

CONTRIBUTION TO THE KNOWLEDGE OF THE ANT FAUNA (HYMENOPTERA: FORMICIDAE) OF THE DANUBE GORGES (ROMANIA)

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The paper presents both new and published data on 38 ant species belonging to three subfamilies Formicinae, Dolichoderinae and Myrmicinae. Most of the species are common for the Romanian ant fauna. However, we highlight the presence of *Camponotus tergestinus*, *Crematogaster schmidti* and *Pheidole pallidula*. *Camponotus tergestinus* is a rare species, which was known only from few locations. Until now, *Crematogaster schmidti* was known only from Băile Herculane area whereas *Pheidole pallidula* was previously recorded from Baziaș more than 100 years ago. Insights regarding their biology and Romanian distribution is given.

Keywords: ants, faunistics, *Camponotus tergestinus*, *Pheidole pallidula*, sub-Mediterranean elements.

INTRODUCTION

Faunistical investigations are an important part of the nature conservation assessment. Knowing the overall species distribution represents an important component of this system. The ant fauna of Romania is still poorly understudied, despite recent myrmecological investigations (Markó *et al.*, 2006; Ionescu-Hirsch *et al.*, 2009; Markó *et al.*, 2009; Czekes *et al.*, 2012; Tăușan & Pintilioaie, 2016; Tăușan 2017; Wagner *et al.*, 2017). Altogether, the Romanian myrmecofauna is represented by at least 114 species (Tăușan & Lapeva-Gojnova, 2017; Wagner *et al.*, 2017).

However, the number is rather low compared to that of neighbouring countries (Hungary – 125 species (Csösz *et al.*, 2011), Bulgaria – 175 species (Lapeva-Gjonova *et al.*, 2010, Antonova *et al.*, 2016), and Ukraine – 134 (Czechowski *et al.*, 2012). Therefore, faunistical investigations all around the country may increase the knowledge of species and distribution.

Most of the species are known from several parts of Romania. However, many regions are lacking data (*e.g.* Moldova, Muntenia, Banat) (Markó *et al.*, 2006;

Tăușan, 2017). The Banat region for instances was studied scarcely in the last decades (Markó *et al.*, 2009; Tăușan, 2013).

In our study, we investigated the ant fauna from the Danube Gorges. Early myrmecological data was published more than 80 years ago by Bogoescu (1936). The last myrmecological investigations in the area were carried out more than 40 years ago (Paraschivescu, 1967; 1975) and the check-list for the region consisted of 28 ant species.

MATERIAL AND METHODS

The Danube Gorges lies between two countries: Romania to the north and Serbia to the south. Here, the Danube separates the southern Carpathians from the north-western foothills of the Balkan Mountains. The area is famous for its outstanding biodiversity (Schneider- Binder, 2014).

In contrast with other parts of the Carpathians the Danube Gorges is characterized by a warm climate, sheltering many xerophilous and thermophilous species of Mediterranean, Sub-Mediterranean, Illyric, Balcanic, Pontic-Mediterranean and Pontic-Balcanic affinity (Schneider-Binder, 2014).

The occurrence of such species is connected to several geological (a mosaic of limestone, serpentine, crystalline schists) and climatic characteristics (Posea, 2002). Related to the geomorphological structure and substrate that produces varied soil conditions and the effects of insolation contribute as well to the large variety of site conditions reflected in the occurrence of various macro- and microhabitats, biocoenoses, communities and species (Schneider-Binder, 2014).

Moreover, according to Popa (2003) “*the Iron Gates Natural Park is a key area for geoconservation in Romania, as its geological heritage is among the richest in the South Carpathians. The series of structural units, typical for the South Carpathians, crossed by the Danube, shows unique features from paleontological, structural and morphological points of view*”.

Sampling was carried out in July 2015, directly from the nests, along different habitats along the Danube Gorges between Corinini and Drobeta Turnu-Severin localities. The myrmecological material is deposited in the first author personal collection.

Species identification was carried out using Seifert (2007), Markó *et al.*, (2009) and Czechowki *et al.* (2012). Species ecological characterization was performed based on Karaman (2011), Czechowki *et al.* (2012) and Lapeva-Gojnova & Kiran (2012). The list of species is presented in the results section together with comments regarding their biology and distribution in Romania.

