

CHECKLIST OF ROMANIAN ORTHOPTERA (INSECTA) AND THEIR DISTRIBUTION BY ECO-REGIONS

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Abstract. The Orthoptera fauna of Romania is represented by 182 species, 94 belonging to the Ensifera suborder and 88 species belonging to the Caelifera suborder. Four of these species are each represented by two subspecies (*Isophya modesta modesta*, *I. m. longicaudata*, *Platycleis albopunctata albopunctata*, *P. a. grisea*, *Tetrix bipunctata bipunctata*, *T. b. kraussi*, *Miramella ebneri ebneri* and *M. e. carpathica*); also, the presence of a interspecific hybrid (*Chorthippus albomarginatus* × *oschei*) in the North-eastern part of the country was very interesting to find. Nine species are endemic to Romania and represent important values that should be protected: *Isophya dobrogensis*, *I. harzi*, *Callimenus montandoni*, *Odontopodisma carpathica*, *O. acuminata*, *O. montana*, *Zubovskya banatica*, *Podismopsis transylvanica* and *Chorthippus acroleucus*.

Résumé. La faune d'Orthoptères de Roumanie est représentée par 182 espèces, dont 94 appartiennent au Sous-Ordre des Ensifera et 88 au Sous-Ordre des Caelifera. Quatre de ces espèces sont représentées chacune par deux sous-espèces (*Isophya modesta modesta*, *I. m. longicaudata*, *Platycleis albopunctata albopunctata*, *P. a. grisea*, *Tetrix bipunctata bipunctata*, *T. b. kraussi*, *Miramella ebneri ebneri* et *M. e. carpathica*); on a trouvé aussi un intéressant hybride interspécifique (*Chorthippus albomarginatus* X *oschei*) dans le Nord-Ouest du pays. Neuf espèces sont endémiques en Roumanie, représentant des valeurs importantes qui doivent être préservées: *Isophya dobrogensis*, *I. harzi*, *Callimenus montandoni*, *Odontopodisma carpathica*, *O. acuminata*, *O. montana*, *Zubovskya banatica*, *Podismopsis transylvanica* et *Chorthippus acroleucus*.

Key words: Orthoptera, checklist, Romania, eco-regions.

INTRODUCTION

Orthoptera order has a significant ecological importance in the economy of terrestrial habitats because acridids can consume a considerable percent of the annual primary production of grasslands, being considered primary herbivores in many of them. Also, Orthoptera contribute to the diet of many animals such as reptiles, birds, mammals and other arthropods. Another important aspect is that Orthoptera species are habitat specific and the study of Orthoptera assemblages are used as indicators for conservation purposes.

The Orthoptera fauna from Romania has been studied since the year 1853 by many scientists, like: Fuss (1853, 1855), Brunner von Wattenwyl (1882), Frey-Gessner (1897), Burr (1899), Zottu (1903, 1904, 1909), Müller (1925-1926, 1931-1932), Ramme (1942, 1951), Mîndru (1958, 1960, 1980), Mîndru & Kis (1967), Vasiliu (1960, 1961), Kis & Vasiliu (1968, 1970, 1972), Kis (1960, 1962, 1963, 1964, 1967, 1976, 1978, 1993, 1994), Kis & Sangheli (1971), Sangheli (1977, 1980).

In the Orthoptera volume from the series “*Fauna României*” (“Romania Fauna”) (by Knechtel and Popovici-Bâznoșanu - 1959) 142 Orthoptera species are described. In 1970, Kis and Vasiliu published a synthesis of the Orthoptera from

Romania, revealing 170 species and in 1976-1978, Kis publishes a key to the Romanian Orthoptera, with a total number of 174 species.

The present paper represents the latest updated synthesis on Romanian Orthoptera comprising 180 species with a total number of 185 taxa, belonging to 80 genera and nine families. An updated nomenclature, taxonomical classification and distribution of the Orthoptera species in Romania according to nine historical regions and 21 eco-regions are also given.

MATERIAL AND METHOD

The present paper is a centralization of literature data and personal observations regarding the Orthoptera species, completing their number and elaborating their distribution in the historical and eco-regions. For comparing the Orthoptera species from Romania, we used their repartition in 21 eco-regions found in Romania (Doniță et al., 2005). Many of the historical regions of Romania have more than one eco-region, as shown in table 1. The distribution map in figure 1 shows both the ecological and historical regions of Romania (the map was elaborated according to Doniță et al., op.cit.).

The species nomenclature and classification were made, in most cases, according to Orthoptera species file (<http://www.Orthopteraonline.org>), online version at 01.03.2008.

RESULTS AND DISCUSSION

At present, there are 182 Orthoptera species known in Romania. Some species and subspecies were not mentioned in the former Romanian checklists and represent new reports for the Romanian fauna. The species *Miramella alpina* is mentioned by Galvagni (1987) as present in Banat, at Mehadia - studying the material collected by Brunner von Wattenwyl. In the same paper, Galvagni mentions the subspecies *Miramella ebneri carpathica* from Rodna Mountains. Recently, *Miramella ebneri carpathica* was also found in several other mountain masses from Oriental Carpathians: Rodna, Călimani and Vrancea Mountains (C. Iusan, personal observations). The species *Pseudopodisma transilvanica* has been described by Galvagni and Fontana in 1993, relying on the material collected by Ramme at Zărnești (Brașov), in 1942.

The species *Isophya dobrogensis* (1994), *Gryllotalpa unispina* (1993) and *Platypygius crassus* (1993) are mentioned recently by Kis in the Romanian fauna, *Isophya dobrogensis* being a new species described from Popina Island. In 1997, Marin et al. mentions the species *Stenonemobius gracilis* as a new report for Romania from Babina and Cernovca islands – the Danube Delta.

