

**NEW DATA ON THE HOVERFLIES (DIPTERA:
SYRPHIDAE) OF SLOVENIA**W. VAN STEENIS^{1*}, M. DE GROOT², J. VAN STEENIS³¹ Research associate Naturalis Biodiversity Center,
Vogelmelk 4, 3621 TP Breukelen, The Netherlands, w.v.steenis@casema.nl² Slovenian Forestry Institute,
Večna pot 2, 1000 Ljubljana, Slovenia, maarten.degroot@gozdis.si³ Research associate Naturalis Biodiversity Center,
Hof der Toekomst 48, 3823 HX Amersfoort, The Netherlands,
j.van.steenis@xmsnet.nl

* corresponding author

Abstract - The results of the hoverfly (Diptera: Syrphidae) collection at 11 localities in Western Slovenia are presented. The visited habitats were *Abieti fagetum* forests, calcareous dry grasslands and wet grasslands. The presence of 158 species of Syrphidae is documented. Twenty-one species are new to the fauna of Slovenia (*Brachyopa bimaculosa* Doczkal & Dziock, *Caliprobola speciosa* (Rossi), *Cheilosia faucis* Becker, *Cheilosia orthotricha* Vujić & Claussen, *Cheilosia vangaveri* Timon-David, *Chrysotoxum lessonae* Giglio-Tos, *Dasysyrphus friuliensis* (Van der Goot), *Dasysyrphus hilaris* (Zetterstedt), *Epistrophe leiophthalma* (Schiner & Egger), *Eumerus grandis* Meigen, *Eumerus olivaceus* Loew, *Eumerus tarsalis* Loew, *Hammerschmidtia ferruginea* (Fallén), *Merodon flavus* Sack, *Pipizella zloti* Vujić, *Platycheirus immaculatus* Ohara, *Platycheirus tarsalis* (Schummel), *Psilota anthracina* Meigen, *Sericomyia silentis* (Harris), *Syrphus nitidifrons* Becker and *Xylota tarda* Meigen).

KEY WORDS: Syrphidae, fauna, Slovenia, new records

Izveleček – NOVI PODATKI O MUHAH TREPETA VKAH (DIPTERA: SYRPHIDAE) SLOVENIJE

Predstavljeni so rezultati zbiranja muh trepetavk (Diptera: Syrphidae) na 11 krajev v zahodni Sloveniji. Obiskani življenjski prostori so bili bukovo-jelovi gozdovi, suhi kraški travniki in vlažni travniki. Zabeležili smo prisotnost 158 vrst trepetavk. 21 vrst

je novih v favni Slovenije (*Brachyopa bimaculosa* Doczkal in Dzioczek, *Caliprobola speciosa* (Rossi), *Cheilosia faucis* Becker, *Cheilosia orthotricha* Vujić in Claussen, *Cheilosia vangaveri* Timon-David, *Chrysotoxum lessonae* Giglio-Tos, *Dasysyrphus friuliensis* (Van der Goot), *Dasysyrphus hilaris* (Zetterstedt), *Epistrophe leiophthalma* (Schiner in Egger), *Eumerus grandis* Meigen, *Eumerus olivaceus* Loew, *Eumerus tarsalis* Loew, *Hammerschmidtia ferruginea* (Fallén), *Merodon flavus* Sack, *Pipizella zloti* Vujić, *Platycheirus immaculatus* Ohara, *Platycheirus tarsalis* (Schummel), *Psilota anthracina* Meigen, *Sericomyia silentis* (Harris), *Syrphus nitidifrons* Becker in *Xylota tarda* Meigen).

KLJUČNE BESEDE: Syrphidae, favna, Slovenija, nove najdbe

Introduction

Hoverflies (Diptera: Syrphidae) are a diverse and widespread family in the world. More than 800 species are registered in Europe (Speight 2012). For Slovenia 288 species have been listed so far (De Groot & Govedič 2008, de Groot et al. 2010).

The aim of present study was to increase the knowledge of hoverfly distribution in Slovenia by examining the specimens collected from additional sites in June 2008.

Material and Methods

In total 919 hoverfly specimens collected from 11 locations in the western part of Slovenia (figure 1) were examined. The hoverflies were collected by hand net in the period of 19 to 21 June 2008. The collected specimens cited are deposited in the private collections of the authors, unless otherwise stated.

Identifications were based on Van Veen (2004), unless otherwise stated in the notes on species. Specimens which could not be identified by the authors were identified by other specialists. In the genus *Eupeodes* a male and a female were not identified due to taxonomic problems.

The species collected are listed below in alphabetical order. The nomenclature is according to Speight (2012); exceptions are stated in the notes on the species. For each species studied, unpublished (new) and published data for Slovenia are listed. For new species to Slovenia, the distribution on the Balkan peninsula is mentioned (Krpáč et al. 2001a, Krpáč et al. 2001b, Krpáč et al. 2009a; 2009b Speight et al. 2010, Vujić 1996, Vujić et al. 2004).

For many species behaviour and flowers visited are mentioned.

Description of the collecting sites

Planina pod Golico 1 (site 1 in figure 1). Slovenia, Gorenjska, Jesenice, Planina pod Golico, village, 19 June 2008, alt 1000m, N 46°28'18", E 14°03'36", W. van Steenis, J. van Steenis. Habitat: Flower rich forest edges and streams close to Beech (*Fagus sylvaticus*) and Fir (*Abies alba*) forest.

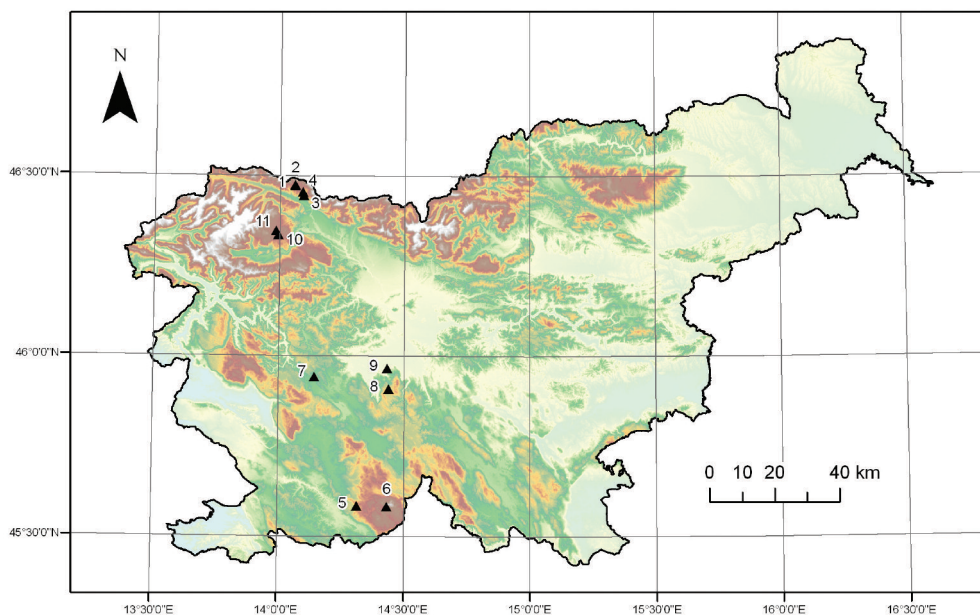


Fig. 1: Map of Slovenia with collecting localities (see text for the description of the sites) (prepared by N. Ogris).



Fig. 2: Planina pod Golico 2. Flower rich meadow (photo: J. van Steenis).



Fig. 3: Javorniški Rovt (photo: J. van Steenis).

Planina pod Golico 2 (site 2 in figure 1). Slovenia, Gorenjska, Jesenice, Planina pod Golico, meadow, 19 June 2008, alt 1100m, N 46°28'29", E 14°03'35", W. van Steenis, J. van Steenis. Habitat: Flower rich meadow close to Beech (*F. sylvaticus*) and Fir (*A. alba*) forest (figure 2).

Javorniški Rovt (site 3 in figure 1). Slovenia, Gorenjska, Jesenice, Dom Pristava (Javorniški Rovt), 19 June 2008, alt 970m, N 46°27'17", E 14°05'27", W. van Steenis, J. van Steenis. Habitat: Meadows near houses with a large, partly shaded pond with



Fig. 4: Volovja Reber (photo: J. van Steenis).



