

THE ORTHOPTERA (INSECTA) FROM MIDDLE AND LOWER PRUT RIVER BASIN

IONUȚ ȘTEFAN IORGU, NADEJDA STAHI, ELENA IULIA IORGU

Abstract. The ecological preferences and bioacoustics of bush-crickets, crickets and grasshoppers species were studied in middle and lower Prut River basin, a research conducted in 55 localities from Romania and 33 localities in the Republic of Moldova. A total number of 91 species of Orthoptera were collected in the study area: 85 species encountered on the western side of Prut River basin (9 Phaneropteridae, 24 Tettigoniidae, 1 Bradyporidae, 5 Gryllidae, 1 Gryllotalpidae, 1 Tridactylidae, 5 Tetrigidae, 39 Acrididae) and 76 species found on the eastern side (7 Phaneropteridae, 19 Tettigoniidae, 1 Bradyporidae, 5 Gryllidae, 1 Gryllotalpidae, 1 Tridactylidae, 3 Tetrigidae, 39 Acrididae). Four species are recorded for the first time in the Orthoptera fauna of the Republic of Moldova: *Barbitistes constrictus* (Fabricius), *Poecilimon fuscii* Brunner von Wattenwyl, *Metrioptera roeselii fedtschenkoi* (Saussure) and *Pholidoptera frivaldskyi* (Herman).

Résumé. Les préférences écologiques et bioacoustique des espèces de sauterelles, grillons et criquets ont été étudiés dans le bassin moyen et inférieur du fleuve Prut, une recherche menée dans 55 localités de la Roumanie et de 33 localités dans la République de Moldova. Un total de 91 espèces d'orthoptères a été recueillis dans la zone d'étude: 85 espèces rencontrées sur le côté d'ouest du bassin de la rivière Prut (9 Phaneropteridae, 24 Tettigoniidae, 1 Bradyporidae, 5 Gryllidae, 1 Gryllotalpidae, 1 Tridactylidae, 5 Tetrigidae, 39 Acrididae) et 76 espèces présentes sur la côte orientale (7 Phaneropteridae, 19 Tettigoniidae, 1 Bradyporidae, 5 Gryllidae, 1 Gryllotalpidae, 1 Tridactylidae, 3 Tetrigidae, 39 Acrididae). Quatre espèces sont enregistrées pour la première fois dans la faune d'Orthoptères de la République de Moldova: *Barbitistes constrictus* (Fabricius), *Poecilimon fuscii* Brunner von Wattenwyl, *Metrioptera roeselii fedtschenkoi* (Saussure) et *Pholidoptera frivaldskyi* (Herman).

Key words: Orthoptera, biodiversity, acoustics, distribution, Prut.

INTRODUCTION

The middle and lower Prut River forms the natural border between Romania and the Republic of Moldova. Prut floodplain covers a vast range of natural habitats with a stunning diversity of flora and fauna (Radu et al., 2012); from marsh habitats and riparian forests to steppic mesophytic and xerophytic meadows, this area provides perfect biotopes for a large number of bush-crickets, crickets and grasshoppers. In fact, the highest known density of Orthoptera species in Romania occurs in a small area from the Prut Basin: Valea lui David (David's Valley) Natural Reserve, near Iași. This old steppic grassland is the intersection of Palearctic, European, Eurosiberian, Central-Asian European, Mediterranean and Pontic elements, being a true example of natural steppic vegetation, nowadays almost disappeared from Romania and Europe. Located at about 47°11'35"N and 27°28'08"E and overlapping with ROSCI0265, Valea lui David is classified as IUCN IV-th class and represents the most important site for biodiversity conservation along Prut Basin in Romania (Popescu, 2013).

The Orthoptera species in Prut Basin were studied by Mîndru (1958 a, b, 1960, 1980), Mîndru & Kis (1967), Bizuțchi (2004), Derjanschi et al. (2006), Stahi (2006, 2007 a, b, 2009), Stahi & Derjanschi (2007, 2008, 2010, 2011 a, b, 2012), I. Ș. Iorgu & E. I. Iorgu (Pisică) (Iorgu & Pisică, 2006; Iorgu & Iorgu, 2008; Iorgu

& Pisică, 2008; Iorgu et al., 2008), Pricop et al. (2012). Recently, a new subspecies of bush-cricket has been described from the surroundings of Suceava and Dorohoi (Iorgu & Heller, 2013). Besides taxonomic and ethological investigations, the Orthoptera communities have been recently studied also as food source for *Vipera ursinii moldavica* Nilson, Andrén et Joger, with particular emphasis on the presence of *Saga pedo* Pallas, as a perfect indicator of the steppic habitat status (Zamfirescu et al., 2007; Zamfirescu et al., 2009).