Recent researches and observations revealed that the species *Isophya kraussii* was misidentified with *Isophya pyrenaea* and found at Adâncata (Suceava) (I. Iorgu, personal observation). Also, the species *Chorthippus oschei* replaces the species *Chorthippus albomarginatus* from almost all the country, except the North-eastern part of Romania - where the hybrid between the two species can be encountered (I. Iorgu, 2008). *Chorthippus albomarginatus* has been found only in the central and northern parts of the Oriental Subcarpathians.

Metrioptera oblongicollis has been recently found in Southern Dobrogea.

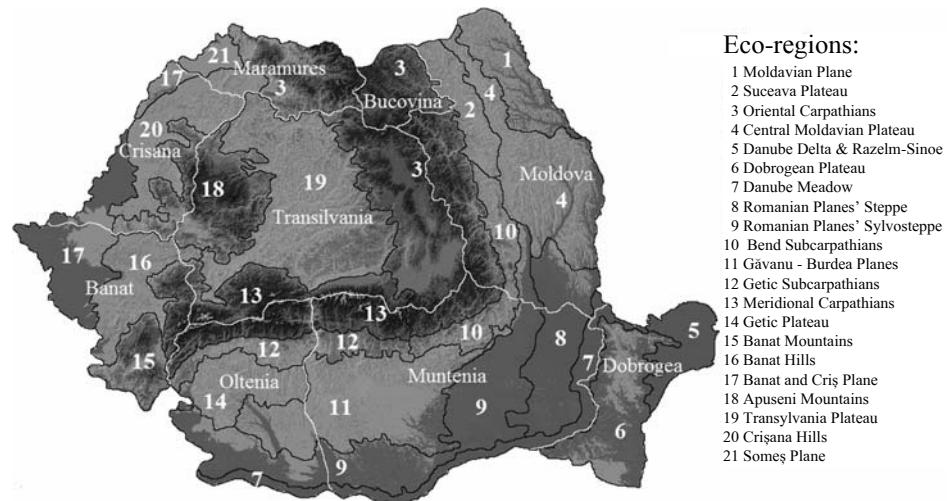


Fig. 1 – Map of Romania with eco - and historical regions.

Table 1

The eco-regions for each historical region in Romania and the total number of Orthoptera species.

		Eco-Regions																				Total species/historical regions
		Moldavian Plane	Suceava Plateau	Oriental Carpathians	Central Moldavian Plateau	Danube Delta & Razelm-Sinoe	Dobrogean Plateau	Danube Meadow	Romanian Planes' Steppe	Romanian Planes' Sylvosteppe	Bend Subcarpathians	Găvanu - Burdea Planes	Getic Subcarpathians	Meridional Carpathians	Banat Mountains	Banat Hills	Banat and Criș Plane	Apuseni Mountains	Transylvanian Plateau	Crișana Hills	Someș Plane	
Historical Regions	Eco-Regions																					
Moldavia	+	+	+	+	+	-	-	+	+	+	+	-	-	-	-	-	-	-	-	-	-	126
Bucovina	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72
Dobrogea	-	-	-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	113
Muntenia	-	-	+	-	-	-	-	+	-	+	+	+	+	+	-	-	-	-	-	-	-	118
Oltenia	-	-	-	-	-	-	-	+	+	+	-	+	+	+	-	-	-	-	-	-	-	114
Banat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	-	-	-	108
Transylvania	-	-	+	-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-	-	-	109
Crișana	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	92
Maramures	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102
Total species/eco-regions	75	79	85	89	79	104	70	69	82	68	80	75	77	85	91	86	63	68	93	79	75	-

Zeuneriana amplipennis is a new genus and species for Romanian fauna, being found in the Danubian Plane at Cernavodă (Ct.) (unpublished data, I. Iorgu).

There are nine endemic species in Romania: *Isophya dobrogensis*, *I. harzi*, *Callimenus montandoni*, *Podismopsis transylvanica*, *Odontopodisma carpathica*, *O. acuminata*, *O. montana*, *Zubovskya banatica* and *Chorthippus acroleucus*.

Some of the Orthoptera from Romania are rare species that can be considered endangered because they have either a very small number of populations (in some cases only one) with few individuals or they live in small populations in habitats that are threatened such as: *Phaneroptera gracilis spinosa*, *Leptophyes boscii*, *L. punctatissima*, *L. laticauda*, *Ancistrura nigrovittata*, *Saga campbelli gracilis*, *Platycleis albopunctata albopunctata*, *P. striata*, *Eupholidoptera chabrieri*, *Callimenus longicollis*, *Onconotus servillei*, *Nemobius sylvestris*, *Paratettix meridionalis*, *Asiotmethis limbatus*, *Miramella irena*, *Bryodemella tuberculatum*, *Arcyptera microptera*, *Myrmeleotettix antennatus* etc.

Considering the researches made so far regarding the distribution of Orthoptera species the most rich in species is Moldavia with 126 species followed by Muntenia with 118 species, Oltenia with 114 species and Dobrogea with 113 species. The poorest historical region is Bucovina with 72 species being also the smallest of the nine historical regions (Fig. 2 A).

The richest eco-region in species is the Dobrogean Plateau with 104 species, followed by Transylvanian Plateau (93 species) and Banat Mountains (91 species). The lowest number of Orthoptera species is found in the Banat and Criș Plane (only 63 species) (Fig. 2 B).

In table 2, the Orthoptera species present status in Romania, with their distribution in the ecological regions of the country.

