

LJUBLJANA, MAY 2002

Vol. 10, No. 1: 103–114

SPECIES OF THE GENUS *DICYPHUS* (HETEROPTERA: MIRIDAE) IN SERBIA

Ljiljana PROTIĆ

Natural History Museum P.O. Box 401, YU-11000 Beograd

Abstract. - Genus *Dicyphus* is represented in Serbia by ten species. New species for the fauna of Serbia are *D. cerastii* and *D. eckerleini*. The morphometric measurements of *D. stachydis* have shown that all specimens from Serbia in the Study Collection of the Natural History Museum in Belgrade belong to the subspecies *D. stachydis wagneri* Tamanini.

KEY WORDS: Heteroptera, Miridae, *Dicyphus*, Serbia, Yugoslavia, Balkan peninsula

Izvešček – VRSTE RODU *DICYPHUS* (HETEROPTERA: MIRIDAE) V SRBIJI

Rod *Dicyphus* je v Srbiji zastopan z desetimi vrstami. Novi vrsti v favni Srbije sta *D. cerastii* in *D. eckerleini*. Na osnovi morfometričnih merjenj vrste *D. stachydis* smo ugotovili, da vsi primerki iz Srbije, ki so shranjeni v Študijski zbirki Prirodoslovnega muzeja v Beogradu pripadajo podvrsti *D. stachydis wagneri*.

KLJUČNE BESEDE: Heteroptera, Miridae, *Dicyphus*, Srbija, Jugoslavija, Balkanski polotok

Introduction

Work in the Study Collection of Heteroptera in the Natural History Museum in Belgrade in 2000 included work on species from the tribe Dicyphini Reuter. The Study collection of the Dicyphini tribe includes the genera *Campyloneura*, *Dicyphus* and *Macrolophus*. The genus *Campyloneura* is represented by the species *C. virgu-*

la Herrich-Schaeffer, and the genus *Macrolophus* by the species *M. costalis* Fieber and *M. glaucescens* Fieber (Protić 1998). The genus *Dicyphus* is represented in the Study Collection of the Natural History Museum by eight species: *D. annulatus* (Wolff), *D. cerastii* Wagner, *D. eckerleini* Wagner, *D. errans* (Wolff), *D. geniculatus* Fieber, *D. globulifer* (Fallén), *D. pallidus* (Herrich-Schaeffer) and *D. stachydis wagneri* Tamanini. In the literature, the following species are also given for Serbia: *D. hyalinipennis* (Burmeister) and *D. stachydis stachydis* J. Sahlberg. So far, 16 species have been determined from the Balkan Peninsula, and two of them are endemic. These are *D. digitalidis* Josifov and *D. martinoi* Josifov, both from Bulgaria.

Material and Methods

Specimens from the genus *Dicyphus* given in this paper were caught by standard methods for collecting Heteroptera, in 41 localities in Serbia, during 1983-2000. All specimens were prepared for collection, labeled, and inventoried. They are part of the Heteroptera Study Collection. This paper also deals with representatives of the genus *Dicyphus* in other collections of Heteroptera kept in the Natural History Museum in Belgrade. Altogether, 11 species and 368 specimens were taken into account. They belong to the following:

Heteroptera Study Collection in the Natural History Museum «600BEO595.7543» - 8 species with 304 specimens.

Nicholas Kormilev Heteroptera Collection in the Natural History Museum «600BEO595.7542» 7 species with 30 specimens.

Petar Novak Heteroptera Collection in the Natural History Museum «600BEO595.7.1» - 5 species with 34 specimens.

Collection of Vladimir Martino. This paper includes data on two species of the genus *Dicyphus* collected by Professor Vladimir Martino during his phonological research on Heteroptera in the vicinity of Belgrade during the autumn of 1945. This research included 24 field trips (Martino 1949).

While preparing this paper, scientific papers were collected in search of data. Therefore, we can include some data on species not yet found in Serbia but recorded in the Balkan Peninsula.

Tab. 1: Species of the genus *Dicyphus* in: AL - Albania, BH - Bosnia and Herzegovina, BU - Bulgaria, CR - Croatia, GR - Greece (Crete included), MC - Macedonia, YU - Yugoslavia (Serbia and Montenegro); lit. - literature data.