RESULTS AND DISCUSSION

Altogether, we identified 21 species, belonging to three subfamilies (Formicinae, Myrmicinae and Dolichoderinae). Most of the species are common for the Romanian ant fauna. However, we highlight the presence of *Camponotus tergestinus*, *Crematogaster schmidti* and *Pheidole pallidula*.

Camponotus tergestinus is a rare species, which was known only from three locations (Nera Valley, Măcin Mountains and Plopeni) (Ionescu-Hirsch *et al.*, 2009). Besides our finding, *Crematogaster schmidti* was known only from Băile Herculane area whereas *Pheidole pallidula* was previously recorded from Baziaș more than 100 years ago (Markó *et al.*, 2006).

The complete list of species (including published data for the area) is given below, together with records from literature (Table 1).

Table 1

List of species collected in the present study with reference to their ecological preference in terms of temperature and humidity and zoogeographical origin: E – eurytopic; P – polytopic; O – oligotopic; mes – mesohygrophile; hyg-mes – hygro-mesohygrophile; mes-xer – mesohygro-xerophile; mte – mesothermophile; oli-mte – oligo-mesothermophile; mte-ter – mesothermo-thermophile; ter – thermophile; MD – Mediterranean; SP – South Palaearctic; T – Tethyan; ES – Euro-Siberian; EWS – Euro-West-Siberian; EC – Euro-Caucasian; SE – South-European; BM – boreo-montane; WP – West Palaearctic; NP – North-Palaearctic (based on Karaman, 2011; Czechowski *et al.*, 2012; Lapeva-Gjonova & Kiran, 2012; source – * – present in our study).

Species	Zoogeographical element	Ecological characterization			Source	
		Plasticity	Humidity requirements	Temperature requirements		
Subfamily Myrmicinae Lepeletier de Saint-Fargeau, 1835						
1.	<i>Aphaenogaster subterranea</i> Latreille, 1798	MD	O	mes	mte	*; Paraschivescu, 1967
2.	<i>Tetramorium cf. caespitum</i>	SP	P	mes-xer	mte-ter	*; Paraschivescu, 1967
3.	<i>Messor cf. structor</i>	T	S	xer	ter	*
4.	<i>Crematogaster schmidti</i> Mayr, 1853	MD	O	xer	ter	*
5.	<i>Myrmica scabrinodis</i> Nylander, 1846	ES	P	mes	mte	*
6.	<i>Pheidole pallidula</i> (Nylander, 1849)	MD	O	xer	ter	*
7.	<i>Solenopsis fugax</i> (Latreille, 1798)	T	O	mes-xer	ter	Paraschivescu, 1967
8.	<i>Temnothorax unifasciatus</i> (Latreille, 1798)	EC	O	mes-xer	mte-ter	Paraschivescu, 1975
9.	<i>Temnothorax nigriceps</i> (Mayr, 1855)	SE	S	mes-xer	ter	Paraschivescu, 1975
10.	<i>Temnothorax tuberum</i> (Fabricius, 1775)	ES	P	mes	mte	Paraschivescu, 1967