Four Orthoptera species from the border area Romania - Republic of Moldova have been recently proposed for the flora and fauna red list: *Saga pedo* (IUCN - VU), *Onconotus servillei* Fischer de Waldheim (IUCN - VU), *Callimenus macrogaster* Lefebvre (IUCN - EN) and *Bradyporus dasyopus* Illiger (Oprea et al., 2008 a, b; IUCN, 2013).

The aims of this paper are to gather new data on the Orthoptera fauna from the middle and lower Prut River basin, by providing an updated list of Orthoptera species, and to identify and study the Orthoptera assemblages from this area. For this purpose, we will analyze the species distribution in the sampling sites.

MATERIAL AND METHODS

Data collection. The sampling was made by sweeping herbal vegetation with the entomological net and the shrubs and trees with an entomological umbrella; we also used acoustic identification of singing males. Investigated sampling sites were classified in seven habitat categories: hygrophytic meadows (HM), halophytic meadows (hM), steppic mesophytic meadows (MM), steppic xerophytic meadows (XM), ruderalized (R), pastures (P), forest clearings (F).

Sampling sites. The Orthoptera were collected from 55 localities (133 sites) in Romania and 33 localities (61 sites) in Republic of Moldova (Fig. 1).

Romania: Hilișeu-Crișan, Botoșani county (MM, F); Hilișeu-Horia, Botoșani county (R, XM); Șendriceni, Botoșani county (MM, R, F); Gorovei, Botoșani county (F); Baisa, Botoșani county (F); Botoșani, Botoșani county (R); Vorona, Botoșani county (R, F); Oneaga, Botoșani county (R, F); Vlădeni-Deal, Botoșani county (F); Cotu, Botoșani county (F); Coșula, Botoșani county (MM, R, P, F); Vânători, Botoșani county (F); Drislea, Botoșani county (MM, F); Loturi, Botoșani county (R, F); Zahoreni, Botoșani county (F); Bârsănești, Botoșani county (HM, MM, F); Cucuteni, Botoșani county (P); Ștefănești, Botoșani county (R, P); Bobulești, Botoșani county (P); Bogdănești, Botoșani county (P, F); Berza, Botoșani county (MM, XM, F); Humosu, Iași county (F); Vlădeni, Iași county (HM, R, P); Larga Jijia, Iași county (HM, R, P); Trifești, Iași county (P, F); Probota - Bălătau Prut, Iași county (HM, R, F); Cotu Morii, Iași county (P, F); Lețcani - Valea Ilenii, Iași county (HM, hM, MM, R); Cogeasca, Iași county (R, P); Valea lui David, Iași county (HM, hM, MM, XM, R); Horlești, Iași county (HM, MM, XM, R); Mârzești - Breazu, Iași county (HM, hM, MM, XM, R, F); Aroneanu, Iași county (HM, R, F); Iași, Iași county (HM, MM, R, F); Dancu, Iași county (HM, R, P); Păun, Iași county (R, F); Bârnova, Iași county (MM, R, F); Picioru Lupului, Iași county (MM, R); Curături, Iași county (HM, MM, R, P, F); Slobozia, Iași county (R, F); Tômești, Iași county (HM, R); Costuleni, Iași county (HM, MM, R); Răducăneni, Iași county (MM, R); Drânceni, Vaslui county (MM, R); Epureni, Vaslui county (R, F); Huși, Vaslui county (MM, R, F); Lunca Veche, Vaslui county (R, MM); Fâlcui, Vaslui county (MM, P, R); Rânzești, Vaslui county (P, R); Murgeni, Vaslui county (P, R); Cavadișeni, Galați county (XM, P, R); Oancea, Galați county (XM, P, R); Roșcani,

