previously. Newly found specimens were discovered in open (generally sun exposed) or slightly shaded with sparse vegetation river banks on sandy or sandy-loamy soil. Observations of adults in Lithuania: IV: 6; V: 11; VI: 4; VII: 10; VIII: 4.

#### Subfamily **Scaritinae Bonelli, 1810**

##### Tribe **Clivinini Rafinesque, 1815**

#### ***Clivina collaris* (Herbst, 1784)**

Jiesia landscape reserve, bank of Jiesia r., 08 08 1981; 27 05 1999, (1, 1) spec. (R.F.); Miknaičiai env., bank of Šešupė r., 09 05 2012, 7 spec. (V.T. & B.T.); Sėlų Miškas f., bank of Visinčia r., 19 06 1985, 1 spec. (R.F.); Varlaukis env., bank of Šešuvis r., 07 05 2012, 1 spec. (V.T. & B.T.).

Notes. It is poorly known species in Lithuania. To this day only few records have been documented in the country (Ogijewicz, 1933, Sharova & Grüntal, 1973; Ferenca, 2006). Newly found specimens were discovered in loamy and slimy, without vegetation river banks, close to water line. Observations of adults in Lithuania: IV: 1; V: 12; VI: 5; VIII: 2.

#### Subfamily **Broscinae Hope, 1838**

##### Tribe **Broscini Hope, 1838**

#### ***Miscodera arctica* Eschscholtz, 1830**

Čižiškė env., 20 06 2005, 11 07 2005, 02 08 2005, (2, 4, 2) spec. (P.I.); Druskininkai env., 24 05 1996, 08 08 1996, (1, 1) spec. (V.T.); Girionys env., 30 07 1983, 1 spec. (R.F.); Kajačkaraistis env.<sup>2</sup>, 24 08 1984, 1 spec. (R.F.); Kuodiškiai env., 29 09 1982, 1 spec. (G.Sl.); Viešvilė Nat. R.<sup>3</sup>, 09 05 2008, 2 spec. (V.T. & B.T.); Randamonys env., 07 09 2001, 1 spec. (A.G.); Ratnyčia env., 24 05 1996, 1 spec. (V.T.); Skriaudžių Miškas f., 02 07 1991, 1 spec. (A.M.); Užuožerės Miškas f., 28 06 1984, 1 spec. (R.F.).

Notes. This species is distributed in boreal zone in Eurasia and North America (Bousquet, 2003), also is known from mountain region of Central Europe (Hürka, 1996). In the plains of Central Europe *M. arctica* is distributed very locally and sporadically, and is considered as a rare species (Pawłowski *et al.*, 2002; Pileckis & Monsevičius, 1995; Gürlich *et al.*, 2011; Aleksandrowicz, 2014). In Lithuania just few records from Dubravos Miškas f. (Pileckis, 1968), Varėna district (Pileckis & Monsevičius, 1995) and Baluoša peat bog (Ferenca *et al.*, 2002) have been published previously. Newly found specimens were discovered in dry forests with sandy soils, generally in clearings or

forest edges. Observations of adults in Lithuania: V: 4; VI: 6; VII: 10; VIII: 4; IX: 4; XI: 1.

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**Nauji duomenys apie retas ir mažai žinomas žygių rūšis (Coleoptera: Carabidae: Nebriinae, Carabinae, Omophrinae, Elaphrinae, Scaritinae, Broscinae) Lietuvoje**

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**Santrauka**

Straipsnyje pateikiami nauji faunistiniai duomenys apie 13 žygių rūšių: *Nebria brevicollis* (F.), *Leistus rufomarginatus* Duft., *Leistus piceus* Fröl., *Notiophilus germanyi* Fauv., *Carabus clatratus* L., *Carabus convexus* F., *Carabus ritens* L., *Carabus violaceus andrzejuscii* Fisch., *Omophron limbatus* (F.), *Blethisa multipunctata* (L.), *Elaphrus aureus* Müll., *Clivina collaris* (Hbst.), *Miscodera arctica* Esch. Lietuvoje. Apžvelgiami šių rūšių paplitimas ir ekologijos ypatumai.

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