Subfamily Formicinae Latreille, 1809						
11.	<i>Cataglyphis nodus</i> (Brullé, 1832)	EC	O	xer	ter	Bogoescu, 1938
12.	<i>Cataglyphis aenescens</i> (Nylander, 1849)	EC	O	xer	ter	Bogoescu, 1938
13.	<i>Camponotus ligniperda</i> Latreille, 1802	EC	O	mes	mte	*
14.	<i>Camponotus herculeanus</i> (Linnaeus, 1758)	BM	O	mes	oli-mte	Paraschivescu, 1975
15.	<i>Camponotus vagus</i> (Scopoli, 1763)	EWS	O	mes-xer	mte-ter	*
16.	<i>Camponotus aethiops</i> (Latreille, 1798)	WP	O	mes-xer	mte-ter	*, Paraschivescu, 1967
17.	<i>Camponotus tergestinus</i> Muller, 1921	MD	S	xer	ter	*
18.	<i>Camponotus piceus</i> Leach, 1825	MD	S	xer	ter	*, Paraschivescu, 1967
19.	<i>Formica fusca</i> Linnaeus, 1758	NP	E	mes	mte	Paraschivescu, 1975
20.	<i>Formica rufa</i> Linnaeus, 1761	NP	O	mes	mte	Paraschivescu, 1975
21.	<i>Formica sanguinea</i> Latreille, 1798	SP	P	mes-xer	mte-ter	Paraschivescu, 1975
22.	<i>Formica cinerea</i> Mayr, 1853	EWS	O	mes-xer	ter	*, Paraschivescu, 1967
23.	<i>Formica cunicularia</i> Latreille, 1798	EC	P	mes-xer	mte-ter	Paraschivescu, 1975
24.	<i>Formica truncorum</i> Fabricius, 1804	NP	O	mes	mte	*, Paraschivescu, 1975
25.	<i>Formica pratensis</i> Retzius, 1783	SP	P	mes-xer	mte-ter	*, Paraschivescu, 1975
26.	<i>Formica lemani</i> Bondroit, 1917	BM	O	mes	oli-mte	*
27.	<i>Lasius platythorax</i> Seifert, 1991	NP	P	mes	oli-mte	*
28.	<i>Lasius fuliginosus</i> (Latreille, 1798)	EWS	O	mes	mte	Paraschivescu, 1975
29.	<i>Lasius flavus</i> Fabricius, 1781	SP	E	hyg-mes	mte	*, Paraschivescu, 1975
30.	<i>Lasius alienus</i> Foerster, 1850	SP	O	mes	mte	*
31.	<i>Lasius emarginatus</i> Olivier, 1791	EC	O	mes-xer	mte-ter	*
32.	<i>Lasius niger</i> (Linnaeus, 1758)	NP	P	mes	mte	Paraschivescu, 1967
33.	<i>Lasius brunneus</i> (Latreille, 1798)	EC	O	mes	mte-ter	*, Paraschivescu, 1975
34.	<i>Lasius mixtus</i> (Nylander, 1846)	SP	O	mes	mte	Paraschivescu, 1975
35.	<i>Lasius paralienus</i> Seifert, 1992	EC	O	mes	mte-ter	*
36.	<i>Plagiolepis pygmaea</i> (Latreille, 1798)	EC	O	xer	ter	Paraschivescu, 1967
Subfamily Dolichoderinae Forel, 1878						
37.	<i>Tapinoma erraticum</i> (Latreille, 1798)	T	S	xer	ter	Paraschivescu, 1967
38.	<i>Dolichoderus quadripunctatus</i> (Linnaeus, 1771)	EWS	O	mes	mte-ter	Paraschivescu, 1967

Concerning the humidity requirements, the species covered a wide spectrum of preferences, ranging from mesohygrophilous species such as *Myrmica scabrinodis*, *Lasius alienus*, and *L. brunneus* to xerophilous species such as *Cataglyphis aenescens*, *C. nodus* and *Messor* cf. *structor*. Most of the species are thermophilous and mesothermo-thermophilous. More than half of the identified species were oligotopic.

The region climatic influences and typical vegetation supported the occurrence of sub-Mediterranean elements such as *Aphaengaster subterranea*, *Crematogaster schmidti*, *Pheidole pallidula*, *Camponotus piceus* and *C. tergestinus*.

A detailed overview of the identified species concerning their biology and distribution in Romania is given below.

SUBFAMILY MYRMICINAE

1. *Aphaenogaster subterranea*

Biology. It occurs in warm and moderately humid deciduous forests, mainly nesting in the ground, under stones or in decaying wood (Czechowski *et al.*, 2012).

Distribution in Romania: The species is known from several localities (Markó *et al.*, 2006; Tăușan *et al.*, 2011), probably more common than the data shows.

2. *Crematogaster schmidtii*

Biology. Usually it nests at the base of trees and shrubs, in cavities of trees and sedges or in dead wood. When nests are disturbed workers emerge in great numbers and are very aggressive (Karaman 2010).

Distribution in Romania. Few localities are known for the species (Markó *et al.*, 2006).

3. *Myrmica scabrinodis*

Biology. A polytopic species preferring humid habitats. It requires high insolation but is very tolerant of soil moisture, avoiding xerothermal places. It occurs both in open areas and forests (Czechowski *et al.*, 2012). It is often found in peat bogs (Czekes *et al.*, 2012).

Distribution in Romania. It is a common species, with many localities from Transylvania (Markó *et al.*, 2006; Czekes *et al.*, 2012).

4. *Messor cf. structor*

Biology. It is a granivorous and frugivorous species, occurring in grasslands with rich seed vegetation (Czechowski *et al.*, 2012).

