

NEW DATA ON THE GENUS *SYRPHUS* FABRICIUS, 1775
(DIPTERA: SYRPHIDAE) FROM THE BALKAN PENINSULA
INCLUDING THE FIRST RECORD OF
SYRPHUS NITRIDIFRONS BECKER, 1921

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Abstract

Four species of the genus *Syrphus* Fabricius, 1775 have been recorded in the Balkan Peninsula: *S. nitidifrons* Becker, 1921, *S. ribesii* (Linnaeus, 1758), *S. torvus* Osten Sacken, 1875 and *S. vitripennis* Meigen, 1822. The first documented record of *S. nitidifrons* from the Balkan Peninsula is provided, as well as keys for both males and females, lists of material examined and distribution maps for each Balkan *Syrphus* species. *Syrphus torvus* is new to Croatia. All the studied taxa are widespread throughout the Balkans, except *S. nitidifrons*, limited to a few mountain localities: Kopaonik Mountain (Serbia), Jahorina Mountain (Bosnia and Herzegovina) and Durmitor Mountain (Montenegro). The need for conservation of *S. nitidifrons* is remarked.

KEY WORDS: *Syrphus nitidifrons*, keys to species, first records, species distribution

Introduction

The genus *Syrphus* Fabricius, 1775 (Syrphinae: Syrphini) comprises medium-sized hoverflies with broad oval abdomen and calypter with hairs on the dorsal side. The larvae are predators of aphids (ROTHERAY, 1993).

The Palaearctic species of *Syrphus* were revised by GOELDLIN DE TIEFENAU (1996), who recognised a total of nine species including two new species and one subspecies: *S. admirandus* Goeldlin de Tiefenau, 1996, *S. attenuatus* Hine, 1922, *S. aubertii* Goeldlin de Tiefenau, 1996, *S. nitidifrons* Becker, 1921, *Syrphus rectus* ssp. *bretoletensis* Goeldlin de Tiefenau, 1996, *S. ribesii* (Linnaeus, 1758), *S. sexmaculatus* (Zetterstedt, 1838), *S. stackelbergi* Kuznetsov, 1990, *S. torvus* Osten Sacken, 1875, *S. vitripennis* Meigen, 1822. This subspecies has an unclear taxonomic status because SSYMANK (1999) synonymised it with *S. vitripennis* but later SPEIGHT (1999) reinstated it as a subspecies. For a certain identification of the *Syrphus* species study of the male genitalia is important and, when possible, of the larval characters (DUŠEK & LÁSKA, 1964). Europe currently has nine species of this genus (SPEIGHT, 2008).

The preferred habitats of the adults are coniferous and deciduous forests, but some species (*S. ribesii* and *S. vitripennis*) are significantly anthropophilic (SPEIGHT, 2008).

The aim of this study is to complete and update the faunistic knowledge of the genus *Syrphus* in the Balkan Peninsula by examining the specimens deposited in the collection of the University of Novi Sad, Serbia and compiling all published data about the Balkan *Syrphus*.

Material and Methods

The examined material comprised specimens collected from 1955 to 2009 by hand net in different Balkan localities. All the specimens are deposited in the entomological collection of the Department of Biology and Ecology, University of Novi Sad, Serbia.

Identifications were based on the keys and descriptions in GOELDLIN DE TIEFENAU (1996) and SPEIGHT (1999). Species biology and range follows SPEIGHT (2008).

For each studied species, material examined is grouped according to the fact that it is unpublished (new) or published data. In each case, examined material is grouped into different Balkan countries. Countries are geographically arranged, from the west to the east.

Keys for both males and females and distribution maps of each *Syrphus* species are provided. Maps were obtained by using the Google Earth® software.

Results

The study of the available material and the review of the published data resulted in the recognition of four *Syrphus* species in the Balkan Peninsula, keyed as follows.

Key to the *Syrphus* species of the Balkan Peninsula

Males

- | | |
|---|---|
| 1) Wing: second basal cell entirely covered with microtrichia | 2 |
| - Second basal cell with a bare area | 4 |

- 2) Eyes hairy; genae with black hairs; hind femora black on the basal 2/3 *Syrphus torvus*
 - Eyes bare 3
- 3) Frons shining black with black hairs; mouth edge broad and black; genae black haired; fore and mid femora black on the basal 2/3; hind femora black on the basal 4/5 and with black hairs *Syrphus nitidifrons*
 - Frons black on the area immediately posterior to the lunulae and the rest of the frons yellow with silvery pruinosity posterior to the lunulae; genae with yellow hairs; hind femora black on the basal 2/3
 *Syrphus ribesii*
- 4) Fore and mid femora black on the basal 1/3 and hind femora black on the basal 2/3 *Syrphus vitripennis*

Females

- 1) Wing: second basal cell entirely covered with microtrichia 2
 - Second basal cell with a bare area 4
- 2) Eyes hairy; hind femora black on the basal 2/3 *Syrphus torvus*
 - Eyes bare 3
- 3) Mouth edge broad and black; genae with black hairs; frons shining black, with black hairs; femora black on most of its length and with black hairs *Syrphus nitidifrons*
 - Mouth edge yellow; genae with yellow hairs; frons yellow and black, with silvery pruinosity; femora entirely yellow *Syrphus ribesii*
- 4) Hind femora black on the basal 2/3; fore and mid femora black on the basal quarter of their length *Syrphus vitripennis*

Recorded species

Syrphus nitidifrons Becker, 1921

First documented record to the Balkan Peninsula

Material examined

- New data

Bosnia and Herzegovina: Jahorina Mt.: 14.06.1991, 1♂; Serbia: Kopaonik Mt.: Samokovska reka, 16.06.1986, 1♀, 22.06.1991, 1♀; Montenegro: Durmitor Mt.: Crepulj poljana, 04.07.1991, 1♂, Durmitor Mt.: Aluge, 15.05.1996, 1♂, leg. Vujić; Durmitor Mt.: Sušičko jezero-Sastavci, 02.06.1998, 1♀, leg. Vujić; Durmitor Mt.: Pitomine, 01.07.1983, 1♀; Durmitor Mt.: Crno jezero, 22.05.1983, 1♀; Durmitor Mt.: Mliniski potok, 22.06.1985, 1♀; Durmitor Mt.: Sušica-Škrke, 26.05.1996, 1♀; Durmitor Mt.: Sušičko jezero-Sastavci, 2.06.1998, 1♂, leg. Vujić; Durmitor Mt.: Jezerska površ, 21.05.1998, 3♂♂, leg. Milenković, 2♂♂, 2♀♀, leg. Vujić.

Biology. The preferred habitats of these species are coniferous forests of *Abies*, *Picea* and humid forests of *Pinus*; adults fly from April to June and visit flowers of *Amelanchier*, *Lychnis*, *Prunus*, *Ranunculus*, *Salix* and *Sorbus*; larva is not described.

Range (Fig. 1). From north-west Germany south to the Pyrenees; from Belgium and the Netherlands through central Europe (Czechoslovakia, Switzerland) to the former Yugoslavia (see "Discussion").



Figure 1. Distribution of *Syrphus nitidifrons* Becker, 1921 in the Balkan Peninsula.