	AL	BH	BU	CR	GR	MC	YU
SUBGENUS <i>BRACHYCEROEA</i>							
<i>D. albonasutus</i> Wagner	+		+		+	+	
<i>D. annulatus</i> (Wolf)					+	+	+
<i>D. digitalidis</i> Josifov			+			+	
<i>D. geniculatus</i> (Fieber)	+	+	+	+		+	+
<i>D. globulifer</i> (Fallén)	+	+	+	+		+	+
SUBGENUS <i>DICYPHUS</i>							
<i>D. cerastii</i> Wagner	+	+		+		+	+
<i>D. constrictus</i> (Boheman)		+	+	+			
<i>D. eckerleini</i> Wagner			+				+
<i>D. epilobii</i> Reuter			+				
<i>D. errans</i> (Wolff)	+	+	+	+	+	+	+
<i>D. hyalinipennis</i> (Burmeister)				+	+		lit.
<i>D. pallidus</i> (Herrich-Schaeffer)		+	+	+		+	+
<i>D. stachydis stachydis</i> J. Sahlberg		+		+		+	lit.
<i>D. stachydis wagneri</i> Tamanini	+		+				+
<i>D. tamanini</i> Wagner		+		+	+		
SUBGENUS <i>MESODICYPHUS</i>							
<i>D. martinoi</i> Josifov			+			+	
	6	8	11	9	5	10	10
	37.5%	50%	68.75%	56.25%	31.25%	62.5%	62.5%

Total: 16 taxa in the Balkan Peninsula

List of Sites

^{PN} – Petar Novak Collection; ^{NK} – Nicholas Kormilev Collection, all other sites refer to specimens from the Heteroptera Study Collection of the Natural History Museum. The numbers in brackets are UTM codes.

SERBIA	Beograd: Topčiderski park	Bojčinska Šuma (DQ45)
Bavanište (DQ96)	(DQ55)	Boljevci (DQ35)
Begaljica (DQ74)	Beograd: Resnik (DQ55)	Boljevci: Crni Lug (DQ35)
BeogradNK(DQ55)	Beograd: Stepin Gaj (DQ55)	Divčibare (DP28)
Beograd: Ada Ciganlija (DQ55)	Beograd: Vinča (DQ65)	Kosmaj (DQ62)
Beograd: Avala (DQ64)	Beograd: Vračar (DQ55)	Leskovac ^{NK} (EN75)
Beograd: Avala ^{NK}	Beograd: Zemun (DQ56)	Makiš (DQ44)
Beograd: Košutnjak (DQ55)	Besna Kobilja (EN90)	Mała Moštanica: Žuto Brdo
Beograd: Pinosava (DQ64)	Besna Kobilja-Kriva Feja	(DQ44)
Beograd: Topčider (DQ55)	(EN90)	

Novi Beograd-ušće Galovice (DQ56)	VranjskaBanja (EN71)	Matka ^{NK}
Obrenovac: Konatice (DQ43)	Vratna (FQ01)	Rašče ^{NK}
Ozren (EP62)	MONTENEGRO	Skopje ^{NK}
Ozren: Ripaljka (EP62)	Kanjon Tare-Bajlovića Sige	Valandovo ^{NK}
Ozren (EP62)	Knezlaz (CM01)	
Perućac na Drini (CP76)	BOSNA & HERZEGOVINA	Besuyö (Hungary) ^{NK}
Popovič (DQ63)	Jablanica ^{NK}	Mariabesuyö (Hungary) ^{NK}
Priboj (CP82)	BULGARIA	Harz, Sachsa(Germany) ^{PN}
Ritopek (DQ75)	Korten ^{NK}	Harz, Sachsa(Germany) ^{NK}
Sopot: Djurinci (DQ72)	CROATIA	Eisleben(Germany) ^{PN}
Stol (EP99)	Kaštel Sućurac ^{PN}	Eisleben(Germany) ^{NK}
Surduk (DQ48)	Sućurac ^{PN}	Hamburg (Germany) ^{NK}
Šajince r. Pčinja (EM98)	Mosor ^{PN}	Kortenhof(Germany) ^{PN}
	MACEDONIA	

Results

The species of the genus *Dicyphus* are listed in alphabetical order within the sub-genus. Not only species from Serbia are listed but all are within the genus present in the Balkan Peninsula.

Familia: **MIRIDAE** Hahn, 1833

Tribe: **DICYPHINAE** Reueter, 1883

Genus: ***Dicyphus*** Fieber, 1858

Subgenus: *Brachyceroea* Fieber, 1858

D. albonasutus Wagner, 1951

Dicyphus (Brachyceroea) albonasutus Wagner, 1951: 7

BALKAN PENINSULA: AL, BU, GR, MC

REFERENCES: Aukema & Rieger, 1999; Josifov, 1986; Protić, 1998

D. annulatus (Wolf, 1804)

Gerris annulatus Wolff, 1804 Abb. Wanzen: 156

MATERIAL EXAMINED:

600BEO595.7543: Heteroptera Study Collection:

Šajince, Pčinja river 1985-07-14 leg. Lj. Protić 3 ex.; Priboj 1987-07-24 leg. Lj. Protić 1 ex.; Ozren: Ripaljka 1994-08-17 leg. Lj. Protić 3 ex.; Ozren 1994-08-19 leg. Lj. Protić 1 ex.; Perućac 1988-08-05 leg. Lj. Protić 1 ex.; Beograd: Resnik 1998-05-16 leg. A. Stojanović 1 ♂; Stol 1988-05-06 leg. G. Mesaroš 1 ex.

