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CONTRIBUTION TO THE MYRMECOFAUNA (FORMICIDAE, HYMENOPTERA) OF THE BANAT PROVINCE (SERBIA)

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Abstract - Ant species collected in the season of 1997, with some specimens of earlier years are presented. Collected species belong to the four subfamilies with the following number of species: Ponerinae (1 species), Myrmicinae (30), Dolichoderinae (6), Formicinae (30). Collected species are mostly Palearctic, European, and Southeuropean. Three Holarctic *(Lasius alienus, L. flavus* and *L. niger)* and four Mediterranean *(Messor structor, Bothriomyrmex meridionalis Camponotus piceus* and *Cataglyphis aenescens)* species were also registered. Mediterranean species are probably the remnants of the fauna of the region of Pannonian sea.

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INTRODUCTION

As known so far, 19 authors worked on the myrmecofauna of different regions in the former Yugoslavia, mostly Dalmatia and Bosnia (Petrov and Collingwood, 1992). But, myrmecofauna of Serbia is still insufficiently investigated. Some entomologists listed some ant species among other insect species they mentioned, for instance: Živojinović (1950), in his monograph on the insect fauna of the forest region of Majdanpek (Serbia), registered 10 genera, 18 species, 7 subspecies and 3 varieties of ants. Vogrin (1955) elaborated Hymenoptera Aculeata of the former Yugoslavia, mostly Croatia and Adriatic Coast, but he also registered 15 species and 2 varieties in some localities in Serbia (Fruška Gora Vijenac, Krušedol, Belegiš, Slankamen, Jazak, Ledinci). Gradojević (1963) mentioned 9 genera, and 11 species of ants for Deliblato Sands, Serbia.

First investigations on the myrmecofauna of Serbia were performed by Petrov (1986) who presented a list of ant species found in some oak tree communities on Mt. Jastrebac (Serbia) and registered 12 species. Petrov and Mesaroš (1988) elaborated myrmecofauna of pasture grounds and meadows of the Mt. Stara Planina (Serbia) and found 14 species. According to former authors (Živojinović 1950; Vogrin 1955; Gradojević 1963), as well as on the basis of the author's collection, Petrov (1992) gave a preliminary list of known ant species (55) for Serbia. Furthermore, Petrov (1994) registered 32 species in the myrmecofauna of Deliblatska peščara (Deliblato Sands) (Banat Province, Serbia). Petrov and Collingwood (1993) described a new species (*Formica balcanina*) which belongs to the *Formica cinerea* group and which is vicariant with *F. cinerea* on the Balkan Peninsula. The holotype was taken from Rošijana, Deliblato Sands (15.7.1987), about 70 *km* northeast from Belgrade. Collingwood and Petrov (1999) registered 17 new species in the myrmecofauna of Serbia (Yugoslavia).

Petrov (1995) gave a preliminary list of ants of Yugoslavia, and among 136 species for Yugoslavia, 92 were registered in Serbia. Petrov (2000) listed 160 ant species in the myrmecofauna of Yugoslavia 140 of which were registered in Serbia.

The fact that myrmecofauna of Serbia is still very poorly known, has enforced us to make this small contribution to the knowledge of the myrmecofauna of another region of Yugoslavia, the Banat Province in Serbia.

MATERIAL AND METHODS

Ant species (Formicidae) presented in this work were collected in 85 localities in the Banat Province (Fig. 1).

Ants were collected by acccidental finding, and searching for potential nests, during the summer of 1997. The collection also included some specimens from Banat found in previous years.

Identification was done using keys by: Agosti and Collingwood (1987b), Stitz (1939), Kutter (1977), Coollingwood (1978, 1979) Seifret (1988a, 1988b, 1996), Atanasov and Dlussky (1992). Data by Agosti and Collingwood (1987a), BaroniUrbani (1971) and Bolton (1994, 1995) were also used.

