

ȘTIINȚELE NATURII

TAXONOMIC COMPOSITION OF INSECTS

(COLLEMBOLA, COLEOPTERA:

CARABIDAE, SILPHIDAE, STAPHYLINIDAE AND CHRYSOMELIDAE)

FROM THE FOREST ECOSYSTEMS OF THE REPUBLIC OF MOLDOVA

Svetlana BACAL, Galina BUȘMACHIU, Livia CALESTRU*

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INTRODUCTION

The biological diversity of living organisms, including a large variety of insects, is a specific feature of our planet, which ensures the optimal functioning, existence and development of the biosphere. Species diversity of insects in the forest ecosystems is limited by climatic and natural factors and allows establishing the degree of ecosystem stability. The higher insects' biodiversity plays an important role in the ecosystem stability. Unfortunately, the medium degree of forestation in the Republic of Moldova is only 9.6% (7.2 % in northern Moldova, 13.5% in central and 6.7% in southern), so the areas occupied by woods and forest plantations are 325.4 thousand ha only⁶. However, we cannot talk about intact forest territories, even the protected areas suffer certain modifications because of the anthropogenic interventions, which directly affect the natural forests and in the result normal development of the insects.

The territory of the Republic of Moldova is situated at the interference of three biogeographic regions: Central-European, Euro-Asiatic and Mediterranean. In the north of the republic the petrophyte forests of *Quercus robur* are situated, the centre of the republic is occupied by European leafy forests, and in the south, there are fragments of xerophyte silvo-steppe with *Quercus pubescens*. The geographic position and the variety of natural factors are favourable for great floristic and faunistic diversity of this territory⁵.

METHODS OF STUDY

The study of insects' biodiversity was accomplished in forest ecosystems from the north, centre and south of the Republic of Moldova by route method since 2002 and by stationary method in 2007-2009.

In the north of the country the studies were carried out in the forests near villages Branzeni (48° 04' N, 27° 12' E) and Brănești (47° 47' N, 27° 14' E); the forest shelter belts situated along the banks of the Dniester River near villages Naslavcea (48° 29' N, 27° 34' E) and Soroca (48° 08' N, 28° 17' E). In the northern region diverse forest communities are presented, but the most common forests are on the base of oak (*Quercus robur*) with elements of hornbeam (*Carpinus betulus*), cherry (*Cerasus avium*) etc. The forests here are highly fragmented.

In Central Moldova the gathering was accomplished in natural forests near villages Peresecina (47° 17' N, 28° 45' E) and Bahmut (47° 20' N, 28° 04' E). The natural deciduous European leafy forests are dominant here; the main tree species are oaks (*Quercus robur*, *Quercus petraea*) and beech (*Fagus sylvatica*) mixed with *Carpinus betulus*, *Fraxinus excelsior*, *Tilia tomentosa* and *Acer platanoides*.

In the southern part of the country, two forest types were selected for study: the flooded forests from the Lower Dniester and the sub-arid forests from silvo-steppe region. The flooded forests from villages Leuntea (46° 40' N, 29° 36' E) and Cioburciu (46° 35' N, 29° 42' E) are formed by ash (*Fraxinus excelsior*) mixed with oak (*Quercus robur*) and poplars (*Populus alba* and *P. nigra*). The fragments of the sub-arid forests with Mediterranean type of vegetations situated

* Institutul de Zoologie al Academiei de Științe a Moldovei, Chișinău.

near villages Grădinița (46° 39'N, 29° 35'E) and Lărguța (46° 19'N, 28° 20'E) with the dominant tree species *Quercus petrea* and *Quercus pubescens* were studied.

For the gathering of rich faunal material the various entomological collecting, conservation and processing methods were used³. The preparations of the specimens for museum collections were done using particular methods for each studied groups.

The insects of order Collembola were collected from soil and forest litter using metallic frames and entomologic aspirator, and to extract the insects the flotation method was used. The collected Collembola specimens were treated with 80⁰ alcohol, lactic acid and KOH, and permanent preparations were prepared.

To collect coleopterans the traditional entomological methods were used, such as soil pitfall traps, entomological sweep net, manual gathering from various plants (trees, bushes, herbs), from litter and soil. The collected faunal material is preserved in 70⁰ alcohol in Petri dishes, entomological boxes.