Syrphus ribesii (Linnaeus, 1758)

Material examined

- New data

Slovenia: Bohinjska bistrica, 14.06.1988, 2♂♂; Pohorje Mt., 17.07.1972, 1♂; Vršič, 18.06.1988, 1♀; Logarska dolina, 17.06.1988, 1♂, 1♀; Pokljuka, 02.07.1989, 1♀; Menina, 24.05.1989, 1♂; Vršič, 18.06.1988, 1♂; Savinja (Sredina), 16.06.1988, 2♂♂; Matkov kot, 25.05.1989, 1♂; Kamniška bistrica, 16.06.1988, 1♂; Croatia: Plitvička jezera, 22.07.1986, 2♀♀; Slavonski brod, 21.08.1985, 1♂; Primorje: Slano, 29.04.1990, 1♂; Primorje: Neretva, 14.04.1989, 1♂; Bosnia and Herzegovina: Pobočja Travnik, 05.08.1974, 1♂; Bosanska Krupa, 12.06.1988, 1♂; 25.06.1989, 1♂; Igman-Bjelašnica, 26.06.1989, 1♂; Jahorina, 26.06.1989, 1♂; Tjentište, 07-09.09.1977, 1♀; Serbia: Fruška gora Mt.: Glavica, 22.06.1988, 1♂; Fruška gora Mt.: Ležimir, 27.05.1981, 1♂, 23.07.1981, 5♂♂; Fruška gora Mt.: Venac, 29.07.1983, 1♂, 30.07.1983, 1♂; Fruška gora Mt.: Ledinci, 22.06.1988, 1♂, 17.04.1991, 1♂; Petrovaradinski rit: Tekije-vrbova šuma, 11.05.1986, 1♂; Fruška gora Mt.: Zmajevac, 04.06.1981, 1♂; Fruška gora Mt.: Paragovo, 22.06.1988, 1♂; Fruška gora Mt.: Glavica, 13.04.1994, 1♂, leg. Vujić, 25.04.1994, 1♂, leg. Radišić; Fruška gora Mt.: Brankovac, 21.05.1991, 1♂; Fruška gora Mt.: Paragovo, 10.05.1996, 1♂, leg. Tanurdžić, 1♂, leg. Vujić; Fruška gora Mt.: Stražilovo, 13.10.2006, 1♀, 26.05.2007, 1♂, 14.04.2008, 3♂♂, 25.04.2009, 10♂♂, leg. Nedeljković; Sremski Karlovci, 15.04.2007, 1♂, leg. Nedeljković; Futog, 04.07.1979, 1♀; Deliblatska peščara, Tilva-Deliblato, 2.04.1998, 1♂, leg. Radišić; Deliblatska peščara: Tilva, 25.04.1998, 3♂♂, leg. Radišić; Deliblatska peščara: Devojački bunar-Tilva, 02.04.1998, 2♀♀, leg. Vujić; Vršacke planine Mt.: Dombrana, 19.05.1985, 1♀; Vršacke planine Mt.: Lisičja glava, 08.07.1988, 2♂♂, 06.04.1989, 1♂; Vršacke planine Mt.: Brana, 13.07.1988, 2♂♂, 1♀; Vršacke planine Mt.: Gudurički vrh, 10.07.1988, 1♂; Vršacke planine Mt.: Široko bilo, 06.07.1988, 2♂♂, 12.04.1998, 1♂, leg. Radenković, 2♀♀, leg. Mičić, 1♂, leg. Vujić; Vršacke planine Mt.: Lisičja glava, 08.07.1988, 1♂; Vršacke planine Mt.: Vršacka kula, 07.07.1988, 1♀; Vršacke planine Mt.: Markovac, 16.04.1983, 1♂; Vršacke planine Mt.: Široko bilo, 12.04.1998, 1♂; Kikinda, 27.10.1984, 1♀; Srbobran, 20.06.1979, 1♀; Kopaonik Mt.: Graševačka reka, 26.04.1987, 1♀, 27.05.1987, 4♀♀, 1♂; Kopaonik Mt.: Graševci, 24.05.1987, 1♀; Kopaonik Mt.: Jošanica, 24.06.1986, 1♂;

