

CONTRIBUTION TO THE KNOWLEDGE OF THE HETEROPTERA OF BANAT (VOJVODINA, SERBIA)

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Abstract

This paper presents partial results of research on the terrestrial invertebrate fauna of small isolated natural habitats in the territory of Banat (Vojvodina, Serbia): only Heteroptera are discussed. Extensive investigation was carried out in two localities, Ilje and Perlez, where thirty-five species of Heteroptera were identified in 78 samples containing 1472 specimens. The examined material included one species new to the fauna of Serbia: *Rhyparochromus (Panaorus) adspersus* (Mulsant & Rey); and five species new to the fauna of Banat: *Acetropis carinata* (Herrich-Schaeffer), *Lygus gemellatus* (Herrich-Schaeffer), *Macrotylus horvathi* (Reuter), *Adelphocoris seticornis* (Fabricius), and *Stenodema laevigata* (Linnaeus).

Key words: Heteroptera, Serbia, Banat, distribution, new records

Introduction

The territory of Banat is an agricultural region. Grain, vegetable, industrial, and fodder crops are grown on its expansive plain. The area of plowed fields and gardens in the agricultural land of municipalities in Banat often exceeds 85% and is sometimes even greater (for example, the share of plowed fields is 91% in the Kikinda, Kovačica, and Pančevo municipalities). Monocultures of grain crops are grown here, and since the middle of the 20th century agronomists and workers engaged in plant protection have been called upon to investigate and suppress occasional outbreaks of grain bugs of the genera *Eurygaster* and *Aelia* (JOVANIĆ, 1965, 1965a; STAMENKOVIĆ, 1989, 1990, 1994, 1999, 2005). These pests have been investigated in the following localities (JOVANIĆ, 1965): Banatski Karlovac, Banatsko Novo Selo, Banatski Brestovac, Bašaid, Bela Crkva, Crepaja,

Elemir, Hajdučica, Itebej, Izbište, Kikinda, Klek, Nova Crepaja, Novi Kneževac, Uljma, Velika Greda, Vrbica, and Vršac.

Investigations of the Heteroptera of Banat were initiated by Hungarian naturalists and entomologists during the second half of the 19th century. Janos FRIVALDSZKY (1877) recorded Heteroptera in the Uljma and Grebenac localities, which today lie within the borders of Serbia (Banat region). In 1897 and 1903, Géza HORVÁTH (a noted entomologist and one of the greatest heteropterologists of Europe) published data on the distribution of Heteroptera in a number of localities in Banat. One of the largest regions of sandy soil in Europe, the Deliblato Sands, is located in the territory of Banat. Due to the specificity of this habitat, it is the most thoroughly investigated region in Banat. After the Second World War, research was carried out on the entomofauna of the Deliblato Sands (PETRIK, 1958; GRADOJEVIĆ, 1963), and the region's Heteroptera were studied within the framework of these investigations. Two contributions were devoted solely to the Heteroptera of the Deliblato Sands (PROTIĆ, 1986, 1994).

The following is a list of localities where faunistic investigations have been carried out: Banatski Karlovac, Bela Crkva, Borča, Deliblato Sands (Brandibul, Budžak, Devojački Bunar, Dolina, Dupljaja, Flamunda, Glavaš, Grebenac, Jagoda, Korn, Kravan, Mala Tilva, Mramorak, Putnikovo, Rošjana, Šušara, Tilva), Jasenov, Jasenov - Karaš river, Jazovo, Canal Danube-Tisa-Danube (Đavolji Most), Melenci (Ilje), Padej, Pančevo, Perlez, Sajan, Sefkerin, Senta.

Although the Heteroptera fauna has been studied at numerous sites in the region of Banat, there is still a lack of knowledge about the species of many sites. The purpose of the present contribution is to expand currently available data on the fauna of Heteroptera of Serbia.

Material and Methods

The present investigations were carried out in the Ilje locality (UTM mark 34TDR54) near the village of Melenci and in the Perlez locality (34TDR05) near the village of Perlez in Central Banat.

The Ilje locality is located in the western part of the municipality of Zrenjanin, about 100 km north of Belgrade. Investigations were carried out on marshy ground with a degraded pasture between the Melenci — Bašaid road and a corn field. The investigated terrain contains numerous depressions and a shallow canal that extends to a nearby fish farm. This region is characterized by a deep layer of underground water, with the result that it is flooded and covered with ephemeral pools from time to time, when the canal is under water.