RESULTS

Because of investigations in the different types of forest ecosystems, 277 species of insect were identified, among which from order *Collembola* -115 species and from order *Coleoptera* – 162 species. The data concerning species composition of collected insects from the northern, central and southern regions of Moldova are shown in the tables below.

According to the first table 115 collembolan species were recorded, which belong to 53 genera and 15 families.

Table 1
Taxonomic list of species related to the order Collembola originating from different regions of the Republic of Moldova

Nº	Species	North	Centre	South
	Family Hypogastruridae			
1.	<i>Choreutinula inermis</i> Tullberg, 1871	+	+	-
2.	<i>Schoettella ununguiculata</i> Tullberg, 1869	+	+	+
3.	<i>Hypogastrura assimilis</i> Krausbauer, 1898	-	+	+
4.	<i>Hypogastrura manubrialis</i> Tullberg, 1869	+	+	+
5.	<i>Ceratopysella denticulata</i> Bagnall, 1941	+	+	-
6.	<i>Ceratopysella engadinensis</i> Gisin, 1949	+	+	+
7.	<i>Ceratopysella succinea</i> Gisin, 1949	+	+	-
8.	<i>Xenylla andrzeji</i> Busmachiu & Weiner, 2008	-	+	+
9.	<i>Xenylla boernerii</i> Axelson, 1905	+	+	-
10.	<i>Xenylla brevicauda</i> Tullberg, 1869	-	+	-
11.	<i>Xenylla brevisimilis brevisimilis</i> Stach, 1949	+	+	+
12.	<i>Xenylla corticalis</i> Börner, 1901	-	+	+
13.	<i>Xenylla maritima</i> Tullberg, 1963	-	+	+
14.	<i>Willemia intermedia</i> Börner, 1901	-	+	-
15.	<i>Willemia scandinavica</i> Stach, 1949	-	+	+
	Family Brachystomellidae			
16.	<i>Brachystomella parvula</i> (Schäffer, 1896)	+	+	-
	Family Odontellidae			
17.	<i>Superodentella montemaceli</i> Arbea & Weiner, 1992	-	+	+
18.	<i>Superodentella lamellifera</i> (Axelson, 1903)	-	+	+
	Family Neanuridae			
19.	<i>Micranurida pygmaea</i> Börner, 1901	+	+	+
20.	<i>Morulina verrucosa</i> (Börner 1903)	+	-	-
21.	<i>Friesea mirabilis</i> Tullberg, 1871	+	+	+
22.	<i>Pseudachorutes</i> sp.	-	-	+
23.	<i>Pseudachorutes dubius</i> Krausbauer, 1898	+	+	+
24.	<i>Pseudachorutes pratensis</i> Rusek, 1973	+	+	+