Kopaonik Mt.: Jošanička banja, 29.04.1987, 6♂♂, 4♀♀, 25.05.1987, 3♂♂, 1♀, 24.06.1987, 1♂; Kopaonik Mt.: Samokovska reka, 19.07.1985, 4♂♂, 4♀♀, 01.05.1986, 6♂♂, 2♀♀, 02.05.1986, 1♂, 22.05.1986, 4♂♂, 3♀♀, 16.06.1986, 17♂♂, 9♀♀, 05.07.1986, 25♂♂, 8♀♀, 16.06.1986, 3♂♂, 1♀, 03.08.1987, 8♂♂, 30.04.1992, 1♂, 02.05.1992, 1♀, 03.05.1992, 1♂, 2♀♀, 24.05.1992, 3♂♂, 1♀, 14.08.1997, 1♀, 14.08.1997, 1♂, leg. Vujić, 1♀, leg. Prodana, 1♂; leg. Vujić, 07.09.1997, 1♀, leg. Milankov; Kopaonik Mt.: Klisura Samokovske reke, 07.06.1998, 1♀, leg. Stamenković; Kopaonik Mt.: Marine vode, 15.08.1985, 1♂, 1♀, 24.05.1986, 1♂, 1♀, 04.08.1987, 2♂♂; Kopaonik Mt.: Vlajkovci, 24.05.1987, 3♂♂, 2♀♀; Kopaonik Mt.: Brzeće, 24.05.1987, 3♀♀; Kopaonik Mt.: Srebrenac, 24.05.1987, 12♀♀, 21.06.1987, 1♂; Kopaonik Mt.: Brus, 24.05.1987, 1♀; Kopaonik Mt.: Rasina, 24.05.1987, 1♂; Kopaonik Mt.: Jelakci, 26.05.1987, 3♀♀; Kopaonik Mt.: Pančičev vrh, 06.07.1986, 2♂♂; Kopaonik Mt.: Vlajkovci, 24.05.1987, 2♂♂; Kopaonik Mt.: Velika reka, 23.05.1986, 2♂♂, 3♀♀, 14.06.1986, 2♂♂, 4♀♀, 04.07.1986, 1♂, 1♀, 04.08.1987, 2♂♂, 2♀♀; Kopaonik Mt.: Radosice, 29.04.1986, 1♂, 1♀, 22.05.1986, 1♀, 08.07.1986, 2♂♂, 1♀, 30.04.1992, 1♀; Kopaonik Mt.: Duboka reka, 16.08.1985, 2♂♂, 23.05.1986, 3♀♀, 18.06.1986, 1♂, 2♀♀, 06.07.1986, 3♂♂, 2♀♀; Kopaonik Mt.: Kokorovac, 26.05.1987, 3♂♂, 6♀♀; Kopaonik Mt.: Karamanski potok, 07.07.1986, 5♂♂, 4♀♀; Kopaonik Mt.: Karaman, 19.08.1985, 1♂, 1♀, 16.08.1997, 1♀; leg. Dević; Kopaonik Mt.: Brzečka reka, 27.05.1987, 1♂, 2♀♀; Kopaonik Mt.: Brzeće, 24.05.1987, 2♀♀; Kopaonik Mt.: Jasle-Čukara, 20.05.1986, 2♀♀, 08.06.1998, 1♀; leg. Stamenković; Kopaonik Mt.: Jasle-Jablanova ravan, 14.06.1986, 3♂♂; Kopaonik Mt.: Čukara, 15.08.1997, 1♀, leg. Vujić, 2♀♀, leg. Prodana, 1♀, leg. Milidragović, 01.09.1997, 1♀, leg. Vujić; Kopaonik Mt.: Čukara-Jablanova ravan, 22.05.1993, 1♀, leg. Radenković; Kopaonik Mt.: Jablanova ravan, 20.05.1986, 1♂, 1♀, 23.05.1993, 1♀, leg. Vujić; Kopaonik Mt.: Kadijevac, 21.05.1986, 1♂, 1♀, 24.05.1993, 1♀, leg. Šimić; Kopaonik Mt.: Bačište, 18.07.1985, 1♀, 04.07.1986, 6♂♂, 06.07.1986, 3♂♂; Kopaonik Mt.: Jankove bare, 07.07.1986, 5♂♂, 02.08.1987, 4♂♂; Kopaonik Mt.: Pajino preslo, 06.07.1986, 1♂, 18.06.1986, 1♂, 1♀; Kopaonik Mt.: Bukva-smrča, 17.07.1985, 7♂♂, 1♀; Kopaonik Mt.: Smrča-Juniperus, 17-20.07.1985, 5♂♂; Kopaonik Mt.: Treska-bukva, 17.07.1985, 6♂♂; Kopaonik Mt.: Smrča, 20.07.1985, 2♂♂, 1♀; Kopaonik Mt.: Suvo Rudište, 17.07.1985, 1♂, 2♀♀, 23.05.1991, 2♀♀; Kopaonik Mt.: Veliki Do, 17.08.1985, 1♂; Kopaonik Mt.: Radmanovo, 21.06.1987, 1♂; Kopaonik Mt.: Gobeljska reka, 25.05.1987, 4♂♂, 5♀♀, 4.08.1987, 6♂♂, 1♀; Kopaonik Mt.: Paljestička reka, 23.06.1987, 1♂; Stara planina Mt.: Topli do-Pilj, 28.05.1987, 5♀♀, 25.06.1987, 1♀, 11.08.1987, 4♂♂, 1♀, 11.09.1987, 1♂; Stara planina Mt.: Pilj, 07.05.1988, 3♀♀; Stara planina Mt.: Topli Do, 28.05.1987, 1♂, 8♀♀, 29.05.1987, 2\$, 2♀♀, 25.06.1987, 3♂♂; Stara planina Mt.: Temska-spomenik, 30.04.1987, 9♂♂, 8♀♀, 12.04.1988, 1♂, 1♀; Stara planina Mt.: Temska, 1.05.1987, 5♂♂, 3♀♀; Stara planina Mt.: Dojkinačka reka, 29.05.1987, 1♂, 5♀♀, 06.05.1988, 1♂, 2♀♀, 29-30.05.1988, 1♂, 2♀♀, 30.05.1988, 6♀♀; Stara planina Mt.: Mala Lukana, 01.05.1987, 4♂♂; Stara planina Mt.: Crni vrh, 08.05.1988, 3♂♂, 1♀, 31.05.1988, 2♀♀; Stara planina Mt.: Barska livaba- 30.04.1987, 2♂♂; Stara planina Mt.: Dojkinci-Arbinje, 26.06.1987, 1♂; Stara planina Mt.: Arbinje, 11.08.1987, 1♂; Stara planina Mt.: Sliv Rekitske reke, 21.07.1991, 1♀; Stara planina Mt.: Rsovci, 02.05.1987, 1♂; Stara planina Mt.: Kalna, 8.05.1988, 1♂; Stara planina Mt.: Planinica, 29.05.1988, 2♂♂; Stara planina Mt.: Zavojsko jezero, 13.07.1992, 1♂; Stara planina Mt.: Rekitska reka, 13.07.1991, 1♂; Stara planina Mt.: Midžor, 14.07.1991, 1♀; Stara planina Mt.: Babin zub, 16.07.1991, 1♂; Kučaj Mt.: Crnica, .07.1986, 2♂♂; Kučaj Mt.: Crnica-vlažne livade, 26.07.1986, 2♂♂, 29-30.07.1986, 1♂, 8♀♀; Kučaj Mt.: Crnica-livada, 23.07.1986, 1♂, 26.07.1986, 2♂♂, 4♀♀; Kučaj Mt.: Crnica-kanjon, 21.07.1986, 2♂♂; Kučaj Mt.: Sisevac-livada, 22.07.1986, 1♀, 24.07.1986, 1♂, 2♀♀, 29.07.1986, 1♀; Kučaj Mt.: Sisevac-potok, 21.07.1986, 1♂, 2♀♀; Kučaj Mt.: Sisevac-M.K., 28.07.1986, 3♂♂; Kučaj Mt.: Papratno-potok, 25.07.1986, 2♀♀, 27.07.1986, 6♂♂, 2♀♀; Kučaj Mt.: Papratno-leska, 27.07.1986, 2♂♂, 5♀♀; Kučaj Mt.: Papratno, 25.07.1986, 3♀♀; Kučaj Mt.: Papratno-livada, 27.07.1986, 1♂, 3♀♀; Kučaj Mt.: Papratno-bukova šuma, 26.07.1986, 1♂, 27.07.1986, 2♂♂, 4♀♀; Kučaj Mt.: Papratno-M.K., 26.07.1986, 1♂, 4♀♀; Kučaj Mt.: Papratno-apta, 26.07.1986, 2♂♂, 1♀; Kučaj Mt.: Papratno-B.ap., 26.07.1986, 1♀; Kučaj Mt.: Jablanica, 24.07.1986, 2♂♂, 1♀; Kučaj Mt.: Požare-N.K., 27.07.1986, 1♂, 1♀; Kučaj Mt.: Požare, .07.1986, 2♀♀; Šar planina Mt.: Grulov potok, 04.08.1991, 1♀; Šar