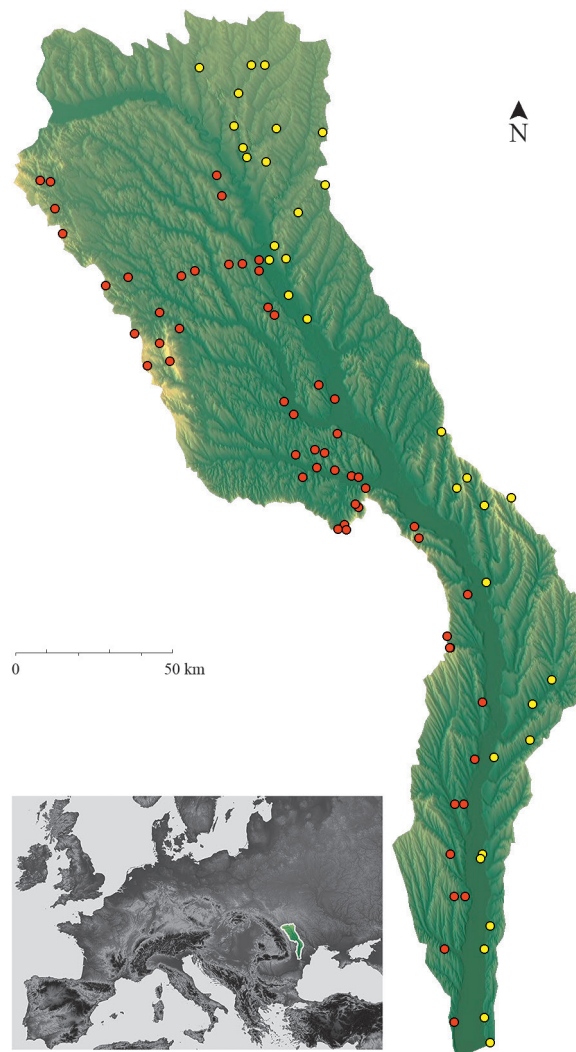


Fig. 1 - Map of middle and lower Prut Basin: red dots, collecting areas in Romania; yellow dots, collecting sites in Republic of Moldova.

Galați county (P, R); Chiraftei, Galați county (P, R, F); Tulucești, Galați county (HM, R).

Republic of Moldova: Trebisăuți, Briceni district (HM); Cotiujeni, Briceni district (HM, P); Trestieni, Briceni district (P); Corestăuți, Ocnița district (HM); Edineț, Edineț district (HM); Buzdujeni, Edineț district (XM); Brînzeni, Edineț district (HM, XM); Gașpar, Edineț district (HM); Fetești, Edineț district (XM); Zăbriceni, Edineț district (XM); Hiliuți, Râșcani district (HM); Vasileuți, Râșcani district (R, P); Păscăuți, Râșcani district (HM, R); Braniște, Râșcani district (HM, XM); Moara Domnească, Glodeni district (HM, MM, XM, F); Butești, Glodeni district (HM, MM); Balatina, Glodeni district (HM, MM, P); Rădenii-Vechi, Ungheni district (HM, MM, F); “Codrii” Natural Reserve, Strășeni district (HM,

MM, XM, F); Păruceni, Nisporeni district (FM, R); Nisporeni, Nisporeni district (XM, P, F); Boldurești, Nisporeni district (R); Sărățeni, Hâncești district (hM); Tigheci, Leova district (MM, XM); Sărata Nouă, Leova district (hM, R); Troița, Leova district (XM); Antonești, Cantemir district (XM); Crihana Veche, Cahul district (R); Cucoara, Cahul district (R); Giurgiulești, Cahul district (XM, AX, P); Paicu, Cahul district (R, P); Slobozia-Mare, Cahul district (HM, XM, AX, P); Vadul-lui-Isac, Cahul district (XM, P).

Song recording and analysis. Audio recordings were taken with Edirol R-09HR digital recorder, having the microphone frequency response of 20–40.000 Hz, sampling rate of 96.000 Hz and 24-bit amplitude resolution. Sound analysis was performed with the software Audacity 2.0.5. Song terminology and abbreviations are adapted from Ragge & Reynolds (1998) and Heller et al. (2004).