25.	<i>Pseudachorutes subcrassus</i> Tullberg, 1871	+	+	+
26.	<i>Deutonura albella</i> (Stach, 1920)	-	+	+
27.	<i>Deutonura stachi</i> (Gisin, 1952)	-	+	+
28.	<i>Neanura moldavica</i> Busmachiu & Deharveng, 2008	-	+	+
29.	<i>Neanura muscorum</i> Templeton, 1835	+	+	+
30.	<i>Endonura gracilirostris</i> (Smolis, Skarzynski, Pomorski & Kaprus, 2007)	-	+	+
31.	<i>Lathriopyga</i> sp.	-	+	+
	Family Onychiuridae			
32.	<i>Tetrodontophora bielanensis</i> (Waga, 1842)	+	-	-
33.	<i>Micraphorura uralica</i> (Khanislamova, 1986)	-	+	+
34.	<i>Protaphorura armata</i> Tullberg, 1869	+	+	+
35.	<i>Protaphorura cancellata</i> Gisin, 1956	+	+	+
36.	<i>Protaphorura fimata</i> Gisin, 1956	-	+	+
37.	<i>Protaphorura serbica</i> (Loksa & Bogojevic, 1967)	+	+	+
38.	<i>Mesaphorura critica</i> Ellis, 1976	-	+	+
39.	<i>Mesaphorura hylophila</i> Rusek, 1982	-	-	+
40.	<i>Mesaphorura krausbaueri</i> Borner, 1901	+	+	+
41.	<i>Mataphorura affinis</i> Borner, 1902	+	+	+
42.	<i>Orthonychiurus stachianus</i> (Bagnall, 1939)	-	+	+
	Family Isotomidae			
43.	<i>Tetracanthella pilosa</i> Schött, 1891	-	+	+
44.	<i>Anurophorus septentrionalis</i> Palissa, 1966	-	+	+
45.	<i>Pseudanurophorus octoculatus</i> Martynova, 1971	-	-	+
46.	<i>Subisotoma pusilla</i> (Schäffer, 1900)	-	+	-
47.	<i>Folsomia candida</i> Willem, 1902	+	+	+
48.	<i>Folsomia quadrioculata</i> (Tullberg, 1871)	+	+	+
49.	<i>Folsomia manolachei</i> Bagnall, 1939	+	+	+
50.	<i>Folsomia penicula</i> Bagnall, 1939	-	+	-
51.	<i>Cryptopygus thermophilus</i> (Axelson, 1900)	+	+	+
52.	<i>Parisotoma notabilis</i> (Schaffer, 1896)	+	+	+
53.	<i>Desoria propinqua</i> (Axelson, 1902)	-	-	+
54.	<i>Desoria violacea</i> (Tullberg, 1876)	+	+	+
55.	<i>Isotoma anglicana</i> (Lubbock, 1873)	-	+	+
56.	<i>Isotoma viridis</i> Bourlet, 1839	+	+	+
57.	<i>Isotomiella minor</i> (Schaffer, 1896)	+	+	+
58.	<i>Proisotoma minima</i> (Absolon, 1903)	+	+	+
59.	<i>Proisotoma minuta</i> (Tullberg, 1871)	+	+	-
60.	<i>Isotomurus palustris</i> (Müller, 1776)	+	+	+
	Family Tomoceridae			
61.	<i>Tomocerus minor</i> (Lubbock, 1862)	-	+	+
62.	<i>Tomocerus vulgaris</i> Tullberg, 1871	+	+	+
63.	<i>Pogonognathellus flavescens</i> (Tullberg, 1871)	-	+	+
64.	<i>Pogonognathellus longicornis</i> (Müller, 1776)	-	+	+
	Family Entomobryidae			
65.	<i>Orchesella bulgarica</i> Stach, 1960	+	+	+
66.	<i>Orchesella cincta</i> (Linnaeus, 1758)	+	+	+
67.	<i>Orchesella multifasciata</i> Stscherbacow, 1898	+	+	+
68.	<i>Orchesella flavescens</i> (Bourlet, 1839)	+	+	+
69.	<i>Orchesella orientalis</i> Stach, 1960	-	+	+
70.	<i>Orchesella pontica</i> Ionescu, 1915	-	+	+
71.	<i>Orchesella pseudobifasciata</i> Stach, 1960	-	+	+
72.	<i>Orchesella spectabilis</i> Tullberg, 1872	+	+	+
73.	<i>Orchesella xerothermica</i> Stach, 1960	+	+	+
74.	<i>Entomobrya atrocincta</i> Schoett, 1896	+	+	+