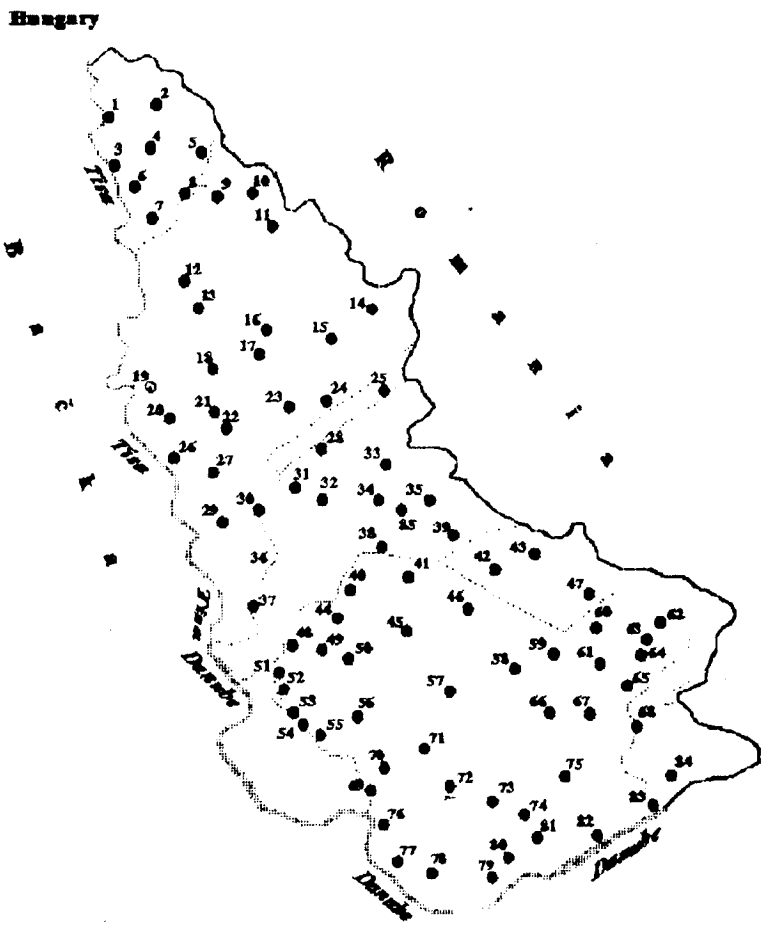

Fig. 1. Localities of the Banat Province in which ants were collected.

1Novi Kneževac; 2Banatsko Aranđelovo; 3Sanad; 4Banatski Monoštor; 5Mokrin; 6Ostojićevo; 7Padej; 8Sajan; 9Iđoš; 10Kikinda; 11Rusko Selo; 12Bočar; 13Miloševo; 14Srpska Crnja; 15Nova Crnja; 16Banatska Topola; 17Bašaid; 18Čestereg; 19Novi Bečej; 20Kumane 21Mihajlovo; 22Melenci; 23Banatski Dvor; 24Begejci; 25Srpski Itebej; 26Taraš; 27Elemir; 28Žitište; 29Aradac; 30Zrenjanin; 31Klek; 32Lazarevo; 33Krajišnik; 34Sutjeska; 35Sečanj; 36Perlez; 37Čenta; 38Jarkovac; 39Hajdučica; 40Idvor; 41Samoš; 42Jermenovci; 43Plandište; 44Sakule; 45Padina; 46Velika Greda; 47Margita; 48Idvor; 49Uzdin; 50Kovačica; 51Baranda; 52Opovo; 53Glogonj; 54Jabuka; 55Sefkerin; 56Crepaja; 57Vladimirovac; 58Banatski Karlovac; 59Uljma; 60Izbište; 61Vlajkovac; 62Mesić; 63Vršac; 64Vršački ritovi; 65Straža; 66Banatsko Novo Selo; 67Vračev Gaj; 68Jasenovo; 69Pančevo; 70Skrobara; 71Kačarevo; 72Devojački Bunar; 73Dolovo 74Mramorak; 75Deliblatska Peščara; 76Omoljica; 77Ivanovo; 78Starčevo; 79Banatski Brestovac; 80Pločica; 81Deliblato; 82Skorenovac; 83Dubovac; 84Stara Palanka; 85Neuzina.

RESULTS AND DISCUSSION

Myrmecological material collected in the Banat Province consists of 18 genera and 67 species which belong to the four subfamilies with different numbers of species: Ponerinae (1 species), Myrmicinae (30), Dolichoderinae (6) and Formicinae (30) (Table 1).

The list of species shows that Palearctic species (*Myrmica rubra, M. scarinodis, M. schencki, M. sulcinodis, Solenopsis fugax, Tetramorium caespitum, Lasius brunneus, Camponotus herculeanus, Formica cunicularia, F. fusca, F. sanguinea*) and European (*Myrmica rugulosa, Myrmecina graminicola, Lasius affinis, L. bicornis, L. fuliginosus, Camponotus ligniperdus, C. truncatus, Formica lemani* and *F. rufibarbis*) (Stitz 1939; Bernard 1968; Collingwood 1979; Seifert 1988; Paraschivescu 1993) (Table 1) are the most abundant. Three Holarctic species (*Lasius alienus, L. flavus* and *L. niger*) (Stitz 1939; Bernard 1968; Collingwood 1979; Seifert 1988; Paraschivescu 1993) (Table 1) were also

found. The remaining species have South European or Euroasian distribution. Five Mediterranean species (*Messor structor, Bothriomyrmex meridionalis, Camponotus piceus, Cataglyphis aenescens* and *Formica pratensis*) (Stitz 1939; Bernard 1968; Collingwood 1979; Seifert 1988; Paraschivescu 1993) (Table 1) were also found.