Data analysis. We used Kruskal-Wallis test to differentiate between the Orthoptera assemblages from the seven habitat categories in the two countries, by comparing the number of species among the habitats. In addition, in order to classify the habitat types into correlated groups based on the Orthoptera species composition, we employed the cluster analysis with Jaccard similarity index. All statistical analyses and evaluations were performed with Past 3.01 (Hammer et al., 2001).

RESULTS AND DISCUSSION

91 Orthoptera species were found in the Prut River basin area, represented by 43 Ensifera (19 Tettigoniidae, 10 Phaneropteridae, 6 Gryllidae, 4 Conocephalidae, 1 Meconematidae, Sagidae, Bradyporidae and Gryllotalpidae) and 48 Caelifera (42 Acrididae, 5 Tetrigidae and 1 Tridactylidae) (Tab. 1).

The most frequently encountered species were the euribionts *Tetrix tenuicornis*, *Ruspolia nitidula*, *Metrioptera roeselii* and *Chorthippus parallelus* (present in all seven habitats), followed by *Conocephalus fuscus*, *Tettigonia viridissima*, *Decticus verrucivorus*, *Metrioptera bicolor*, *Gryllus campestris*, *Pezotettix giornae*, *Stenobothrus lineatus*, *Chorthippus brunneus*, *Chorthippus biguttulus* and *Chorthippus oschei* (present in six habitats), *Leptophyes albovittata*, *Tettigonia caudata*, *Melanogryllus desertus*, *Modicogryllus frontalis*, *Oecanthus pellucens*, *Gryllotalpa gryllotalpa*, *Calliptamus italicus*, *Stenobothrus stigmaticus*, *Omocestus rufipes* and *Euchorthippus declivus* (present in five habitats). A large number of stenobiont species were observed in the study area: *Conocephalus dorsalis*, *Pteronemobius heydenii*, *Gryllomorpha dalmatina*, *Xya variegata*, *Tetrix ceperoi*, *Tetrix bolivari*, *Mecostethus parapleurus* and *Stethophyma grossum* in hygrophytic meadows, *Sphingonotus caeruleus* in halophytic meadows, *Poecilimon brunneri*, *Conocephalus hastatus*, *Gampsocleis glabra*, *Decticus albifrons*, *Platypleura intermedia*, *Onconotus servillei*, *Oedaleus decorus*, *Docicostaurus maroccanus*, *Omocestus minutus* and *Chorthippus dichrous* in xerophytic meadows.

The species composition in the Orthoptera assemblages found in Republic of Moldova differs significantly from the ones found in Romania in two out of the seven habitat categories: xerophytic meadows and ruderalized areas (Kruskal-Wallis test $p=0.02961$ and $p=0.02961$, respectively), however after the Bonferroni correction all the p values increased over the 0.05 threshold. Explanation for these results can be the different pesticide campaigns used in both countries. The Orthoptera assemblages in ruderalized habitats from Romania are not significantly different

from any other analyzed habitat except halophytic meadows and the ones from Moldova are significantly different from xerophytic meadows.

A Jaccard similarity index cluster analysis of the habitat types based on the species presence/absence showed that halophytic meadows habitats from both countries grouped together. This can be explained by the presence in these habitats of xerophytic and geobiont species, such as *Oedipoda caerulescens*, *Epacromius coerulipes*, *Dociostaurus brevicollis* etc. (Fig. 2). In addition, the hygrophytic meadows habitats from both countries also grouped together, due to the presence of hygrophilous species, such as *Conocephalus dorsalis*, *Pteronemobius heydenii*, *Gryllomorpha dalmatina* and *Xya variegata*, found only in these habitats.

Another important grouping is the ruderalized habitats in the Republic of Moldova and the pasture habitat types from both countries. In addition, the xerophytic meadows (Romania and Moldova) grouped together with the mesophytic meadows (Romania and Moldova), the ruderalized habitats and the forest clearings (Romania). This is due to the presence of praticalous mesophytic and meso-xerophytic species, such as *Metrioptera bicolor*, *Chorthippus biguttulus*, *Omocestus rufipes* etc.

Remarks on species.