75.	<i>Entomobrya handschini</i> Stach, 1922	-	+	+
76.	<i>Entomobrya marginata</i> (Tullberg, 1871)	+	+	+
77.	<i>Entomobrya multifasciata</i> (Tullberg, 1871)	-	+	+
78.	<i>Entomobrya muscorum</i> (Nicolet, 1841)	+	+	+
79.	<i>Entomobrya quinquelineata</i> Börner, 1901	-	+	+
80.	<i>Pseudosinella alba</i> Packard, 1873	+	+	+
81.	<i>Pseudosinella albida</i> Stach, 1930	-	+	+
82.	<i>Pseudosinella codri</i> Gama & Busmachi, 2002	-	+	-
83.	<i>Pseudosinella imparipunctata</i> Gisin, 1953	+	+	+
84.	<i>Pseudosinella horaki</i> , Rusek, 1985	+	+	+
85.	<i>Pseudosinella octopunctata</i> Börner, 1901	-	+	+
86.	<i>Pseudosinella moldavica</i> Gama & Busmachi, 2002	-	+	+
87.	<i>Pseudosinella noseki</i> Rusek, 1985	-	-	+
88.	<i>Pseudosinella sexoculata</i> Schött, 1902	-	-	+
89.	<i>Pseudosinella simpatica</i> Gama & Busmachi, 2002	+	+	-
90.	<i>Willowsia nigromaculata</i> (Lubbock, 1873)	+	+	+
91.	<i>Lepidocyrtus curvicollis</i> (Bourlet, 1839)	-	+	+
92.	<i>Lepidocyrtus cyaneus</i> Tullberg, 1871	+	+	+
93.	<i>Lepidocyrtus lignorum</i> (Fabricius 1793)	+	+	+
94.	<i>Lepidocyrtus paradoxus</i> Uzel, 1890	+	+	+
95.	<i>Lepidocyrtus violaceus</i> (Geoffroy, 1762)	+	+	+
96.	<i>Lepidocyrtus weidneri</i> Hüther, 1971	-	+	+
97.	<i>Heteromurus major</i> (Moniez, 1889)	+	+	+
98.	<i>Heteromurus nitidus</i> (Templeton, 1835)	+	+	+
	Family Cyphoderidae			
99.	<i>Cyphoderus bidenticulatus</i> (Parona, 1888)	+	+	+
	Family Neelidae			
100.	<i>Neelus murinus</i> Folsom, 1896	+	+	+
101.	<i>Megalothorax minimus</i> Willem, 1900	+	+	+
	Family Sminthuridae			
102.	<i>Sphaeridia pumilis</i> Krausbauer, 1898	+	+	+
	Family Arrhopalitidae			
103.	<i>Arrhopalites secundarius</i> (Gisin, 1958)	-	+	+
	Family Katiannidae			
104.	<i>Sminthurinus aureus</i> Lubbock, 1862	+	+	+
105.	<i>Sminthurinus elegans</i> (Fitch, 1863)	-	+	+
106.	<i>Sminthurinus niger</i> (Lubbock, 1868)	+	+	+
107.	<i>Sminthurinus signatus</i> (Krausbauer, 1902)	-	+	+
	Family Dicyrtomidae			
108.	<i>Dicyrtoma fusca</i> Lucas, 1849	+	+	+
109.	<i>Ptenothrix leucostrigata</i> Stach, 1957	+	+	-
110.	<i>Ptenothrix atra</i> Linnaeus, 1758	-	+	+
	Family Sminthuridae			
111.	<i>Sminthurus viridis</i> (Linnaeus, 1758)	+	+	+
112.	<i>Sminthurus wahlgreni</i> Stach, 1920	+	+	+
113.	<i>Spatulosminthurus flaviceps</i> Tullberg, 1871	+	+	+
114.	<i>Caprainea marginata</i> Stach, 1930	-	+	+
115.	<i>Lipothrix lubbocki</i> (Tullberg, 1872)	+	+	+

The number of identified species common for the three regions proves to be rather low, only 57. A differentiation concerning the dominant collembolan species was established too. The highest species diversity was recorded in central part – 107 species², followed by 100 species in southern and 68 species in the north of the country. We have to mention that the volume of collected samples was different, the highest being in the central and south regions.

In deciduous forests from the Central Moldova the species *Xenylla brevisimilis brevisimilis*, *Folsomia penicula*, *Pseudosinella horaki*, *Lepidocyrtus lignorum* and *Heteromurus major* dominate, while in the soil and litter of the forests from the south region the species *Neanura moldavica*, *Endonura gracilirostris*, *Folsomia quadrioculata* and *Pseudosinella moldavica* dominate.

The species *Tetradontophora bielanensis* and *Morulina verrucosa* were registered only in the forests of the northern region. These two species are Carpathian elements, which arrived in the country along the canyon of the Dniester River. Among the species of special interest from the southern region are *Pseudanurophorus octoculatus* – xerophyte species that inhabits the steppe regions from the south of Ukraine and Moldova and *Endonura gracilirostris* – recently described from the Crimea. The species *Desoria propinqua* and *Pseudosinella sexoculata* are rare and were registered only in this south region. Among the rare species typical for the central and southern region are *Tetracanthella pilosa*, *Anurophorus septentrionalis*, *Orchesella orientalis*, *Orchesella pontica* and *Entomobrya handschini*.

According to table 2 the total number of recorded insects from the order Coleoptera is 162, which belong to four families: Carabidae - 81 species, Chrysomelidae – 22, Staphylinidae – 33 and Silphidae -13.

