

CONTRIBUTION TO THE MYRMECOFAUNA (FORMICIDAE, HYMENOPTERA) OF VOJVODINA (SERBIA). I. Z. Petrov, Institute of Zoology, Faculty of Biology, University of Belgrade, 11000 Belgrade, SR Yugoslavia

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Myrmecofauna of Serbia is still insufficiently investigated. Two entomologists (Živojinović 1950, and Vogrin 1955) paid some attention to the ants and listed some ant species among other insect species.

At the end of the 20th century, Petrov (1986) registered 8 genera and 12 species on the Jastrebac Mt. (Serbia). Petrov and Mesaroš (1988) found 9 genera and 14 species on the Stara Planina Mt. (Serbia). Petrov (1992) listed 55 species known for Serbia by that time. Petrov and Collingwood (1993) described a new species (*Formica balcanina*) from the *F. cinerea* group, which replaces *F. cinerea* at the Balkan Peninsula. The holotype was taken from Rošijana (Deliblatska Peščara Deliblato Sands, Banat Province, Vojvodina, Serbia) (15.7.1987), about 70 km northeast from Belgrade. Petrov (1995) gave a preliminary list of ants of Yugoslavia and registered 136 species of which 92 species were registered in Serbia. Collingwood and Petrov (1999) registered 17 new species in the myrmecofauna of Yugoslavia and Serbia. Petrov (2000) gave a checklist of ants of Yugoslavia and registered 160 species. Among them 140 species are from Serbia.

About myrmecofauna of Vojvodina there are only a few data. Gradojević (1963) registered 11 species of ants of Deliblato Sands. Petrov (1994) registered 32 species in Deliblato Sands. Petrov (2002), listed 14 more species in the myrmecofauna of Deliblato Sands, and Petrov (2002a), registered 67 species in the myrmecofauna of the Banat Province.

Ant species (Formicidae) presented here were collected in 116 localities. Ants were collected by accidental findings, and searching for potential nests, during spring and summer of 1997, 1998. Some specimens of earlier years were also involved in this list.

Identification was done by using the following keys: Agosti and Collingwood (1987), Collingwood (1978, 1979) Seifert (1988, 1988a, 1996), Atanasov and Dlussky (1992). Data by Agosti and Collingwood (1987a), Baroni-Urbani (1971), Bolton (1994, 1995) was also used. Collected myrmecological material consists of 22 genera and 77 species which belong to four subfamilies (Ponerinae, Myrmicinae, Dolichoderinae, Formicinae) (Table 1). The composition of collected species shows that they are mostly with Palearctic (*Myrmica rubra*, *M. scabrinodis*, *M. schencki*, *M. sulcinodis*, *Solenopsis fugax*, *Tetramorium caespitum*, *Camponotus herculeanus*, *Formica cunicularia*, *F. fusca*, *F. sanguinea*) and European (*Myrmica rubra*, *M. scabrinodis*, *M. schencki*, *M. sulcinodis*, *Solenopsis fugax*, *Tetramorium caespitum*, *Lasius brunneus*, *Camponotus herculeanus*, *Formica cunicularia*, *F. fusca*, *F. sanguinea*) distribution. South European (*Liometopum*

microcephalum, *Polyergus rufescens*) and Eurasian (*Tetramorium forte*) species are present too. Six Mediterranean species (*Messor structor*, *Bothriomyrmex meridionalis*, *Camponotus piceus*, *Cataglyphis aenescens*, *C. nodus*, *Formica pratensis*) (Stitz 1939; Bernard 1968; Collingwood 1979; Seifert 1988; Paraschivescu 1993) (Table 1) were also found.

Comparing the composition of myrmecofauna of Vojvodina with myrmecofaunas of neighbouring countries it can be seen that it is very similar to the faunas of Rumania and Hungary. Namely, Paraschivescu (1969) reported 74 species found in Rumania and among them, 45 species are common with the ant species collected in Vojvodina. Also Paraschivescu (1993) registered 33 species from the region of Danube river in Rumania. This time 22 species were collected in Vojvodina as well.

Gallé (1972) presented 35 species from sandy pastures and clearings of the region of Hungary between Tisa and Danube rivers (Ásatthalom, Sashever Balot-puszta) and among these species, 27 were found in Vojvodina too. The same author (1981) listed 31 species of the Hortobágy National park (Hungary) and among them, 25 species were also found in Vojvodina. Gallé *et al.* (1998) in the checklist of Hungarian ants reported 101 species of ants. From that list 51 species were registered in Vojvodina as well.

Both mentioned authors registered some Mediterranean species; Paraschivescu: *Messor structor*, *Tetramorium semilaeve*, *Bothriomyrmex meridionalis*, *Cataglyphis aenescens*, *Camponotus piceus* in the region of Danube river in Rumania and Gallé: *Messor structor*, *Tetramorium semilaeve*, *Camponotus piceus*, *Cataglyphis aenescens*, *C. nodus* in Hungary. Gallé didn't give any explanation for the presence of Mediterranean species in Hungary, but Paraschivescu explained the presence of these species in Rumania by a direct influence of the Mediterranean climate in that part of Rumania. One explanation of their presence in Vojvodina could be that they are probably remnants of fauna of the region of Pannonian sea area.