Barbitistes constrictus (Fabricius). Material: 1 ♂ and 1 ♀, forest near Nisporeni, Republic of Moldova, 15.07.2013, leg. N. Stahi; 3 ♂♂, forest near Curățuri (Iași), Romania, 04.07.2009, leg. I. Ș. Iorgu (acoustic recordings at 23°C). It is a fruticolous species; adults present during VI-VIII. The species' range covers Central and Eastern Europe, from Germany to Volga River, southwards extending into the high mountains of the Balkan Peninsula (Chobanov, 2009). The song consists of groups of 8-16 syllables, each followed shortly by an isolated syllable (Fig. 3 a, b). This is the first record of the species in the Republic of Moldova.

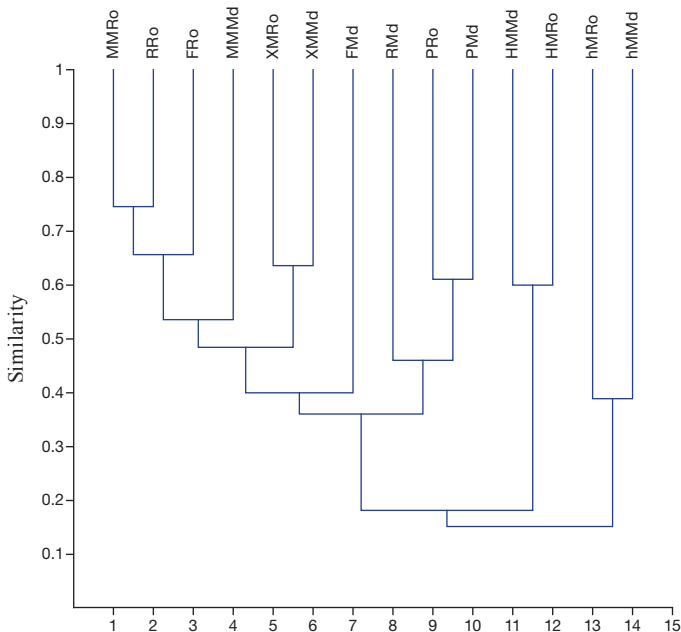


Fig. 2 - Habitat type cluster analysis (Jaccard index).

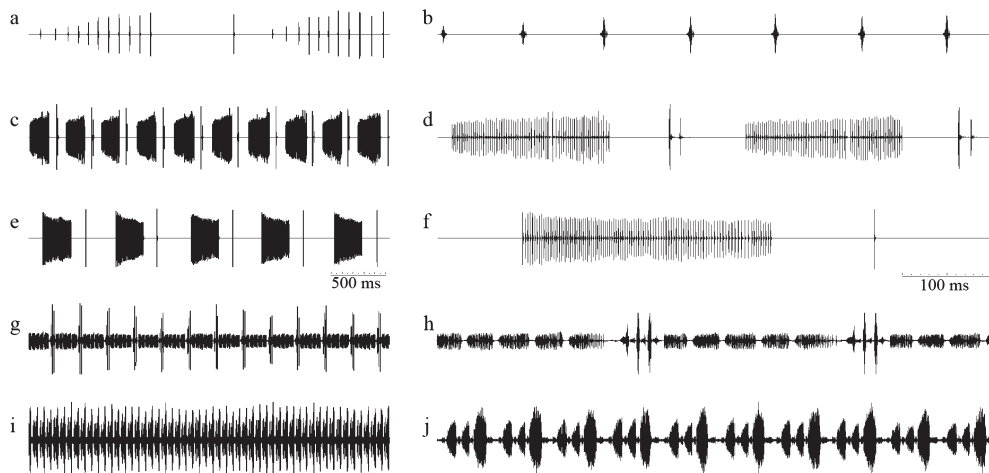


Fig. 3 - Oscillographic representation of calling song: a, b, *Barbitistes constrictus* (Curățuri, 23°C); c, d, *Isophya kraussii moldavica* (Hilișeu-Crișan, 19°C); e, f, *Isophya zubowskii* (Bârnova, 22°C); g, h, *Platycleis striata* (Hilișeu-Horia, 20°C); i, j, *Onconotus servillei* (Valea lui David, 26°C) (b, d, f, h, j – detailed oscillograms).