The Perlez locality is located about 50 km north of Belgrade, on the western side of the village. The investigated region consists of farmland intersected in places by canals, some of which constantly have water, while others are always dry. Natural habitats can be found only alongside these canals.

Sampling methods included Barber traps, sweep nets (catcher) and transects.

Investigations of the fauna of Heteroptera in the Ilje and Perlez localities were carried out from July 2002 to July 2003. Barber traps and a sweep nets (catcher) were used to collect material, and soil squares/cakes measuring 25 x 25 x 25 cm were also excavated. Ten Barber traps were set out along each transect (individual traps along the transect are numbered by Arabic numerals 1-10). The Barber traps were emptied before autumn and set out every time the terrain was visited, while sweep nets (catcher) and soil squares were for the most part used alternately. During the period of investigation, 400 Barber traps were set out, 180

soil squares were excavated, and sweep nets (catcher) were used 36 times in both localities. Four transects were drawn in each locality.

Types of transects in the Ilje locality:

Transect I — along the margin of a degraded pasture, 5-6 m from a corn field

Transect II — next to the corn field

Transect III — through the middle of the corn field

Transect IV — alongside a canal

Types of transects in the Perlez locality:

Transect I — alongside a waterless canal

Transect II — next to a land parcel where grain was grown in 2002, but nothing was grown in 2003

Transect III — next to a corn field

Transect IV — alongside a canal with water

Fieldwork was performed after the calendar given in Tab. I.

Standard keys for Heteroptera were used to identify species (STICHEL, 1955-1962; PUTSCHKOV, 1961, 1962; WAGNER, 1970/71, 1973, 1975; KERŽNER, 1981; MOULET, 1995; PÉRICART, 1998).

Results

Sampled species are listed in the following discussion. Furthermore, information about habitat and previous records are given. The following abbreviations and designations are used in this paper: Roman numeral = type of transect; C = catcher (sweep nets); B = Barber trap; Arabic numeral ahead of the letter B = trap number; Q = soil square.

Family Nabidae

Nabis (Nabis) ferus (Linnaeus, 1758)

Deliblato Sands (Gebenac) (FRIVALDSZKY, 1877), Dolina, Budžak (GRADOJEVIĆ, 1963).

New localities: Melenci (Ilje) 2.11.2002 2♂, 1♀, I, C; 2.11.2002 3♂, 2♀, III, C; Perlez 6.7.2002 1♂, 1♀, I, C; 31.10.2002 1♀, I, C.

Nabis (Nabis) pseudoferus Remane, 1949

Deliblato Sands (Šušara) (PETRIK, 1958); Korn (PROTIĆ, 1986).

New locality: Melenci (Ilje) 2.11.2002 1♂, 1♀, I, C.

Nabis (Tropiconabis) capsiformis (Germar, 1837)

Deliblato Sands (Devojački Bunar), Jasenovo, Borča (PROTIĆ, 1986).

New locality: Melenci (Ilje) 2.11.2002 2♂ I, C; 2.11.2002 1♀, II, C; Perlez 6.8.2002 1♀, III, C.

Fam. Miridae

Acetropis carinata (Herrich-Schaeffer, 1842)

New locality: Melenci (Ilje) 20.5.2003 1♂, III, C.

Acetropis longirostris Puton, 1875

Jazovo, Sajan (HORVÁTH, 1897)

New locality: Melenci (Ilje) 20.5.2003 3♂, 7♀, IV, C; 20.5.2003 3♀, III, C.

Adelphocoris lineolatus (Goeze, 1778)

Deliblato Sands (FRIVALDSZKY, 1877; GRADOJEVIĆ, 1963; PETRIK, 1958; PROTIĆ, 1986); Deliblato Sands (Korn, Banatski Karlovac), Canal Danube -Tisa - Danube (Đavolji Most) (PROTIĆ, 1994).

New locality: Perlez 6.8.2002 1♀, III, C; 6.7.2002 1♂, 4♀, I, C; 5.10.2002 1♂, I, C; 31.10.2002 1♀, I, C; 20.5.2003 1♂, 1♀, III, C; 20.5.2003 I, C (damaged specimens).

Adelphocoris seticornis (Fabricius, 1775)

New locality: Perlez 5.10.2002 2♂, 3♀, II, C (damaged specimens).