These species in the myrmecofauna of the Banat Province could be probably explained as remnants of fauna of the region of Pannonian Sea area.

The most frequent species (species which were found in more than 10 localities) are: *Tetramorium caespitum, T. forte, Lasius alienus, L. emarginatus, L. fuliginosus, L. niger, Camponotus piceus, Formica cunicularia* and *F. rufibarbis* (Table 1).

Although the Banat Province is a large agricultural area with a great anthropological influence and seems to be of very monotonous landscape, the composition of its myrmecofauna shows that different habitats are present. Namely, species which prefer open, warm habitats (*Tetramorium caespitum, Tapinoma erraticum, Plagiolepis vindobonensis, Cataglyphis aenescens, Formica balcanina, F. cunicularia, F. rufibarbis* and *Polyergus rufescens*) were found. Species which prefer habitats covered with plants (*Myrmica rubra, M. sabuleti* and *Formica pratensis*) and those which tolerate humid habitats (*Myrmica scabrinodis, Lasius flavus* and *L. fuliginosus*) (Stitz 1939; Bernard 1968; Collingwood 1979) were also found (Table 1).

Table 1. List of ant species (Formicidae) collected in the Banat Province

Genus and species	Locality
Subfam.: PONERINAE	
Ponera coarctata (Latreille) 1802	Deliblatska Peščara, 26. 6. 1988; Kovilovo, 4. 9. 1993.
Subfam.: MYRMICINAE	
Myrmica hellenica Forel 1913	Nikolinci, 29. 7. 1997; Zrenjanin, 6. 9.1 997; Sakule, 13. 9. 1997.
M. rubra (L.) 1758	Localities: Deliblatska Peščara, 20. 7. 1987; Ostojićevo, 2. 9. 1997; Omoljica, 28. 9.1 997.
M. rugulosa Nylander 1849	Ostojićevo, 2. 9. 1997.
M. sabuleti Meinert 1861	Deliblato, 27. 5. 1998. Elemir, 12. 5. 1991; Kovilovo, 31. 5. 1997; Vršački Ritovi, 2. 10. 1996.
M. sancta Karawajev 1926	Perlez, 1988.
M. scabrinodis Nylander 1846	Padej, 22. 5. 1994; Deliblatska Peščara 14. 6. 1996.
M. schencki Emery 189	Deliblatska Peščara, 29. 6. 1996.
M. specioides Bondroit 1918	Deliblatska Peščara 14. 6. 1996.
M. sulcinodis Nylander 1846	Velika Greda, 19. 7. 1997.
M. sp.	Deliblatska Peščara, 15. 7. 1987.
Messor denticulatus K.Ugamski 1927	Sajan, 13. 4. 1991; Sakule, 13. 9. 1997.
M. structor (Latreille)1798	Banatski Monoštor, 3. 9. 1997; Zrenjanin, 6. 9. 1997; Sakule, 13. 9. 1997.
Pheidole pallidula (Nylander) 1849	Sefkerin,13. 9. 1997; Banatski Brestovac, 28. 9. 1997.
Myrmecina graminicola (Latreille)1802	Deliblatska Peščara, 26. 6. 1988.
Solenopsis fugax (Latreille) 1798	Deliblatska Peščara, 20. 7. 1987; Zrenjanin, 19. 8. 1997; Jarkovac, 20. 8. 1997.
S. wolfi Emery 1915	Zrenjanin, 19. 8. 1997.
S. sp.	Sefkerin, 13. 9. 1997.
Leptothorax affinis Mayr 1855	Deliblatska Peščara, 20. 7. 1987.
L. flavicornis Emery 1870	Deliblatska Peščara, 14. 6. 1996.
L. interruptus (Schenck) 1852	Deliblatska Peščara, 20. 7. 1987.
L. nylanderi (Foerster) 1850	Deliblatska Peščara, 15. 7. 1987.
L. tuberum (F.) 1775	Delilatska Peščara, 31. 5. 1966.
L. unifascatus Latreille 1798	Deliblatska peščara, 31. 5. 1996.
Cardiocondyla elegans Emery 1869	Localities: Sanad, 2. 9. 1997.; Kikinda, 3. 9. 1997.

Table 1 continued.