Isophya kraussii moldavica Iorgu & Heller (Figs 3 c, d; 4 a). This subspecies was recently described from NE Romania and differs from the nominal form (Central Europe) mainly in acoustics and less in morphology. Males from the Moldavian populations sing shorter syllables, formed of 30-58 impulses and lasting for about 89-200 ms, while males of the nominal subspecies produce longer syllables, formed of 80-125 impulses and lasting for about 250-443 ms. The stridulatory file is shorter (195-229 pegs) in *I. kraussii moldavica*, compared with 260-305 pegs in *I. kraussii kraussii* (Iorgu & Heller, 2013). Adults are found during V-VI. Although found so far only on the western part of Middle Prut Basin, it is probable that this species populates also the NW part of Republic of Moldova.

Isophya zubowskii Bey-Bienkoi. Praticolous species, very common in the studied area. Adults occur in the same period as the previous species. The species sings at dusk and during the night, the calling song consisting of a temporal variable series of syllables, each formed of 74-118 impulses and lasting for 182-319 ms (Fig. 3 e, f).

Leptophyes punctatissima (Bosc). Kis & Vasiliu (1970) mentioned the species from the surroundings of Hilișeu-Crișan, but it was not encountered during our studies in the area. It is very rare in the Republic of Moldova and recently found at "Codrii" Natural Reserve (02.08.2006, leg. N. Stahi). Adults can be found during VII-IX.

Poecilimon fussii Brunner von Wattenwyl. Common in the meadows of central and southern parts of the studied area. Adults can be found during VI-VIII. Material: 12 ♂♂ and 29 ♀♀, Vadul lui Isac, 18.07.2011, leg. N. Stahi. This is the first record of the species in the Republic of Moldova.

Saga pedo (Pallas). *Saga* genus contains 13 species of the largest European bush-crickets. *Saga pedo* (Fig. 4 d) is the only parthenogenetic species within the genus and occupies a territory much larger than that of any other bisexual congeneric species, from the coast of Portugal to China and North America. The species is protected throughout its distribution area and it was evaluated as vulnerable in the



Fig. 4 - Habitus photos of some Orthoptera species from the studied area: a, *Isophya kraussii moldavica* ♂ (Hilișeu-Crișan); b, *Onconotus servillei* ♂ (Valea lui David); c, *Gampsocleis glabra* ♂ (Valea lui David); d, *Saga pedo* ♀ (Valea lui David); e, *Platycleis striata* ♂ (Hilișeu-Horia); f, *Chorthippus macrocerus purpuratus* ♂ (Iași).

IUCN Red List of Threatened Species (Kolics et al., 2012; IUCN, 2013). Adults are found during VI-IX.

Tettigonia cantans (Fuessly). Adults are found during VI-X. Although known as a typical mountain species, this bush-cricket also occurs in lowland areas, such as the forests surrounding Iași (Romania).

Decticus albifrons (Fabricius). It is a thermo-xerophytic species, praticolous, usually living in high grasslands and shrubs. Adults are found during VI-IX. Being more common in Dobrogea (SE Romania), its presence at Valea lui David is unexpected, as it was discovered here recently (Iorgu & Pisciă, 2006).

Gampsocleis glabra (Herbst) (Fig. 4 c). It is a praticolous, xerophytic species, very rare in the studied areas; however, it looks like the population from Valea lui David (near Iași) is the strongest known in Romania (I. Ș. Iorgu, unpublished).

Metrioptera roeselii fedtschenkoi (Saussure). Material: 3 ♂♂ and 1 ♀ „Codrii” Natural Reserve, 23.07.2012, leg. N. Stahi. Adults are found during VI-VIII. This is the first record of the species in the Republic of Moldova. In NE Romania, it is a common species in hygrophytic meadows.

Platycleis striata (Thunberg). Adults VI-IX (Fig. 4 e). A typical steppic, xerophytic species, localized in the studied area at Valea lui David - Mârzești - Horlești (Iași county), Drislea and Hilișeu-Horia (Botoșani county). Bioacoustics: the calling song consists of a long series of echemes, each echeme formed of a group of 4-6 macrosyllables (containing 44-68 impulses and lasting for 28-40 ms), always followed by 2-4 microsyllables (formed of 2-7 impulses and lasting for 5-11 ms) (Fig. 3 g, h).