Adelphocoris ticinensis (Mayer-Dür, 1843)

Deliblato Sands (HORVÁTH, 1897; GRADOJEVIĆ, 1963; PROTIĆ, 1986); Senta, Pančevo, Sefkerin (HORVÁTH, 1897).

New locality: Perlez 22.6.2002 1♂, 1♀, II, C (damaged specimens).

Amblytylus concolor Jakovlev, 1877

Jazovo, Padej (HORVÁTH, 1897)

New locality: Melenci (Ilje) 20.5.2003 1♂, 1♀, I, C (damaged specimens).

Lygus gemellatus (Herrich-Schaeffer, 1835)

New localities: Melenci (Ilje) 2.11.2002 1♂, I, C; Perlez 5.10.2002 II, C (damaged specimen).

Lygus pratensis (Linnaeus, 1758)

Deliblato Sands (FRIVALDSZKY, 1877; PETRIK, 1958; GRADOJEVIĆ, 1963); Deliblato Sands (Korn, Banatski Karlovac) (PROTIĆ, 1994)

New localities: Melenci (Ilje) 2.11.2002 1♂, 1♀, II, C; Perlez 5.10.2002 1♂, I, C; 5.10.2002 6♂, 5♀, II, C (damaged specimens).

Megalocoleus dissimilis (Reuter, 1876)

Jazovo (HORVÁTH, 1897)

New locality: Melenci (Ilje) 20.5.2003 1♂, 1♀, I, C (damaged specimens).

Table I. Calendar of field investigations.

Date	Site 1			Site2		
	Pitfall traps [n per transect]	Sweep netting [n per transect]	Soil samples [n per transect]	Pitfall traps [n per transect]	Sweep netting [n per transect]	Soil samples [n per transect]
22.6.2002	10			10		
6.7.2002	10	1		10	1	
22.7.2002	10		5	10		5
6.8.2002	10	1		10	1	
21.8.2002	10		5	10		5
20.9.2002	10	1	5	10	1	5
31.10.2002		1	5		1	5
2.11.2002	10	1	5	10	1	5
29.11.2002		1	5		1	5
1.5.2003	10	1	5	10	1	5
2.5.2003	10	1	5	10	1	5
20.5.2003	10	1		10	1	
5.6.2003	10		5	10		5
6.6.2003	10		5	10		5
22.6.2003	10	1		10	1	
4.7.2003			5			5

Macrotylus (Alloeonycha) horváthi (Reuter, 1876)

New locality: Melenci (Ilje) 20.5.2003 I, C (damaged specimens).

Notostira erratica (Linnaeus, 1758)

Deliblato Sands (Korn) (PROTIĆ, 1986)

New localities: Melenci (Ilje) 20.9.2002 1♀, III, Q; Perlez 20.5.2003 1♂, 1♀, IV, C.

Orthops campestris (Linnaeus, 1758)

Bela Crkva (HORVÁTH, 1897)

New locality: Perlez 5.10.2002 4♂, 5♀, I, C.

Orthops kalmi (Linnaeus, 1758)

Deliblato Sands (GRADOJEVIĆ, 1963)

New locality: Perlez 5.10.2002 1♂, 2♀, I, C.

Stenodema (Stenodema) laevigata (Linnaeus, 1758)

New localities: Melenci (Ilje) 20.5.2003 3♀, I, C; Perlez 6.7.2002 1♀, I, C; 5.10.2002 1♂, II, C.

Trigonotylus pulchellus (Hahn, 1834)

Deliblato Sands (GRADOJEVIĆ, 1963)

New localities: Melenci (Ilje) 20.5.2003 2♀, IV, C; Perlez 20.5.2003 2♂, 3♀, IV, C; 22.6.2003 3♀, IV, C.

Fam. Lygaeidae

Nysius thymi (Wolff, 1804)Deliblato Sands (Grebenac) (HORVÁTH, 1875; FRIVALDSZKY, 1877; PETRIK, 1958, PROTIĆ, 1986); Pančevo (on *Sambucus nigra*, *Lavandula vera*, *Matricaria chamomilla*, *Achillea clypeolata*, *Leonurus cardiaca*) (PROTIĆ, 1992); Banatski Karlovac, Canal Danube-Tisa-Danube (Đavolji Most) (PROTIĆ, 1994)

New locality: Melenci (Ilje) 21.8.2002 1♂, II, 6B; 2.11.2002 1♂, III, C.

