

areas. In this context we observed that the faunal diversity and distributional pattern of the Coleoptera species in the Carpathians is fragmentarily and disproportionately known, the Buzău Mountains being one of the very poorly investigated geographic areas from faunal point of view. Most of the faunal investigations on Coleoptera, since last two centuries up to present, have been carried out in Transylvania, in northern part of the South-Eastern Carpathians and the Southern Carpathians (BIELTZ, 1887; HORMUZACHI, 1888; SEIDLITZ, 1891; KUTHY, 1896; PETRI, 1912, 1926; MALLASZ, 1930; CSIKI, 1946; PANIN, 1952, 1955A, 1955B, 1957, 1961; IENIȘTEA, 1934, 1936, 1941, 1956 and others) but not up to the eastern part of the South Carpathians (also known as the Curvature Carpathians). With the purpose to cover this serious gap in information on the fauna of the Curvature Carpathians, in 2001 we have investigated and published (NITZU *et al.*, 2002) the first note on the soil (edaphic) and subterranean fauna from two Evaporitic karst regions. With that occasion we have sampled the soil and subterranean fauna from ecosystems developed on gypsum (Berteia) and salt (Meledic). Our faunal studies on soil and subterranean species was completed with data about planticolous species (frondicolous and arboricolous) by UNGUREANU *et al.* (2008) in the same area. Up to present we have no data on the beetle-fauna of ecosystems developed on sandstone from this geographic area with a great landscape heterogeneity. The differences between the investigated habitats were appreciable, although they are situated at distances of only tens of kilometers.

2. MATERIAL AND METHODS

In the year 2017, three seasonal samplings (in vernal, aestival and autumnal seasons) in five sites – Agatonul Nou, Biserica lui Iosif, Schitul Fundatura, Fundul Pesterii and Schitul Alunis situated in the Buzau Land Geopark, were carried out (leg. Popa I., Baba Șt., Plăiașu R. and Giurginca A.). Each sample was composed by 5 sample units (Barber traps) removed after one month of trapping. As preservation solution the ethanol was used. Other methods used to sample the soil fauna were Winkler sieve and soil extraction with a core drill.

3. RESULTS AND DISCUSSIONS

In the sampled material we identified a total of 93 species of Coleoptera belonging to 23 families (Tab. 1, Fig. 1), this representing the first study of the Coleoptera of the Buzău forest ecosystems developed on sandstones bedrock in the Buzăului Mountains.