Fig. 5: Snežnik (photo: J. van Steenis).

reedbeds and with forest edges with lots of flowering *Aegopodium podagraria* in and along Beech (*F. sylvaticus*) and Fir (*A. alba*) forest. Along a brook also willows (*Salix* species) and maple (*Acer* species) (figure 3).



Fig. 6: Siječ: Triglav national park (photo: J. van Steenis).

Javorniški Slapovi (site 4 in figure 1). Slovenia, Gorenjska, Jesenice, Javorniški Slapovi, 19 June 2008, alt. 695m, N 46°26'42", E 14°05'40", W. van Steenis, J. van Steenis. Habitat: Flower rich roadside near a small stream in Spruce (*Picea abies*) forest.

Volovja Reber (site 5 in figure 1). Slovenia, Notranjska, Ilirska Bistrica, Volovja Reber, 20 June 2008, alt. 1000m, N 45°35'07", E 14°18'55", W. van Steenis, J. van Steenis, M. de Groot. Habitat: Flower rich calcareous meadows with patches of Spruce (*Picea abies*) forest (figure 4).

Snežnik (site 6 in figure 1). Slovenia, Notranjska, Snežnik, 20 June 2008, alt. 1560m, N 45°35'01", E 14°26'02", W. van Steenis, J. van Steenis, M. de Groot. Habitat: Forest trail in Spruce (*Picea abies*) and *Pinus mugo* forest (figure 5).

Žejna dolina (site 7 in figure 1). Slovenia, Notranjska, Hotedršica, Žejna dolina, 20 June 2008, alt. 560m, N 45°56'35", E 14°08'33", W. van Steenis, J. van Steenis, M. de Groot. Habitat: wet boggy meadows surrounded by Beech (*F. sylvaticus*) and Spruce (*P. abies*) forests.

Krim (site 8 in figure 1). Slovenia, Notranjska, Krimsko Hribovje, Krim, 21 June 2008, alt. 760m, N 45°54'34", E 14°26'18", W. van Steenis, J. van Steenis, M. de Groot. Large grassland area with flower rich calcareous meadow with some scrub encroachment, Beech (*F. sylvaticus*) and Spruce (*P. abies*) forest are in the vicinity.

Podpeč (site 9 in figure 1). Slovenia, Notranjska, Podpeč, Podpeško Jezero, 21 June 2008, alt. 300m, N 45°57'59", E 14°25'55", W. van Steenis, J. van Steenis, M. de Groot. Habitat: Flower rich, temporarily flooded, extensive meadows surrounding a freshwater lake with Beech (*F. sylvaticus*) and Spruce (*P. abies*) forest in the vicinity.

Siječ (site 10 in figure 1). Slovenia, Gorenjska, Triglav national park, Pokljuka, (Barje) Siječ, 21 June 2008, alt. 1200m, N 46°20'10", E 13°59'40", W. van Steenis, J. van Steenis, M. de Groot. Flower rich, extensive wet Molinea meadow in the vicinity of a raised bog and Spruce (*P. abies*) forest (figure 6).

Veliko Blejsko barje (site 11 in figure 1). Slovenia, Gorenjska, Triglav national park, Pokljuka, nearby Veliko Blejsko barje, 21 June 2008, alt. 1200m, N 46°20'48", E 13°59'09", M. de Groot. Habitat: Flower rich extensive Caricetum fen surrounded by Spruce (*P. abies*).

These sites are distributed over the biogeographical regions of Slovenia as follows: **Alpine region:** four Jesenice sites and two Pokljuka sites. **Subalpine region:** Žejna dolina site. **Dinaric region:** Volovja Reber, Snežnik, Krim and Podpeč sites. We did not visit the **Submediterranean** and **Subpannonnean** regions. The Alpine and Subalpine sites are within high, central mountain ranges. The Dinaric sites are characterised by limestone rock with mostly dry habitats.

Weather conditions influence the number of hoverflies found at a site. At most sites the weather was fine for collecting hoverflies: sunny weather with some clouds, temperatures between 18°C and 25°C and little wind. Less favourable conditions were met at Snežnik (site 6) (completely clouded), Žejna dolina (site 7) (clouded with rain), Krim (site 8) (temperature between 10°C and 15°C), Podpeč (site 9) (above 30°C) and Siječ (site 10) (windy with lower temperatures: 15°C to 20°C).

Results

A total of 919 specimens from 158 species were present.

Twenty-one species are here recorded for the first time in Slovenia: *Brachyopa bimaculosa* Doczkal & Dziock, *Caliprobola speciosa* (Rossi), *Cheilosia faucis* Becker, *Cheilosia orthotricha* Vujić & Claussen, *Cheilosia vangaveri* Timon-David, *Chrysotoxum lessonae* Giglio-Tos, *Dasysyrphus friuliensis* (Van der Goot), *Dasysyrphus hilaris* (Zetterstedt), *Epistrophe leiophthalma* (Schiner & Egger), *Eumerus grandis* Meigen, *Eumerus olivaceus* Loew, *Eumerus tarsalis* Loew, *Hammerschmidtia ferruginea* (Fallén), *Merodon flavus* Sack, *Pipizella zloti* Vujić, *Platycheirus immaculatus* Ohara, *Platycheirus tarsalis* (Schummel), *Psilota anthracina* Meigen, *Sericoomyia silentis* (Harris), *Syrphus nitidifrons* Becker and *Xylota tarda* Meigen.

Notes on the species:

Arctophila bombiforme (Fallén, 1810)

New data. Planina pod Golico 2: 2♂, 1♀

Published data. Slovenia: De Groot & Govedič (2008) (as *A. bombiformis*).

Biology. Egg laying was observed in a small rivulet in shaded forest (figure 7). The female was flying low over the water and settling on the rocks and moss cushions several times before landing on a moss overgrown rock where it moved slowly backwards to the water to oviposit one visible egg on the moss just above the water level.



Fig. 7: Planina pod Golico 2. Larval habitat of *Arctophila bombiforme* (photo: J. van Steenis).

Baccha elongata (Fabricius, 1775)

New data. Slovenia: Planina pod Golico 2; 1♂.

Published data. Slovenia: Strobl (1893a; 1909); Lambeck (1968); Glumac (1972); De Groot (2004); De Groot & Govedič (2008).

Biology. The only male was collected in shade, at the forested margin of a flower rich meadow.

Blera fallax (Linnaeus., 1758)

New data. Slovenia: Planina pod Golico 2: 2♂, 2♀; Javorniški Rovt: 1♂; Veliko Blejsko barje: 1♀.

Published data. Slovenia: Lambeck (1968); Glumac (1972); De Groot & Govedič (2008).

Brachyopa bimaculosa Doczkal & Dziock, 2004

New species to Slovenia

New data. Slovenia: Javorniški Rovt: 1♂.

Published data. Balkan: Greece: Doczkal & Dziock (2004).

Biology. It was caught visiting *Aegopodia* along a small river in the shade of the trees.

Taxonomic notes: Doczkal & Dziock (2004) describe the species based on two females. It is clear the male from Slovenia is conspecific with the females.

Brachyopa testacea (Fallén, 1817)

New data. Slovenia: Planina pod Golico 1: 1♂, 2♀; Planina pod Golico 2: 1♂, 1♀; Javorniški Rovt: 2♀; Volovja reber: 1♀; Snežnik: 1♂.

Published data. Slovenia: Vujić (1991); De Groot & Govedič (2008).

Biology. Mostly seen visiting flowers.

Brachyopa vittata Zetterstedt, 1843

New data. Slovenia: Planina pod Golico 1: 1♂; Volovja reber: 1♂; 1♀; Snežnik: 1♀.

Published data. Slovenia: Vujić (1991); De Groot & Govedič (2008).

Brachypalpoides lentus (Meigen, 1822)

New data. Slovenia: Volovja reber: 3♂.

Published data. Slovenia: Coe (1960); Lambeck (1968); De Groot & Govedič (2008).

Caliprobola speciosa (Rossi, 1790)

New species to Slovenia

New data. Slovenia: Volovja reber: 1♂.

Published data. Greece, Macedonia, Romania, Serbia, .

Conservation status in Europe. Regarded as decreasing in the continental and Alpine regions (Speight et al. 2010).

Biology. The male was caught on white umbels along a gravel road, shaded by willow bushes (*Salix* spp.).

Cheilosia albitarsis (Meigen, 1822)

New data. Slovenia: Planina pod Golico 1: 2♀; Javorniški Slapovi: 1♀; Snežnik: 1♂; Krim: 1♀.