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

Table 1. List of ant species (Formicidae) of Vojvodina

Subfam.: PONERINAE	Subfam.: DOLICHODERINAE
<i>Ponera coarctata</i> (Latreille) 1802	<i>Dolichoderus quadripunctatus</i> (L.) 1771
<i>P. ochracea</i> Mayr 1855	<i>Liometopum microcephalum</i> (Panzer) 1798
	<i>Bothriomyrmex menozii</i> Emery 1925
Subfam.: MYRMICINAE	<i>B. meridionalis</i> Roger 1863
<i>Myrmica hellenica</i> Forel 1846	<i>Tapinoma erraticum</i> (Latreille) 1798
<i>M. lobicornis</i> Nylander 1846	<i>T. nigerrimum</i> Nylander 1886
<i>M. rubra</i> (L.) 1758	
<i>M. ruginodis</i> Nylander 1846	Subfam.: FORMICINAE
<i>M. rugulosa</i> Nylander 1849	<i>Plagiotepis pygmaea</i> (Latreille) 1798
<i>M. sabuleti</i> Meinert 1861	<i>P. vindobonensis</i> Lomnicki 1925
<i>M. sancta</i> Karawajev 1926	<i>Prenolepis nitens</i> (Mayr) 1852
<i>M. scabrinodis</i> Nylander 1846	<i>Lasius alinus</i> (Förster) 1850
<i>M. schencki</i> Emery 1859	<i>L. balcanicus</i> Seifert 1988
<i>M. speciosoides</i> Bondroit 1918	<i>L. distiguendus</i> (Latreille) 1798
<i>M. sulcinodis</i> Nylander 1846	<i>L. emarginatus</i> (Olivier) 1791
<i>M. sp.</i>	<i>L. flavus</i> (Fabricius) 1781
<i>Stenamamma westwoodi</i> Westwood 1840	<i>L. fuliginosus</i> (Latreille) 1798
<i>Messor denticulatus</i> K. Ugamski 1927	<i>L. meridionalis</i> (Bondroit) 1918
<i>M. structor</i> (Latreille) 1798	<i>L. mixtus</i> (Nylander) 1846
<i>Pheidole pallidula</i> (Nylander) 1849	<i>L. niger</i> (L.) 1758
<i>Myrmecina graminicola</i> (Latr.) 1802	<i>Camponotus aethiops</i> (Latreille) 1798
<i>M. latreillei</i> Curtis 1829	<i>C. atricolor</i> (Nylander) 1849
<i>Solenopsis fugax</i> (Latreille) 1798	<i>C. fallax</i> Nylander 1856
<i>S. wolffi</i> Emery 1915	<i>C. herculeanus</i> (L.) 1758
<i>Leptothorax affinis</i> Mayr 1855	<i>C. ligniperdus</i> (Latreille) 1802
<i>L. clypeatus</i> Mayr 1853	<i>C. piceus</i> (Leach) 1825
<i>L. flavicornis</i> Emery 1879	<i>C. truncatus</i> (Spinola) 1808
<i>L. interruptus</i> (Schenck) 1852	<i>C. vagus</i> (Scopoli) 1763
<i>L. nylanderi</i> Foerster 1850	<i>C. vogti</i> Forel 1906
<i>L. racovitzai</i> Bondroit 1918	<i>Cataglyphis aenescens</i> (Nyl.) 1849
<i>L. unifasciatus</i> Latreille 1798	<i>C. nodus</i> Brullé 1802
<i>Cardiocondyla elegans</i> Emery 1869	<i>Formica balcanina</i> Petrov & Collingwood 1993
<i>Tetramorium caespitum</i> (L.) 1758	
<i>T. chefteki</i> Forel 1911	<i>F. curicularia</i> Latreille 1798
<i>T. diomedaeum</i> Ag. & Coll. 1987	<i>F. fusca</i> L. 1758
<i>T. forte</i> Forel 1904	<i>F. gagates</i> Latreille 1798
<i>T. hippocratis</i> Ag. & Coll. 1987	<i>F. glauca</i> Ruzsky 1895
<i>T. impurum</i> Foerster 1850	<i>F. pratensis</i> Retzius 1783
<i>T. lucidulum</i> Emery 1909	<i>F. rufibarbis</i> Fabricius 1793
<i>T. moravicum</i> Kratochvil 1944	<i>F. sanguinea</i> Latreille 1798
<i>T. semilaeve</i> André 1883	<i>Polyergus rufescens</i> Latreille 1798

Looking at the list of ants presented here and comparing it with the checklist of Hungarian ants (Gallé 1998) it is obvious that myrmecofauna of Vojvodina is surely richer than presented here, because there must be more common species which probably could be found by more intensive searching.

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