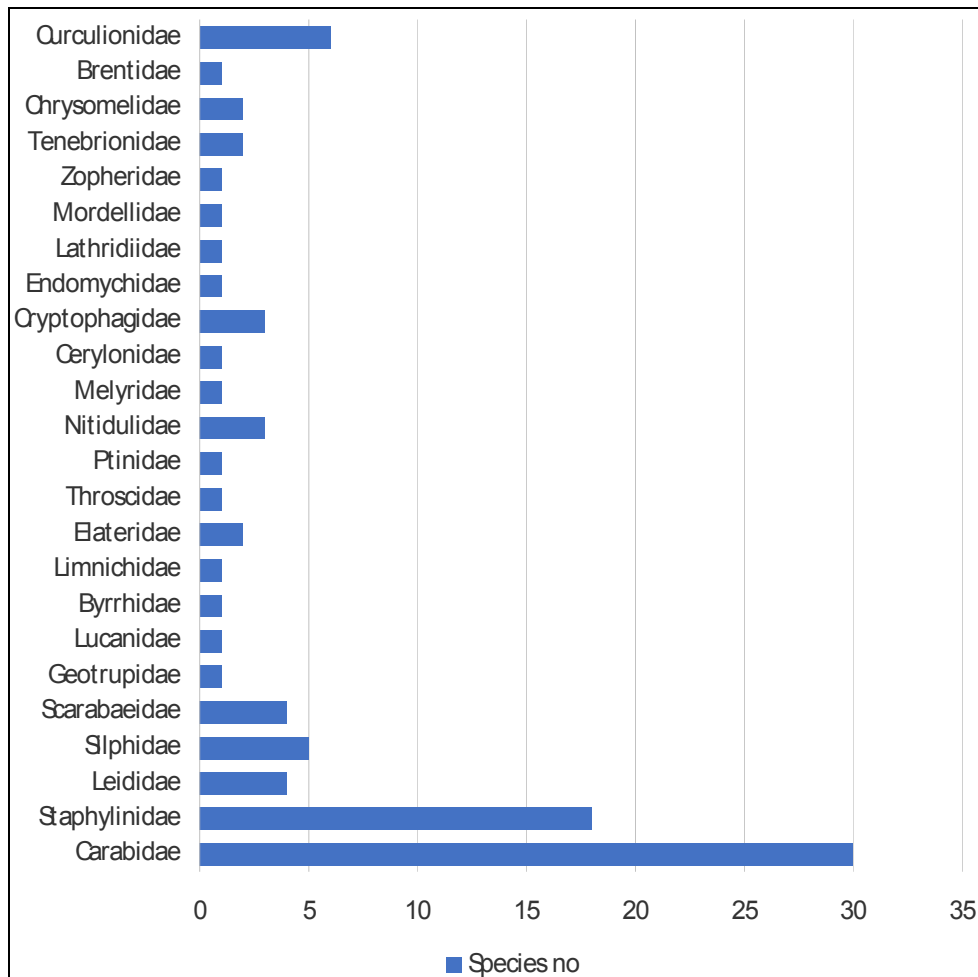


Fig. 1. The distribution of species per families.

The greatest species richness was observed in the Schitul Fundatura (716 m a.l.s.) sampling site, with 39 species, followed by Biserica lui Iosif sampling site (834 m a.l.s.), with 33 species and Fundul Pesterii (716 m. a.l.s.) with 28 species (Tab. 1). In the sampling sites Agatonul Nou (960 m. a.l.s.) and Schitul Alunis (648 m a.l.s.) we identified only 17 species each.

Among the identified species it is worth mentioning *Chaetonix robustus* Schaum, 1862 – the unique blind species of Scarabaeide inventoried in our fauna (Fig. 2). This species, with an East-Mediterranean chorotype, is extremely rare, the last record belonging to PANIN (1933) in PANIN, 1957.

Another rare and strictly localised species is *Laena hopffgarteni* Weise, 1878 (Fam. Tenebrionidae) (Fig. 3), species recorded up to present only in Bosnia, Herzegovina, Dalmatia, Serbia, Bulgaria and Romania.

Fig. 2. *Chaetonyx robustus*, habitus.Fig. 3. *Laena hopffgarteni*, habitus.

The faunal dissimilarities between these five sampling sites from the "Buzau Land Geopark" (analysed using Cluster Analysis with Jaccard distance equation and complete linkage method) varies significantly from 10.63 (min.) to 24,13 (max.) (Fig. 3), suggesting a great heterogeneity in faunal composition of the sampled geographic area.

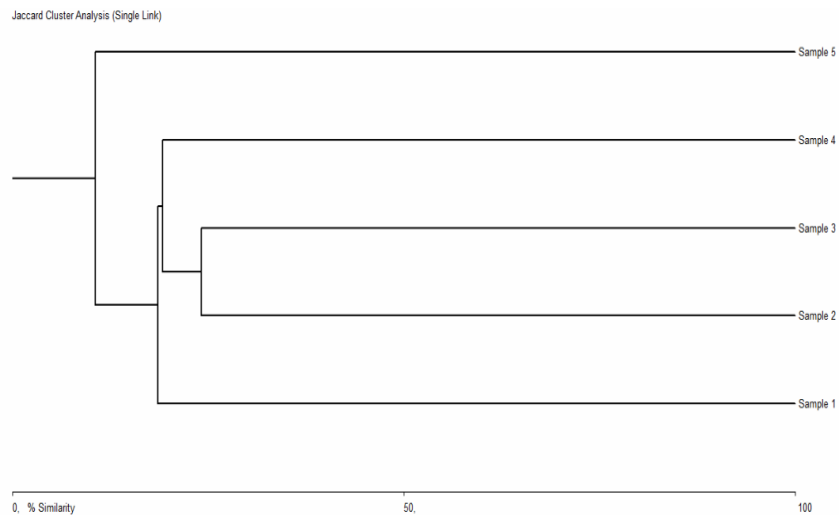


Fig. 4. Dendrogram of similarities based on species composition between Schitul Alunis (sample 5), Fundul Pesterii (sample 4), Schitul Fundatura (sample 3), Biserica lui Iosif (sample 2) and Agatonul Nou (sample 1).

The present study, far to be exhaustive, bring the first data on the diversity of Coleoptera of an unstudied geographic area up to present, contributing to the completion of the knowledge of the biodiversity pattern of Coleoptera in the Carpathian landscape. Subsequent studies based on more intensive capture effort will be necessary to have a real picture of the species richness of this area.