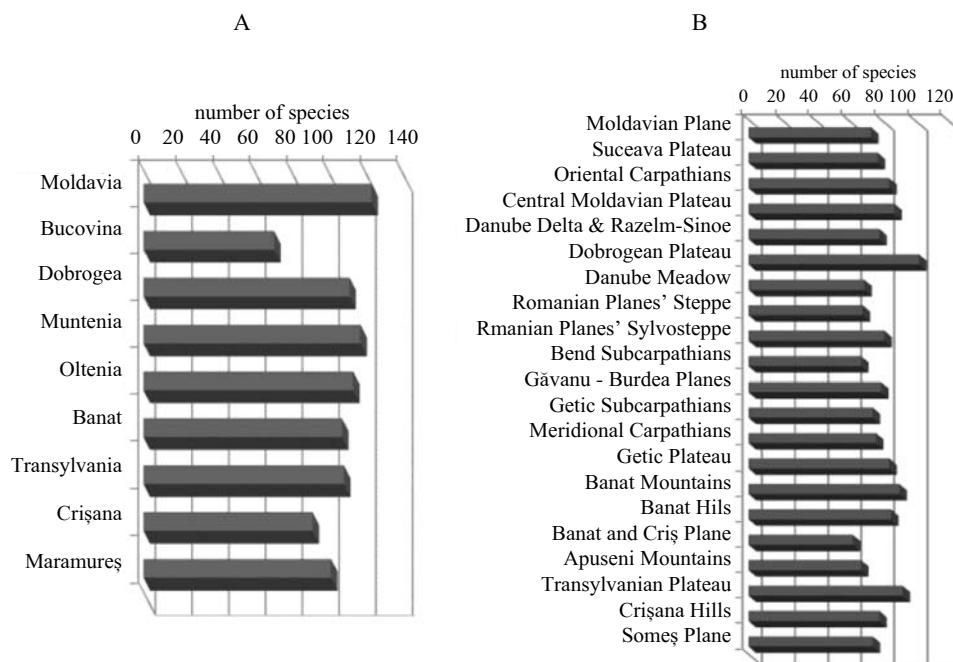


Fig. 2 - Orthoptera species distribution in Romania: A, historical regions; B, ecological regions.

Table 2 (continued)

Table 2 (continued)

Table 2 (continued)

Crt. no.	Taxon	Eco-Regions																			
		MP	SuP	OC	CMP	DDRS	DoP	DaM	RPS	RPSS	BS	GBP	GS	MC	GP	BM	BH	BCP	AM	TP	CH
65.	<i>Platycleis (Tessellana) veyseli</i> (Kocak, 1984)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+
66.	<i>Platycleis (Tessellana) nigrosignata</i> (Costa, A., 1863)	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
67.	<i>Eupholoptera chabrieri</i> (Charpentier, 1825)	-	-	-	-	-	-	-	-	o	-	-	-	-	-	-	-	-	-	-	-
68.	<i>Pholidoptera frivaldszkyi</i> (Herman, 1871)	-	+	+	-	-	-	-	-	+	+	-	+	+	-	-	-	+	+	-	-
69.	<i>Pholidoptera griseoaptera</i> (De Geer, 1773)	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
70.	<i>Pholidoptera littoralis similis</i> (Brunner von Wattenwyl, 1861)	-	+	+	+	-	+	+	+	+	+	+	+	+	+	+	-	-	+	-	-
71.	<i>Pholidoptera fallax</i> (Fischer, 1853)	-	+	+	+	-	+	-	-	+	+	+	+	+	+	+	+	+	+	+	+
72.	<i>Pholidoptera transylvanica</i> (Fischer, 1853)	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	+	+	-	+	-
73.	<i>Pholidoptera aptera</i> (Fabricius, 1793)	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
74.	<i>Bucephaloptera bucephala</i> (Brunner von Wattenwyl, 1882)	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
75.	<i>Rhacocleis germanica</i> (Herrick-Schaffer, 1840)	-	-	-	+	+	+	+	+	+	+	+	-	-	+	+	-	-	-	-	-
76.	<i>Pachytrachis gracilis</i> (Brunner von Wattenwyl, 1861)	+	+	+	+	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+
TRIBE ONCONOTINI																					
77.	<i>Onconotus servillei</i> Fischer von Waldheim, 1846	+	-	-	+	-	+	-	-	+	-	+	-	-	-	-	-	-	-	-	-
SUBFAMILY BRADYPORINAE																					
TRIBE BRADYPORINI																					
78.	<i>Bradyporus dasypus</i> (Illiger, 1800)	o	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
79.	<i>Callimenus macrogaster longicollis</i> (Fieber, 1853)	o	-	-	-	-	o	-	-	-	-	-	-	-	-	-	-	-	-	-	-
80.	<i>Callimenus montandoni</i> Burr, 1898	-	-	-	-	-	-	-	e	-	e	-	-	e	-	-	-	-	-	-	-
TRIBE EPHIPPIGERINI																					
81.	<i>Ephippiger ephippiger</i> (Fiebig, 1784)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SUPERFAMILY GRYLLOIDEA																					
FAMILY GRYLLIDAE																					
SUBFAMILY GRYLLINAE																					
TRIBE GRYLLINI																					
82.	<i>Gryllus campestris</i> Linnaeus, 1758	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
83.	<i>Acheta domesticus</i> (Linnaeus, 1758)	+	+	-	+	-	+	+	+	+	+	+	+	+	-	+	-	+	+	-	+
84.	<i>Melanogryllus desertus</i> (Pallas, 1771)	+	+	-	+	+	+	+	+	+	+	+	+	+	-	+	-	+	-	+	+

Table 2 (continued)

Table 2 (continued)