Tetramorium caespitum (L.) 1758	Deliblatska Peščara, 19. 8. 1988; Dubovac, 11. 5. 1987; Manastir Mesić (Vršac), 25. 5. 1994; Stara Palanka, 25. 5.1 994; Vršački Ritovi, 25. 5. 1994; Vračev Gaj, 30. 6. 1996; Elemir, 29. 6. 1997; Taraš, 29. 6. 1997; Melenci, 29. 6. 1997; Velika Greda, 29. 7. 1997; Hajdučica, 29. 7. 1997; Banatsko Novo Selo, 29. 7. 1997; Vršac, 29. 7. 1997; Lazarevo, 19. 8. 1997; Zrenjanin, 6. 9. 1997; Crepaja, 20. 8. 1997; Samoš, 20. 8. 1997; Skrobara (Pančevo), 20. 8. 1997; Pančevo, 20. 8. 1997; Ostojićevo, 2. 9. 1997; Banatsko Aranđelovo, 2. 9. 1997; Sanad, 2. 9. 997; Mokrin, 3. 9. 1997; Kikinda, 3. 9. 1997; Padej, 3. 9. 1997; Banatski Dvor, 6. 9. 1997; Begejci, 6. 9. 1997; Idvor, 13. 9. 1997.; Glogonj, 13. 9. 1997; Baranda, 13. 9. 1997; Jabuka, 13. 9. 1997; Skorenovac, 28. 9. 1997; Pločica 28. 9. 1997; Starčevo, 28. 9. 1997; Banatski Brestovac, 28. 9. 1997; Novo Miloševo, 10. 10. 1997; Bočar, 10. 10. 1997; Bašaid-Novi Bečej-canal, 10. 10. 1997.
T. diomedaeum Agosti & Collingwood 1987	Deliblatska peščara, 18.7.1981.
T. forte Forel 1904	Banatski Brestovac, 28. 7. 1997; Nikolinci, 29. 7. 1997; Banatski Karlovac, 29. 7. 1997; Crepaja, 20. 8. 1997; Samoš, 20. 8. 1997; Pančevo, 20. 8. 1997; Rusko Selo, 3. 9. 1997; Zrenjanin, 6. 9. 1997; Nova Crnja, 6. 9. 1997; Opovo, 13. 9. 1997; Glogonj, 13. 9. 1997; Pločica, 28. 9. 1997; Ivanovo, 28. 9. 1997; Novo Miloševo, 10. 10. 1997.
T. hippocratis Agosti & Collingwood 1987	Deliblatska Peščara, 15. 7. 1987.
T. impurum Foerster 185	Banatski Monoštor, 3. 9. 1997.
T. lucidulum Emery 1909	Deliblatska Peščara, 15. 7. 1987.
T. moravicum Kratochvil 1944	Deliblatska Peščara, 15. 7. 1987, Banatska Topola, 3. 9. 1997.
T. semilaeve Andr 1883	Deliblatska Peščara, 15. 7. 1987.
Stubfam.: DOLICHODERINAE	
Dolichoderus quadripunctatus (L.)1771	Nikolinci, 29. 7. 1997; Kovačica, 20. 8. 1997. Banatsko Aranđelovo, 2. 9. 1997.
Liometopum microcephalun (Panzer) 1791	Čenta, 6. 7. 1997; Jarkovac, 20. 8. 1997; Omoljica, 28. 9. 1997.
Bothriomyrmex menozzi Emery 1925	Deliblatska Peščara, 10. 7. 1988.
B. meridionalis (Roger)	Deliblatska Peščara, 19. 7. 1988.; Banatski Karlovac, 29. 7. 1997.; Banatski Dvor, 6.9.1997.; Opovo, 13.9.1997; Sefkerin, 13. 9. 1997; Banatsko Novo Selo, 29. 7. 1997.
Tapinoma erraticum (Latreille) 1798	Deliblatska peščara, 15. 7. 1987.
T. nigerrimum Nylander 1886	Vladimirovac, 29. 7. 1997.
Subfam.:FORMICINAE	
Plagiolepis pygmaea (Latreille) 1798	Deliblatska Peščara 1983.
P. vindobonensis Lomnicki 1925	Deliblatska Peščara, 8.1987.
Lasius affinis (Schenck) 1852	Opovo, 30.8.1996.
L alienus (Frster) 1850	Deliblato, 13. 7. 1980; Melenci, 20. 4. 1991; Manastir Mesić (Vršac), 25. 5. 1994; Uzdin, 22. 6. 1997; Perlez, 23. 6. 1997; Banatska Topola, 29. 7. 1997; Nikolinci, 29. 7. 1997; Banatski Karlovac, 29. 7. 1997; Banatsko Novo Selo, 29. 7. 1997; Zrenjanin, 19. 8. 1997; Sutjeska, 19. 8. 1997; Crepaja, 20. 8. 1997; Samoš, 20. 8. 1997; Pančevo, 20. 8. 1997; Banatsko Aranđelovo, 2. 9. 1997; Banatski Monoštor, 3. 9. 1997; Rusko selo, 3. 9. 1997; Srpska Crnja 6. 9. 1997; Sakule, 13. 9. 1997; Omoljica, 28. 9. 1997.
L.bicornis (Frster) 1850	Deliblatska Peščara, 25. 7. 1988.
L. brunneus (Latreille) 1798	Sanad, 2. 9. 1997.; Banatski Brestovac, 28. 9. 1997.

Table 1 continued.