Distribution in Romania. The species from the complex (Schlick-Steiner *et al.*, 2006) are mainly known from Dobrogea Region and scarcely from other parts of the country (Markó *et al.*, 2006).

5. *Pheidole pallidula*

Biology. It nests on arid areas or sunny borders of wood and on sunny slopes facing south or west with low vegetation density (Detrain 1990).

Distribution in Romania. Few localities are known for the species, mainly restricted to the southern part of the country (Markó *et al.*, 2006).

6. *Solenopsis fugax*

Biology. A thermophilic and quite xerophilic oligotope, occurring in dry habitats, grasslands and light sunny forests (Czechowski *et al.*, 2012).

Distribution in Romania. It's a common species (Markó *et al.*, 2006).

7. *Temnothorax nigriceps*

Biology. A thermophilic and quite xerophilic stenotope, occurring in xerothermal grasslands. It prefers sun-exposed rocky habitats with sparse vegetation (Czechowski *et al.*, 2012).

Distribution in Romania. Few localities are known for this species (Markó *et al.*, 2006).

8. *Temnothorax tuberum*

Biology. It prefers forests, but also met in warm and moderately dry stony open places. It nests mainly in the ground, often around a plant root, under moss, under small stones or in rock crevices, sometimes in decaying wood (Czechowski *et al.*, 2012).

Distribution in Romania. Few localities are known for this species (Markó *et al.*, 2006).

9. *Temnothorax unisfasciatus*

Biology. It occurs mainly in deciduous forests, inhabiting also other light forests, and occurs even in various dry open habitats. Nests mainly in dead dry branches of trees and in empty stems of herbs, under bark, in rock crevices, under stone and patches of lichens (Czechowski *et al.*, 2012).

Distribution in Romania. Few localities are known for this species (Markó *et al.*, 2006).

10. *Tetramorium cf. caespitum*

Biology. It's a quite thermophilic and semixerophilic polytope of dry sun-exposed habitats sparingly covered with herbs (both open and forest); especially common in sandy soils in plains (Czechowski *et al.*, 2012).

Distribution in Romania. Probably the most common ant species in Romania. However, based on recent findings (Wagner *et al.*, 2017) at least four species from this complex occur in Romania. A morphometrical analysis must be carried out to establish what species was sampled in the Danube Gorges.

SUBFAMILY FORMICINAE

11. *Camponotus piceus*

Biology. It occurs mainly in xerothermal grasslands. It prefers steppes and open dry mountain slopes-rarely found in light and dry forests (Czechowski *et al.*, 2012).

Distribution in Romania. A rather common species in Romania (Markó *et al.*, 2006, Markó *et al.*, 2009).

12. *Camponotus vagus*

Biology. It's a rather thermophilic oligotope of coniferous, occurring in light and warm pine forests, where it occurs first of all in open places, especially old clearings. It may be found also in such places in mixed and deciduous forests (Czechowski *et al.*, 2012).

Distribution in Romania. It's a common species (Markó *et al.*, 2006, Markó *et al.*, 2009).

13. *Camponotus herculeanus*

Biology. An oligotope of warm and moderately humid deciduous forests, nesting in the ground, under stone, in decaying wood, rarely in litter (Czechowski *et al.*, 2012).

Distribution in Romania. It's a common species (Markó *et al.*, 2006, Markó *et al.*, 2009).

14. *Camponotus ligniperda*

Biology. It occurs mainly in deciduous forests. Yet, it may be also found in mixed and coniferous forests, and even in open habitats sparsely overgrown with shrubs or single trees. It nests in dry stumps, in the ground under wood, under stones or in rock crevices – apparently in soil, but always in connection with wood (Czechowski *et al.*, 2012).

Distribution in Romania. Maybe the most common species (Markó *et al.*, 2006, Markó *et al.*, 2009).

15. *Camponotus tergestinus*

Biology. Little is known about the species' ecology and life-history. According to Ionescu *et al.* (2009), this species is linked with oak forests and warm climate.

Distribution in Romania. Scarce data is available regarding this species (Ionescu-Hirsch *et al.*, 2009).

16. *Camponotus aethiops*

Biology. It inhabits xerothermal grasslands and shrub areas. It nests in the soil (Markó *et al.*, 2009).