600BEO595.7542: Nicholas Kormilev Heteroptera Collection:

Skopje 1938-08-19 leg. N. Kormilev 1 ♂; Skopje 1937-08-18 leg. N. Kormilev 2 ♂; Rašče 1940-08-04 leg. N. Kormilev 1 ♀; Valandovo 1940-07-05 leg. N. Kormilev 1

♀

BALKAN PENINSULA: GR, MC, YU

REFERENCES: Aukema & Rieger, 1999; Josifov, 1986; Protić, 1998

Dicyphus digitalidis Josifov, 1958: 271

Endemite

BALKAN PENINSULA: BU, MC

REFERENCES: Josifov, 1958, 1986

Dicyphus geniculatus (Fieber, 1858)

Brachyceroea geniculata Fieber, 1858 Wien. ent. Monschr.: 343

MATERIAL EXAMINED:

600BEO595.7543: Heteroptera Study Collection:

Beograd: Topčider 1996-10-16 leg. A. Stojanović 1 ♂; Beograd: Resnik 1997-06-16 leg. A. Stojanović 5 ♂, 1 ♀; Beograd: Resnik 1997-08-13 leg. A. Stojanović 1 ♀; Beograd: Ritopek 1998-06-20 leg. A. Stojanović 2 ♀; Crni Lug 1998-05-31 leg. A. Stojanović 3 ♂; Kosmaj 1998-06-06 leg. A. Stojanović 3 ♀; Beograd: Vračar 1998-07-07 leg. A. Stojanović 1 ♂.

600BEO595.7542: Nicholas Kormilev Heteroptera Collection:

Skopje 1937-08-11. leg. N. Kormilev 2 ♀; Skopje 1937-08-14. leg. N. Kormilev 2 ♀.

BALKAN PENINSULA: AL, BH, BU, CR, MC, YU

REFERENCES: Aukema & Rieger, 1999; Protić, 1998

D. globulifer (Fallén, 1829)

Capsus globulifer Fallén, 1829 Hem. Suec.: 124

MATERIAL EXAMINED:

600BEO595.7543: Heteroptera Study Collection:

Beograd: Resnik 1997-06-16 leg. A. Stojanović 3 ex., Obrenovac: Konatice 1983-08 leg. Lj. Protić 7 ex.; Knežlaz 1985-07-21 leg. M. Živković 1 ex.; Beograd: Topčider 1996-05-01 leg. A. Stojanović 2 ex.; Kosmaj 1996-05-09 leg. A. Stojanović 1 ex.; Makiš 1996-08-27 leg. A. Stojanović 5 ex.; Beograd: Ada Ciganlija 1998-10-12 leg. A. Stojanović 5 ex.; Beograd: Topčider 1996-10-08 leg. A. Stojanović 3 ex.; Beograd: Topčider 1996-08-11 leg. A. Stojanović 2 ex.; Boljevci 1997-07-21 leg. A. Stojanović 1 ex.; Surduk 1998-08-01 leg. A. Stojanović 1 ♀; Kosmaj 1994-08-15 leg. A. Stojanović 4 ex.; Crni Lug 1998-05-31 leg. A. Stojanović 3 ♀; Kosmaj 1998-06-06 leg. A. Stojanović 1 ♂, 1 ♀; Ritopek 1998-06-20 leg. A. Stojanović 5 ♂; Surduk 1998-06-27 leg. A. Stojanović 2 ♂, 1 ♀; Crni Lug 1998-07-07 leg. A. Stojanović 2 ♂; Kosmaj 1998-07-18 leg. A. Stojanović 4 ♂, 4 ♀; Žuto Brdo 1998-07-25 leg. A. Stojanović 5 ♂, 5 ♀; Beograd: Resnik 1997-06-16 leg. A. Stojanović 3 ♂; Beograd: Vinča 1997-07-29 leg. A. Stojanović 1 ♀; Begaljica 1997-08-09 leg. A. Stojanović 5 ♂, 3 ♀; Beograd: Topčiderski Park 1997-08-17 leg. A. Stojanović 3 ♀; Kosmaj 1997-08-26 leg. A. Stojanović 2 ex.; Surduk 1999-08-07 leg. A. Stojanović 1 ♂; Kosmaj 1998-08-15 leg. A. Stojanović 2 ♂, 2 ♀; Surduk 1999-08-21 leg. A. Stojanović 1 ♀; Novi Beograd-Ušće Galovice 1999-07-03 leg. A. Stojanović 2 ♂, 2 ♀; Beograd: Vinča 1999-07-17 leg. A. Stojanović 5 ♂, 4 ♀; Žuto Brdo 1999-09-25 leg. A. Stojanović 2 ♂, 1 ♀; Beograd: Resnik 2000-08-26 leg. A. Stojanović 1 ♀; Divčibare 1999-08-12 leg. Lj. Protić 1 ♂; Divčibare 1999-08-14 leg. Lj. Protić 1 ♀.