L. distiguendus (Emery) 1916	Deliblatska Peščara, 14. 6. 1989; Nikolinci, 29. 7. 1997; Vlajkovac (Vršac), 29. 7. 1997; Melenci, 19. 8. 1997.
L. emarginatus (Olivier) 1791	Hajdučica, 29. 7. 1997; Vlajkovac (Vršac), 29. 7. 1997; Crepaja, 20. 8. 1997; Skrobara (Pančevo), 20. 8. 1997; Novi Kneževac, 2. 9. 1997; Kikinda, 3. 9. 1997; Sajan, 3. 9. 1997; Nova Crnja, 6. 9. 1997; Sefkerin, 13. 9. 1997; Novi Itebej, 6. 9. 1997; Pločica, 28. 9. 1997; Banatski Brestovac, 28. 9. 1997; Bašaid-Novi Itebej-Kanal, 10. 10. 1997; Bašaid, 10. 10. 1997.
L. flavus (Fabricius) 1781	Deliblatska Peščara, 26. 6. 1988.
L. fuliginosus (Latreille) 1798	Dubovac, 26. 6. 1988.; Zrenjanin, 23. 7. 1991; Kovilovo, 23. 4. 1992; Novi Itebej, 29. 7. 1997; Hajdučica, 29. 7. 1997; Vršac, 29. 7. 1997; Banatsko Aranđelovo, 2. 9. 1997; Banatska Topola, 3. 9. 1997; Krajišnik, 6. 9. 1997; Sakule, 13. 9. 1997; Vladimirovac; Omoljica, 28. 9. 1997; Pločica, 28. 9. 1997; Bašaid-Novi Bečej-kanal, 10.10.1997.
L. meridionalis (Bondroit) 1919	Aradac (Zrenjanin), 27. 4. 1980; Nikolinci,29. 7. 1997.
L mixtus (Nylander) 1846	Čardak, 24.4.1982.
L. niger (L.) 1758	Deliblatska Peščara, 31. 5. 1996 Sajan, 13. 4. 1991; Begejci, 23. 4. 1997; Melenci, 19. .5. 1991; Sajan, 13. 4. 1991; Begejci, 23. 4. 1991; Kovilovo, 16. 5. 1993; Padej, 22. 5. 1994; Čenta, 20. 6. 1996; Kumane, 20. 6.1996; Zrenjanin, 20. 6. 1996; Vračev Gaj, 30. 6. 1996; Čenta, 10.6.1997; Elemir, 29.6.1997; Taraš, 29.6.1997; Velika Greda, 29. 7. 1997; Nikolinci, 29. 7. 1997; Sutjeska, 19. 8. 1997; Crepaja, 20. 8. 1997; Samoš, 20. 8. 1997; Skrobara (Pančevo), 20. 8. 1997; Padina, 20. 8. 1997; Brestovac, 26. 8. 1997; Kikinda, 3. 9. 1997; Banatski Monoštor, 3. 9. 1997; Ostojićevo, 2. 9. 1997; Novi Kneževac, 2. 9. 1997; Mokrin, 3. 9. 1997; Sajan, 3. 9. 1997; Krajišnik, 6. 9. 1997; Dvor, 6. 9. 1997; Nova Crnja, 6. 9. 1997; Begejci, 6. 9. 1997; Glogonj, 13. 9. 1997; Skorenovac, 28. 9. 1997; Omoljica, 28. 9. 1997; Bočar, 10. 10. 1997; Novi Bečej, 10. 10. 1997; Bašaid, 10. 10. 1997.;
Camponotus aethiops (Latreille) 1798	Devojački Bunar, 24. 4. 1982.
C. atricolor (Nylander), 1849	Skorenovac, 28. 9. 1997.
C. fallax Nylander 1856	Deliblatsk Peščara, 29. 6.1 996.
C. herculeanus (L.) 1758	Zrenjanin, avgust 1993.
C. ligniperdus (Latreille) 1802	Deliblatska peščara, 1988.
C. piceus (Leach) 1825	Deliblatska Peščara, 18. 4. 1980; Melenci, 29. 6. 1997; Banatsko Novo Selo, 2. 9. 1997; Banatsko Aranđelovo, 2. 9. 1997; Sanad, 2. 9. 1997; Novi Kneževac, 2. 9. 1997; Kikinda, 3. 9. 199; Padej, 3. 9. 1997; Banatski Monoštor, 3. 9. 1997; Sajan, 3. 9. 1997.
C. truncatus (Spinola) 1808	Manastir Mesić (Vršac), 25. 5. 1994; Crepaja, 20. 8. 1997; Kikinda, 3. 9. 1997; Nova Crnja, 6. 9. 1997.
C. vagus (Spinola) 1763	Deliblatska Peščara, 21. .5. 1981; Deliblatska peščara, 11. 10. 1979; Stara Palanka, 25. 5. 1994; Melenci, 29. 6. 1997; Plandište, 29. 7. 1997.
Cataglyphis aenescens (Nylander) 1846 Locality:	Deliblato, 18. 6. 1980; Čardak, 02. 7. 1980.
Formica balcanina Petrov & Collingwood 1993	Deliblatska Peščara (Rošijana), 15. 7. 1987. (holotype); Manastir Mesić (Vršac), 25. 5. 1994; Stara Palanka, 20. 6. 1997; Skrobara (Pančevo), 20. 8. 1997; Glogonj, 13. 9. 1997; Omoljica, 28. 9. 1997; Ivanovo, 28. 9. 1997; Banatski Brestovac, 28. 9. 1997.