Table 2
Taxonomic list of the species from the order *Coleoptera* in different regions of the Republic of Moldova

№	Species	North	Centre	South
	Family Carabidae			
1.	<i>Abax carinatus</i> (Duftschmid, 1812)	+	+	+
2.	<i>Abax parallelopipedus</i> (Piller, Mitte, 1783)	+	+	+
3.	<i>Abax parallelus</i> (Duftschmid, 1812)	+	+	+
4.	<i>Agonum nigrum</i> Dejean, 1828	-	-	+
5.	<i>Amara aenea</i> (De Geer, 1774)	-	+	+
6.	<i>Amara bifrons</i> (Gyllenhal, 1810)	-	-	+
7.	<i>Amara communis</i> (Panzer, 1797)	-	-	+
8.	<i>Amara eurynota</i> (Panzer, 1797)	-	-	+
9.	<i>Amara familiaris</i> (Duftschmid, 1812)	+	-	+
10.	<i>Amara lucida</i> (Duftschmid, 1812)	-	-	+
11.	<i>Amara municipalis</i> (Duftschmid, 1812)	-	+	-
12.	<i>Amara ovata</i> (Fabricius, 1792)	-	+	-
13.	<i>Amara plebeja</i> (Gyllenhal, 1810)	-	-	+
14.	<i>Amara saphyrea</i> Dejean, 1828	-	-	+
15.	<i>Amara similata</i> (Gyllenhal, 1810)	-	-	+
16.	<i>Amara tricuspidata</i> Dejean, 1831	-	-	+
17.	<i>Amara</i> sp.	-	-	+
18.	<i>Anchomenus dorsale</i> (Pontoppidan, 1763)	-	-	+
19.	<i>Aptinus bombardae</i> (Illiger, 1800)	+	+	-
20.	<i>Badister bipustulatus</i> (Fabricius, 1787)	-	+	+
21.	<i>Brachinus explodens</i> Duftschmid, 1812	-	-	+
22.	<i>Brachinus crepitans</i> (Linnaeus, 1758)	+	-	+
23.	<i>Brachinus psophia</i> Serville, 1821	-	-	+
24.	<i>Calathus ambiguus</i> (Paykull, 1790)	-	-	+
25.	<i>Calathus distinguendus</i> Chaudoir, 1846	-	-	+
26.	<i>Calathus fuscipes</i> (Goeze, 1777)	-	+	+
27.	<i>Calathus halensis</i> (Schaller, 1783)	+	-	+
28.	<i>Calathus melanocephalus</i> (Linnaeus, 1758)	-	-	+
29.	<i>Calosoma inquisitor</i> (Linnaeus, 1758)	+	+	+
30.	<i>Carabus arvensis</i> Herbst, 1784	+	-	-
31.	<i>Carabus cancellatus</i> Illiger, 1798	+	+	-