planina Mt.: Brezovica-Pilj.Pot., 17.07.1986, 13♂♂; Šar planina Mt.: Brezovica-molika, 19.07.1986, 11♂♂; Šar planina Mt.: Planinica, 27.06.1987, 4♂♂, 2♀♀; 1♂, 2♀♀; Šar planina Mt.: Ošljak, 29.06.1988, 1♂; Šar planina Mt.: Prevalac, 28.06.1988, 1♂; Šar planina Mt.: Durlov potok, 27.06.1988, 1♀; Šar planina Mt.: Gostivar, 18.04.1987, 4♂♂, 1♀; Šar planina Mt.: Jezero, 23.07.1986, 1♂; Šar planina Mt.: Durov potok, 18.07.1986, 14♂♂, 3♀♀; Šar planina Mt.: Reka Bistrica, 17.07.1986, 3♂♂, 1♀; Šar planina Mt.: Restelica-Sutman, 25.07.1986, 3♂♂, 1♀; Šar planina Mt.: Tegosnica, 3.05.1988, 1♀; Šar planina Mt.: Piljevački potok, 19.07.1986, 3♂♂; Šar planina Mt.: Globočica-Buka, 23.07.1986, 7♂♂, 2♀♀; Suva planina Mt.: Bojanine vode, 02.05.1988, 7♂♂, 28.05.1988, 2♂♂, 2♀♀; Vlasina: podnožje Čemernika, 21.07.1993, 1♀, leg. Vujić; Suva planina Mt.: Ispred Čukljenika, 09.04.1988, 1♂; Suva planina Mt.: Kunovica, 02.05.1988, 1♀; Prokletije Mt.: Krošnje, 28.07.1994, 1♀; Prokletije Mt.: Ka Ljubokući, 27.07.1994, 1♂, leg. Milankov, 1♀, leg. Vujić; Beljanica Mt.: Žagubica, 14.07.1993, 3♂♂; Rtanj Mt.: 01.05.1991, 1♀; Seličevica, 02.04.1989, 1♂; Cer Mt.: 12.05.1989, 1♂; Svrljig, Mali zeleni vrh, 11.07.1989, 1♂; Svrljig: Vrelo, 13.07.1989, 1♂; Svrljig: Zeleni vrh, 10.07.1989, 1♂, 1♀; Svrljig: Gulijan, 09.07.1989, 1♀; Zaječar, 1-10.07.1978, 1♀; Todorova reka, 30.04.1993, 1♂, leg. Vujić, 1.05.1993, 1♂, leg. Milankov; Tara Mt.: Mitrovac-šuma, 17.07.1985, 5♂♂; Tara Mt.: Ponor, 16.07.1985, 2♂♂; Tara Mt.: Vučjak, 13.07.1985, 7♂♂; Tara Mt.: Gorušica, 12.07.1985, 1♀; Tara Mt.: Krnja jela, 19.07.1985, 2♂♂; Juhor: Dobre vode, 12.07.1984, 2♂♂; Vlasina: Donji orah, 03.05.1988, 3♂♂, 1♀; Vlasina: Tegosnica-sastav R., 03.05.1988, 1♂, 1♀; Vlasina: Vlasinsko jezero, 01.06.1988, 1♂, 1♀; Vlasina: SastavR.-Crna R., 01.06.1988, 2♂♂; Vlasina: Bosilegrad, 05.05.1988, 1♂; Vlasina: Vrla, 4.05.1988, 3♂♂, 1♀; Vlasina: Podnožje Čemernika, 21.07.1993, 1♂, 1♀; Rajac Mt.: Ozremica, 23.07.2007, 1♂, 2♀♀, leg. Šimić; Binačka Morava, 19.04.1987, 2♂♂; Montenegro: Durmitor Mt.: 17.07.1981, 1♀; Durmitor Mt.: Otoka Crnog jezera, 02.07.1981, 3♂♂, 6♀♀, 02-04.07.1981, 1♂, 9♀♀, 04-05.07.1981, 5♀♀, 20.06.1983, 1♀, 05.07.1983, 1♀, 29.06.1985, 2♂♂, 14.07.1997, 1♀, leg. Mičić; Durmitor Mt.: Crno jezero, 05.07.1981, 2♂♂, 1♀, 22.05.1983, 1♀; Durmitor Mt.: Pitomine, 08.07.1981, 3♂, 5♀♀, 05.07.1983, 1♀, 9.07.1983; Durmitor Mt.: Do Zminjeg jezera, 03.07.1981, 1♀; Durmitor Mt.: Žabljak, 20.07.1981, 2♀♀; Durmitor Mt.: Žabljak-Bosača, 07.07.1983, 1♂; Durmitor Mt.: Vražje jezero, 08.07.1981, 1♀; Durmitor Mt.: Sušičko jezero, 27.06.1985, 3♂♂, 25-26.06.1986, 2♀♀; Durmitor Mt.: Kanjon Sušice, 08.07.1983, 1♀, 24.08.1984, 2♀♀, 09.07.1991, 1♂, 01.07.1993, 1♂, 25.06.1995, 1♀, leg. Vujić, 09.08.1985, 1♀, 09.07.1991, 1♂, 21.06.1998, 1♀; Durmitor Mt.: Sušica, 28.06.1985, 2♂♂; Durmitor Mt.: Sušičko jezero- Sastavci, 20.06.1998, 2♂♂, leg. Milankov, 1♀, leg. Stamenković, 1♂, leg. Milenković; Durmitor Mt.: Sušičko jezero-Skakala, 25-26.06.1997, 1♂, 1♀, leg. Dević, 31.05-1.06.1998, 1♂, 1♀, leg. Vujić; Durmitor Mt.: Sušičko jezero-Zlatica, 27.06.2000, 4♂♂, leg. Vujić; Durmitor Mt.: Sušica-Škrke, 25-26.05.1996, 1♂; Durmitor Mt.: Škrčka jezera, 05.07.1983, 1♀, 18.08.1988, 1♀, 30.06.1993, 1♂, leg. Radnović; Durmitor Mt.: Celine, 06.07.1981, 1♂; Durmitor Mt.: Jablan jezero, 20.07.1995, 1♂, leg. Vujić; Durmitor Mt.: Pirlitor, 10.07.1983, 2♀♀; Durmitor Mt.: Mlinski potok, 05.09.1982, 1♂, 22.06.1985, 3♂♂, 29.06.1985, 2♂♂, 06.08.1985, 1♂, 2♀♀, 25.08.1989, leg. Radenković, 25.08.1999, 1♂, 1♀; Durmitor Mt.: Tara-splavište, 22.06.1985, 1♂; Durmitor Mt.: Aluge, 26.06.1985, 1♀; Durmitor Mt.: Đurđevića Tara, 30.08.1982, 1♀; Durmitor Mt.: Ka Savinom kuku, 25.06.1983, 1♂; Durmitor Mt.: Tepča, 06.07.1983, 2♀♀; Durmitor Mt.: Mala Crna Gora, 08.07.1983, 3♀♀; Durmitor Mt.: Žljeb, 21.06.1987, 1♂; Durmitor Mt.: Komarnica, 24.07.1983, 1♀, leg. Jakšić; Durmitor Mt.: Ivan Do, 27.06.1993, 2♂♂, leg. Radnović, 1♀, leg. Radišić, 26.09.1997, 1♀, leg. Vujić; Durmitor Mt.: Goveđa jezera, 05.08.1996, 1♂, leg. Radišić; Durmitor Mt.: Skakala, 01.07.1993, 1♀, leg. Radnović; Durmitor Mt.: Kanjon Tare, 25.07.1981, 3♀♀; Durmitor Mt.: Kracmani, 30.07.1998, 1♀, leg. Vujić; Durmitor Mt.: Jezerska površ, 21.05.1998, 1♂, leg. Milenković; Durmitor Mt.: Škrčko ždrelo, 17.07.1997, 2♀♀, leg. Mičić, 1♀, leg. Vujić; Boka Kotorska, 29.04.1990, 1♂, 12.05.1991, 1♂; Boka Kotorska: Morinj, 13-20.05.1995, 1♂, 5.04.1996, 1♀; Macedonia: Radika, 17.04.1987, 2♂♂, 2♀♀; Mavrovo, 10.07.1998, 1♂, leg. Vujić, 1♀, leg. Radenković, 1♀, leg. Šimić; Kožuf: Asan-česma, 12.07.1990, 1♂, 1♀; Šar planina Mt.: Lešnica-Popova. Šapka., 27.07.1986, 2♂♂; H, 03.10.1975, 1♀; Greece: Joanina-Neapoli, 12.03.1990, 1♀.

- Published data

Slovenia: Celje and Radgona (STROBL, 1893), Postojna (LECLERCQ, 1961), Kamniška bistrica, Šentvid, Faak (LAMBECK, 1968); Croatia: (VON FRAUENFELD, 1860), Gemein (LANGHOFFER, 1911), Sućurac, Lumbarda and Korčula (MARCUIZZI, 1941), Zadar, Hvar (STROBL, 1902), Janina, Grasova (TÖLG & FAHRINGER, 1909), Kopar and Umag (GLUMAC, 1956a); Bosnia and Herzegovina: Mostar (STROBL, 1898), Treska planina Mt. (GLUMAC, 1955b, 1972); Serbia: Beograd, Tara Mt., Homolje Mt. and Kopaonik Mt. (GLUMAC, 1955a), Fruška gora Mt. (GLUMAC, 1959, VUJIĆ & GLUMAC, 1994), Beograd and Oplenac (KULA, 1985), Obedska bara (VUJIĆ *et al.*, 1998a), Potisje (ŠIMIĆ & VUJIĆ, 1987), Vršачke planine Mt. (VUJIĆ & ŠIMIĆ, 1994); Stara planina Mt. (ŠIMIĆ & VUJIĆ, 1996); Vršачke planine Mt.: Mesić-Fiseš, Žabalj, Koviljsko-petrovaradinski rit (ŠIMIĆ *et al.*, 2009); Montenegro: Kotor (GLUMAC, 1956b, 1972), Kolašin (COE, 1960); Durmitor Mt. (ŠIMIĆ, 1987); Greece: Halkidiki, Kasandra (VUJIĆ *et al.*, 2000); Macedonia: Oteševo, Vata Bogunović, dolina Nevičanske reke, Rudina, Resan, Bukovica, Mavrovo (GLUMAC, 1968, 1972), Ohridsko jezero (COE, 1960), Mavrovo NP (KRPAC *et al.*, 2001); Bulgaria: Bulgaria (DRENSKY, 1934), Pirin, Rila, Rodopi, Strandža, Vitoša (BANKOWSKA, 1967).