Table 1 Continued.

F. cunicularia Latreille 1798	Deliblatska Peščara, 24. 4. 1982; Melenci, 28. 4. 1992; Manastir Mesić (Vršac), 25. 5. 1994; Vračev Gaj, 30. 6. 1996; Taraš, 29. 6. 1997; Vladimirovac, 29. 7. 1997; Hajdučica, 29. 7. 1997; Nikolinci, 29. 7. 1997; Crepaja, 20. 8. 1997; Skrobara (Pančevo), 20. 8. 1997; Padina, 20. 8. 1997; Pančevo. 20. 8. 1997; Ostojićevo, 2. 9. 1997; Banatsko Arandelovo, 2. 9. 1997; Novi Kneževac, 2. 9. 1997; Sanad, 2. 9. 1997; Kikinda, 3. 9. 1997; Sajan, 3. 9. 1997; Mokrin, 3. 9. 1997; Žitište; 6. 9. 1997; Novi Itebej, 6. 9. 1997; Čestereg, 6. 9. 1997.; Opovo, 13. 9. 1997; Sefkerin, 13. 9. 1997; Glogonj,13. 9. 1997; Baranda, 13. 9. 1997; Skorenovac, 28. 9. 1997; Starčevo, 28.9. 1997; Banatski Brestovac, 28. 9. 1997; Ivanovo, 28. 9. 1997.
F. fusca L. 1758	Deliblatska Peščara,23. 7. 1987
F. glauca Ruzsky 1895	Deliblatska Peščara,31. 5. 1996
F. lemani Bondroit 1917	Manastir, Mesić (Vršac), 25. 5. 1994.
F. pratensis Retzius 1783	Deliblatska Peščara, 18. 4. 1980; Vračev gaj, 30. 6. 1996; Banatski Karlovac, 29. 7. 1997; Banatsko Novo Selo, 29. 7. 1997; Kovačica, 20. 8. 1997; Crepaja, 20. 8. 1997; Skorenovac, 28. 9. 1997; Pločica, 28. 9. 1997.
F. rufibarbis Fabricius 1793	Deliblatska Peščara, 27. 5. 1980.; Melenci, 14. 6. 1991; Kovilovo, 16. 5. 1993; Manastir Mesić (Vršac). 25. 5. 1994; Vršački ritovi, 25. 5. 1994; Elemir, 29. 6. 1997; Vračev Gaj, 4. 7. 1997; Velika Greda, 29. 7. 1997; Hajdučica, 29. 7. 1997; Nikolinci, 29. 7. 1997; Banatski Karlovac, 29. 7. 1997; Vlajkovac (Vršac), 29. 7. 1997; Plandište, 29. 7. 1997; Vršac, 29. 7. 1997; Sečanj, 19. 8. 1997; Lazarevo, 19. 8. 1997; Zrenjanin, 19. 8. 1997; Mihajlovo, 19. 8. 1997; Kovačica, 20. 8. 1997; Neuzina, 20. 8. 1997; Crepaja, 20. 8. 1997; Samoš, 20. 8. 1997; Skrobara (Pančevo), 20. 8. 1997; Pančevo, 20. 8. 1997; Padina, 20. 8. 1997; Kneževac, 2. 9. 1997; Sanad, 2. 9. 1997; Kikinda, 3. 9. 1997; Padej, 3. 9. 1997; Banatska Topola, 3. 9. 1997; Banatski Monoštor, 3. 9. 1997; Sajan, 3. 9. 1997; Žitište, 6. 9. 1997; Čestereg, 6. 9. 1997; Banatski Dvor, 6. 9. 1997.; Begejci, 6. 9. 1997.; Sakule, 13. 9. 1997 Opovo, 13. 9. 1997; Sefkerin, 13. 9. 1997; Idvor, 13. 9. 1997; Glogonj, 13. 9. 1997; Baranda, 13. 9. 1997; Omoljica, 28. 9. 1997; Pločica, 28. 9. 1997; Starčevo, 28. 9. 1997; Banatski Brestovac, 28. 9. 1997; Ivanovo, 28. 9. 1997.; Novo Miloševo, 10. 10. 1997; Bočar, 10. 10. 1997; Novi Bečej, 10. 10. 1997; Bašaid, Novi Bečej-kanal, 10. 10. 1997; Bašaid, 10. 10. 1997.
F. sanguinea Latreille 1798	Devojački Bunar, 19. 4. 1980; Banatski Monoštor, 3. 9. 1997; Vladimirovac, 29. 7. 1997; Hajdučica, 29. 7. 1997; Banatsko Novo Selo, 29. 7. 1997.
Polyergus rufescens (Latreille) 1798	Deliblatska Peščara, 15. 7. 1987; Banatski Monoštor, 3. 9. 1997; Novi Kneževac, 2. 9. 1997. Zrenjanin, 6. 9. 1997; Sakule, 13. 9. 1997; Lazarevo, 19. 8. 1997; Neuzina, 20. .8. 1997.