Crt. no.	Taxon	Eco-Regions																			
		MP	SuP	OC	CMP	DDRS	DoP	DaM	RPS	RPSS	BS	GBP	GS	MC	GP	BM	BH	BCP	AM	TP	CH
INFRAORDER ACRIDIDEA																					
SUPERFAMILY TETRIGOIDEA																					
FAMILY TETRIGIDAE																					
SUBFAMILY TETRIGINAE																					
99.	<i>Depressotettix depressa</i> (Brisout de Barneville, 1848)	-	-	-	+	-	+	+	+	-	+	-	-	+	-	-	-	-	-	-	
100.	<i>Uvarovitettix transsylvanicus</i> (Bazyluk & Kis, 1960)	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	
TRIBE TETRIGINI																					
101.	<i>Paratettix meridionalis</i> (Rambur, 1839)	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	
102.	<i>Tetrix ceperoi</i> (Bolivar, I., 1887)	-	-	-	-	+	+	+	-	+	-	-	-	-	-	-	-	-	-	-	
103.	<i>Tetrix subulata</i> (Linnaeus, 1758)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
104.	<i>Tetrix bolivari</i> Saulcy, 1901	-	-	-	-	+	+	-	+	+	-	+	-	+	+	+	+	-	+	-	
105.	<i>Tetrix tuerki</i> (Krauss, 1876)	-	+	+	+	-	+	-	+	+	+	+	+	+	+	+	-	-	+	-	
106.	<i>Tetrix tenuicornis</i> (Sahlberg, 1891)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
107.	<i>Tetrix undulata</i> (Sowerby, 1806)	+	+	+	+	-	-	-	-	-	-	-	-	+	-	-	-	-	+	-	
108.	<i>Tetrix bipunctata kraussi</i> Saulcy, 1888	-	+	+	+	-	-	-	-	-	-	-	-	+	-	+	-	+	-	-	
109.	<i>Tetrix bipunctata bipunctata</i> (Linnaeus, 1758)	+	+	+	+	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	
SUPERFAMILY ACRIDOIDEA																					
FAMILY PAMPHAGIDAE																					
SUBFAMILY PRIONOTROPISINAE																					
110.	<i>Asiotmethis limbatus</i> (Charpentier, 1845)	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	
FAMILY ACRIDIDAE																					
SUBFAMILY CATANTOPINAE																					
TRIBE PEZOTETTIGINI																					
111.	<i>Pezotettix giornae</i> (Rossi, 1794)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
SUBFAMILY CALLIPTAMINAE																					
TRIBE CALLIPTAMINI																					
112.	<i>Paracaloptenus caloptenoides</i> (Brunner von Wattenwyl, 1861)	+	-	-	+	+	+	-	-	-	-	-	-	-	+	+	-	-	-	-	
113.	<i>Calliptamus italicus</i> (Linnaeus, 1758)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
114.	<i>Calliptamus barbarus</i> (Costa, O.G., 1836)	-	-	-	-	+	+	+	+	+	-	+	-	-	+	-	-	-	-	+	
SUBFAMILY MELANOPLIINAE																					
TRIBE PODISMINI																					
115.	<i>Podisma pedestris</i> (Linnaeus, 1758)	-	-	+	-	-	-	-	-	-	-	-	-	+	-	+	-	+	-	-	

Table 2 (continued)

Crt. no.	Taxon	Eco-Regions																			
		MP	Sup	OC	CMP	DDRS	DolP	DaM	RPS	RPSS	BS	GBP	GS	MC	GP	BM	BH	BCP	AM	TP	CH
116.	<i>Miramella (Capraiuscola) ebneri ebneri</i> (Galvagni, 1953)	-	-	+	-	-	-	-	-	-	-	-	+	-	+	-	-	+	-	-	-
117.	* <i>Miramella (Capraiuscola) ebneri carpatica</i> (Cejchan, 1958)	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
118.	* <i>Miramella (Kisella) alpina</i> (Kollar, 1833)	-	-	-	-	-	-	-	-	-	-	-	-	o	-	-	-	-	-	-	-
119.	<i>Miramella (Kisella) irena</i> (Fruhstorfer, 1921)	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
120.	<i>Pseudopodisma fiebri</i> (Scudder, S.H., 1897)	-	+	+	+	-	-	-	-	+	-	+	+	-	+	+	-	+	+	+	-
121.	<i>Pseudopodisma transilvanica</i> Galvagni & Fontana, 1993	-	-	+	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
122.	<i>Odontopodisma decipiens</i> Ramme, 1951	+	-	-	+	-	+	+	-	+	-	+	-	+	+	+	-	-	-	-	-
123.	<i>Odontopodisma carpathica</i> Kis, 1961	-	-	e	-	-	-	-	-	-	-	-	e	-	-	-	-	-	-	-	-
124.	<i>Odontopodisma rubripes</i> (Ramme, 1931)	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	-
125.	<i>Odontopodisma acuminata</i> Kis, 1962	-	-	-	-	-	-	-	-	-	-	-	-	e	-	e	e	e	e	-	-
126.	<i>Odontopodisma montana</i> Kis, 1962	-	-	-	-	-	-	-	-	-	e	e	-	e	-	-	e	-	-	-	-
127.	<i>Zubovskya banatica</i> Kis, 1965	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
SUBFAMILY ACRIDINAE																					
TRIBE ACRIDINI																					
128.	<i>Acrida ungarica</i> (Herbst, 1786)	+	+	+	+	+	+	+	+	+	-	+	-	-	+	-	+	-	+	+	+
SUBFAMILY OEDIPODINAE																					
TRIBE LOCUSTINI																					
129.	<i>Locusta migratoria</i> (Linnaeus, 1758)	+	-	-	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	+
130.	<i>Oedaleus decorus</i> (Germar, 1817)	-	-	-	+	+	+	+	+	+	-	+	-	-	+	-	+	-	+	+	+
131.	<i>Psophus stridulus</i> (Linnaeus, 1758)	-	+	+	+	-	-	-	-	+	-	+	+	+	+	+	-	+	+	+	-
TRIBE OEDIPODINI																					
132.	<i>Celes variabilis</i> (Pallas, 1774)	+	-	-	+	+	+	-	-	-	-	-	-	-	-	-	-	-	+	-	+
133.	<i>Oedipoda caerulescens</i> (Linnaeus, 1758)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
134.	<i>Oedipoda germanica</i> (Latreille, 1804)	-	-	-	-	-	+	-	-	-	-	-	-	-	+	+	-	-	-	-	-
TRIBE BRYODEMINI																					
135.	<i>Bryodemella tuberculatum</i> (Fabricius, 1775)	-	-	o	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIBE SPHINGONOTINI																					
136.	<i>Sphingonotus caeruleans</i> (Linnaeus, 1767)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	+	+	+	+