32.	<i>Carabus convexus</i> Fabricius, 1775	+	+	+
33.	<i>Carabus coriaceus</i> (Linnaeus, 1758)	+	+	+
34.	<i>Carabus excellens</i> Kraatz, 1887	+	+	+
35.	<i>Carabus hortensis</i> Linnaeus, 1758	-	-	+
36.	<i>Carabus ullrichi</i> Germar, 1824	+	+	-
37.	<i>Chlaenius nigricornis</i> (Fabricius, 1787)	-	-	+
38.	<i>Cychrus caraboides</i> (Linnaeus, 1758)	-	+	-
39.	<i>Cychrus semigranosus</i> (Pallardi, 1825)	-	+	-
40.	<i>Clivina fossor</i> (Linnaeus, 1758)	-	-	+
41.	<i>Harpalus amplicollis</i> Menetries 1848	-	-	+
42.	<i>Harpalus atratus</i> Latreille, 1804	+	+	-
43.	<i>Harpalus autumnalis</i> (Duftschmid, 1812)	-	-	+
44.	<i>Harpalus distinguendus</i> (Duftschmid, 1812)	-	+	+
45.	<i>Harpalus flavescens</i> (Piller, Mitt, 1783)	-	-	+
46.	<i>Harpalus flavicornis</i> Dejean, 1829	-	-	+
47.	<i>Harpalus froelichi</i> Sturm, 1818	-	-	+
48.	<i>Harpalus fuliginosus</i> (Duftschmid, 1812)	-	-	+
49.	<i>Harpalus rubripes</i> (Duftschmid, 1812)	-	-	+
50.	<i>Harpalus rufipes</i> (De Geer, 1774)	+	+	+
51.	<i>Harpalus serripes</i> (Quensel, 1806)	-	-	+
52.	<i>Harpalus tardus</i> (Panzer, 1797)	-	+	+
53.	<i>Lebia cruxminor</i> (Linnaeus, 1758)	-	-	+
54.	<i>Leistus rufomarginatus</i> (Duftschmid, 1812)	-	-	+
55.	<i>Leistus ferrugineus</i> (Linnaeus, 1758)	-	-	+
56.	<i>Licinus depressus</i> (Paykull, 1790)	-	+	+
57.	<i>Licinus silphoides</i> (Rossi, 1790)	-	-	+
58.	<i>Molops piceus</i> (Panzer, 1793)	+	-	-
59.	<i>Nebria brevicollis</i> (Fabricius, 1792)	-	+	+
60.	<i>Nebria rufescens</i> (Strom, 1768)	-	-	+
61.	<i>Ophonus azureus</i> (Fabricius, 1775)	-	+	-
62.	<i>Ophonus diffinis</i> (Dejean, 1829)	-	+	-
63.	<i>Ophonus rufibarbis</i> (Fabricius, 1792)	-	+	+
64.	<i>Ophonus schaubergerianus</i> Puel, 1937	-	+	-
65.	<i>Panagaeus bipustulatus</i> (Fabricius, 1775)	+	-	+
66.	<i>Pangaeus cruxmajor</i> Linnaeus, 1758	-	+	-
67.	<i>Platyderus rufus</i> (Duftschmid, 1812)	-	-	+
68.	<i>Platynus assimile</i> (Paykull, 1790)	-	-	+
69.	<i>Pterostichus chamaeleon</i> Motschulsky, 1865	-	-	+
70.	<i>Pterostichus leonisi</i> Apfelbeck, 1904	-	-	+
71.	<i>Pterostichus melanarius</i> (Illiger, 1798)	+	+	-
72.	<i>Pterostichus melas</i> (Cretzer, 1799)	+	+	+
73.	<i>Pterostichus minor</i> (Gyllenhal, 1827)	-	-	+
74.	<i>Pterostichus niger</i> (Schaller, 1783)	-	-	+
75.	<i>Pterostichus oblogopunctatus</i> (Fabricius, 1787)	+	-	-
76.	<i>Pterostichus ovoideus</i> (Sturm, 1824)	-	-	+
77.	<i>Pterostichus strenuus</i> (Panzer, 1797)	+	-	+
78.	<i>Stenolophus discophorus</i> Fisch-Wald, 1823	-	-	+
79.	<i>Stenolophus mixtus</i> (Herbst, 1784)	-	-	+
80.	<i>Stenolophus teutonius</i> (Schränk, 1781)	-	-	+
81.	<i>Stomis pumicatus</i> (Panzer, 1796)	-	-	+
	Family Silphidae			
82.	<i>Nicrophorus germanicus</i> Linnaeus, 1758	-	-	+
83.	<i>Nicrophorus humator</i> (Gleditsch, 1767)	-	+	+
84.	<i>Nicrophorus fossor</i> Erichson, 1837	+	+	+
85.	<i>Nicrophorus investigator</i> (Zettersted, 1824)	-	+	+