Biology. The preferred habitats are deciduous and coniferous forests and coniferous plantations, also anthropophilic (occurring in farmland, orchards, horticultural land, suburban gardens and parks); adults fly from April to November with peaks in May and August, and visit a wide range of yellow, white, pink and blue flowers, including composites and umbellifers and the flowers of many trees and shrubs; larva is described and figured by DUŠEK & LÁSKA (1964).

Range (Fig. 2). From Iceland and Fennoscandia south to Iberia and the Mediterranean; Canary Isles; from Ireland eastwards through most of Europe into Turkey, European parts of Russia and Afghanistan; from the Urals to the Pacific coast (Kuril Isles); Japan; N America from Alaska south to central parts of the USA. Migratory species.



Figure 2. Distribution of *Syrphus ribesii* (Linnaeus, 1758) in the Balkan Peninsula.

Syrphus torvus Osten Sacken, 1875

First record to Croatia

Material examined

- New data

Croatia: Plitvička jezera, 22.07.1986, 3♂♂, 9♀♀; Bosnia and Herzegovina: Tjentište, 07-09.09.1977, 1♀, 2.06.1990, 1♀; Serbia: Fruška gora Mt.: Ledinci, 17.04.1991, 1♂; Karađorđevo, 09.04.1978, 2♀♀; Deliblatska peščara: Devojački bunar-Tilva, 02.04.1998, 3♂♂, leg. Vujić, 1♀, leg. Prodana; Fruška gora: Paragovo, 01.05.1988, 1♂♂, 1♀; Deliblatska peščara: Devojački bunar, 12.08.1997, 1♂, 24.09.1997, 2♀♀, 25.09.1997, 1♀, 26.09.1997, 6♀♀, 27.09.1997, 1♀, leg. Dragin; Sremska Kamenica, 18.11.2008, 1♀, leg. Savić; Vršачke planine Mt.: Lisičja glava, 08.07.1988, 4♂♂, 3♀♀; Vršачke planine Mt.: Gudurički vrh, 10.07.1988, 2♂♂; Vršачke planine Mt.: Brana, 13.07.1988, 1♂, 2♀♀; Vršачke planine Mt.: Vršачka kula, 07.07.1988, 2♂♂, 2♀♀; Vršачke planine Mt.: Kula-planinarski dom, 12.05.1985, 1♂; Vršачke planine Mt.: Široko bilo, 6.07.1988, 2♀♀; Kopaonik Mt.: Klisura Samokovske reke, 07.06.1998, 1♂, leg. Milidragović; Kopaonik Mt.: Samokovska reka, 19.07.1985, 2♂, 10♀♀, 1.05.1986, 3♂♂, 1♀, 02.05.1986, 1♂, 20.05.1986, 1♂, 22.05.1986, 3♂♂, 16.06.1986, 4♂♂, 8♀♀, 05.07.1986, 17♂♂, 8♀♀, 21.06.1991, 1♂, 22.06.1991, 1♀, 30.04.1992, 12♂♂, 4♀♀, 02.05.1992, 9♀♀, 24.05.1992, 4♂♂, 28.05.1992, 2♂♂, leg. Radišić, 14.08.1997, 1♂, leg. Milidragović, 2♂♂, leg. Prodana, 07.09.1997, 1♀, leg. Vujić, 07.06.1998, 1♀, leg. Milenković; Kopaonik Mt.: Duboka reka, 16.08.1985, 3♂♂, 3♀♀, 23.05.1986, 4♀♀, 06.07.1986, 6♂♂, 2♀♀, 18.06.1986, 1♂, 4♀♀; Kopaonik Mt.: Jasle-Jablanova ravan, 14.06.1986, 1♀; Kopaonik Mt.: Jasle-Čukara, 20.05.1986, 2♂♂, 7♀♀, 04.07.1986, 1♀; Kopaonik Mt.: Čukara, 15.08.1997, 1♀, leg. Milidragović, 06.09.1997, 1♀, leg. Milankov; Kopaonik Mt.: Suvo Rudište, 17.07.1985, 38♂♂, 13♀♀, 16.08.1985, 5♂♂, 6♀♀, 23.05.1991, 1♂, 4♀♀; Kopaonik Mt.: Karamanski potok, 18.06.1996, 1♀, leg. Tanurdžić, 07.07.1986, 5♂♂, 3♀♀; Kopaonik Mt.: Karaman, 19.08.1985, 5♂♂, 1♀, 16.08.1997, 1♀, leg. Prodana; Kopaonik Mt.: Marine vode, 15.08.1985, 10♂♂, 2♀♀, 24.05.1986, 1♂, 3♀♀, 15.06.1986, 4♂♂; Kopaonik Mt.: Milutinove vode, 15.08.1985, 3♂♂; Kopaonik Mt.: Treska-bukva, 17.07.1985, 17♂♂, 1♀; Kopaonik Mt.: Bukva-smrča, 17.07.1985, 17♂♂, 4♀♀; Kopaonik Mt.: Smrča, 20.07.1985, 19♂♂, 7♀♀; Kopaonik Mt.: Smrča-Juniperus, 17-20.07.1985, 11♂♂; Kopaonik Mt.: Veliki do, 17.08.1985, 2♂♂; Kopaonik Mt.: Jaram, 17.08.1985, 2♂♂, 1♀; Kopaonik Mt.: Pajino preslo, 18.06.1986, 2♂♂, 1♀, 06.07.1986, 1♂, 2♀♀; Kopaonik Mt.: Bačište, 18.07.1985, 15♂♂, 2♀♀, leg. Jakšić, 04.07.1986, 5♂♂; Kopaonik Mt.: Jankove bare, 07.07.1986, 2♂♂, 2.08.1987, 3♂♂; Kopaonik Mt.: Jošanička banja, 08.04.1988, 1♂, 1♀; Kopaonik Mt.: Pajino preslo, 18.06.1986, 3♂♂; Kopaonik Mt.: Gobeljska reka, 25.05.1987, 1♀, 04.08.1987, 1♂, 02.05.1992, 2♀♀; Kopaonik Mt.: Velika reka, 02.05.1986, 3♀♀, 23.05.1986, 1♂, 14.06.1986, 2♂♂, 2♀♀, 04.07.1986, 5♂♂; Kopaonik Mt.: Jablanova ravan, 20.05.1986, 6♂♂, 04.07.1986, 1♂, 1♀; Kopaonik Mt.: Sunčana dolina, 23.05.1993, 1♀, leg. Radenković; Kopaonik Mt.: Kokorovac, 2.05.1992, 1♂; Kopaonik Mt.: Radosice, 29.04.1986, 1♂, 8.07.1986, 1♂, 08.04.1988, 2♂♂, 30.04.1992, 1♀; Kopaonik Mt.: Pančičev vrh, 06.07.1986, 1♂; Kopaonik Mt.: Srebrenac, 24.05.1987, 1♀; Kopaonik Mt.: Kadijevac, 21.05.1986, 1♀, 21.06.1991, 1♀; Kopaonik Mt.: Žljeb, 19.08.1985, 1♀; Tara Mt.: Kozja stena, 20.07.1985, 1♂, 2♀♀; Tara Mt.: Mitrovac-Zborište, 18.07.1985, 2♂♂, 2♀♀; Tara Mt.: Mitrovac-Šuma, 17.07.1985, 1♂; Tara Mt.: Žljeb, 3.05.1991, 1♂; Tara Mt.: Vučjak, 13.07.1985, 1♂; Tara Mt.: Gorušica, 12.07.1985, 5♂♂; Tara Mt.: Ponor, 16.07.1985, 1♂; Tara Mt.: 14.08.1982, 1♀; Tara Mt.:Rača, 22.07.1985, 1♀; Rtanj Mt., 01.05.1991, 1♀; Stara planina Mt.: Pilj, 07.05.1988, 12♂♂, 1♀; Stara planina Mt.: Topli do-Pilj, 11.08.1987, 1♀; Stara planina Mt.: Topli do, 28.05.1987, 1♀; Stara planina Mt.: Dojkinačka reka, 29.05.1987, 1♀, 06.05.1988, 1♂, 1♀; Stara planina Mt.: Temska-spomenik, 30.04.1987, 1♀; Stara planina Mt.: Spomenik, 07.05.1988, 1♀; Stara planina Mt.: Temska, 01.05.1987, 1♀; Stara planina Mt.: Crni vrh, 13.04.1988, 1♂, 1♀, 08.05.1988, 2♂♂; Stara planina Mt.: Sliv Rekitske reke, 12.07.1991, 1♀; Stara planina Mt.:Midžor, 14.07.1991, 1♀; Stara planina Mt.: Dojkinačka reka, 30.05.1988, 1♂, 1♀; Stara planina Mt.: Rzana-Dojkinci, 12.04.1988, 1♀; Stara planina Mt.: Zavojско jezero, 13.07.1992, 1♂; Suva planina Mt.: Bojanine vode, 02.05.1988, 5♂♂,