Rhyarochromus (Panaorus) adspersus (Mulsant & Rey, 1852)

New locality: Perlez 22.6.2003 1♀, I, 2B.

Fam. Pyrrhocoridae

Pyrrhocoris apterus (Linnaeus, 1758)Deliblato Sands (Šušara, Brandibul, Korn) (PETRIK, 1958); Deliblato Sands (Jagoda, Budžak, Dolina) (GRADOJEVIĆ, 1963); Deliblato Sands (Mramorak, Devojački Bunar, Mala Tilva) (PROTIĆ, 1986); Pančevo (on *Sinapis arvensis*, *Althaea rosea*, *Valeriana officinalis*, *Thymus serpyllum*, *Salvia officinalis*, *Leonurus cardiaca*) (PROTIĆ, 1992); Canal Danube-Tisa-Danube (Đavolji Most) (PROTIĆ, 1994)

New localities: Melenci (Ilje) 4.7.2003 23♂, 47♀, 18 larvae, I, Q; 6.7.2002 1♀, II, C; 2.11.2002 6♂, 16♀, I, C; 2.11.2002 6♂, 5♀, I, 9B; 2.11.2002 2♂, 2♀, 3 larvae II, 2B; 2.11.2002 3♂, 4♀, II, C; 4.7.2003 5♂, 11♀, 38 larvae, II, Q; 2.11.2002 1♂, 3♀, 15 larvae, II, 7B; 20.9.2002 5 larvae, II, Q; 22.7.2002 3♂, 2♀, II, 3B; 22.6.2003 23♂, 57♀, II, 7B; 5.6.2003 2♂, 1♀, II, 2B; 5.6.2003 1♂, 4♀, II, 6B; 5.6.2003 30♂, 42♀, I, Q; 5.6.2003 1♂, 2♀, 1 larva, I, Q; 5.6.2003 1♂, 7♀, larvae, II, 6B; 5.6.2003 3♀, II, 5B; 5.6.2003 1♂, 2♀, I, 3B; 5.6.2003 4♂, 5♀, II, 3B; 5.6.2003 10♂, 20♀, larvae II, 10B; 5.6.2003 4♂, 2♀, I, 4B; 22.6.2003 14♂, 54♀, II, 2B; 5.6.2003 2♀, II, 9B; 5.6.2003 2♂, 3♀, I, 6B; 5.6.2003 1♂, 4♀, I, 5B; 22.6.2003 12♂, 28♀, II, 92B; 22.6.2003 30♂, 11♀, II, 3B; 22.6.2003 16♂, 21♀, II, 10B; 22.6.2003 30♂, 57♀, II, 1B; 22.6.2003 15♂, 19♀, II, 4B; 22.6.2003 2♂, 2♀, I, 2B; 20.5.2002 2♂, 6♀, II, 6B; 21.8.2002 9♂, 4♀, II, 6B; 22.6.2003 1♀, III, 6B; 22.6.2003 3♂, 1♀, I, B; 22.6.2003 I, 5♂, 6♀, 5B; 22.6.2003 14♂, 11♀, I, 6B; 22.6.2003 12♂, 13♀, I, 4B; 20.5.2003 7♂, 8♀, II, 5B; 22.6.2003 27♂, 14♀, I, 10B; 22.6.2003 10♂, 10♀, I, 3B; 22.6.2003 3♂, 5♀, I, 7B; 22.6.2003 10♂, 13♀, I, 6B; 22.6.2003 2♂, 4♀, larvae, II, C; 22.6.2003 7♂, 8♀, I, 9B; 22.6.2003 75♂, 89♀, II, 5B; 22.6.2003 35♂, 57♀, II, 6B; 22.6.2003 24♂, 56♀, II, 8B; Perlez 5.10.2002 larva, III, C; 2.10.2002 1♀, I, Q; 20.5.2003 1♀, II, 7B; 5.10.2002 1♂, II, Q; 31.10.2002 1♂, 1♀, I, C; 20.5.2003 3♀, III, 3B; 31.10.2002 2♀, I, Q; 2.5.2003 1♀, II, C; 31.10.2002 1♀, II, 4B.