86.	<i>Nicrophorus vestigator</i> Herschel, 1807	-	-	+
87.	<i>Nicrophorus vespillo</i> (Linnaeus, 1758)	+	+	+
88.	<i>Nicrophorus vespilloides</i> Herbst, 1784	+	+	+
89.	<i>Phosphuga atrata</i> (Linnaeus, 1758)	-	+	+
90.	<i>Oiceoptoma thoracica</i> (Linnaeus, 1758)	+	-	-
91.	<i>Silpha carinata</i> Herbst, 1783	+	+	+
92.	<i>Silpha obscura</i> Linnaeus, 1758	+	-	+
93.	<i>Thanatophilus rugosus</i> Linnaeus, 1758	-	-	+
94.	<i>Thanatophilus sinuatus</i> Fabricius, 1775	-	-	+
	Family Staphylinidae			
95.	<i>Aleochara curtula</i> (Goeze, 1775)	+	+	+
96.	<i>Aleochara lata</i> Gravenhorst, 1802	-	-	+
97.	<i>Anotylus sculpturatus</i> (Gravenhorst, 1806)	-	-	+
98.	<i>Atheta</i> sp.	-	-	+
99.	<i>Dinothenarus pubescens</i> (De Geer, 1774)	-	-	+
100.	<i>Drusilla canaliculata</i> (Fabricius, 1787)	+	+	+
101.	<i>Falagrioma thoracica</i> (Stephens, 1832)	-	-	+
102.	<i>Gabrius femoralis</i> (Hochhuth, 1851)	-	-	+
103.	<i>Ilyobates mech</i> (Baudi Di Selve, 1848)	-	-	+
104.	<i>Lordithon lunulatus</i> (Linnaeus, 1767)	-	-	+
105.	<i>Medon ferrugineus</i> (Erichson, 1840)	-	-	+
106.	<i>Mycetoporus nigricollis</i> Stephens, 1835	-	-	+
107.	<i>Ocypus nitens</i> (Schrank, 1781)	+	+	+
108.	<i>Ocypus ophthalmicus ophthalmicus</i> (Scopoli, 1763)*	-	-	+
109.	<i>Ontholestes haroldi</i> (Eppelsheim, 1884)	-	-	+
110.	<i>Ontholestes murinus</i> (Linnaeus, 1758)	+	+	+
111.	<i>Ontholestes tessellatus</i> (Geoffroy, 1785)	-	-	+
112.	<i>Oxypoda acuminata</i> (Stephens, 1832)	-	-	+
113.	<i>Oxyporus rufus</i> (Linnaeus, 1758)	+	+	+
114.	<i>Philonthus addendus</i> Sharp, 1867	+	-	+
115.	<i>Philonthus laminatus</i> (Creutzer, 1799)	-	-	+
116.	<i>Philonthus succicola</i> Thomson, 1860	-	+	+
117.	<i>Philonthus tenuicornis</i> (Mulsant & Rey, 1853)	-	-	+
118.	<i>Platydracus fulvipes</i> (Scopoli, 1763)	-	-	+
119.	<i>Platydracus stercorarius</i> Olivier, 1795	-	-	+
120.	<i>Rugilus subtilis</i> Erichson, 1840	-	+	+
121.	<i>Scaphidium quadrimaculatum</i> Olivier, 1790	-	-	+
122.	<i>Tachinus corticinus</i> Gravenhorst, 1802	-	-	+
123.	<i>Tasgius winkleri</i> (Bernhauer, 1906)	-	-	+
124.	<i>Tasgius melanarius</i> (Heer, 1839)	-	-	+
125.	<i>Tasgius pedator</i> (Gravenhorst, 1802)	-	-	+
126.	<i>Zyras collaris</i> (Paykull, 1800)	-	-	+
127.	<i>Zyras haworthi</i> (Stephens, 1832)	-	-	+
	Family Chrysomelidae			
128.	<i>Cassida nebulosa</i> Linnaeus, 1758	+	-	-
129.	<i>Cassida vibex</i> Linnaeus, 1767	-	+	-
130.	<i>Cassida viridis</i> Linnaeus, 1758	+	-	-
131.	<i>Cassida sanguinolenta</i> Müller, 1776	-	-	+
132.	<i>Chrysolina fastuosa</i> (Scopoli, 1763)	+	+	+
133.	<i>Chrysolina marginata marginata</i> (L., 1758)	+	-	-
134.	<i>Chrysolina oricalcia</i> (Müller, 1776)	+	-	-
135.	<i>Chrysomela vigintipunctata</i> (Scopoli, 1763)	-	+	-
136.	<i>Clytra quadripunctata</i> (Linnaeus, 1758)	-	+	-
137.	<i>Clytra laeviuscula</i> (Ratzebyrg, 1837)	+	-	-
138.	<i>Colaphus sophiae</i> (Schaller, 1783)	-	+	-