3♀♀; Suva planina Mt.: Jelašnica, 02.05.1988, 1♀; Suva planina Mt.: Čukljenik, 02.05.1988, 1♂; Šar planina Mt.: Brezovica: 19.07.1986, 3♂♂, 14.05.1997, 1♀, leg. Radenković; Šar planina Mt.: Brezovica-Piljevački potok., 17.07.1986, 2♂♂, 1♀; Šar planina Mt.: Grulov potok, 04.08.1991, 1♀; Šar planina Mt.: Osljak, 29.06.1988, 2♂♂; Šar planina Mt.: Prevalac, 28.06.1988, 2♂♂; Šar planina Mt.: Durlov potok, 27.06.1988, 3♂♂; Šar planina Mt.: Lešnica, 27.07.1986, 1♂; Šar planina Mt.: Piljevački potok, 19.07.1986, 3♂♂; Šar planina Mt.: Piribreg, 21.07.1986, 1♀; Šar planina Mt.: Durov potok, 18.07.1986, 3♂♂, 20.07.1986, 1♂, 1♀; Šar planina Mt.: Restelica-Sutman, 25.07.1986, 1♂, 1♀; Prokletije Mt.: Ka Ljubokući, 27.07.1994, 1♂; Beljanica Mt.: Žagubica, 14.07.1993, 1♂; Kučaj Mt.: Papratno-potok, 27.07.1986, 1♂; Vlasina: Vlasinsko jezero, 04.07.1977, 1♂, 1♀; Vlasina: Vrla, 04.05.1988, 4♀♀; Vlasina: Sastav Reka-Crna. Trava, 03.05.1988, 1♂; Vlasina: Tegosnica-Sastav R., 11.04.1988, 1♂, 3.05.1988, 4♂♂; Vlasina: Bosilegrad, 05.05.1988, 1♀; Vlasina: Podnožje Čemernika, 20.07.1993, 1♂; Klisura Peka, 3.05.1993, 1♂, leg. Milankov; Dubašnica Mt.: Zlotska klisura, 06.07.1985, 5♂♂, 1♀, 12.07.1985, 3♂♂; Dubašnica Mt.: Malinik-put, 07.07.1985, 4♂♂, 2♀♀; Dubašnica Mt.: Malinik, 07.07.1985, 1♀, 10.07.1985, 3♂♂; Dubašnica Mt.: Brestovačka banja, 08.07.1985, 2♂♂, 1♀; Dubašnica Mt.: Zlotska pećina-put, 09.07.1985, 1♂; Dubašnica Mt.: Adamov potok, 11.07.1985, 1♂; Dubašnica Mt.: Lunga, 06.06.1993, 1♀, leg. Radišić, 15.05.1994, 1♀, leg. Radnović, 21.05.1996, 1♀, leg. Milankov, 23.08.1996, 1♂, leg. Mičić; Dubašnica Mt.: Demizlok, 14.05.1994, 1♀, leg. Radenković, 12.06.1994, 1♂, 14.06.1994, 1♂, leg. Vujić; Montenegro: Durmitor Mt.: Celine, 06.07.1981, 1♀; Durmitor Mt.: Pitomine, 08.07.1981, 1♂, 01.07.1983, 2♀♀; Durmitor Mt.: Pirlitor, 29.08.1984, 2♀♀; Durmitor Mt.: Veliki stuoc, 02.08.1982, 1♂, 1♀; Durmitor Mt.: Ka Savinom kuku, 11.07.1981, 1♀; Durmitor Mt.: Crno jezero, 05.08.1982, 7♂♂, 22.05.1983, 1♀, 20.06.1983, 3♀♀, 27.08.1984, 4♂♂; Durmitor Mt.: Otoka Crnog jezera, 12-14.07.1981, 1♀, 05.08.1982, 2♀♀, 20.06.1983, 1♂, 9♀♀, 24.06.1983, 1♀, 05.07.1983, 1♀, 29.06.1985, 1♀; Durmitor Mt.: Komarnica, 24.07.1984, 1♂, 24.07.1985, 4♂♂, 3♀♀, leg. Jakšić; Durmitor Mt.: Aluge, 15.05.1996, 1♀; Durmitor Mt.: Mlinski potok, 06.08.1982, 2♀♀, 06.07.1983, 1♂, 21.08.1983, 1♀, 22.06.1985, 5♂♂, 29.06.1985, 19♂♂, 1♀, 06.08.1985, 22♂♂, 10♀♀, 03.07.1991, 1♂; Durmitor Mt.: Škrčko ždrelo, 30.06.1985, 1♀, 08.07.1991, 1♂; Durmitor Mt.: Škrčka jezera, 09.08.1985, 4♀♀; Durmitor Mt.: Sušica-Skakala, 29.06.1993, 1♀, leg. Radnović, 12.06.2000, 1♀; Durmitor Mt.: Sušičko jezero-Zlatica, 27.06.2000, 1♂; Durmitor Mt.: Skakala, 02.07.1993, 1♀, leg. Radnović, 03.06.1994, 1♀, leg. Vujić; Durmitor Mt.: Kanjon Sušice, 09.08.1985, 2♀♀, 24.08.1999, 2♀♀, leg. Radenković; Durmitor Mt.: Žabljak, 3.08.1982, 1♀, 19.08.1988, 1♂; Durmitor Mt.: Indini Dolovi, 08.08.1982, 2♂♂; Durmitor Mt.: Motički gaj, 08.08.1982, 2♀♀; Durmitor Mt.: Trepča-Kanjon Tare, 21.06.1983, 1♀; Durmitor Mt.: Tara-Tepca, 21.07.1985, 1♀, leg. Jakšić; Durmitor Mt.: Curovac, 21.05.1983, 1♀; Durmitor Mt.: Vojno odmaralište, 27.05.1983, 1♂; Durmitor Mt.: Sedlo, 04.08.1982, 1♂; Durmitor Mt.: Velike lokvice, 06.08.1996, 1♂, leg. Radišić; Durmitor Mt.: Ka Prutašu, 2.07.1993, 1♀, leg. Radnović; Durmitor Mt.: Jezerska površ, 21.05.1998, 2♀♀; Durmitor Mt.: Krecmani, 21.06.1998, 1♀, leg. Vujić, 26.08.1999, 1♀, leg. Radenković; Macedonia: Mavrovo: 10.07.1998, 2♂♂, 3♀♀, leg. Šimić, 1♂, leg. Radenković, 1♀, leg. Vujić.