Published data. Slovenia: Vujić (1996); De Groot & Govedič (2008).

Taxonomic notes. Since all females fit the description of Doczkal (2000) and the only male collected was *C. albitarsis*, there is no reason to label the females as *C. albitarsis/C. ranunculi* Doczkal, 2000.

Cheilosia barbata Loew, 1857

New data. Slovenia: Planina pod Golico 1: 1♂, 6♀; Planina pod Golico 2: 9♂, 5♀; Javorniški Rovt: 1♀; Javorniški Slapovi: 1♀; Volovja reber: 2♂, 1♀; Snežnik: 1♀; Krim: 8♂, 1♀.

Published data. Slovenia: Strobl (1893b; 1909); Lambeck (1968); Vujić (1996); De Groot & Govedič (2008).

Cheilosia bracus Vujić & Claussen, 1994

New data. Slovenia: Planina pod Golico 2: 2♀, det Claussen.

Published data. Slovenia: Vujić & Claussen (1994); Vujić (1996); De Groot & Govedič (2008).

Conservation status in Europe. Unthreatened in the Alpine region. Locally threatened in the continental region (Speight et al. 2010).

Cheilosia carbonaria Egger, 1860

New data. Slovenia: Snežnik: 1♂, 1♀, det Claussen.

Published data. Slovenia: Coe (1960); Vujić (1996); De Groot (2004); De Groot & Govedič (2008).

Cheilosia chloris (Meigen, 1822)

New data. Slovenia: Planina pod Golico 2: 5♀; Siječ: 1♂, 1♀, det Claussen.

Published data. Slovenia: Vujić (1996); De Groot & Govedič (2008).

Cheilosia crassiseta Loew, 1859

New data. Slovenia: Snežnik: 1♀., det Claussen.

Published data. Slovenia: Vujić (1996); De Groot & Govedič (2008).

Taxonomic notes. The species can be identified with Barkalov & Ståhls (1997).

Cheilosia derasa Loew, 1857

New data. Slovenia: Snežnik: 13♂, 3♀., det Claussen in part.

Published data. Slovenia: Vujić (1996); De Groot & Govedič (2008).

Conservation status in Europe. Unthreatened in the Alpine region. Locally threatened in the continental region (Speight et al. 2010).

Taxonomic notes. The species can be identified with Barkalov & Ståhls (1997).

Cheilosia faucis Becker, 1894

New species to Slovenia

New data. Slovenia: Snežnik: 2♀, det. Claussen.

Published data. Balkan: Bosnia Hercegovina, Montenegro, Romania .

Conservation status in Europe. Decreasing in the Alpine region (Speight et al. 2010).

Biology. The females were visiting flowers in a small meadow within the Beech forest.

Taxonomic notes. The species can be identified with Barkalov & Ståhls (1997).

Cheilosia fraterna (Meigen, 1830)

New data. Slovenia: Siječ: 1♀.

Published data. Slovenia: Vujić (1996); De Groot & Govedič (2008).

Cheilosia frontalis Loew, 1857

New data. Slovenia: Planina pod Golico 1: 4♀; Snežnik: 2♂, 9♀. det. Claussen, in part.

Published data. Slovenia: Vujić (1996); De Groot & Govedič (2008).

Cheilosia gagatea Loew, 1857

New data. Slovenia: Volovja reber: 4♂, 11♀; Krim: 1♂, 7♀; Siječ: 1♂. det. Claussen, in part.

Published data. Slovenia: Vujić (1996), De Groot & Govedič (2008).

Taxonomic notes. The species can be identified with Barkalov & Ståhls (1997).

Cheilosia gigantea (Zetterstedt, 1838)

New data. Slovenia: Planina pod Golico 2: 1♂; Javorniški Rovt: 2♂; Javorniški Slapovi: 1♀.

Published data. Slovenia: Vujić (1996); De Groot & Govedič (2008).

Cheilosia himantopus (Panzer, 1798)

New data. Slovenia: Planina pod Golico 1: 2♀; Planina pod Golico 2: 1♀.

Published data. Slovenia: Vujić & Sikoparija (2001); De Groot & Govedič (2008).

Cheilosia hypena Becker, 1894

New data. Slovenia: Javorniški Slapovi: 1♀.

Published data. Slovenia: Vujić (1996); De Groot & Govedič (2008).

Taxonomic notes. The species can be identified with Sack (1928-1932).

Cheilosia illustrata (Harris, 1780)

New data. Slovenia: Volovja reber: 1♂, 1♀.

Published data. Slovenia: Strobl (1909); Lambeck (1968); Glumac (1972); Vujić (1996); De Groot & Govedič (2008).

Cheilosia impressa Loew, 1840

New data. Slovenia: Planina pod Golico 1: 4♀; Planina pod Golico 2: 7♂, 2♀; Javorniški Rovt: 8♂, 2♀; Javorniški Slapovi: 1♀; Snežnik: 1♀; Krim: 1♀, det. Claussen, in part.

Published data. Slovenia: Strobl (1893b; 1894; 1909); Coe (1960); Lambeck (1968); Vujić (1996); De Groot & Govedič (2008)

Cheilosia melanura Becker, 1894

New data. Slovenia: Javorniški Slapovi: 1♂; Snežnik: 1♂, 4♀, det. Claussen, in part.

Published data. Slovenia: Vujić (1996); De Groot & Govedič (2008).

Cheilosia mutabilis (Fallén, 1817)

New data. Slovenia: Volovja reber: 1♂.

Published data. Slovenia: Strobl (1909); Vujić (1996); De Groot & Govedič (2008).

Cheilosia orthotricha Vujić & Claussen, 1994**New species to Slovenia**

New data. Slovenia: Planina pod Golico 1: 1♀, det. Claussen.

Published data. Bosnia Herzegovina, Croatia, Macedonia, Montenegro; Serbia .

Cheilosia pagana (Meigen, 1822)

New data. Slovenia: Krim: 1♂.

Published data. Slovenia: Coe (1960); Lambeck (1968); Vujić (1996); De Groot (2004); De Groot & Govedič (2008).

Cheilosia personata Loew, 1857

New data. Slovenia: Planina pod Golico 1: 2♀; Planina pod Golico 2: 1♂, 2♀; Javorniški Rovt: 1♀; Javorniški Slapovi: 1♀; Volovja reber: 4♂, 1♀; Snežnik: 1♂; Krim: 1♂, 4♀.

Published data. Slovenia: Vujić (1996); De Groot & Govedič (2008).

Taxonomic notes. The species can be identified with Barkalov & Ståhls (1997).

Cheilosia proxima (Zetterstedt, 1843)

New data. Slovenia: Javorniški Slapovi: 1♂; Volovja reber: 1♀.

Published data. Slovenia: Strobl (1909); Vujić (1996); De Groot & Govedič (2008).

Cheilosia pubera (Zetterstedt, 1838)

New data. Slovenia: Javorniški Rovt: 1♀.

Published data. Slovenia: Vujić (1996); De Groot & Govedič (2008).

Cheilosia rhynchops Egger, 1860

New data. Slovenia: Planina pod Golico 2: 1♂, 1♀; Snežnik: 8♂, 11♀.

Published data. Slovenia: Vujić (1996); De Groot & Govedič (2008).

Taxonomic notes. The species can be identified with Sack (1928-1932).

Cheilosia scutellata (Fallén, 1817)

New data. Slovenia: Volovja reber: 3♂, 3♀.

Published data. Slovenia: Strobl (1894; 1909); Coe (1960); Vujić (1996); De Groot (2004); De Groot & Govedič (2008).

Taxonomic notes. The specimens are a little smaller than Western European specimens of *C. scutellata*. The facial tubercle is also smaller. We did not find other differences, so we consider them conspecific.

Cheilosia soror (Zetterstedt, 1843)

New data. Slovenia: Krim: 1♂; Podpeč: 1♂.

Published data. Slovenia: Strobl (1909); Coe (1960); Lambeck (1968); Vujić (1996); De Groot & Govedič (2008).

Conservation status in Europe. Unthreatened in the continental region. Decreasing in the Alpine region (Speight et al. 2010).

Cheilosia vangaveri Timon-David, 1937

New species to Slovenia

New data. Slovenia: Snežnik: 2♂, 6♀, det. Claussen. .

Published data. Balkan: Greece, Montenegro, Romania, Serbia.