139.	<i>Cryptocephalus apicalis</i> Gebler, 1830	+	-	+
140.	<i>Cryptocephalus biguttatus</i> (Scopoli, 1763)	-	+	+
141.	<i>Cryptocephalus bipunctatus</i> (Linnaeus, 1758)	-	+	-
142.	<i>Cryptocephalus flavipes</i> Fabricius, 1781	+	+	+
143.	<i>Cryptocephalus gamma</i> Herr-Schäff, 1829	-	-	+
144.	<i>Cryptocephalus hypochoeridis</i> (L., 1758)	-	+	-
145.	<i>Cryptocephalus moraei</i> (Linnaeus, 1758)	+	-	-
146.	<i>Cryptocephalus octacosmus</i> Bedel, 1891	+	+	+
147.	<i>Cryptocephalus schaefferi</i> Schrank, 1789	-	+	-
148.	<i>Eumolpus asclepiadeus</i> (Pallas, 1776)	+	-	-
149.	<i>Galeruca tanaceti</i> (Linnaeus, 1758)	-	-	+
150.	<i>Gastrophysa polygoni</i> (Linnaeus, 1758)	+	+	+
151.	<i>Gastrophysa viridula</i> (Degeer, 1775)	+	+	-
152.	<i>Gonioctena fornicata</i> (Brüggeman, 1873)	+	+	-
153.	<i>Hypocassida subferruginea</i> (Schrank, 1776)	+	-	-
154.	<i>Labidostomis longimana</i> (Linnaeus, 1761)	+	+	-
155.	<i>Leptinotarsa decemlineata</i> (Say, 1824)	+	-	-
156.	<i>Oulema gallaeciana</i> (Heyden, 1870)	+	-	-
157.	<i>Oulema melanopus</i> (Linnaeus, 1758)	+	+	+
158.	<i>Pachybrachis hieroglyphicus</i> (Laich, 1781)	+	+	-
159.	<i>Pachybrachis tessellatus</i> (Olivier, 1791)	-	+	-
160.	<i>Phaedon cochleariae</i> (Fabricius, 1792)	-	+	-
161.	<i>Smaragdina affinis</i> (Illiger, 1794)	+	+	-
162.	<i>Smaragdina salicina</i> (Scopoli, 1775)	+	+	-

Totally in the northern region were collected 56 species of Coleoptera from 33 genera. The coleopteran fauna collected by pitfall traps method from the oak forests with mixture of hornbeam and cherry tree of the northern region is represented by 34 species belonging to 20 genera and 3 families (Carabidae, Silphidae, Staphylinidae)¹. The family Carabidae proves to be the richest with 22 species and 11 genera. Family Silphidae was represented by 6 species and 3 genera. From family Staphylinidae 6 species from 6 genera were collected. Coleopterans from family Chrysomelidae were collected with the sweep net⁴. This family was represented by 22 species belonging to 13 genera.

From the forests of oak mixed with beech and ash tree from the Central Moldova 65 coleopteran species from 37 genera were gathered. Family Carabidae is represented by 30 species from 14 genera. Families Staphylinidae and Silphidae registered the same number species –7 and the family Chrysomelidae - 21 species from 13 genera.

In the forests of ash tree mixed with oak and poplar and those of Eurasian oak and oak from the south of the republic 120 species and 54 genera were registered.

Family Carabidae, was the most numerous, as in the other regions, represented by 65 species belonging to 22 genera. From the family Staphylinidae 33 species from 22 genera were collected, while from Silphidae – 12 species from 4 genera. Family Chrysomelidae was represented by 10 species and 6 genera.

In the south of the republic there were accomplished more studies than in other regions, so the results are more complex. One species *Ocypus ophthalmicus ophthalmicus* (Scopoli, 1763) was registered for the first time in the fauna of the republic.

Common for the three studied zones of Moldova are the genera: *Abax*, *Amara*, *Calathus*, *Calosoma*, *Carabus*, *Harpalus*, *Panagaeus*, *Pterostichus*, *Nicrophorus*, *Silpha*, *Aleochara*, *Drusilla*, *Ocypus*, *Ontholestes*, *Oxyporus*, *Philonthus*, *Cassida*, *Chrysolina*, *Cryptocephalus*, *Gastrophysa* and *Oulema*. The genera: *Molops*, *Oiceoptoma* and *Eumolpus* were recorded only in the northern part of the republic. From the Centre Moldova were collected the genera: *Cychnus*, *Chrysomela* and *Colaphus*. The genera characteristic for the southern region are *Anchomenus*, *Stenolophus* and *Galeruca*.

CONCLUSIONS

The fauna of insects in the forest ecosystems of the Republic of Moldova is formed by 277 species, among which 115 species are from order Collembola and 161 are from order Coleoptera. Common for the all three studied forest regions were 57 species of Collembola. Of all the registered species, 107 were identified in Central Moldova, 100 – in the south and 68 – in the north regions. Week regional differentiation was registered regarding the dominant collembolan species, while a small species number was recorded only in one studied region.

Among coleopterans common for all the forest proved to be 21 genera and for each 3 genera are particular. The most numerous were the family Carabidae with 81 species from 26 genera, among which 8 genera are common for all regions, followed by family Staphilinidae with 33 species and 22 genera, with 6 genera common for the three studied zones. Family Silphidae is represented by 13 species and 5 genera, among them 2 genera are common for all studied types of forests. Family Chrysomelidae is represented by 35 species from 17 genera, among which 5 species are common for all the studied regions.

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