Table 2 (continued)

Table 2 (continued)

Table 2 (continued)

Crt. no.	Taxon	Eco-Regions																			
		MP	SuP	OC	CMP	DDRS	DoP	DaM	RPS	RPSS	BS	GBP	GS	MC	GP	BM	BH	BCP	AM	TP	CH
180.	* <i>Chorthippus (Chorthippus) albomarginatus</i> × <i>oschei</i> [Vedenina & Helversen, O. von, 2003]	+	+	+	+	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
181.	<i>Chorthippus (Chorthippus) loratus</i> (Fischer von Waldheim, 1846)	-	-	-	-	+	+	+	+	+	-	+	-	-	+	-	-	-	-	-	-
182.	<i>Chorthippus (Chorthippus) dichrous</i> (Eversmann, 1859)	-	-	-	-	+	+	+	+	+	-	+	-	-	+	+	+	+	-	+	+
183.	<i>Chorthippus (Chorthippus) dorsatus</i> (Zetterstedt, 1821)	-	+	+	+	-	-	-	-	-	+	-	+	+	+	+	+	+	+	+	+
184.	<i>Chorthippus (Chorthippus) montanus</i> (Charpentier, 1825)	-	+	+	-	-	-	-	-	-	+	-	+	-	-	-	+	+	-	+	-
185.	<i>Chorthippus (Chorthippus) parallelus</i> (Zetterstedt, 1821)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
186.	<i>Euchorthippus pulvinatus</i> (Fischer von Waldheim, 1846)	+	+	-	+	+	+	+	+	+	-	+	-	-	+	-	+	-	-	+	-
187.	<i>Euchorthippus declivus</i> (Brusout de Barnevile, 1848)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Abbreviations: MP - Moldavian Plane; SuP - Suceava Plateau; OC - Oriental Carpathians; CMP - Central Moldavian Plateau; DDRS - Danube Delta & Razelm-Sinoe; DoP - Dobrogean Plateau; DaM - Danube Meadow; RPS - Romanian Planes' Steppe; RPSS - Romanian Planes' Sylvosteppe; BS - Bend Subcarpathians; GBP - Găvanu-Burdea Planes; GS - Getic Subcarpathians; MC - Meridional Carpathians; GP - Getic Plateau; BM - Banat Mountains; BH - Banat Hills; BCP - Banat and Criș Plane; AM - Apuseni Mountains; TP - Transylvanian Plateau; CH - Crișana Hills; SoP - Someș Plane.

Legend: + = present; - = absent; o = old literature data (possibly extinct - needs further investigations); e = endemic species; * = see the remarks at end of table.

Remarks on table 2:

**Isophya kraussii* Brunner von Wattenwyl, 1878 - was misidentified in the past with *I. pyrenaea* in many countries, but the range of *I. pyrenaea* is actually restricted to Northern Spain and Southern France (Heller et al., 2004). B. Nagy (2005) reports *I. kraussii* from the Romanian part of the Carpathian Basin. Kis (1970) cited the species *I. pyrenaea* only from Northern Moldavia (Adâncata - Suceava), outside the Carpathian Basin. Later on, we have observed the species in the same area and identified it clearly as *I. kraussii*, both by morphological traits and by stridulation.

**Metrioptera (Vichetia) oblongicollis* (Brunner von Wattenwyl, 1882) - a new species for Romanian fauna, has been recently found in two forests from Southern Dobrogea: Dumbrăveni and Strunga.

**Zeuneriana amplipennis* (Brunner von Wattenwyl, 1882) - a new genus and species for Romanian fauna, found in the Danubian Plane, near Cernavodă. It is possible that this species occurrence to be all over the Danube's meadow in Romania.

**Modicogryllus truncatus* (Treiblinsky, 1940) - the species *M. chopardi* Kis, 1967 = *M. geticus* Vasiliu, 1968, mentioned in the former checklist of Romanian Orthoptera species has been synonymised with *M. truncatus* (Treiblinsky, 1940).

**Miramella alpina* (Kollar, 1833) - This species was collected by B. von Wattenwyl at Mehadia (brachypteran form individuals), but Kis & Vasiliu (1970) considered that B. von Wattenwyl has mistaken the identification. Galvagni (1987) studied the material collected by B. von Wattenwyl and has compared it with the topotype from Schneeberg and specimens from Vienna and Tyrol. He concluded that the species collected by B. von Wattenwyl at Mehadia is actually *M. alpina*. So this species may occur in Banat, but the material is very old and further investigations are needed.