600BEO595.7542: Nicholas Kormilev Heteroptera Collection:

Mariabesuyö 1935-09-15 leg. Ret... 1 ex.; Besuyö 1935-09-22 leg. dr Feige 3 ex.; Leskovac 1930-11-15 leg. N. Kormilev 1 ex.; Beograd: Avala 1941-07-13 leg. N. Kormilev 2 ex.

600BEO595.7.1: Petar Novak Heteroptera Collection:

Mosor 1935-05-19 leg. P. Novak 8 ex.; Mosor 1935-05-26 leg. P. Novak 8 ex.

Collection of Vladimir Martino:

Beograd: Košutnjak 1945-11-04 leg. V Martino

BALKAN PENINSULA: AL, BH, BU, CR, MC, YU

REFERENCES: Aukema & Rieger, 1999; Protić, 1998

Subgenus *Dicyphus*

D. cerastii Wagner, 1951 Comm Biol.: 12

MATERIAL EXAMINED:

600BEO595.7543: Heteroptera Study Collection:

Vranjska Banja 1984-06-18 leg. Lj. Protić 1 ♀.; Bavanište 1989-10-18 leg. M. Živković 1 ex.

BALKAN PENINSULA: AL, BH, BU, CR, MC, YU

REFERENCES: Aukema & Rieger, 1999; Protić, 1998

D. constrictus (Boheman, 1851)

Capsus constrictus Boheman, 1852 Öfv. Ak. Förh., 9: 74

MATERIAL EXAMINED:

600BEO595.7542: Nicholas Kormilev Heteroptera Collection:

Jablanica 1936.10. leg. Winneguth 1 ♂, 1 ♀.

BALKAN PENINSULA: BH, BU, CR

REFERENCES: Josifov, 1986; Protić, 1998

D. eckerleini Wagner, 1963: 59

MATERIAL EXAMINED:

600BEO595.7543: Heteroptera Study Collection:

Surduk 1998-08-01 leg. A. Stojanović 1 ♀.

BALKAN PENINSULA: BU, YU

REFERENCES: Josifov, 1986

D. epilobii Reuter, 1883 Ent. m. Mag., 20: 52

MATERIAL EXAMINED:

600BEO595.7542: Nicholas Kormilev Heteroptera Collection:

Korten 1932-07-11 leg. A. Reclaire 4 ex.

600BEO595.7.1: Petar Novak Heteroptera Collection:

Kortenhof 1932-07-11 leg. A. Reclaire 3 ex.

BALKAN PENINSULA: BU

REFERENCES: Josifov, 1986, Protić, 1990

D. errans (Wolff, 1804)

Gerris errans Wolff, 1804 Abb. Wanzen: 161

MATERIAL EXAMINED:

600BEO595.7543: Heteroptera Study Collection:

Sopot: Djurinci 1990-10-25 leg. Lj. Protić 5 ex.; Beograd: Zemun 1983-08 leg. P. Perić 6 ex.; Beograd: Avala 1984-06-26 leg. Lj. Protić 1 ex.; Vratna 1984-09-13 leg. Lj. Protić 7 ex.; Besna Kobila 1985-07-13 leg. Lj. Protić 1 ex.; Kanjon Tare-Bajlovića Sige 1985-07-13 leg. G. Džukić 1 ex.; Beograd: Topčider 1996-08-11 leg. A. Stojanović 1 ex.; Beograd: Resnik 1996-08-25 leg. A. Stojanović 5 ex.; Beograd: Resnik 1997-08-13 leg. A. Stojanović 5 ♂, 2 ♀; Bojčinska Šuma 1997-08-22 leg. A. Stojanović 1 ♀; Kosmaj 1997-08-26 leg. A. Stojanović 1 ♂; Beograd: Stepin Gaj 1997-09-06 leg. A. Stojanović 1 ♂; Beograd: Resnik 1997-06-16 leg. A. Stojanović 5 ♂; Beograd: Pinosava 1998-05-24 leg. A. Stojanović 2 ♂; Begaljica 1998-09-26 leg. A. Stojanović 1 ♀; Beograd: Avala 2000-08-19 leg. A. Stojanović 5 ♂, 5 ♀; Beograd: Resnik 2000-08-26 leg. A. Stojanović 5 ♂, 3 ♀; Beograd: Resnik 1998-05-16 leg. A. Stojanović 1 ♂; Crni Lug 1998-05-31 leg. A. Stojanović 3 ♀; Kosmaj 1998-06-06 leg. A. Stojanović 6 ♂, 6 ♀; Beograd: Vračar 1998-07-03 leg. A. Stojanović 1 ♂; Beograd: Vračar 1998-07-04 leg. A. Stojanović 1 ♂; Popović 1998-08-08 leg. A. Stojanović 1 ♀; Beograd: Vračar 1998-07-13 leg. A. Stojanović 1 ♂; Beograd: Vračar 1998-07-16 leg. A. Stojanović 2 ♂, 2 ♀; Kosmaj 1998-07-18 leg. A. Stojanović 1 ♂; Kosmaj 1998-08-15 leg. A. Stojanović 6 ♂, 4 ♀.

600BEO595.7542: Nicholas Kormilev Heteroptera Collection:

Matka 1938-03-27 leg. N. Kormilev 1 ♀; Matka 1933-06-05 leg. N. Kormilev 3 ex.

600BEO595.7.1 Petar Novak Heteroptera Collection

Kaštel Sućurac 1918-12-00 leg. P. Novak 1 ex.; Sućurac 1926-07-15 leg. P. Novak 1 ex.; Mosor 1937-07-06 leg. P. Novak 3 ex.

Collection of Vladimir Martino:

Beograd: Košutnjak 1945-11-03 leg. V Martino

BALKAN PENINSULA: AL, BH, BU, CR, GR, MC, YU

REFERENCES: Aukema & Rieger, 1999; Josifov, 1986; Protić, 1998

D. hyalinipennis (Burmeister, 1835)

Phytocoris hyalinipennis Burmeister, 1835 Handb. Ent. 2: 268

BALKAN PENINSULA: CR, YU, GR

REFERENCES: Josifov, 1986; Novak & Wagner, 1955; Protić, 1998

D. pallidus (Herrich-Schaeffer, 1836)

Capsus pallidus Herrich-Schaeffer, 1836 Wanz. Ins.: 51

MATERIAL EXAMINED:

600BEO595.7543: Heteroptera Study Collection:

Vinča 1989-09-28 leg. Lj. Protić 2 ex.; Besna Kobila-Kriva Feja 1985-07-13 leg. Lj. Protić 2 ex.; Divčibare 1999-08-12 leg. Lj. Protić 2 ♂, 1 ♀.

600BEO595.7542: Nicholas Kormilev Heteroptera Collection:

Eisleben 1933-08-09 leg. dr Feige 3 ex.; Rašće 1940-08-04 leg. N. Kormilev 2 ♀.

600BEO595.7.1: Petar Novak Heteroptera Collection:

Eisleben leg. Dr Feige 4 ex.

BALKAN PENINSULA: BH, BU, CR, MC, YU

REFERENCES: Aukema & Rieger, 1999; Protić, 1998

D. stachydis stachydis J. Sahlberg, 1878 Kung.Sven.Vet.:29

BALKAN PENINSULA: BH, CR, MC, YU

REFERENCES: Horváth, 1903; Protić, 1998

D. stachydis wagneri Tamanini, 1956: 16

MATERIAL EXAMINED:

600BEO595.7543: Heteroptera Study Collection:

Beograd: Košutnjak 1996-04-12 leg. A. Stojanović 3 ex.; Beograd: Košutnjak 1996-04-20 leg. A. Stojanović 4 ex.; Kosmaj 1996-05-09 leg. A. Stojanović 6 ex.; Beograd: Stepin Gaj 1997-05-11 leg. A. Stojanović 2 ♂; Beograd: Stepin Gaj 1997-05-11 leg. A. Stojanović 2 ♀; Bojčinska Šuma 1997-08-22 leg. A. Stojanović 2 ♂, 4 ♀; Beograd: Avala 1998-05-09 leg. A. Stojanović 3 ♂, 4 ♀; Kosmaj 1998-06-06 leg. A. Stojanović 1 ♂; Kosmaj 1998-08-15 leg. A. Stojanović 7 ♂; Beograd: Avala 2000-08-19 leg. A. Stojanović 5 ♂, 5 ♀; Beograd: Košutnjak 1997-05-04 leg. A. Stojanović 1 ♂; Beograd: Topčider 1940-07-06 leg. V Martino 1 ex.; Divčibare 1999-08-12 leg. Lj. Protić 1 ♂, 1 ♀.