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No	Species	A_N 960 m Alt 45°25'51.15 "N 26°26'41.40 "E			B_I 834 m Alt 45°25'36.25" N 26°26'23.49"E			S-F 716 m lt 45°25'30.37"N 26°26'51.94"E			P_F_P 716 m Alt 45°25'23.71"N 26°26'22.12"E			S_A 648 m Alt 45°24'34.15" N 26°24'49.98"E		
		V	E	A	V	E	A	V	E	A	V	E	A	V	E	A
14	<i>pruneri</i> Mallasz, 1901															
15	<i>Carabus violaceus</i> Linnaeus, 1758					X	X				X	X				
16	<i>Cychrus caraboides</i> (Linnaeus, 1758)					X						X				
17	<i>Cymindis humeralis</i> (Geoffroy in Fourcroy, 1785)							X							X	
18	<i>Limnodromus</i> <i>assimilis</i> (Paykull, 1790)	X			X			X		X						
19	<i>Molops piceus</i> (Panzer, 1793)	X			X		X	X								
20	<i>Nebria brevicollis</i> (Fabricius, 1792)	X														
21	<i>Notiophilus</i> <i>biguttatus</i> (Fabricius, 1779)											X				
22	<i>Notiophilus laticollis</i> Chaudoir, 1850								X							
23	<i>Platyderus rufus</i> (Duftschmid, 1812)								X							
24	<i>Pristonychus terricola</i> <i>punctatus</i> (Dejean, 1828)	X														
25	<i>Pterostichus</i> <i>hungaricus</i> (Dejean, 1828)				X											
26	<i>Pterostichus</i> <i>melanarius</i> (Illiger, 1798)					X										
27	<i>Pterostichus niger</i> (Schaller, 1783)													X		
28	<i>Pterostichus</i> <i>oblongopunctatus</i> (Fabricius, 1787)				X		X	X								
29	<i>Pterostichus</i> <i>transversalis</i> (Duftschmid, 1812)													X		
30	<i>Pterostichus</i> <i>unctulatus</i> (Duftschmid, 1812)									X						
31	<i>Trechus</i> <i>quadristriatus</i> (Schrank, 1781)							X				X			X	

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		V	E	A	V	E	A	V	E	A	V	E	A	V	E	A
10	Fam. Elateridae															
67	<i>Dalopius marginatus</i> Eschscholtz, 1829	X		X												
68	<i>Limonium minutus</i> (Linnaeus, 1758)											X		X		
11	Fam. Throscidae															
69	<i>Trixagus</i> <i>dermestoides</i> (Linnaeus, 1766)				X											
12	Fam. Ptinidae															
70	<i>Ptinus fur</i> Linnaeus, 1758	X														
	Fam. Nitidulidae															
71	<i>Carpophilus ligneus</i> Murray, 1864											X				
72	<i>Eपुरaea pallescens</i> (Stephens, 1830)														X	
73	<i>Glischrochilus</i> <i>quadripunctatus</i> (Linnaeus, 1758)				X											
13	Fam. Melyridae															
74	<i>Psilothrix</i> <i>viridicoerulea</i> (Geoffroy, 1875)	X			X											
14	Fam. Cerylonidae															
75	<i>Cerylon histeroides</i> (Fabricius, 1792)	X														
15	Fam. Cryptophagidae															
76	<i>Cryptophagus</i> <i>corticinus</i> Thomson, 1867												X			
77	<i>Cryptophagus</i> <i>montanus</i> C. Brisout de Barneville, 1863							X					X			
78	<i>Cryptophagus</i> <i>scutellatus</i> Newman, 1834				X						X		X			
16	Fam. Endomychidae															
79	<i>Mycetaea subterranea</i> (Fabricius, 1801)							X								
17	Fam. Lathridiidae															
80	<i>Corticaria fulva</i> (Comolli, 1837)	X														
18	Fam. Mordellidae															
81	<i>Anaspis flava</i> (Linnaeus, 1758)												X			

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		V	E	A	V	E	A	V	E	A	V	E	A	V	E	A
19	Fam. Zopheridae															
82	<i>Nosodomodes tuberculatus</i> (Germar, 1831)	X														
20	Fam. Tenebrionidae															
83	<i>Gonodera luperus</i> (Herbst, 1783)									X						
84	<i>Laena hopffgarteni</i> Weise, 1878		X		X										X	
21	Fam. Chrysomelidae															
85	<i>Gastroidea polygona</i> Linnaeus, 1758												X			
86	<i>Hydrothassa marginella</i> (Linnaeus, 1758)										X					
22	Fam. Brentidae															
87	<i>Protapion assimile</i> (W. Kirby, 1808)													X		
23	Fam. Curculionidae															
88	<i>Acalles (Rutera) hypocrita</i> (Boheman, 1837)							X								
89	<i>Hylobius abietis</i> (Linnaeus, 1758)	X						X								
90	<i>Otiorhynchus (Tournieria) pauxillus</i> Rosenhauer, 1847		X													
91	<i>Phyllobius arborator</i> (Herbst, 1797)				X						X				X	
92	<i>Rhyncolus reflexus</i> Boheman, 1838							X								
93	<i>Trypodendron lineatum</i> (Olivier, 1795)										X					
Total		15	2	2	23	6	12	30	6	5	7	3	21	8	7	2
		17 total			33			39			28			17		