Distribution in Romania. It is a rather common species (Markó *et al.*, 2006, Markó *et al.*, 2009).

17. *Cataglyphis nodus*

Biology. The species can be active at temperatures of 45°C in steppe habitats (Agosti, 1990).

Distribution in Romania. It is restricted to the southern part of the country (Markó *et al.*, 2006).

18. *Cataglyphis aenescens*

Biology. Similar to *C. nodus* (Agosti, 1990).

Distribution in Romania. It is restricted to the southern part of the country, yet the species is known from few localities (Markó *et al.*, 2006).

19. *Formica lemani*

Biology. It is a boreo-montane, quite oligothermic oligotope of mountain meadows, both moist and wet, but met also in forest glades (Czechowski *et al.*, 2012).

Distribution in Romania: a common species, yet not very abundant (Markó *et al.*, 2006).

20. *Formica pratensis*

Biology. A species included into wood ants, although it is a quite thermophilic polytope of dry, predominantly open habitats. It can be found in meadows, pastures and steppes, clearings in forests and sparse forests (Czechowski *et al.*, 2012).

Distribution in Romania: the most common *Formica* s. str (Markó *et al.*, 2006).

21. *Formica cinerea*

Biology. It prefers dry open habitats and forests; it occurs in sunny sandy sites, bare or overgrown with sparse herb vegetation, from coastal and inland dunes to open

light pine forests. Nests are deep and widely spread underground. Aggressive ants that live largely by predation, though also intensely tending aphids (Czechowski *et al.*, 2012).

Distribution in Romania. One of the most common *Formica* (*Serviformica*) species (Markó *et al.*, 2006).

22. *Formica cunicularia*

Biology. It prefers rather open habitats, from sandy dunes, limestone slopes and gypseous hills through meadows and pastures to forest glades, forest edges and sparse dry forests. Nests, frequently with fairly large soil mounds, in the ground, sometimes under stones (Czechowski *et al.*, 2012).

Distribution in Romania. A common ant species (Markó *et al.*, 2006).

23. *Formica fusca*

Biology. It occurs in various habitats from dunes and dry sun-exposed slopes of limestone hills through meadows, mid-forest glades and young growth to mires and dense, humid forests with thick undergrowth. Nests, occasionally with soil mounds, are constructed in the ground, under stones, in decaying tree stumps, among decaying litter, even in wet tufts of moss (Czechowski *et al.*, 2012).

Distribution in Romania. A common ant species (Markó *et al.*, 2006).

24. *Formica sanguinea*

Biology. It occurs in dry habitats both in woodlands and open areas, such as clearings, forest edges and roadsides. Nests most often in decaying tree stumps, covered around with dry plant material or constructed in the ground often under stones (Czechowski *et al.*, 2012).

Distribution in Romania. A common ant species (Markó *et al.*, 2006).

25. *Formica truncorum*

Biology. A wood ant species (outside the *F. rufa* group), being fairly thermophilic associated mainly with coniferous and mixed forests, though also found in deciduous one and in mires. Nests, in decaying tree stumps, partly covered with loose dry plant material (Czechowski *et al.*, 2012).

Distribution in Romania. Few localities are known for this species (Markó *et al.*, 2006).

26. *Formica rufa*

Biology. A wood ant species. It occurs in coniferous and mixed forests (including deciduous ones, nesting in sunny places and in glades, along forest edges and forest, but met also in shaded places (Czechowski *et al.*, 2012).

Distribution in Romania. Few localities are known for this species despite available data. This is due to, most likely, the misidentification of *F. polycytena* (Markó *et al.*, 2006).

27. *Lasius mixtus*

Biology. It prefers humid habitats, both open (meadows, pasture) and wooded (light forests) (Czechowski *et al.*, 2012).

Distribution in Romania: few locations are known for this species (Markó *et al.*, 2006; Tăușan, 2017).

28. *Lasius niger*

Biology. It occurs in open habitats (dry and semidry grasslands), very common in various anthropogenic environments, found also in fairly light dry forests; it avoids shaded woodland. Nests in the ground, often under stones (Czechowski *et al.*, 2012).

Distribution in Romania. The most common *Lasius sp* in the country (Markó *et al.*, 2006).