BALKAN PENINSULA: AL, BU, YU

REFERENCES: Aukema & Rieger, 1999

D. tamaninii Wagner, 1951: 16

BALKAN PENINSULA: BH, CR, GR

REFERENCES: Aukema & Rieger, 1999; Protić, 1998

Subgenus *Mesodicyphus****D. martinoi*** Josifov, 1958*Dicyphus (Brachyceraea) martinoi* Josifov, 1958: 273

Endemite.

BALKAN PENINSULA: BU, MC

REFERENCES: Josifov, 1958, Protić, 1998

Tab. 2: Measurements of *Dicyphus stachydis* from Serbia in the Heteroptera Study collection of the Natural History Museum in Belgrade.

	body length	ocular index	II antennal segment: III antennal segment	hind tibia: length head	II antennal segment: pronotum, max. width
Brachypterous male	3.076	1.19	1.28	3.09	1.35
Brachypterous female	3.4	1.2	1.34	3.04	1.31
Macropterous, only one female	4.75	1.42	1.34	3.28	1.22

Tab. 3: Ratio of determined Heteroptera species in the collection from the Natural History Museum, in different seasons.

SPECIES	III	IV	V	VI	VII	VIII	IX	X	XI	XII
<i>D. annulatus</i>			+		+	+				
<i>D. cerastii</i>				+						
<i>D. eckerleini</i>						+				
<i>D. errans</i>	+	+	+	+	+	+	+	+	+	+
<i>D. geniculatus</i>			+	+	+	+				
<i>D. globulifer</i>			+	+	+	+	+	+	+	
<i>D. pallidus</i>					+	+	+			
<i>D. stachydis wagneri</i>		+	+	+	+	+				

Discussion and conclusions

Species of the genus *Dicyphus* from the Balkan Peninsula belong to three subgenera: *Brachyceroea*, *Dicyphus* and *Mesodicyphus*. From the 16 species represented, 10 species belong to the subgenus *Dicyphus* (Table 1).

During species identification, special attention was paid to specimens of *D. stachydis*. After taking morphometrical measurements (Tab 2) and comparing them with data gathered by other researchers (Tamanini 1956; Wagner 1970; Štys, 1976), it was proven that all the specimens caught in Serbia in the last twenty years belong to population of *D. stachydis wagneri*.

According to the older literature, there is another subspecies in Serbia: *D. stachydis stachydis* (Protić 1998). These literature data are old and apply to the specimens determined by Horváth at the end of 19th century (1881-1897). Only after revision of this old material can we determine if the ranges of these subspecies overlap in the Balkan Peninsula. However, the most recent data (Aukema & Rieger, 1999) support the hypothesis that both subspecies are distributed in the Balkan Peninsula. Countries where the ranges of these two subspecies overlap are France, the Czech Republic, Slovakia, Romania, and Yugoslavia (Fig. 1). *D. stachydis stachydis* is an Euro-Siberian subspecies. The range of *D. stachydis wagneri* is smaller and its populations are most numerous in Southwestern Europe. On the Iberian and Apennine Peninsulas, only *D. stachydis wagneri* is distributed, while in the Balkan Peninsula both subspecies are present.

During the determination of the material, two species were found that are new for the fauna of Serbia: *D. cerastii* and *D. eckerleini*. Specimens of the species *D. cerastii* were collected in Serbia in warm Mediterranean habitats. The locality Vranjska Banja is submediterranean with a ruderal flora. Bavanište is situated in the Banat, on the edge of the huge Deliblato Sands. In the Balkan Peninsula, this species was known in all countries adjacent to Serbia, and now we finally have voucher specimens for Serbia and Yugoslavia. Another new species for Serbia - *D. eckerlei-*

ni, was caught in Surduk in Srem, on the banks of the Danube, also a warm Mediterranean habitat. This species had so far been known only in Bulgaria, the sole findings in Europe.

In Serbia, *D. errans* is the most widely distributed species of the genus *Dicyphus*. It overwinters in its imago stage and was found throughout the year, except in January and February when no field trips were taken (Table 3). The other species of the genus *Dicyphus* present in the collections of the Natural History Museum were collected in Serbia in the summer months, except for *D. globulifer* which was collected from May to December.