**Miramella (Capraiuscola) ebneri carpathica* (Cejchan, 1958) - Galvagni mentions it from Rodna Mountains (1987), the authors found it in Rodna, Călimani and Vrancea Mountains (C. Iusan, personal observations). The Bend Carpathians are the southernmost point of this subspecies areal.

**Podismopsis transylvanica* Ramme, 1951 - was described by Ramme (1951) from Suru Peak - Făgărăș Mountains, and cited by Kis & Vasiliu (1970) from several peaks from the same mountains. Recently we found in "Grigore Antipa" National Museum of Natural History (Bucharest) collections several specimens from Bucegi Mountains.

**Chorthippus albomarginatus × oschei* [Vedenina & Helversen, O. von, 2003] - the interspecific hybrid was found so far in Ukraine and Rep. Moldova by Vedenina and von Helversen in 2003. In Romania this hybrid was found only in the North-eastern part (I. Iorgu, 2008).

**Chorthippus oschei* Helversen, O. von, 1986 - this species replaces the species *Chorthippus albomarginatus* in Romania (excepting the northern and central parts in the Oriental Subcarpathians), but the distribution area of this species needs further investigation because the hybrid area between the two species is proven to be much bigger than expected (Iorgu, 2008). The main difference between the two species is the male's courtship song.

LISTA REVIZUITĂ A ORTOPTERELOR DIN ROMÂNIA (INSECTA) ȘI RÂSPÂNDIREA LOR ÎN REGIUNILE ECOLOGICE

REZUMAT

Fauna de ortoptere a României cuprinde 182 specii, 94 dintre acestea aparținând subordinului Ensifera și 88 specii aparținând subordinului Caelifera. Patru dintre aceste specii prezintă fiecare câte două subspecii (*Isophya modesta modesta*, *I. m. longicauda*, *Platycleis albopunctata albopunctata*, *P. a. grisea*, *Tetrix bipunctata bipunctata*, *T. b. kraussi*, *Miramella ebneri ebneri* și *M. e. carpathica*); de asemenea este interesantă și prezența unui hibrid interspecific în zona de nord-est a țării (*Chorthippus albomarginatus* × *oschei*). Nouă specii sunt endemice pentru România și constituie valori demne de ocrotit: *Isophya dobrogensis*, *I. harzi*, *Callimenus montandoni*, *Odontopodisma carpathica*, *O. acuminata*, *O. montana*, *Zubovskya banatica*, *Podismopsis transylvanica* și *Chorthippus acroleucus*.

LITERATURE CITED

- BRUNNER von WATTENWYL, C., 1882 - Prodromus der Europäischen Orthopteren: 88-89.
 BURR, M., 1899 - List of the Orthoptera of Romania, with localities. The Entomologist's Monthly Magazin, 10: 88-91.
 DONIȚĂ, N., A. POPESCU, M. PĂUCĂ-COMĂNESCU, S. MIHĂILESCU, I. A. BIRIŞ, 2005 - Habitatele din România. Edit. Tehnică Silvică. Bucuresti. 498 pp. (in Romanian)
 FREY-GESSNER, E., 1897 - Faune de la Roumanie. Insectes recoltes par M. Jaquet. Buletinul Societății de Științe, 6: 544-546. București.
 FUSS, C., 1853 - Beitrag zur Orthopteren u. Hemipterenfauna Siebenbürgers. Verhandlungen und Mitteilungen des Siebenbürgischen Vereins für Naturwissenschaften zu Hermannstadt, 4: 40-42.