Biology. They were flower visiting white umbels together with many *Cheilosia de-rasa*, *C. frontalis* and *C. rhynchops* along a shaded forest track in Beech forest.

Taxonomic notes. The species can be identified with Barkalov & Ståhls (1997).

Cheilosia variabilis (Panzer, 1798)

New data. Slovenia: Planina pod Golico 2: 3♀; Javorniški Rovt: 1♂; Javorniški Slapovi: 2♀; Volovja reber: 1♀; Snežnik: 2♀.

Published data. Slovenia: Strobl (1909); Coe (1960); Vujić (1996); De Groot & Govedič (2008).

Cheilosia vernalis (Fallén, 1817)

New data. Slovenia: Javorniški Slapovi: 1♀; Krim: 2♂.

Published data. Slovenia: Strobl (1909); Glumac (1956a); Vujić (1996); De Groot & Govedič (2008).

Cheilosia vicina (Zetterstedt, 1849)

New data. Slovenia: Planina pod Golico 2: 1♀; Volovja reber: 1♀; Snežnik: 3♂, 3♀, det. Claussen, in part.

Published data. Slovenia: Vujić (1996); De Groot & Govedič (2008).

Chrysogaster solstitialis (Fallén, 1817)

New data. Slovenia: Planina pod Golico 2: 1♂, 1♀; Javorniški Slapovi: 1♂, 1♀; Krim: 2♂.

Unthreatened in the continental region. Decreasing in the alpine region (Speight et al. 2010).

Published data. Slovenia: Vujić (1999); De Groot (2004); De Groot & Govedič (2008).

Chrysotoxum arcuatum (Linneaus, 1758)

New data. Slovenia: Planina pod Golico 2: 3♂, 1♀.

Published data. Slovenia: Lambeck (1968); De Groot (2004); De Groot & Govedič (2008).

Biology. The specimens were flying low through species rich grassland vegetation in an Alpine meadow.

Chrysotoxum bicinctum (Linneaus, 1758)

New data. Slovenia: Planina pod Golico 2: 1♂; Volovja reber: 1♂; Krim: 1♂.

Published data. Slovenia: Strobl (1893b; 1894; 1909); Coe (1960); Lambeck (1968); De Groot (2004); De Groot & Govedič (2008).

Chrysotoxum cautum (Harris, 1776)

New data. Slovenia: Volovja reber: 1♂, 7♀; Krim: 2♂.

Published data. Slovenia: Strobl (1909); Glumac (1956a; 1956b); De Groot & Govedič (2008).

Chrysotoxum elegans Loew, 1841

New data. Slovenia: Planina pod Golico 2: 1♀.

Published data. Slovenia: Strobl (1894); Glumac (1956a; 1972); Lambeck (1968); De Groot & Govedič (2008).

Conservation status in Europe. Unthreatened in the Alpine region. Decreasing in the continental region (Speight et al. 2010).

Chrysotoxum fasciolatum (DeGeer, 1776)

New data. Slovenia: Planina pod Golico 2: 1♂, 1♀.

Published data. Slovenia: Coe (1960); Lambeck (1968); De Groot & Govedič (2008).

Chrysotoxum festivum (Linneaus, 1758)

New data. Slovenia: Planina pod Golico 2: 1♂, 2♀; Javorniški Rovt: 1♂; Krim: 1♀.

Published data. Slovenia: Strobl (1894; 1909); Glumac (1956a); De Groot & Govedič (2008).

Chrysotoxum intermedium Meigen, 1822

New data. Slovenia: Volovja reber: 1♂; Krim: 1♂, 1♀.

Published data. Slovenia: Glumac (1956a); Coe (1960); De Groot & Govedič (2008).

Chrysotoxum lessonae Giglio-Tos, 1890

New species to Slovenia

Material examined.

New data. Slovenia: Podpeč: 1♂.

Published data. Balkan peninsula: Albania, Greece, Macedonia, Montenegro, Romania, Serbia.

Taxonomic notes. The species can be identified with Sack (1928-1932).

Chrysotoxum vernale Loew, 1841

New data. Slovenia: Planina pod Golico 2: 1♂; Javorniški Slapovi: 1♂; Volovja reber: 3♂; Krim: 1♀; Siječ: 1♂. The male from Planina pod Golico 2 and two males from Volovja reber are light forms.

Published data. Slovenia: Strobl (1909); De Groot (2004); De Groot & Govedič (2008).

Taxonomic notes. The light forms were regarded by Nedeljković (2011) as a different species (*Chrysotoxum orthostylus* Vujić, in prep.).

Criorhina berberina (Fabricius, 1805)

New data. Slovenia: Planina pod Golico 1: 2♂, 1♀; Planina pod Golico 2: 1♂; Javorniški Rovt: 1♂; Volovja reber: 2♀; Siječ: 1♂.

Published data. Slovenia: Vujić & Milankov (1990; 1999); De Groot & Govedič (2008).

Dasysyrphus friuliensis (Van der Goot, 1960)

New species to Slovenia

New data. Slovenia: Snežnik: 2♂, 6♀; Siječ: 1♂.

Published data. Balkan: Greece, Macedonia, Montenegro, Romania, Serbia.

Dasysyrphus hilaris (Zetterstedt, 1843)

New species to Slovenia

New data. Slovenia: Planina pod Golico 2: 3♀.

Published data. Balkan: Greece, Montenegro, Romania, Serbia.

Dasysyrphus pinastri (DeGeer, 1776)

New data. Slovenia: Planina pod Golico 2: 4♀; Siječ: 1♂, 3♀.

Published data. Slovenia: De Groot & Govedič (2008).

Dasysyrphus venustus (Meigen, 1822)

New data. Slovenia: Planina pod Golico 2: 1♀; Javorniški Rovt: 1♀.

Published data. Slovenia: De Groot & Govedič (2008).

Didea fasciata Macquart, 1834

New data. Slovenia: Javorniški Rovt: 1♂.

Published data. Slovenia: Coe (1960); Lambeck (1968); Glumac (1972); De Groot & Govedič (2008).

Epistrophe diaphana (Zetterstedt, 1843)

New data. Slovenia: Planina pod Golico 2: 2♂, 1♀.

Published data. Slovenia: De Groot (2004); De Groot & Govedič (2008).

Epistrophe eligans (Harris, 1780)

New data. Slovenia: Volovja reber: 2♂, 1♀; Krim: 1♂.

Published data. Slovenia: De Groot & Govedič (2008).

Epistrophe flava Doczkal & Schmid, 1994

New data. Slovenia: Planina pod Golico 2: 1♀.

Published data. Slovenia: De Groot (2004); De Groot & Govedič (2008).

Epistrophe leiophthalma (Schiner & Egger, 1853)**New species to Slovenia**

New data. Slovenia: Volovja reber: 1♂, 1♀.

Published data. Balkan: Montenegro.

Conservation status in Europe. Unthreatened in the Alpine region. Decreasing in the continental region (Speight et al. 2010).

Biology. The male and the female were visiting flowers of white umbels in the vicinity of shrubs (figure 4).

Episyrrhus balteatus (DeGeer, 1776)

New data. Slovenia: Planina pod Golico 1: 1♂.

Published data. Slovenia: Strobl (1893b; 1909); Glumac (1956a, 1972); Leclercq (1961); Lambeck (1968); De Groot (2004); De Groot & Govedič (2008).

Biology. Of this widespread species, only one male was collected.

Eristalinus aeneus (Scopoli, 1763)

New data. Slovenia: Podpeč: 1♂.

Published data. Slovenia: Strobl (1893a; 1893b; 1909); De Groot & Govedič (2008).

Eristalis arbustorum (Linnaeus, 1758)

New data. Slovenia: Planina pod Golico 1: 1♂; Planina pod Golico 2: 1♂, 1♀; Javorniški Slapovi: 2♂, 4♀; Volovja reber: 1♀.

Published data. Slovenia: Strobl (1893b; 1909); Glumac (1956a; 1972); Lambeck (1968); De Groot (2004); De Groot & Govedič (2008).

Eristalis jugorum Egger, 1858

New data. Slovenia: Planina pod Golico 2: 1♂, 1♀; Veliko Blejsko barje: 1♂.

Published data. Slovenia: Šimić & Vujić (1990); De Groot & Govedič (2008).

Eristalis nemorum (Linnaeus, 1758)

New data. Slovenia: Javorniški Slapovi: 1♀; Krim: 1♂.