During the research on Heteroptera fauna of orchards (Protič 1994) various predators were found, only two belonging to the genus *Dicyphus*. In apple orchards, *D. errans* was caught, and in cherry orchards *D. pallidus*. On the spontaneously growing flora beside the orchards, *D. errans* was caught in much larger number than in orchards. It is known from the literature that these two species occur on herbaceous plants, and our data support this. The index of fidelity for *D. errans* shows that it is a characteristic species for ruderal vegetation and a preferential species in apple orchards, while *D. pallidus* is accidental in cherry orchards.

According to their biogeography, species of genus *Dicyphus* from the Balkan Peninsula belong to three basic categories: Euro-Siberian, European, and Mediterranean. Six species are represented in the Mediterranean: *D. albonasutus*, *D. annulatus*, *D. cerastii*, *D. eckerleini*, *D. hyalinipennis*, *D. tamaninii*, six species are Euro-Siberian: *D. geniculatus*, *D. pallidus*, *D. constrictus*, *D. stachydis stachydis*, *D. stachydis wagneri*, *D. globulifer*, two are European: *D. epilobii*, *D. errans*, and two are endemic: *D. digitalidis*, *D. martinoi*. According to the altitude, most species live in areas up to 1000 m above sea level, while four are boreo-montane: *D. digitalidis*, *D. constrictus*, *D. pallidus* and *D. martinoi*.

Sažetak

Rod *Dicyphus* u Srbiji je zastupljen sa deset vrsta: *D. annulatus* (Wolff), *D. cerastii* Wagner, *D. eckerleini* Wagner, *D. errans* (Wolff), *D. geniculatus* Fieber, *D. globulifer* (Fallén), *D. hyalinipennis* (Burmeister), *D. pallidus* (Herrich-Schaeffer), *D. stachydis stachydis* J. Sahlberg, *D. stachydis wagneri* Tamanini.

U radu su obrađene i dve nove vrste za faunu Srbije: *D. cerastii* i *D. eckerleini*.

Urađena su morfometrijska merenja vrsta *D. stachydis* i upoređivanjima sa podacima ranijih istraživača na ovoj vrsti ustanovili smo da svi obrađeni primerci iz Srbije, koji se nalaze u Studijskoj zbirci Prirodnjačkog muzeja pripadaju podvrsti *D. stachydis wagneri*.

Obrađeni primerci roda *Dicyphus* iz Studijske zbirke Heteroptera ulovljeni su na 41 terenu u Srbiji u periodu od 1983. do 2000. godine. U radu su izneti podaci o vrstama i iz drugih zbirki Heteroptera, koje se nalaze u Prirodnjačkom muzeju u Beogradu. Ukupno je obrađeno 11 vrsta, odnosno 370 primeraka. U zbirnama

Prirrodnjačkog muzeja nalaze se i vrste koje su Nikola Kormilev i Petar Novak dobijali razmenom, a koje još nisu ulovljene u Srbiji. To su: *D. constrictus* (Boheman) iz Bosne, *D. epilobii* Reuter iz Bugarske i *D. pallicornis* (Fieber) iz Nemačke.

Na Balkanskom poluostrvu do sada je utvrđeno 16 vrsta. U Srbiji je do sada nađeno 10 vrsta ili 62,5% balkanske faune roda *Dicyphus*.

References

Aukema, B., Rieger, Ch., 1999: Catalogue of the Heteroptera of the Palearctic Region. *Netherland Entomological Society* 3: 1-577.

Horváth, G. (1903): Szerbia Hemiptera- faunaja. *Annales Musei Nationalis Hungarici* 1: 3-28.

Josifov, M., 1958: Zwei neue *Dicyphus* (Brachyceraea)-Arten aus Bulgarien (Het.). *Acta Entomologica Musei Nationalis Pragae* 32: 271-274.