Fam. Coreidae

Coreus marginatus (Linnaeus, 1758)

Deliblato Sands (Dolina, Jagoda, Korn, Glavaš) (GRADOJEVIĆ, 1963); Deliblato Sands (Korn) (PROTIĆ, 1994)

New locality: Melenci (Ilje) 2.11.2002 1♂, I, C.

Fam. Rhopalidae

Chorosoma schillingi (Schilling, 1829)

Deliblato Sands (Grebenac) (FRIVALDSZKY, 1877; HORVÁTH, 1897); Deliblato Sands (Deliblato, Dupljaja) (HORVÁTH, 1897); Deliblato Pesak (Šušara) (PETRIK, 1958); Deliblato Sands (Dolina, Jagoda - leg. Z. G.) (GRADOJEVIĆ, 1963); Deliblato Sands (Tilva, Kravan) (PROTIĆ, 1994)

New locality: Melenci (Ilje) 2.11.2002 1♂, III, C.

Liorhysus hyalinus (Fabricius, 1794)

Deliblato Sands (Dolina, Jagoda) (GRADOJEVIĆ, 1963); Deliblato Sands (Banatski Karlovac) (PROTIĆ, 1994)

New locality: Perlez 5.10.2002 1♂, I, C.

Myrmus miriformis (Fallén, 1807)

Deliblato Sands (Grebenac) (FRIVALDSZKY, 1877); Jazovo (HORVÁTH, 1897); Deliblato Sands (Šušara) (PETRIK, 1958); Deliblato Sands (Dolina, Budžak) (GRADOJEVIĆ, 1963); Deliblato Sands (Flamunda, Putnikovo) (PROTIĆ, 1994)

New locality: Perlez 31.10.2002 1♀, I, 1B; 20.5.2003 1♀, IV, C; 22.6.2003 4♂, 2♀, IV, C.

Rhopalus subrufus (Gmelin, 1788)

Deliblato Sands (Grebenac) (FRIVALDSZKY, 1877; PETRIK, 1958; PROTIĆ, 1986)

New locality: Perlez 5.10.2002 2♂, I, C.

Stictopleurus crassicornis (Linnaeus, 1758)

Pančevo (on *Althea rosea*, *Salvia officinalis*, *Lavandula vera*, *Matricaria chamomilla*) (PROTIĆ, 1992)

New locality: Perlez 5.10.2002 1♂, I, C; 31.10.2002. 1♂, I, C.

Stictopleurus punctatonervosus (Goeze, 1778)

Pančevo (on *Thymus serpyllum*, *Calendula officinalis*) (PROTIĆ, 1992)

New locality: Perlez 5.10.2002 1♂, I, C; 31.10.2002 1♂, I, C.

Fam. Scutelleridae

Eurygaster austriaca (Schrank, 1778)

Deliblato Sands (GRADOJEVIĆ, 1963; PETRIK, 1958; PROTIĆ, 1986)

New locality: Perlez 20.5.2003 1♂, II, C.

Eurygaster maura (Linnaeus, 1758)

Deliblato Sands (FRIVALDSZKY, 1877; PETRIK, 1958; PROTIĆ, 1986); Deliblato Sands (Korn) (PROTIĆ, 1994)

New locality: Perlez 22.6.2002 1♂, 3♀, II, C; 2.5.2003 1♀, II, C; 20.5.2003 1♀, II, 7B; 22.6.2003. 1♀, I, C.

Fam. Pentatomidae

Anthemina lunulata (Goeze, 1778)

Deliblato Sands (PETRIK, 1958; GRADOJEVIĆ, 1963; PROTIĆ, 1986)

New locality: Melenci (Ilje) 6.7.2002 8♂, 1♀, II, C; 6.8.2002 1♂, II, C.

Dolycoris baccarum (Linnaeus, 1758)

Deliblato Sands (several localities) (GRADOJEVIĆ, 1963, PETRIK, 1958, PROTIĆ, 1986); Pančevo (on *Foeniculum vulgare*, *Ocimum basilicum*, *Leonurus cardiaca*, *Valeriana officinalis*, *Calendula officinalis*, *Innula helenicum*, *Cnicus benedictus*) (PROTIĆ, 1992); Deliblato Sands (Korn, Jasenovo - Karaš river, Banatski Karlovac) (PROTIĆ, 1994)

New locality: Melenci (Ilje) 2.11.2002 1♂, II, C.