Published data. Slovenia: Strobl (1893a; 1909); Lambeck (1968); Glumac (1972); Šimić & Vujić (1990); De Groot & Govedič (2008).

Eristalis pertinax (Scopoli, 1763)

New data. Slovenia: Planina pod Golico 2: 1♂.

Published data. Slovenia: Strobl (1909); Glumac (1956a); Šimić & Vujić (1990); De Groot (2004); De Groot & Govedič (2008).

Eristalis rupium Fabricius, 1805

New data. Slovenia: Planina pod Golico 1: 1♂; Planina pod Golico 2: 2♂, 4♀; Siječ: 1♂; Veliko Blejsko barje: 1♂, 1♀.

Published data. Slovenia: Lambeck (1968); Glumac (1972); Šimić & Vujić (1990); De Groot & Govedič (2008).

Eristalis similis (Fallén, 1817)

New data. Slovenia: Planina pod Golico 1: 1♂; Javorniški Rovt: 1♂; Volovja reber: 1♀; Siječ: 1♂, 1♀; Veliko Blejsko barje: 1♂.

Published data. Slovenia: Glumac (1956a); Coe (1960); Šimić & Vujić (1990); De Groot (2004); De Groot & Govedič (2008).

Eristalis tenax (Linnaeus, 1758)

New data. Slovenia: Planina pod Golico 1: 1♂; Planina pod Golico 2: 1♀.

Published data. Slovenia: Strobl (1893a; 1893b; 1909); Glumac (1956a; 1972); Leclerq (1961); Lambeck (1968); Šimić & Vujić (1990); De Groot (2004); De Groot & Govedič (2008).

Biology. Of this widespread species only two specimens were collected.

Eumerus funeralis Meigen, 1822

New data. Slovenia: Planina pod Golico 2: 2♂, 1♀.

Published data. Slovenia: Glumac (1956a); De Groot & Govedič (2008).

Eumerus grandis Meigen, 1822

New species to Slovenia

New data. Slovenia: Krim: 2♂, 1♀.

Published data: Balkan peninsula: Greece, Montenegro, Romania.

Conservation status in Europe. Unthreatened in the continental region. Decreasing in the Alpine region (Speight et al. 2010).

Eumerus olivaceus Loew, 1848

New species to Slovenia

New data. Slovenia: Volovja reber: 1♀.

Published data: Balkan peninsula: Bulgaria, Greece, Macedonia, Montenegro, Serbia.

Taxonomic notes. The species can be identified with Sack (1928-1932).

Eumerus ornatus Meigen, 1822*New data.* Slovenia: Krim: 1♂.*Published data.* Slovenia: Coe (1960); De Groot & Govedič (2008).*Eumerus ovatus* Loew, 1848*New data.* Slovenia: Krim: 1♂.*Published data.* Slovenia: De Groot & Govedič (2008).*Conservation status in Europe.* Unthreatened in the Alpine region. Decreasing in the continental region (Speight et al. 2010).*Eumerus tarsalis* Loew, 1848**New species to Slovenia***New data.* Slovenia: Planina pod Golico 2: 3♂.*Published data:* Balkan peninsula: Montenegro, Romania.*Eumerus tricolor* (Fabricius, 1798)*New data.* Slovenia: Volovja reber: 1♂.*Published data.* Slovenia: Strobl (1893b; 1909); Coe (1960); De Groot & Govedič (2008).*Conservation status in Europe.* Unthreatened in the Alpine region. Decreasing in the continental region (Speight et al. 2010).*Eupeodes (Lapposyrphus) lapponicus* (Zetterstedt, 1838)*New data.* Slovenia: Planina pod Golico 1: 3♂; Javorniški Rovt: 1♂, 2♀; Javorniški Slapovi: 1♀; Volovja reber: 2♂; Snežnik: 1♀; Siječ: 2♀.*Published data.* Slovenia: Coe (1960); De Groot (2004); De Groot & Govedič (2008).*Biology.* A common species at most visited sites. The specimens were flower visiting on several plants or sitting on leaves of herbs and shrubs.*Eupeodes corollae* (Fabricius, 1794)*New data.* Slovenia: Planina pod Golico 2: 1♀; Volovja reber: 1♂, 1♀; Snežnik: 1♀; Siječ: 1♂.*Published data.* Slovenia: Glumac (1972); De Groot (2004); De Groot & Govedič (2008).*Eupeodes latifasciatus* (Macquart, 1829)*New data.* Slovenia: Podpeč: 1♂; Siječ: 1♂.*Published data.* Slovenia: Glumac (1956a); De Groot (2004); De Groot & Govedič (2008).*Hammerschmidtia ferruginea* (Fallén, 1817)**New species to Slovenia***New data.* Slovenia: Volovja reber: 1♂.

Published data: Balkan peninsula: Macedonia, Montenegro, Romania, Serbia.

Conservation status in Europe. Threatened in the continental and Alpine regions (Speight et al. 2010).

Biology. The male was visiting flowers of white umbels in a wet meadow next to low shrubs.

Helophilus pendulus (Linnaeus, 1758)

New data. Slovenia: Javorniški Slapovi: 1 ♀; Krim: 1 ♀; Podpeč: 1 ♀.

Published data. Slovenia: De Groot (2004); De Groot & Govedič (2008).

Helophilus trivittatus (Fabricius, 1805)

New data. Slovenia: Javorniški Slapovi: 1 ♀; Volovja reber: 2 ♂; Podpeč: 1 ♂.

Published data. Slovenia: Strobl (1893b; 1894); De Groot (2004); De Groot & Govedič (2008).

Heringia (Neocnemodon) species

New data. Slovenia: Planina pod Golico 1: 1 ♀; Planina pod Golico 2: 1 ♀; Javorniški Rovt: 1 ♀; Siječ: 1 ♀.

Published data. Slovenia: Several species of *Heringia (Neocnemodon)* are recorded from Slovenia (De Groot & Govedič 2008).

Taxonomic notes. We only collected females of the subgenus *Heringia (Neocnemodon)*. Since only males can be identified reliably, we leave the females unidentified.

Leucozona glaucia (Linnaeus, 1758)

New data. Slovenia: Krim: 6 ♂.

Published data. Slovenia: De Groot & Govedič (2008).

Biology. The collected males were visiting white umbel flowers.

Megasyrphus erraticus (Linnaeus, 1758)

New data. Slovenia: Planina pod Golico 2: 1 ♂; Siječ: 1 ♂.

Published data. Slovenia: Strobl (1909); De Groot & Govedič (2008) (as *Eriozona erratica*).

Melangyna compositarum (Verrall, 1873)

New data. Slovenia: Volovja reber: 2 ♂, 2 ♀.

Published data. Slovenia: Lambeck (1968); De Groot & Govedič (2008).

Biology. The specimens were visiting white umbel flowers.

Melangyna umbellatarum (Fabricius, 1794)

New data. Slovenia: Planina pod Golico 2: 1 ♂; Krim: 1 ♂.

Published data. Slovenia: De Groot & Govedič (2008) (as *M. umbellatorum* (Fabr., 1784)).

Melanogaster nuda (Macquart, 1829)

New data. Slovenia: Planina pod Golico 2: 3♀; Javorniški Rovt: 1♂; 2♀; Žejna dolina: 1♀; Siječ: 10♂, 6♀; Veliko Blejsko barje: 1♂.

Published data. Slovenia: Glumac (1956a); Vujić et al. (1999); De Groot & Govedič (2008).

(as *Melanogaster viduata* (L., 1758)).

Melanostoma mellinum (Linnaeus, 1758)

New data. Slovenia: Planina pod Golico 2: 1♂; Javorniški Rovt: 3♂, 1♀; Volovja reber: 4♂, 2♀; Snežnik: 3♂, 1♀; Žejna dolina: 2♀, Podpeč: 1♂; Siječ: 2♂, 4♀; Veliko Blejsko barje: 1♀.

Published data. Slovenia: Glumac (1956a; 1972); Coe (1960); Lambeck (1968); De Groot (2004); De Groot & Govedič (2008).

Biology. A common species in most habitats. Most specimens were collected flower visiting in forest edges and meadows.

Taxonomic notes. The collected specimens might belong to more than one species. Since the taxonomy of European *Melanostoma* is far from resolved, we lump the specimens under *M. mellinum*.

Melanostoma scalare (Fabricius, 1794)

New data. Slovenia: Javorniški Rovt: 1♂.