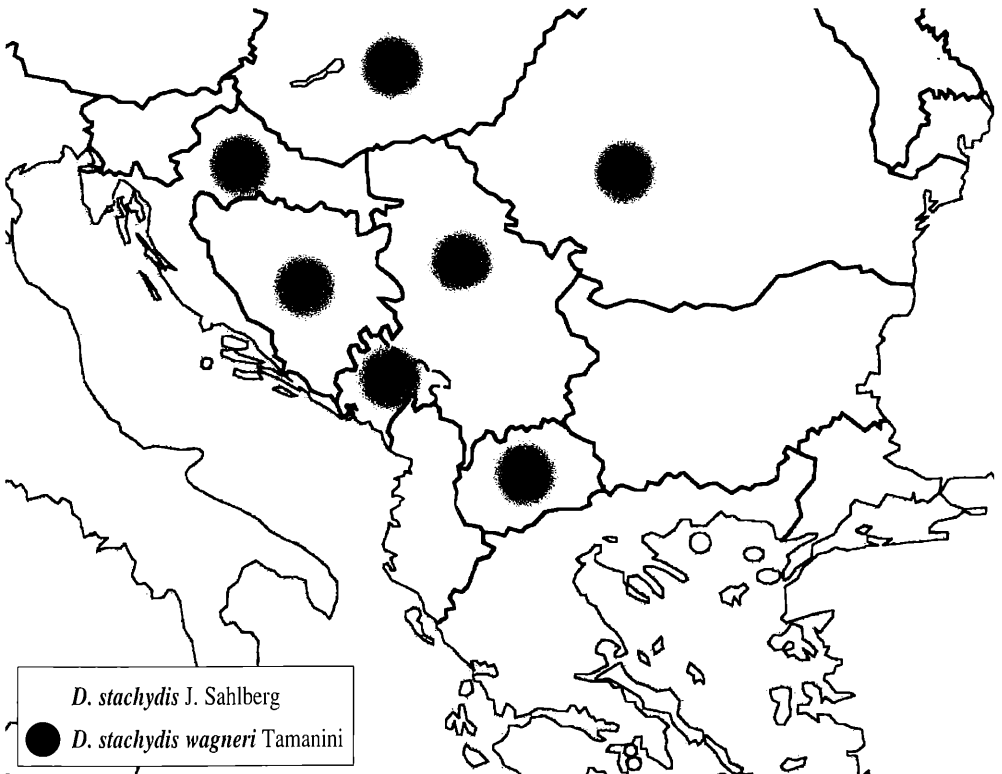


Fig. 1: The distribution of *Dicyphus stachydis* in Southeastern Europe.

- Josifov, M.**, 1986: Verzeichnis der von Balkanhalbinsel bekannten Heteropterenarten (Insecta, Heteroptera). *Faunistische Abhandlungen Staatliches Museum für Tierkunde Dresden* 14 (6): 61-93.
- Martino, V.**, 1949: Fenološka ispitivanja na poljskim stenicama. *Glasnik Prirodnjačkog muzeja srpske zemlje* B 1-2: 303-314.
- Novak, P., Wagner, E.**, 1955: II. Prilog poznavanju faune Hemiptera Dalmacije (Hemiptera- Heteroptera). *Zaštita bilja* 30, Dodatak Prilozi entomofauni Jugoslavije: 1-10.
- Protić, Lj.**, 1990: Hemiptera- Heteroptera Collection of Nicholas A. Kormileva in Natural History Museum in Belgrade. Part two. Habilitacioni rad za zvanje viši kustos (manusc.).
- Protić, Lj.**, 1994: Research of bug fauna (Heteroptera) on orchards in Serbia. Shortened version of Phd thesis defended at the Faculty of Agriculture *Review of research work at the Faculty of Agriculture, Belgrade*, 39, 1: 7-20.
- Protić, Lj.**, 1998: Catalogue of the Heteroptera fauna of Yugoslav countries. Part one. Natural History Museum, Belgrade. Special issue 38: 1-215.
- Stichel, W.**, 1957-1962: Illustrierte Bestimmungstabellen der Wanzen. II Europa (Hemiptera-Heteroptera Europae) 4:1-838, Berlin.
- Štys, P.**, 1976: *Dicyphus stachydis wagneri* Tamanini in Czechoslovakia (Heteroptera, Miridae). *Folia Musei Rerum Naturalium Bohemiae Occidentalis, Zoologica* 8: 1-11.
- Tamanini, L.**, 1956: Alcune osservazioni sui *Dicyphus* Italiani e loro distribuzione (Heteroptera, Miridae). *Memorie della Societa Entomologica Italiana* 35: 14-22.
- Wagner, E.**, 1951: Zur Systematik der Gattung *Dicyphus* (Hem. Het., Miridae). *Commentationes Biologicae* 12, 6: 1-36.
- Wagner, E.**, 1963: *Dicyphus eckerleini* nov. spec., eine neue Miriden-Art aus dem östlichen Mittelmeerraum (Hem. Het.). *Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen* 15, 1-2: 59-61.
- Wagner, E.**, 1970: Die Miridae Hahn, 1831, des Mittelmeerraumes und der Makaronesischen Inseln (Hemiptera, Heteroptera). *Entomologische Abhandlungen Staatlichen Museum für Tierkunde in Dresden, Supplement*, 37, Leipzig.

Received / Prejeto: 26. 6. 2001