Aelia acuminata (Linnaeus, 1775)

Deliblato Sands (FRIVALDSZKY, 1877; GRADOJEVIĆ, 1963; PETRIK, 1958; PROTIĆ, 1986)

New locality: Perlez 22.6.2002 1♂, II, C; 22.6.2003 2♂, IV, C.

Eurydema oleracea (Linnaeus, 1758)

Deliblato Sands (FRIVALDSZKY, 1877; PETRIK, 1958; GRADOJEVIĆ, 1963); Deliblato Sands (Dolina, Korn, Glavaš, Rošjana) (PROTIĆ, 1986); Deliblato Sands (Korn, Dubovac) (PROTIĆ, 1994); Pančevo (on *Sinapis arvensis*) (PROTIĆ, 1992)

New locality: Perlez 5.10.2002 1♂, I, C; 22.6.2003 1♂, IV, C.

Sciocoris cursitans cursitans (Fabricius, 1794)

Deliblato Sands (Grebenač) (FRIVALDSZKY, 1877); Deliblato Sands (Dolina) (GRADOJEVIĆ, 1963; PROTIĆ, 1986)

New locality: Perlez 6.7.2002 1♀, I, C.

Discussion and Conclusions

During complex research on the diversity of the invertebrate fauna of small isolated habitats, thirty-five species of Heteroptera classified into eight families were captured from July 2002 to July 2003 in the Ilje and Perlez localities. Nineteen species of Heteroptera were found in the Ilje locality, 24 in the Perlez locality. The ratios of the number of species to the number of specimens in individual families were as follows: Nabidae, 3/17; Miridae, 15/83; Lygaeidae, 2/3; Pyrrhocoridae, 1/1328; Coreidae, 1/1; Rhopalidae, 6/15; Scutelleridae, 2/8; and Pentatomidae, 5/17. In all, seventy-eight samples containing 1472 specimens of Heteroptera were taken.

A species new to the fauna of Serbia — *Rhyparochromus (Panaorus) adspersus* (Mulsant & Rey) — was captured in the Perlez locality. The specimen was caught at the beginning of summer (on the June 22nd) alongside a dry canal richly overgrown with vegetation, including *Verbena officinalis* L., which is known as the host plant of this species (BACCHI & VLACH, 1996). HORVÁTH (1907) reported finding the species in question in

the Topanfalfa locality, which is also in Banat, but in Romania. The given species has never been registered on the Balkan Peninsula. Our finding of it in the Perlez locality in Banat (which is located north of the Sava and Danube Rivers) is the first in Serbia. In the territory of ex-Yugoslavia, this species has been found only in several localities in Slovenia (GOGALA & GOGALA, 1989). It is a Euro-Siberian species, and Banat is on the southern boundary of its range.

In addition, there are five new species to the fauna of Banat: *Acetropis carinata* (Herrich-Schaeffer), *Lygus gemellatus* (Herrich-Schaeffer), *Macrotylus horvathi* (Reuter), *Adelphocoris seticornis* (Fabricius) and *Stenodema laevigata* (Linnaeus).

Acetropis carinata (Herrich-Schaeffer) was found in the Ilje locality on a degraded marshy pasture in the spring. It lives in grassy habitats and is known on *Anthoxanthum odoratum* L. The finding in the Ilje locality is its northernmost finding in Serbia.

Lygus gemellatus (Herrich-Schaeffer) was found in October and November in both localities near fields with corn and grain. It is known that this species lives on plants of the genus *Arthemisia*, although in Serbia it has been captured during spring and summer in grain fields, orchards, and sandy habitats all the way up to high altitudes (1750 m) on Mt. Kopaonik. The imago overwinters. Our finding of the given species in Banat is its northernmost finding in Serbia. It is a Ponto-Mediterranean species.

Macrotylus horvathi (Reuter) was found in the Ilje locality on the edge of a pasture near a corn field in the spring. It lives on *Ballota nigra* L. and overwinters in the egg stage. The imago appears at the end of May. This species is rare in Serbia. Only two findings are known to date: at Dobra (HORVÁTH, 1903) and at Vratna (PROTIĆ, 1992). It is a European species.

Adelphocoris seticornis (Fabricius) is a Euro-Siberian species. In Serbia it has been found in a number of localities (PROTIĆ, 1998). It was captured in the Perlez locality alongside a field in the fall. The imago overwinters. Our specimens probably migrated from nearby cultivated fields into neighboring weed communities, where they overwintered.