Published data. Slovenia: Strobl (1893b); De Groot & Govedič (2008).

Meligramma cincta (Fallén, 1817)

New data. Slovenia: Javorniški Rovt: 1♀.

Published data. Slovenia: Glumac (1972); Lambeck (1968); De Groot & Govedič (2008).

Meligramma cingulata (Egger, 1860)

New data. Slovenia: Volovja reber: 2♀.

Published data. Slovenia: De Groot & Govedič (2008).

Biology. The two collected females were visiting white umbel flowers.

Meliscaeva auricollis (Meigen, 1822)

New data. Slovenia: Planina pod Golico 2: 1♀; Javorniški Rovt: 1♀

Published data. Slovenia: Lambeck (1968); Glumac (1972); De Groot (2004), De Groot & Govedič (2008). (as *Episyrphus auricollis*).

Meliscaeva cinctella (Zetterstedt, 1843)

New data. Slovenia: Javorniški Rovt: 1♀; Siječ: 1♀.

Published data. Slovenia: Strobl (1893b; 1894; 1909); Coe (1960); Lambeck (1968); Glumac (1972); De Groot (2004); De Groot & Govedič (2008) (as *Episyrphus cinctellus*).

Merodon aberrans Egger, 1860

New data. Slovenia: Volovja reber: 5♂, 3♀.

Published data. Slovenia: De Groot et al. (2010).

Merodon armipes Rondani, 1843

New data. Slovenia: Volovja reber: 10♂.

Published data. Slovenia: Glumac (1956a); De Groot & Govedič (2008).

Conservation status in Europe. Unthreatened in the Alpine region. Decreasing in the continental region (Speight et al. 2010).

Merodon aureus Fabricius, 1805

New data. Slovenia: Planina pod Golico 2: 2♂, 3♀; Javorniški Slapovi: 1♀; Krim: 10♀; Siječ: 6♂.

Published data. Slovenia: Strobl (1894; 1909); De Groot (2004); De Groot & Govedič (2008) (as *M. aeneus* Meigen, 1822).

Merodon avidus B (Rossi, 1790) sensu Milankov et al. (2001)

New data. Slovenia: Krim: 2♂.

Published data. Slovenia: De Groot & Govedič,(2008) (as *Merodon avidus* (Rossi, 1790).

Taxonomic notes. The species can be identified with Milankov et al. (2001).

Merodon cinereus (Fabricius, 1794)

New data. Slovenia: Krim: 1♀.

Published data. Slovenia: De Groot (2004); De Groot & Govedič (2008).

Taxonomic notes. The species can be identified with Sack (1928-1932).

Merodon equestris (Fabricius, 1794)

New data. Slovenia: Planina pod Golico 1: 2♀; Planina pod Golico 2: 3♂, 2♀; Javorniški Slapovi: 2♀; Krim: 1♀.

Published data. Slovenia: Lambeck (1968); De Groot & Govedič (2008).

Merodon flavus Sack, 1913

New species to Slovenia

New data. Slovenia: Planina pod Golico 2: 1♂, 2♀; Javorniški Rovt: 2♂, 2♀; Javorniški Slapovi: 2♀.

Published data. Balkan: Romania.

Conservation status in Europe. Decreasing in the continental and alpine regions (Speight et al. 2010).

Biology. Most of the specimens were found sitting on sunlit leaves in short grasslands.

Taxonomic notes. The species can be identified with Marcos-Garcia et al. (2007).

Merodon rufus Meigen, 1838

New data. Slovenia: Volovja reber: 7♂, 3♀.

Published data. Slovenia: Coe (1960); De Groot (2004); Radenković & Vujić (1993/1994); De Groot & Govedič (2008).

Microdon devius (Linnaeus, 1761)

New data. Slovenia: Javorniški Slapovi: 3♂.

Published data. Slovenia: De Groot & Govedič (2008).

Conservation status in Europe. Unthreatened in the Alpine region. Decreasing in the continental region (Speight et al. 2010).

Microdon mutabilis (Linnaeus, 1758) / *M. myrmicae* Schönrogge et al. 2002

New data. Slovenia: Planina pod Golico 2: 3♂, 2♀; Javorniški Slapovi: 1♂; Krim: 1♂; Siječ: 8♂, 4♀.

Published data. Slovenia: De Groot & Govedič (2008).

Taxonomic notes. Only adults were collected, so it was not possible to distinguish between *M. mutabilis* and *M. myrmicae* Schönrogge et al., 2002. These species can only be separated by larvae (Van Veen 2008).

Conservation status in Europe. Decreasing in the continental and Alpine regions (Speight et al. 2010).

Myathropa florea (Linnaeus, 1758)

New data. Slovenia: Planina pod Golico 1: 1♂; Volovja reber: 1♀.

Published data. Slovenia: Strobl (1893a; 1893b; 1909); Glumac (1956a; 1972); Coe (1960); Lambeck (1968); De Groot (2004), De Groot & Govedič (2008).

Neoascia annexa (Müller, 1776)

New data. Slovenia: Planina pod Golico 1: 3♂, 2♀; Planina pod Golico 2: 4♂, 1♀; Javorniški Rovt: 2♀.

Published data. Slovenia: Vujić (1990), De Groot & Govedič (2008).

Neoascia meticulosa (Scopoli, 1763)

New data. Slovenia: Javorniški Rovt: 1♂.

Published data. Slovenia: De Groot & Govedič (2008).

Conservation status in Europe. Decreasing in the continental and Alpine regions (Speight et al. 2010).

Orthonevra nobilis (Fallén, 1817)

New data. Slovenia: Volovja reber: 2♂.

Published data. Slovenia: Strobl (1909); Vujić (1999); De Groot & Govedič (2008).

Paragus haemorrhous Meigen, 1822

New data. Slovenia: Krim: 4♂.

Published data. Slovenia: De Groot & Govedič (2008).

Biology. Flying through the vegetation on sun exposed places.

Paragus tibialis (Fallén, 1817)

New data. Slovenia: Snežnik: 1♂, 1♀.

Published data. Slovenia: Strobl (1893b; 1909); Glumac (1956a; 1956b; 1972); Coe (1960); Lambeck (1968); De Groot & Govedič (2008).

Conservation status in Europe. Locally decreasing in the continental and Alpine regions (Speight et al. 2010).

Biology. The male was caught visiting small white flowers along a shaded forest road.

Taxonomic notes. Identification of female was only based on occurrence of male on the same site.

Parasyrphus annulatus (Zetterstedt, 1838)

New data. Slovenia: Planina pod Golico 2: 1♀; Volovja reber: 1♀; Siječ: 3♀.

Published data. Slovenia: De Groot & Govedič (2008).

Parasyrphus macularis (Zetterstedt, 1843)

New data. Slovenia: Volovja reber: 1♀; Siječ: 1♀.

Published data. Slovenia: De Groot & Govedič (2008).

Parasyrphus malinellus (Collin, 1952)

New data. Slovenia: Siječ: 1♀.

Published data. Slovenia: De Groot & Govedič (2008).

Parasyrphus punctulatus (Verrall, 1873)

New data. Slovenia: Snežnik: 2♂, 1♀; Krim: 1♀; Siječ: 1♀.

Published data. Slovenia: De Groot & Govedič (2008).

Parasyrphus vittiger (Zetterstedt, 1843)

New data. Slovenia: Planina pod Golico 2: 4♀; Javorniški Rovt: 1♀.

Published data. Slovenia: Strobl (1909); Lambeck (1968); Glumac (1972); De Groot & Govedič (2008).

Pipiza noctiluca (Linnaeus, 1758)

New data. Slovenia: Planina pod Golico 2: 3♀; Javorniški Rovt: 1♀; Volovja reber: 1♀.

Published data. Slovenia: Coe (1960); De Groot (2004); De Groot & Govedič (2008).

Pipiza quadrimaculata (Panzer, 1804)

New data. Slovenia: Planina pod Golico 1: 2♀; Planina pod Golico 2: 6♀; Siječ: 3♀.

Published data. Slovenia: De Groot & Govedič (2008).

Pipizella annulata (Macquart, 1829)

New data. Slovenia: Javorniški Rovt: 1♂; Volovja reber: 13♂, 2♀; Krim: 2♂.

Published data. Slovenia: Vujić (1997), De Groot & Govedič (2008).

Pipizella bispina Šimić, 1987

New data. Slovenia: Javorniški Rovt: 2♂, 3♀.