29. *Lasius brunneus*

Biology. It occurs in deciduous forests, in decaying parts of living deciduous trees, under bark and in the wood, from the underground parts of the trunk to the main boughs. Very timid non-aggressive ants; foragers avoid open spaces (Czechowski *et al.*, 2012).

Distribution in Romania. A common ant species (Markó *et al.*, 2006).

30. *Lasius platythorax*

Biology. In comparison with *L. niger*, it prefers more humid sites, being a quite oligothermophilic polytope of forests, but also in wet open habitats, especially mires. It tends to avoid anthropogenic sites. Builds nest in organic substrate, most frequently in dead wood (Czechowski *et al.*, 2012).

Distribution in Romania. A common ant species (Markó *et al.*, 2006).

31. *Lasius emarginatus*

Biology. A quite xerophilic and one of the most thermophilic species of the subgenus *Lasius s. str.* in the Central-European; it occurs in dry forest and grasslands, especially of rocky sun-exposed habitats with sparse herb vegetation (Czechowski *et al.*, 2012).

Distribution in Romania. A common ant species (Markó *et al.*, 2006).

32. *Lasius paralienus*

Biology. A quite thermophilic oligotope of dry grasslands, especially those on limestone substratum. Ants are hardly aggressive, even when the nest is in danger (Czechowski *et al.*, 2012).

Distribution in Romania. A common ant species (Markó *et al.*, 2006).

33. *Lasius fuliginosus*

Biology. A fairly thermophilic oligotope of deciduous forest, encountered also in mixed and coniferous forests and in parls and old orchards. A dendrobiont that nests in cavities under the trunk and roots of usually living trees, both deciduous and coniferous or in holes at the base of the trees. The empty spaces are filled with carton nests of chewed wood impregnated with honeydew and reinforced by hyphae of myrmecophilic fungi (Czechowski *et al.*, 2012).

Distribution in Romania. A common ant species (Markó *et al.*, 2006).

34. *Lasius flavus*

Biology. A fairly thermophilic ubiquist (eurytope), yet preferring open and sunny habitats. In especially high densities it occurs in meadows and pastures, where

nests with big soil mounds render cultivation and mowing difficult. Mounds are overgrown with moss, herbs and grasses (Czechowski *et al.*, 2012).

Distribution in Romania. A common ant species (Markó *et al.*, 2006).

35. *Lasius alienus*

Biology. A fairly thermophilic oligotope of dry habitats, typical of grasslands, open rocky areas, sun-exposed forest edges and sparse warm forest, especially oak one; it prefers soils on limestone substratum. Nests, occasionally with small mounds, are built in the ground, under stone and pieces of wood (Czechowski *et al.*, 2012).

Distribution in Romania. A common ant species (Markó *et al.*, 2006).

36. *Plagiolepis pygmaea*

Biology. Prefers open, xerothermous habitats where it nests in the soil or under the rock (Moscaliuc, 2009).

Distribution in Romania. Few localities are known for this species (Markó *et al.*, 2006).

SUBFAMILY DOLICHODERINAE

37. *Dolichoderus quadripunctatus*

Biology. A dendrobiotic species, an oligotope of warm, mainly deciduous forests. Nests in dead parts of living trees, under the bark or in dead tree trunks up to a height of several metres, and also in wooden constructions and even old stone walls. It occurs in sun-exposed wooded places-in forest edges, parks orchards, etc. (Czechowski *et al.*, 2012).

Distribution in Romania. A common ant specie, yet not abundant (Markó *et al.*, 2006).

38. *Tapinoma erraticum*

Biology. A stenotope of xerothermal grasslands (steppes, dry sunny meadows, open mountain slopes), especially with limy subsoil. Nests usually in the soil, occasionally with small mineral or organic mounds, under stones, rarely in dry empty plant stems (Czechowski *et al.*, 2012).

Distribution in Romania. A common species (Markó *et al.*, 2006).

CONCLUSIONS

Based on our findings, the current check-list consists of 38 ant species. Out of this, 11 species are new for the area, namely: *Camponotus ligniperdus*, *C. vagus*, *C. tergestinus*, *Crematogaster schmidtii*, *Formica lemani*, *Lasius platythorax*, *L. alienus*, *L. emarginatus*, *L. paralienus*, *Pheidole pallidula* and *Myrmica scabrinodis*.

Our results support that high diversity potential of the area and more such faunistical surveys may enrich the species knowledge in the area.

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