- FUSS, C., 1855 - Beitrag zur Insectenfauna Siebenbürgers. Verhandlungen und Mitteilungen des Siebenbürgischen Vereins für Naturwissenschaften zu Hermannstadt, 6: 21-23.
- GALVAGNI, A., 1987 - The genus *Miramella* Dovnar-Zapolskij, 1933, in the Balkan and Carpathian regions. Pp. 208-218. In: B. Bacetti (eds). Evolutionary biology of orthopteroid insects. Ellis Horwood Ltd., Chichester. 612 pp.
- GALVAGNI, A., P. FONTANA, 1993 - Le specie del genere *Pseudopodisma* Mistshenko, 1947 (Insecta: Orthoptera: Catantopidae). Atti Accademia Roveretana Agiati, 7 B: 165-186.
- HELLER, K. G., K. M. ORCI, G. GREIN, S. INGRISCH, 2004 - The *Isophya* species of Central and Western Europe (Orthoptera: Tettigoniidae: Phaneropteridae). Tijdschrift voor Entomologie 147: 237-258.
- IORGU, I., 2008 - The Orthoptera Fauna (Insecta: Orthoptera) from Pașcani and surroundings (Romania: Iași County). Analele Științifice ale "Universității Al. I. Cuza" din Iași (serie nouă). (in press)
- KIS, B., 1960 - Revision der in Rumanien vorkommenden *Isophya* - Arten (Orthoptera, Phaneropterinae). Acta Zoologica Academiae Scientiarum Hungaricae, 6: 3-4: 349-369. Budapest.
- KIS, B., 1962 - Contribuții la cunoașterea subgenului *Chorthippus* s. str. din R. P. R. Studia Universitatis Babeș - Bolyai, Series Biologia, 1: 89-99. (in Romanian)
- KIS, B., 1963 - Ortopterele din Dobrogea. Studia Universitatis Babeș - Bolyai, Series Biologia, 2: 83-103. (in Romanian)
- KIS, B., 1964 - Contribuții la cunoașterea ortopterelor din R. P. R. Studia Universitatis Babeș - Bolyai, Series Biologia, 2: 69-73. (in Romanian)
- KIS, B., 1967 - Ord. Orthoptera. In: L'entomofaune des forêts du sud de la Dobroudja. Travaux du Muséum d'Histoire Naturelle "Grigore Antipa", 7: 107-113.
- KIS, B., 1976 - Cheie pentru determinarea ortopterelor din România. Partea I Subord. Ensifera. Muzeul Brukenthal Științele Naturii - Studii și Comunicări, 20: 123-166. (in Romanian)
- KIS, B., 1978 - Cheie pentru determinarea ortopterelor din România. Partea II Subord. Caelifera. Muzeul Brukenthal Științele Naturii - Studii și Comunicări, 22: 233-276. (in Romanian)
- KIS, B., 1993 - Originea faunei de ortoptere din Rezervația Biosferei Delta Dunării. Analele Științifice ale Institutului Delta Dunării: 63-66. (in Romanian)
- KIS, B., 1994 - *Isophya dobrogensis* eine neue Orthopteren-art aus Rumänien. Travaux du Muséum d'Histoire Naturelle "Grigore Antipa", 34: 31-34.
- KIS, B., A. SANGHELI, 1971 - Ortopterele din Valea Mare - Moldova Nouă. Cercetări de Biologie în partea de vest a României, 1: 174-183. (in Romanian)
- KIS, B., M. VASILIU, 1968 - Ord. Mantodea et Orthoptera. In: L'Entomofaune de l'Île de Letea (Delta du Danube). Travaux du Muséum d'Histoire Naturelle "Grigore Antipa", 9: 75-30.
- KIS, B., M. VASILIU, 1970 - Kritisches Verzeichnis der Orthopterenarten Rumäniens. Travaux du Muséum d'Histoire Naturelle "Grigore Antipa", 10: 207-227.
- KIS, B., M. VASILIU, 1972 - Ord. Blattodea, Mantodea, Orthoptera et Dermaptera. In: L'Entomofaune du "Grind" Caraorman (Delta du Danube). Travaux du Muséum d'Histoire Naturelle "Grigore Antipa", 12: 117-124.
- KNECHTEL, K. W., A. POPOVICI - BÍZNOSANU, 1959 - Orthoptera, ordinele Saltatoria, Dermaptera, Blattodea, Mantodea. Fauna R. P. Române, Insecta, 7 (4): 1-336. Edit. Acad. R. P. Române. (in Romanian)
- MARIN, G., V. MITACHE, D. HULEA, M. TUDOR, D. BANDACU, M. MOLDOVAN, A. PĂUN, I. ALBU, C. BABOIANU, 1997 - Reconstituție ecologică în Rezervația Biosferei Delta Dunării/România - Ostroavele Babina și Cernovca. ICPDD/Umweltstiftung WWF-Deutschland. 85 pp. (in Romanian)
- MÎNDRU, C., 1958 - Contribuții la Studiul Ortopterelor din Moldova (Nota a III-a). Studii și Cercetări Științifice - Biologie și Știinte Agricole, 9 (2): 291-297. (in Romanian)
- MÎNDRU, C., 1960 - Contribuții la Studiul Orthopterelor din Moldova. Subordinul Ensifera. Analele Științifice ale "Universității Al. I. Cuza" din Iași (serie nouă), Secț. II (Științe Naturale), 6 (1): 129-133. (in Romanian)
- MÎNDRU, C., 1980 - Fauna de orthoptere din Fânețele Seculare de la Valea lui David - Iași. Analele Științifice ale "Universității Al. I. Cuza" din Iași (serie nouă), Secț. II, a. Biologie, 26: 93-95. (in Romanian)
- MÎNDRU, C., B. KIS, 1967 - Contribuții la studiul suprafamiliei Tettigonioidea (Orthoptera) din Regiunea Iași. Analele Științifice ale "Universității Al. I. Cuza" din Iași (serie nouă), Secț. II (Științe Naturale), a. Biologie, 13 (1): 83-89. (in Romanian)

- MÜLLER, A., 1925-1926 - Nachtrag zur Orthopterenfauna Siebenbürgens. Verhandlungen und Mitteilungen des Siebenbürgischen Vereins für Naturwissenschaften zu Hermannstadt, 75-76: 159-162.
- MÜLLER, A., 1931-1932 - Zur Kenntnis der Orthopterenfauna der Dobrudscha und Bassarabiens. Verhandlungen und Mitteilungen des Siebenbürgischen Vereins für Naturwissenschaften zu Hermannstadt, 81-82: 72-96.
- NAGY, B., 2005 - Orthoptera Fauna of the Carpathian Basin - Recent Status of Knowledge and a Revised Check-list. Entomofauna Carpathica, 17: 14-22.
- RAMME, W., 1942 - Zur Orthopterenfauna von Rumänien. Mitteilungen aus dem Zoologischen Museum zu Berlin, 25: 323-336.
- RAMME, W., 1951 - Zur Systematik, Faunistik und Biologie der Orthopteren von Sudost-Europa und Vorderasien. Mitteilungen aus dem Zoologischen Museum zu Berlin, 27: 383-385.
- SANGHELI, A., 1977 - Ortopterele din Insula Ostrov. Cercetări de Biologie în partea de vest a României, 3: 217-232. (in Romanian)
- SANGHELI, A., 1980 - Ortopterele din viitorul Parc Național Semenic - Cheile Carașului. Romanian journal of biology-zoology, 26: 1-24. (in Romanian)
- VEDENINA V. Y., O. VON HELVERSEN, 2003 - Complex courtship in a bimodal grasshopper hybrid zone. Behavioral Ecology and Sociobiology, 54: 44-54.
- VASILIU, M., 1960 - Contribution à l'étude du genre *Acrida* (Orthoptera, Acrididae) de la R. P. R. Travaux du Muséum d'Histoire Naturelle "Grigore Antipa", 2: 259-265.
- VASILIU, M., 1961 - Contribuții la cunoașterea speciilor de *Bradyporus* Charp. (Orthoptera, Tettigoniidae) din R. P. R. Studii și Cercetări de Biologie, Seria Biologie Animală, 13 (2): 203-212. (in Romanian)
- ZOTTU, S. G., 1903 - Liste des Orthoptères récoltés en Roumanie par les membres de la Société des Naturalistes de Roumanie pendant les années 1889-1902. Buletinul Societății de Științe, 12: 140-148.
- ZOTTU, S. G., 1904 - Troisième liste des Orthoptères récoltés en Roumanie par les membres de la Société des Naturalistes de Roumanie pendant les années 1903 et 1904. Buletinul Societății de Științe, 13: 185-190.
- ZOTTU, S. G., 1909 - Quatrième liste des Orthoptères de Roumanie, récoltes et détermines par Ștefan Zottu. Buletinul Societății de Științe, 18: 39-41.
- EADES, D. C., D. OTTE - Orthoptera Species File Online. Version 2.0/3.3.[01.03.2008]. <<http://Orthoptera.SpeciesFile.org>>.