- Published data

Bosnia and Herzegovina: Belašnica (KULA, 1985); Serbia: Košutnjak, Mramorak-Dolovo (GLUMAC, 1956c, 1972), Fruška gora Mt. (GLUMAC, 1959, VUJIĆ & GLUMAC, 1994), Avala and Košutnjak (KULA, 1985), Potisje (ŠIMIĆ & VUJIĆ, 1987), Obodska bara (VUJIĆ *et al.*, 1998); Vršacke planine Mt. (VUJIĆ & ŠIMIĆ, 1994), Ludaško jezero, Koviljsko-petrovaradinski rit (ŠIMIĆ *et al.*, 2009); Montenegro: Durmitor Mt. (ŠIMIĆ, 1987); Macedonia: Ogražden (GLUMAC, 1968, 1972), Mavrovo NP (KRPAČ *et al.*, 2001); Greece: Kastania-Kallir, Aheloos River (VUJIĆ *et al.*, 2000); Bulgaria: Pirin, Vitoša (BANKOWSKA, 1967), Varna (DRENSKY, 1934).

Biology. The preferred habitats are different kinds of forests (humid conifer *Abies*, *Picea* and *Pinus*, deciduous forest- *Betula*, *Fagus* and acidophilous *Quercus*), anthropophilic, occurring also in suburban gardens with mature trees and in urban parks; adults fly from March to October and visit a wide range of flowers from Asteraceae and species such as *Allium*, *Aster*, *Bellis*, *Brassica*, *Buxus*, *Caltha*, *Cirsium*,

Crataegus, Euphorbia, Frangula, Alnus, Glaux, Hedera, Hieracium, Oxalis, Prunus, Ranunculus, Rosa, Rubus, Salix, Senecio, Sorbus, Taraxacum and *Tussilago*; larva is aphidophagous and described and figured by DUŠEK & LÁSKA (1964).

Range (Fig. 3). From Greenland, Iceland, the Faroes (JENSEN, 2001) and Fennoscandia south to Iberia and the Mediterranean; through most of Europe into Turkey and European parts of Russia; from the Urals through Siberia to the Pacific coast (Kuril Isles); Japan; Formosa; northern India, Nepal, Thailand; in N America from Alaska south to New Mexico.



Figure 3. Distribution of *Syrfus torvus* Osten Sacken, 1875 in the Balkan Peninsula.

Syrfus vitripennis Meigen, 1822

Material examined

- New data

Bosnia and Herzegovina: Bileća, 20.07.1997, 1♂, leg. Milidragović; Serbia: Fruška gora Mt.: Glavica, 01.05.1988, 1♂; Fruška gora Mt.: 10.08.1996, 1♂, leg. Radenković; Radišić, 3♂♂, 1♀, leg. Radenković, 1♂, 1♀, leg. Vujić, 04.05.1994, 1♀, leg. Radišić; Vršacke planine Mt.: Vršacka kula, 07.07.1988, 2♂♂; Vršacke planine Mt.: Brana, 13.07.1988, 1♂; Fruška gora Mt.: Glavica, 13.04.1994, 2♂♂, 3♀♀, leg. Vujić, 1♂, 5♀♀, leg. Radenković, 25.04.1994, 1♀, leg. Vujić, 1♂, leg. Radenković; Vršacke planine Mt.: Široko bilo, 12.04.1998, 3♂♂, 2♀♀, leg. Dragišić, 1♂, leg. Mičić, 1♀, leg. Radenković; Koviljski rit, 24.04.1990, 1♂, 3♀♀, 18.05.1990, 2♀♀; Potisje: Senta, 05.08.1989, 1♀; Žabalj, 17.10.1998, 1♂, leg. Prodana; Bačka Topola, 11.06.1984, 1♂; Srbobran, 23.06.1981, 1♀; Vajska-Bač, 15.05.1985, 1♀; Kikinda, 27.10.1984, 1♂, 1♀; Topolovo, 02.05.1984, 1♂, 3♀♀; Kanjiža: Đala, 10.05.2008, 1♀, leg. Horvatović; Deliblatska peščara: Tilva, 25.04.1998, 6♂♂, 2♀♀; Deliblatska peščara: Tilva-Deliblato, 02.04.1998, 2♂♂, leg. Radišić; Deliblatska peščara: Devojački bunar, 25.04.1998, 2♀♀, leg. Radišić; Deliblatska peščara: Devojački bunar-Tilva, 2.04.1998, 1♀, leg. Vujić; Kopaonik Mt.: Suvo Rudište, 17.07.1985, 3♂♂, 1♀, 16.08.1985, 1♀; Kopaonik Mt.: Treska-bukva, 17.07.1985, 22♂♂, 1♀; Kopaonik Mt.: Smrča, 20.07.1985, 5♂♂; Kopaonik Mt.: Bukva-smrča, 17.07.1985, 2♂♂; Kopaonik Mt.: Samokovska reka, 19.07.1985, 4♀♀, 14.08.1997, 1♀,

leg. Vujić; Kopaonik Mt.: Smrča-juniperus, 17-20.07.1985, 4♂♂; Kopaonik Mt.: Treska-bukva, 17.07.1985, 1♀; Kopaonik Mt.: Čukara, 15.08.1997, 2♀♀, leg. Prodana, 3♀♀, leg. Milidragović, 6.09.1997, 1♀, leg. Milankov; Kopaonik Mt.: Jaram, 17.08.1985, 1♀; Dubašnica Mt.: Zlotska klisura, 06.07.1985, 4♂♂, 08-09.07.1985, 1♂, 12.07.1985, 9♂♂, 11.06.1994, 3♂♂, 2♀♀; Dubašnica Mt.: Malinik-put, 07.07.1985, 1♂; Dubašnica Mt.: Malinik-bukova šuma, 7.07.1985, 2♂♂; Dubašnica Mt.: Malinik-ka Vidikovcu, 18.05.1996, 1♀, 03.06.1996, 1♀, leg. Radenković; Dubašnica Mt.: Malinik, 7.07.1985, 1♀, 10.07.1985, 2♂♂, 13.05.1994, 1♂, leg. Vujić, 1♀, leg. Milankov, 1♀, leg. Vujić; Dubašnica Mt.: Klisura Lazareve reke, 03.05.1994, 1♀, leg. Radenković, 20.07.1994, 1♂, 24.08.1995, 1♂, leg. Radenković, 03-05.05.1996, 2♂♂, leg. Vujić, 22.08.1996, 1♂, leg. Radišić; Dubašnica Mt.: Adamov potok, 11.07.1985, 2♂♂; Dubašnica Mt.: Demizlok, 14.05.1994, 1♀, leg. Radenković, 2♀♀, leg. Radnović, 1♀, leg. Vujić, 12.06.1994, 3♂♂, 2♀♀, 14.06.1994, 1♂, leg. Vujić, 19.07.1994, 2♀♀, leg. Vujić, 04.05.1996, 1♀, leg. Vujić, 20.05.1996, 2♂♂, leg. Milankov; Dubašnica Mt.: Lunga, 15.05.1994, 1♂, 12.06.1994, 1♂, leg. Vujić, 18.05.1996, 1♀, 21.05.1996, 1♀, 02.06.1996, 1♀, leg. Vujić, 03.06.1996, 2♀♀, leg. Radenković, 22.08.1996, 2♀♀, leg. Radišić, 23.08.1996, 2♀♀, 1♀, leg. Mičić, 5♀♀, leg. Radenković; Dubašnica Mt.: Malinik, 10.06.1994, 1♀, leg. Radnović, 05.07.1995, 1♀; Dubašnica Mt.: Perast, 12.08.1994, 4♀♀, leg. Šimić; Dubašnica Mt.: Malinik, Manastirište, 3.05.1996, 1♀, leg. Radišić, 1♂, leg. Radenković; Tara Mt.: Vučjak, 13.07.1985, 1♂; Tara Mt.: Kozja stena, 20.07.1985, 1♂; Svrljig: Gulijan, 09.07.1989, 1♂; Stara planina Mt.: Dojkinačka reka, 06.05.1988, 1♀; Stara planina Mt.: Crni vrh, 08.05.1988, 1♂, 31.05.1988, 2♀♀; Suva planina Mt.: Jelašnica, 2.05.1988, 1♂; Montenegro: Durmitor Mt.: Đurđevića Tara, 30.08.1982, 1♀, 28.04.1996, 1♀, leg. Vujić; Durmitor Mt.: Skakala, 1.07.1993, 1♀, leg. Vujić; Durmitor Mt.: Kanjon Sušice, 24.08.1984, 1♀, 21.07.1995, 1♀, leg. Vujić; Durmitor Mt.: Sušičko jezero, 27.06.1985, 1♀; Boka kotorska: Morinj, 03-06.08.1995, 1♂, leg. Vujić; Macedonia: Mavrovo, 10.07.1998, 4♂♂, leg. Radenković, 2♂♂, leg. Šimić.