Gallé (1972) presented 35 species from sandy pastures and clearings occurring between the Tisa and Danube rivers (Ásatthalom, Sashever Balotpuszta, Hungary) and among these species, 22 were found in Banat Province too. Also Gallé (1981) gave a list of 31 species collected in the Hortobágy National Park (Hungary); of these, 25 species were also found in Banat Province. The same author (1998), in his checklist of Hungarian ants, reported 101 species of ants. From that list 44 species were found in the Banat Province, as well.

He always mentioned some Mediterranean species (*Messor structor, Tetramorium semilaeve, Camponotus piceus, Cataglyphis aenescens* and *C. nodus).* However, he did not give any explanation for the presence of these species in the myrmecofauna of Hungary, but they are probably also remnants of fauna of the region of Pannonian Sea.

Paraschivescu (1969) reported 74 species found in Romania. Among them 37 species are common with the ant species collected in the Banat Province.

Comparing the composition of ant species presented here with that one presented by Paraschivescu (1993) from the region of the Danube river in Rumania, it can be seen that out of 33 species registered, 22 species are presented here. He also found some Mediterranean species (*Messor structor, Tetramorium semilaeve, Bothriomyrmex meridionalis, Cataglyphis cursor* (=*C. aenescens*) and *Camponotus piceus*), and explained the presence of these species in Romania by a direct influence of the Mediterranean climate in that part of Romania.

It is obvious that the myrmecofauna of the Banat Province is similar to the myrmecofaunas of Hungary and Romania and that more common species have to occur in the ant fauna of Hungary, Romania and Banat Province. Comparing the list of ants presented here with the checklist of Hungarian ants (Gallé 1998) it is also obvious that myrmecofauna of the Banat Province should be richer than presented here. But ant species presented here were collected during only one season by accidental findings.

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REFERENCES

Agosti, D. and *Collingwood, C. A.* (1987a). A provisional list of the Balkan ants Hym., Formicidae) and the key to the worker caste. I. Synonymic list. *Bull. Soc. Entomol.* **60,** 5162, Suisse.

Agosti, D. and *Collingwood, C. A.* (1987b) A provisional list of the Balkan ants (Hym., Formicidae) with a key to the worker caste. II. Key to the worker caste, including the European species without the Iberian. *Bull. Soc. Entomol.* **60,** 261293, Suisse.

Atanassov, N. N. and *Dlussky, G. M.* (1992). Fauna Bulgarica (Hymenoptera, Formicidae). *Aedibus Academiae Scientarium Bulgarica* **22,** 1311. Sofia.

Bernard, F. (1968). Les Fourmis (Hymenoptera, Formicidae) D'Europe occidentale et septentrionale. *Masson et Cie*. Ed. 1411. Paris.

Bolton, B. (1994). *Identification Guide to the Ant Genera of the World.* Harvard University Press, Cambridge, Massachusetts, London, England 1222.

Bolton, B. (1995). *A New General Catalogue of the Ants of the World.* Harvard University Press, Cambridge, Massachusetts, London, England 1504.

Collingwood, C. A. (1978). A provisional list of Iberian Formicidae with a key to the worker caste (Hym., Form.). *EOS* **52,** 6595.

Collingwood, C. A. (1979). The Formicidae (Hymenoptera) of Fennoscandia and Denmark. *Fauna Ent. Scandinavica* **8,** 1174.

Gallé, L. (1972). Study of ant populations in various grassland ecosystems. *Acta Biol.* **18** (14), 159164, Szeged.

Gallé, L. (1981). The formicoid fauna of the Hortobágy. *The fauna of the National Park,* 307 311.

Gallé, L., Csösz, S., Tartally A. and *Kovacs, É.* (1998). A checklist of Hungarian ants (Hymenoptera, Formicidae). *Folia Entomol. Hung.* **59,** 213220.

Gradojević, Z. (1963). Naselje artropoda travnih zajednica Deliblatske peščare i njihova sukcesija. *Doktorska disertacija.* Prirodnomatematički fakultet, 1233, Beograd.