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ERRATUM

The following corrections should be made to the article “*Checklist of Romanian Orthoptera (Insecta) and their distribution by eco-regions*” by IONUȚ IORGU, ELENA PISICĂ, LAURA PĂIŞ, GABRIEL LUPU, CLAUDIU IUȘAN, which was published in 2008, in *Travaux du Muséum National d’Histoire Naturelle “Grigore Antipa”*, 51: 119-135.

The modification in „*INTRODUCTION*”:

The present paper represents the latest updated synthesis on Romanian Orthoptera comprising 182 species with a total number of 187 taxa, belonging to 80 genera and 9 families.

The modifications in „*RESULTS AND DISCUSSIONS*”:

Table 2

The Orthoptera species distribution in the eco-regions from Romania.

Crt. no.	Taxon	Eco-Regions																			
		MP	SuP	OC	CMP	DDR	DolP	DaM	RPS	RPS	BS	GBP	GS	MC	GP	BM	BH	BCP	AM	TP	CH
7.	<i>Leptophyes laticauda</i> (Frivaldszky, 1867)	-	-	-	-	-	-	-	-	-	-	-	o	-	o	o	-	-	-	-	-
55.	<i>Metrioptera (Vichetia) oblongicollis</i> (Brunner von Wattenwyl, 1882)	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
64.	<i>Platycleis (Montana) medvedevi</i> (Miram, 1927)	-	-	-	-	-	o	-	-	-	-	-	-	-	-	-	-	-	-	-	-
80.	<i>Callimenus montandoni</i> Burr, 1898	-	-	-	-	-	-	-	-	o	-	o	-	o	-	-	-	-	-	-	-
88.	<i>Nemobius sylvestris sylvestris</i> (Bosc, 1792)	-	o	-	o	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
101.	<i>Paratettix meridionalis</i> (Rambur, 1839)	-	-	-	-	-	o	-	-	-	-	-	-	-	-	-	-	-	-	-	-
129.	<i>Locusta migratoria migratoria</i> (Linnaeus, 1758)	+	-	-	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	o

**Metrioptera (Vichetia) oblongicollis* (Brunner von Wattenwyl, 1882) - a new species to Romanian fauna has been recently found in two forests from South-eastern Romania: Dumbrăveni and Strunga (Ct) (unpublished data, I. Iorgu).

**Zeuneriana amplipennis* (Brunner von Wattenwyl, 1882) - a new genus and species to Romanian fauna, found in the Danubian Plane, near Cernavodă (Ct). It is possible that this species occurs all over the Danube’s alluvial plane in Romania, as so far it has been considered endemic to Serbia (unpublished data, I. Iorgu).

The authors and the editor sincerely apologize for the errors present in the originally published paper.

ERRATA

The following corrections should be made to the following two papers:

“Checklist of Romanian Orthoptera (Insecta) and their distribution by eco-regions” by IONUȚ IORGU, ELENA PISICĂ, LAURA PAIȘ, GABRIEL LUPU, CLAUDIU IUȘAN, which was published in 2008, in *Travaux du Muséum National d’Histoire Naturelle “Grigore Antipa”*, 51: 119-135.

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RESULTS AND DISCUSSION

Chorthippus albomarginatus has been found only in the Oriental Carpathians and Subcarpathians.

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Table 2

The Orthoptera species distribution in the eco-regions from Romania.

Crt. No.	Taxa	Eco-Regions																			
		MP	Sup	OC	CMP	DDRS	Dop	DaM	RPS	RPSS	BS	GBP	GS	MC	GP	BM	BH	BCP	AM	TP	CH
148.	<i>Chrysochraon dispar</i> (Germar 1831)	+	+	+	+	-	-	-	-	+	-	+	+	+	+	+	-	+	+	+	+

“Rove beetles (Coleoptera: Staphylinidae) from Mehedinți Plateau Geological Park (Mehedinți County, Romania)” by MELANIA STAN which was published in 2009, in *Travaux du Muséum National d’Histoire Naturelle “Grigore Antipa”*, 52: 233-247.

The correction and clarification for figures presented in “DISCUSSIONS”:

The figure 2 A-F must present the drawings for the species *Ocalea gyorgyi* Assing & Terlluter which in the article was presented in the figure 3 A-F.

The figure 3 A-F must present the drawings for the species *Ocalea puncticeps* Kraatz, which in the article was presented in the figure 2 A-F.

The authors and the editor sincerely apologize for the errors present in the originally published papers.