- Published data

Slovenia: Görz (STROBL, 1893), Postojne (COE, 1960), Bled (LAMBECK, 1968), Postojne (COE, 1960); Croatia: (VON FRAUENFELD, 1860), (LANGHOFFER, 1918), Dubrovnik, Hvar (STROBL, 1898 as *S. ribesii* var. *vitripennis*); Sućurac, Lambarda, Korčula (MARCUIZZI, 1941); Novi Grad (COE, 1960), Kopar and Umag (GLUMAC, 1956a); Bosnia and Herzegovina: Lesina (STROBL, 1893); Serbia: Beograd, Homolje Mt., Deliblatska peščara, Priština, Kopaonik Mt., Tara Mt. (GLUMAC, 1955a), Stara planina Mt. (ŠIMIĆ & VUJIĆ, 1996), Avala (KULA, 1985), Fruška gora (GLUMAC, 1959, VUJIĆ & GLUMAC, 1994), Tisa (ŠIMIĆ & VUJIĆ, 1987), Vršачke planine Mt. (VUJIĆ & ŠIMIĆ, 1994), Vršачke planine Mt.: Mesić-Fiseš, Koviljsko-petrovaradinski rit, Žabalj (ŠIMIĆ *et al.*, 2009); Montenegro: Kolašin (COE, 1960), Durmitor (ŠIMIĆ, 1987); Macedonia: Ohridsko jezero (COE, 1960), Mavrovo, dolina Radike, Struško polje, Ogražden, Kumanovo, Rudina, Bratin Do, Oteševo, Prilep, Mladonagoričane, Golem Grad, Kružje (GLUMAC, 1968, 1972), Mavrovo NP (KRPAČ *et al.*, 2001); Greece: Olympos NP: Ag. Dimitri, Mavroneri, Pindos Mt.: Kastania (VUJIĆ *et al.*, 2000); Bulgaria: Belasica, Rila, Vitoša, Stara planina, Strandža (BANKOWSKA, 1967), (DRENSKY, 1934).

Biology. The preferred habitats are most types of deciduous and coniferous forests and conifer plantations, but also occur along field hedges, in suburban gardens and parks; adults fly from April to October with peaks in May/June and August, and visit white umbellifers and other plants such as *Achillea*, *Brassica*, *Campanula*, *Cirsium*, *Convolvulus*, *Crataegus*, *Euphorbia*, *Leontodon*, *Origanum*, *Ranunculus*, *Rosa* and *Rubus*; larva is described and figured by different authors, but originally by DUŠEK & LÁSKA (1964).

Range (Fig. 4). Throughout most of the Palaearctic region, including North Africa; in North America from Alaska to California; Formosa. Highly migratory species.



Figure 4. Distribution of *Syrphus vitripennis* Meigen, 1822 in the Balkan Peninsula.

Discussion

The results of this study show the occurrence of four *Syrphus* species in the Balkan Peninsula: *S. nitidifrons*, *S. ribesii*, *S. torvus* and *S. vitripennis*. *Syrphus torvus* is new to Croatia. The examined material of *S. nitidifrons* represents the first documented record in the Balkan Peninsula. Although SPEIGHT (2008) records *S. nitidifrons* for former Yugoslavia, this datum was not relayed in published material but was based on a personal communication (A. VUJIĆ to M. SPEIGHT) which referred to specimens from Montenegro. Thus our data are the first published of this species to the Balkan Peninsula.

All the recorded species are widespread throughout the Balkans (Figs. 2, 3, and 4), except *S. nitidifrons*, which is limited to a few mountain localities in this geographic area: Kopaonik, Jahorina and Durmitor Mountain (Fig. 1). The rarity of *S. nitidifrons* is related to the fact that the Balkan Peninsula represents the southern edge of its range in South-Eastern Europe. The occurrence of this species at high altitudes shows its adaptation to cold environments, as shown by its preferred central and northern European habitats (SPEIGHT, 2008). The vulnerability of the populations of *S. nitidifrons* in the Balkans is even higher because its biology is unknown.

In summary, the presence of *S. nitidifrons* in the rest of the Balkan countries should be confirmed and the life cycle and larval microhabitat should be revealed in order to complete the knowledge required to establish any conservation measure.

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НОВИ ПОДАЦИ О РОДУ *SYRPHUS* FABRICIUS, 1775 (DIPTERA:
SYRPHIDAE) ЗА БАЛКАНСКО ПОЛУОСТРВО УКЉУЧУЈУЋИ ПРВИ
НАЛАЗ ВРСТЕ *SYRPHUS NITRIDIFRONS* BECKER, 1921

ЗОРИЦА НЕДЕЉКОВИЋ, АНТЕ ВУЈИЋ, АНТОНИО РИКАРТЕ,
СНЕЖАНА РАДЕНКОВИЋ и СМИЉКА ШИМИЋ

Извод

На Балканском полуострву је забележено четири врсте рода *Syrphus* Fabricius, 1775: *S. nitidifrons* Becker, 1921, *S. ribesii* (Linnaeus, 1758), *S. torvus* Osten Sacken, 1875 и *S. vitripennis* Meigen, 1822. Дати су први документовани налази за врсту *S. nitidifrons* Becker, 1921 на Балканском полуострву као и допуњен кључ за балканске врсте овог рода. За сваку врсту наведени су налази и карте распрострањења. Врста *Syrphus torvus* Osten Sacken, 1875 је први пут забележена у Хрватској. Све регистроване врсте су широко распрострањене на Балканском полуострву, сем *S. nitidifrons* која је регистрована једино на Копаонику (Србија), Јахорини (Босна и Херцеговина) и Дурмитору (Црна Гора). Указано је на потребу заштите ретке врсте *S. nitidifrons*.

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