Published data. Slovenia: Vujić (1997); De Groot & Govedič (2008).

Conservation status in Europe. Decreasing in the Alpine region (Speight et al. 2010).

Taxonomic notes. The species can be identified with Van Steenis & Lucas (2011).

Pipizella divicoi (Goeldlin de Tiefenau, 1974)

New data. Slovenia: Javorniški Rovt: 1♂; Volovja reber: 1♂.

Published data. Slovenia: Vujić (1997); De Groot & Govedič (2008).

Conservation status in Europe. Decreasing in the continental and Alpine regions (Speight et al. 2010).

Pipizella viduata (Linnaeus, 1758)

New data. Slovenia: Planina pod Golico 2: 2♂, 1♀; Javorniški Rovt: 1♀; Snežnik: 1♂; Krim: 1♀.

Published data. Slovenia: Glumac (1956a); Lambeck (1968); De Groot & Govedič (2008).

Pipizella zloti Vujić, 1997**New species to Slovenia**

New data. Slovenia: Volovja reber: 1♂, 1♀.

Published data. Balkan: Greece, Montenegro, Romania, Serbia.

Taxonomic notes. The species can be identified with Van Steenis & Lucas (2011).

Platycheirus albimanus (Fabricius, 1781)

New data. Slovenia: Planina pod Golico 2: 2♂, 2♀; Javorniški Rovt: 1♀; Volovja reber: 1♂; Snežnik: 5♂, 2♀; Krim: 1♂; Siječ: 3♂, 2♀.

Published data. Slovenia: Strobl (1909); Leclercq (1961); De Groot & Govedič (2008).

Biology. One of the most widespread species. The specimens were collected flower visiting or flying in low herbaceous vegetation, mostly in shade rich areas.

Platycheirus europaeus Goeldlin de Tiefenau, Maibach & Speight, 1990

New data. Slovenia: Javorniški Rovt: 2♀; Siječ: 1♀.

Published data. Slovenia: De Groot & Govedič (2008).

Biology. The three females were collected in wet meadows by sweeping through the reedbeds.

Platycheirus fulviventris (Macquart, 1829)

New data. Slovenia: Podpeč: 1♂.

Published data. Slovenia: De Groot & Govedič (2008).

Biology. The only male was swept from flowering *Carex* along a small stream near Podpeško lake.

Platycheirus immaculatus Ohara 1980

New species to Slovenia

New data. Slovenia: Javorniški Slapovi: 3♀; Volovja reber: 1♂, 2♀.

Published data. Balkan: Greece, Macedonia, Montenegro.

Biology. Several specimens were collected at Volovja Reber and Snežnik foraging on white umbels.

Platycheirus manicatus (Meigen, 1822)

New data. Slovenia: Snežnik: 1♂.

Published data. Slovenia: De Groot & Govedič (2008).

Biology. The only male was collected on a rocky place with some flowers surrounded by *Pinus mugo*. It was flying low in the herb layer.

Platycheirus scutatus (Meigen, 1822) - complex

New data. Slovenia: Javorniški Rovt: 1♀; Volovja reber: 1♀.

Published data. Slovenia: Strobl (1909); De Groot & Govedič (2008).

Taxonomic notes. Since we only collected females, identification to species level is not possible. The females are extremely similar (Doczkal, 2002).

Biology. Two females were collected on species rich meadows.

Platycheirus tarsalis (Schummel, 1837)

New species to Slovenia

New data. Slovenia: Planina pod Golico 2: 1♀.

Published data. Balkan: Macedonia, Montenegro, Romania, Serbia.

Biology. Flying in shaded parts on the border of the meadow and the forest.

Psilota anthracina Meigen, 1822

New species to Slovenia

New data. Slovenia: Planina pod Golico 2: 1♀; Volovja reber: 1♀.

Published data. Balkan peninsula: Greece, Montenegro, Romania.

Conservation status in Europe. Decreasing in the continental and Alpine regions (Speight et al. 2010).

Biology. Visiting a patch of abundant flowering white umbels close to a pile of tree logs (Planina pod Golico).

Taxonomic notes. Unfortunately, identification of this species with Van Veen (2004) leads to *Psilota atra*. See Smit & Zeegers (2005) for discussion and Smit & Vujić (2008) for identification.

Scaeva pyrastri (Linnaeus, 1758)

New data. Slovenia: Volovja reber: 2♀; Snežnik: 1♀; Veliko Blejsko barje: 1♂.

Published data. Slovenia: Strobl (1893b; 1894); Glumac (1956a; 1972); Coe (1960); Novak & Kuřtor (1982); Radenković et al. (1995); De Groot (2004); De Groot & Govedič (2008).

Scaeva selenitica (Meigen, 1822)

New data. Slovenia: Volovja reber: 1♀; Snežnik: 1♂.

Published data. Slovenia: Coe (1960); Glumac (1972); Radenković et al. (1995); De Groot & Govedič (2008).

Sericomyia silentis (Harris, 1776)

New species to Slovenia

New data. Slovenia: Javorniški Rovt: 1♂.

Published data. Balkan Peninsula: Romania, Serbia.

Conservation status in Europe. Unthreatened in the Alpine region. Decreasing in the continental region (Speight et al. 2010).

Spazigaster ambulans (Fabricius, 1798)

New data. Slovenia: Veliko Blejsko barje: 3♂, 1♀.

Published data. Slovenia: This species was found for the first time for Slovenia in 2003 at the same locality (De Groot et al. 2010).

Biology. Males were perching on tops of low branches or on sedges. The female was flying low through the herbaceous vegetation.

Taxonomic notes. This is the only European species of the genus. Identification of the genus can be done with Thompson & Rotheray (1998).

Sphaerophoria batava Goeldlin de Tiefenau, 1974

New data. Slovenia: Siječ: 2♂.

Published data. Slovenia: De Groot & Govedič (2008).

Conservation status in Europe. Decreasing in the continental and Alpine regions (Speight et al. 2010).

Sphaerophoria fatarum Goeldlin de Tiefenau, 1989

New data. Slovenia: Siječ: 1♂.

Published data. Slovenia: De Groot et al. (2010).

Sphaerophoria interrupta (Fabricius, 1805)

New data. Slovenia: Planina pod Golico 1: 1♂; Siječ: 5♂.

Published data. Slovenia: Strobl (1893b); Glumac (1956a; 1972); Lambeck (1968); De Groot & Govedič (2008).

Sphaerophoria scripta (Linnaeus, 1758)

New data. Slovenia: Planina pod Golico 2: 1♂, 1♀; Javorniški Slapovi: 1♂; Volovja reber: 1♂; Siječ: 2♂, 2♀.

Published data. Slovenia: Strobl (1893a; 1893b); Glumac (1956a; 1972); Leclercq (1961); De Groot (2004); De Groot & Govedič (2008).

Sphaerophoria taeniata (Meigen, 1822)

New data. Slovenia: Siječ: 4♂.

Published data. Slovenia: Strobl (1893a); De Groot & Govedič (2008).

Conservation status in Europe. Unthreatened in the Alpine region. Decreasing in the continental region (Speight et al. 2010).

Sphaerophoria virgata Goeldlin de Tiefenau, 1974

New data. Slovenia: Siječ: 1♂.

Published data. Slovenia: Vujić et al. (2001); De Groot & Govedič (2008).

Conservation status in Europe. Unthreatened in the Alpine region. Decreasing in the continental region (Speight et al. 2010).

Sphegina clavata (Scopoli, 1763)

New data. Slovenia: Planina pod Golico 1: 1♂; 1♀.

Published data. Slovenia: Vujić (1990); De Groot & Govedič (2008).

Conservation status in Europe. Decreasing in the continental and Alpine regions (Speight et al. 2010).

Sphegina clunipes (Fallén, 1816)

New data. Slovenia: Planina pod Golico 1: 12♂; Planina pod Golico 2: 4♂, 1♀; Javorniški Rovt: 3♂, Javorniški Slapovi: 1♂; Siječ: 6♂, 3♀.

Published data. Slovenia: Strobl (1893b); Lambeck (1968); Vujić (1990); De Groot (2004); De Groot & Govedič (2008).

Sphegina elegans Schummel, 1843

New data. Slovenia: Planina pod Golico 2: 2♀; Javorniški Slapovi: 1♂.

Published data. Slovenia: Strobl (1909); De Groot & Govedič (2008).