Stenodema laevigata (Linnaeus) was captured in both localities from May to October. It was found alongside a dry canal richly overgrown with vegetation, but also near a field. This species is distributed throughout Serbia (PROTIĆ, 1998) and has been found in numerous localities not yet published; these specimens are preserved in the Study Collection of Heteroptera of the Natural History Museum. The specimens in question are from Belgrade parks, from many localities in the wider vicinity of Belgrade, from the Ram-Golubac Sands, and from higher elevations above sea level on the mountains Kosmaj, Divčibare, Rajac, Tara, Besna Kobila, Durmitor (Montenegro), and Lebršnik (Herzegovina).

Three species — *Acetropus longirostris* (Puton), *Amblytulus concolor* Jakovlev and *Megalocoleus dissimilis* (Reuter) — were captured again in Banat after an interval of 105 years (HORVÁTH, 1897; PETROV, coll. 2002). All three species were captured in the Ilje locality on a marshy pasture during the month of May.

New data on the Heteroptera of Banat constitute only a small contribution to the available knowledge of the fauna of this region. The purpose of the basic research in the Ilje and Perlez localities was to collect all invertebrates, of which the Heteroptera are only one of the orders processed. In view of the broader objective of our project, i.e., the study of the diversity of the entire invertebrate fauna of Banat, it is apparent that suitable methods of specimen collecting were employed. For example, the trap method yielded an enormous number of specimens of *Pyrhocoris apterus* (Linnaeus). However, the given species is very widely disseminated and cannot be used as a parameter of overall invertebrate abundance and diversity. This

species was present in large numbers throughout the whole season in the Ilje locality, mainly along transect III, running through a fairly neglected corn field. The presence of *P. apterus* in enormous numbers was evident, and a cursory review of localities showed that it was caught as well in traps set for other organisms (groups). It also appeared along transect I, but in significantly smaller numbers, and was only sporadically caught alongside fields in the Perlez locality.

During the period when Banat was part of the Austro-Hungarian Monarchy, this region was relatively well-investigated. Later investigations were fragmentary with respect to both locality and length (duration). Investigations either were carried out at more interesting localities (the Deliblato Sands, for example) or they pertained to economically important species such as grain or orchard bugs (PROTIĆ, 1998, 2001). The number of species recorded to date is certain to be increased by research on specific habitats in Banat such as marshes and loess terraces. These expectations are in any case supported by the significant number of species identified in a degraded pasture with poor plant diversity in the vicinity of Melenci and the considerable number of species registered in small rich oases of greenery in large agricultural holdings around Perlez.

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ПРИЛОГ ПОЗНАВАЊУ НЕТЕРОПТЕРА БАНАТА (ВОЈВОДИНА, СРБИЈА)

ЉИЉАНА ПРОТИЋ, ИВАН ПЕТРОВ, БРИГИТА ПЕТРОВ И ТАМАРА КАРАН-ЖНИДАРШИЧ

Извод

У оквиру истраживања фауне малих, изолованих, природних станишта на подручју Баната, сакупљен је обиман материјал терестричних бескичмењака. Heteroptera су сакупљане на локалитетима у близини села Меленци, локалитет Иље и у околини села Перлез. Истраживања су обављена од јула 2002. до јула 2003. године. За сакупљање материјала коришћене су Барбер клопке, кечер и земљишни квадрати (25cm x 25cm).

Идентификовано је 35 врста Heteroptera у 78 узорак и 1472 примерка. Врста *Rhyparochromus (Panaorus) adpersus* (Mulsant & Rey) нова је за фауну Србије. Утврдили смо пет нових врста за фауну Баната: *Acetropis carinata* (Herrich-Schaeffer), *Lygus gemellatus* (Herrich-Schaeffer), *Macrotylus horváthi* (Reuter), *Adelphocoris seticornis* (Fabricius) и *Stenodema laevigata* (Linnaeus). Три врсте: *Acetropis longirostris* (Puton), *Amblytylus concolor* Jakovlev и *Megalocoleus dissimilis* (Reuter) поново су уловљене у Банату после 105 година (HORVÁTH, 1897, ПЕТРОВ coll. 2002). Све три врсте уловљене су у Меленцима, у пролеће – маја месеца, и везане су за пашњак на слатини.

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