Kutter, H. (1977). Insecta Helvetica Hymenoptera, Formicidae. *Schweiz. Ent. Ges.* **1,** 1298, Zurich, 1, 1-298.

Paraschivescu, D. (1969). Geographische Verbreitung der Formiciden in Rumanien (Hymenoptera). *Proc. VI Congr. IUSSI* 221232, Bern.

Paraschivescu, D. (1993). Untersuchungen zur Ameisenfauna von Ufersandzonen im rumunischen Donaubereich. *Waldhygiene* **20,** 2127.

Petrov, I. Z. (1986). Prilog poznavanju faune mrava (Hymenoptera, Formicidae) nekih hrastovih zajednica na Jastrepcu. *Bull. Mus. Hist. nat.* **41,** 109114, Belgrade.

Petrov, I. Z. (1992). Mirmekofauna (Formicidae, Hymenoptera) Srbije - dosadašnja istraživanja. *Bull. Mus. Hist. nat.* **B47,** 247259, Belgrade.

Petrov, I. Z. (1994). Contribution to the myrmecofauna (Formicidae, Hymenoptera) of Deliblatska peščara (Delibalato Sandy Area) (Serbia). *Bios (Macedonia, Greece)* **2,** 251156.

Petrov, I. Z. (1995). Preliminary data on the myrmecofauna (Formicidae, Hymenoptera) inYugoslavia. *Arch. Biol. Sci.* **47** (34), 151156, Belgrade.

Petrov, I. Z. (2000). Checklist of the myrmecofauna (Formicidae, Hymneoptera) of Yugoslavia. *Arch. Biol. Sci.* **52,** (4), 243249, Belgrade.

Petrov, I. Z. and *Mesaroš, G.* (1988). Prilog poznavanju faune mrava (Formicidae, Hymenoptera) Stare Planine. *Biosistematika* **14,** 4350.

Petrov, I. Z. and *Collingwood, C. A.* (1992). Survey of the myrmecofauna (Formicidae, Hyumenoptera) of Yugoslavia. *Arch. Biol. Sci.* **44** (12), 7991, Belgrade.

Petrov, I. Z. and *Collingwood, C. A.* (1993). Formica balcanina sp. n., a new species related to the *Formica cinerea* group (Hymenoptera, Formicidae). *Eur. J. Entomol.* **90,** 349354, Česke Budêjovice.

Seifert, B. (1988a). A taxonomic revision of the *Myrmica* species of Europe, Asia Minor, and Caucasia (Hymenoptera, Formicidae). Abh. Ber. *Naturkundesmuseum* **62,** 3, 175, Görlitz.

Seifert, B. (1988b). A Revision of the European Species of the Ant Subgenus *Chthonolasius* (Insecta, Hymenoptera, Formicidae). *Entomol. Abh. Mus. Tierkd.* **51,** 8, 143180, Dresden.

Seifert, B. (1996). *Ameisen beobachten, bestimmen.* Weltbildbild Verlag GmbH, Augsburg, 1352.

Stitz, H. (In: Dahl, F.) (1939). *Tierwelt Deutschlands, Hautflüger oder Hymenoptera, Ameisen oder Formicidae.* Gustav Fischer Verlag, Jena, 1428.

Vogrin, V. (1955). Prilog fauni Hymenoptera Aculeata (Formicidae) Jugoslavije. *Zaštita bilja* **31,** 1521, Beograd.

Živojinović, S. (1950). Fauna insekata šumske domene Majdanpek. *SANU, Pos. izd.* **160,** 1-162, Beograd.

ПРИЛОГ ПОЗНАВАЊУ ФАУНЕ МРАВА (FORMICIDAE, HYMENOPTERA) БАНАТА

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У лето 1997. године вршено је интензивно сакупљање мрава на целој територији Баната. Обухваћено је 85 локалитета. Материјал је сакупљан случајним налажењем и претраживањем потенцијалних гнезда. Уз неке раније сакупљене примерке мрава у Банату, констатовано је 67 врста које спадају у четири подфамилије са укупно 40 врста: Ponerinae (1 врста) Myrmicinae (3), Dolichoderinae (6) и Formicinae (30).

Сакупљене врсте су углавном палеарктичке, европске и јужноевропске. Нађене су и три холарктичке врсте (*Lasius alienus*, *L. flavus* и *L. niger*), као и неке медитеранске врсте (*Messor structor*, *Bothriomyrmex meridionalis*, *Camponotus piceus* и *Cataglyphis aenescens*). Присуство ових врста у мирмекофауни Баната, вероватно се може објаснити као остатак фауне из региона око некадашњег Панонског мора.

Мирмекофауна Баната је сигурно богатија и веома је слична мирмекофауни Мађарске на основу радова Gallé'-а (1972, 1981) и Румуније (Paraschivescu 1969). Међутим, наведени аутори у Мађарској и Румунији констатују неке врсте, које нису до сада нађене у Банату.