Sphegina latifrons Egger, 1865

New data. Slovenia: Planina pod Golico 1: 3♂, 3♀; Planina pod Golico 2: 6♀; Siječ: 1♂, 1♀.

Published data. Slovenia: Vujić (1990); De Groot & Govedič (2008).

Sphegina montana Becker, 1921

New data. Slovenia: Planina pod Golico 1: 2♂, 14♀; Planina pod Golico 2: 1♂, 2♀; Javorniški Rovt: 3♂, 2♀; Siječ: 16♂, 11♀.

Published data. Slovenia: Vujić (1990), De Groot & Govedič (2008).

Conservation status in Europe. Unthreatened in the Alpine region. Decreasing in the continental region (Speight et al. 2010).

Sphegina sibirica Stackelberg, 1953

New data. Slovenia: Planina pod Golico 1: 8♂, 1♀; Planina pod Golico 2: 2♂, 2♀; Javorniški Rovt: 1♂; Javorniški Slapovi: 1♂; Volovja reber: 6♂, 1♀; Snežnik: 1♀; Krim: 1♂; Siječ: 8♂, 6♀; Veliko Blejsko barje: 1♂, 2♀.

Published data. Slovenia: Vujić (1990), De Groot & Govedič (2008).

Syrpitta pipiens (Linnaeus, 1758)

New data. Slovenia: Planina pod Golico 1: 1♂.

Published data. Slovenia: Strobl (1893b; 1909); Glumac (1956a); Leclercq (1961); Lambeck (1968); De Groot (2004); De Groot & Govedič (2008).

Syrphus nitidifrons Becker, 1921**New species to Slovenia**

New data. Slovenia: Volovja reber: 1♀.

Published data. Balkan peninsula: Macedonia, Montenegro.

Syrphus ribesii (Linnaeus, 1758)

New data. Slovenia: Planina pod Golico 1: 1♂; Planina pod Golico 2: 1♀; Volovja reber: 3♂; Krim: 1♀.

Published data. Slovenia: Strobl (1893b; 1894; 1909); Glumac (1956a; 1972); Leclercq (1961); De Groot (2004); De Groot & Govedič (2008).

Syrphus torvus Osten Sacken, 1875

New data. Slovenia: Planina pod Golico 1: 1♂; Volovja reber: 1♂; Siječ: 1♂.

Published data. Slovenia: De Groot (2004), De Groot & Govedič (2008).

Syrphus vitripennis Meigen, 1822

New data. Slovenia: Planina pod Golico 2: 2♀.

Published data. Slovenia: Strobl (1894; 1909); Glumac (1956a; 1972); Coe (1960); Lambeck (1968); De Groot & Govedič (2008).

Temnostoma bombylans (Fabricius, 1805)

New data. Slovenia: Planina pod Golico 2: 1♀; Volovja reber: 2♂, 1♀.

Published data. Slovenia: Lambeck (1968); Glumac (1972); De Groot (2004), De Groot & Govedič (2008).

Conservation status in Europe. Unthreatened in the Alpine region. Decreasing in the continental region (Speight et al. 2010).

Volucella bombylans (Linnaeus, 1758)

New data. Slovenia: Planina pod Golico 2: 1♂.

Published data. Slovenia: Strobl (1909); Lambeck (1968); De Groot (2004); De Groot & Govedič (2008); De Groot (2012).

Volucella pellucens (Linnaeus, 1758)

New data. Slovenia: Planina pod Golico 2: 1♂, Javorniški Slapovi: 1♂; Krim: 1♂.

Published data. Slovenia: Strobl (1909); Coe (1960); Lambeck (1968); De Groot (2004); De Groot & Govedič (2008); De Groot (2012).

Xanthandrus comtus (Harris, 1780).

New data. Slovenia: Javorniški Rovt: 1♀.

Published data. Slovenia: Lambeck (1968); Glumac (1972), De Groot & Govedič (2008).

Xanthogramma pedissequum (Harris, 1776)

New data. Slovenia: Krim: 1♂.

Published data. Slovenia: Strobl (1893a); Glumac (1956a; 1956b); Leclerq (1961); De Groot (2004); De Groot & Govedič (2008).

Xylota jakutorum Bagatshanova, 1980

New data. Slovenia: Planina pod Golico 1: 1♂, 1♀; Planina pod Golico 2: 2♀.

Published data. Slovenia: Vujić & Milankov (1999); De Groot & Govedič (2008).

Xylota segnis (Linnaeus, 1758)

New data. Slovenia: Siječ: 1♂.

Published data. Slovenia: Strobl (1893b); Coe (1960); Lambeck (1968); Milankov et al. (1995); Vujić & Milankov (1999); De Groot (2004); De Groot & Govedič (2008).

Xylota tarda Meigen, 1822

New species to Slovenia

New data. Slovenia: Volovja reber: 1♀.

Published data. Balkan peninsula: Croatia, Macedonia, Montenegro, Romania, Serbia.

Conservation status in Europe. Decreasing in the continental and Alpine regions (Speight et al. 2010).

Xylota xanthocnema Collin, 1939

New data. Slovenia: Volovja reber: 2♂, 1♀.

Published data. Slovenia: Coe (1960); De Groot & Govedič (2008).

Biology. Visiting and flying around a flowering Elder (*Sambucus nigra*) on the border between a pine forest and a dirt track.

Discussion

Our research, conducted during 19-21 June 2008 in Western Slovenia, gave the following results: 158 species collected and 21 species new to the fauna of Slovenia. Eleven sites were visited, four of which could be regarded as parts of one larger site,

Jesenice, and two other sites also as one larger site, Pokljuka. The numbers of collected species per site range from 27 to 68, apart from three sites that were only visited very briefly (two, eight and nine species). Jesenice, with 101 hoverfly species is the richest site in western Slovenia, then Pokljuka follows with 43 species.

The number of recorded species was highly influenced by the weather. Weather circumstances were good for collecting hoverflies at Jesenice sites, Volovja Reber and Veliko Blejsko barje. The numbers of collected specimens and species were negatively affected by the weather at sites Snežnik, Žejna dolina, Krim, Podpeč and Siječ. Especially at Žejna dolina and Podpeč hoverflies were not active due to the weather.

New species for Slovenia were collected at nine investigated localities. Most of them were collected at Volovja Reber (9 species) and Jesenice (8 species). At Snežnik (4 species), Pokljuka (1 species), Podpeško jezero (1 species) and Krim (1 species) only a few species new to Slovenia were found. This could partly be due to less favourable weather conditions at these sites. As many new species were captured at the Volovja reber chalk plateau this would be a good place to look for additional species. The slopes of the Alps probably harbour new species for Slovenia also.

Twenty-nine species are considered as decreasing or threatened in the alpine or continental part of Europe (Speight et al. 2010). *Hammerschmidtia ferruginea* is threatened in both the continental and Alpine regions. *Caliprobola speciosa*, *Microdon mutabilis*, *Neoascia meticulosa*, *Pipizella divicoi*, *Sphaerophoria batava*, *Psilota anthracina*, *Xylota tarda* and *Merodon flavus* are decreasing in both regions. *Paragus tibialis* is locally threatened in the Alpine and continental regions. *Chrysotoxum elegans*, *Epistrophe leiophthalma*, *Eumerus ovatus*, *Eumerus tricolor*, *Merodon armipes*, *Microdon devius*, *Sphaerophoria taeniata*, *Sphaerophoria virgata*, *Sphegina clavata*, *Sphegina montana*, *Temnostoma bombylans*, and *Sericomyia silentis* are decreasing only in the continental region. *Cheilosia derasa* is locally threatened in the continental region. *Cheilosia faucis*, *Cheilosia soror*, *Chrysogaster solstitialis*, *Eumerus grandis*, *Eupeodes goeldini* and *Xylota tarda* are decreasing in the Alpine region. *Cheilosia bracusi* is locally threatened in the Alpine region (Speight et al. 2010).

Many of the collected species are listed as decreasing or endangered for parts of Europe. This high number might be influenced by the fact that many parts of Slovenia are still relatively unexplored. The presented results clearly show that more investigations are needed to determine the actual state of these species in Slovenia. At the moment it would be wise to regard all sites with decreasing or threatened species as important and valuable areas for the European Syrphidae fauna. Protection of these sites should be given special attention.

During this short trip 158 species were collected. The list of Slovenian Syrphidae was extended from 288 to 309 species.

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