Pholidoptera frivaldskyi (Herman). Material: 1 ♀, „Codrii” Natural Reserve, 25.07.2012, leg. N. Stahi. Mesophytic species, praticolous. Adults are found during VI-IX. This is the first record of the species in the Republic of Moldova.

Onconotus servillei Fischer von Waldheim. Material: 3 ♂♂, Valea lui David (Iași), 23.07.2013, leg. I. Ș. Iorgu. It is a xerophytic species, praticolous and geobiont, very rare in the studied area. Adults are found during VI-VIII. Bioacoustics: the song consists of a long series of trisyllabic groups. Syllable length varies between 18 - 31 ms, the last one with highest sound amplitude (Figs 3 i, j; 4 b).

Gryllomorpha dalmatina (Ocskay). Material: 1 ♀, Slobozia-Mare, 12.08.2007, leg. N. Stahi. Adults are found during VIII-XI. Although the species *Gryllomorpha dalmatina* (Ocskay) was encountered only on the eastern shores of Prut River, it is likely that this species exists also in Romania.

Paracaloptenus caloptenoides (Brunner von Wattenwyl). Material: 1 ♂ and 1 ♀, Bârnova forest, 26.08.2008, leg. I. Ș. Iorgu. It is a geobiont and thermophilous species, living in forest clearings. Adults are found during VII-IX. The species is listed in Habitat Annex II (Natura 2000 code: 4053).

Locusta migratoria (Linnaeus). Since ancient times, this species is considered a pest and thus became the most well-known grasshopper. In Eastern Europe, it formed large swarms that destroyed cultures and hayfields alike, up to the 1950's, when the use of chemical insecticides became more and more common. Since that time, the actual effectiveness of *Locusta* and other insects diminished drastically; already in early 70's the last refuges of *Locusta migratoria* in Eastern Europe remained the lower Prut River and the Danube Delta (Kis & Vasiliu, 1970). Recently, in the period 16-23 July 2009, a massive swarm took place in Taraclia and Ceadâr-Lunga districts (Republic of Moldova), destroying 54 ha of corn crops. Massive doses of chemical insecticides were used to annihilate the insects (Stahi & Gaibu, 2010). In the same period, several individuals showing conspicuous “migratory phase” characteristics

have been found in the counties Tulcea, Galați, Vaslui and Iași (Romania), most likely belonging to the same swarm (I. Ș. Iorgu, unpublished). Adults can be found during VII-IX.

Psophus stridulus (Linnaeus) and *Omocestus viridulus* (Linnaeus). Adults are found during VII-IX. Both are characteristic mountain species and rarely occur in lowland areas, such as Prut Basin. Material: *Psophus stridulus* (Linnaeus): 1 ♂, „Codrii” Natural Reserve, 02.08.2006, leg. N. Stahi; *Omocestus viridulus* (Linnaeus): 2 ♂♂ and 2 ♀♀, „Codrii” Natural Reserve, 20.08.2006, leg. N. Stahi; 3 ♂♂ and 2 ♀♀, Moara Domnească, 21.08.2006, leg. N. Stahi.

Doclostaurus maroccanus (Thunberg). This is a xerophytic, geobiont species and adults are found during VII-X. Extremely rare in the studies area: 1 ♂ and 1 ♀, Vadul-lui-Isac, 11.08.2007, leg. N. Stahi; Giurgiulești, 2 ♂♂, 11.08.2007, leg. N. Stahi.

Chorthippus macrocerus purpuratus (Voroncovskij). It is a meso- and xerophytic, praticolous species. The distribution area of the species has its western most limit in E Romania. Adults can be found during VII-X (Fig. 4 f).

Chorthippus oschei pusztaensis Vedenina & Helversen, O. von. This subspecies occurs in Hungary, Croatia, Serbia, Macedonia, Bulgaria, Ukraine, Romania, Republic of Moldova (Vedenina & Helversen, O. von, 2009), Slovakia (Krištín et al., 2011). Adults can be found during VII-X. Along the Prut Basin, there is a hybridization area with *Chorthippus albomarginatus* (De Geer) (Vedenina & Helversen, O. von, 2003; Vedenina et al., 2007). Many collected specimens showed intermediary morphological characters and mating rituals between the two species.

Other species mentioned in the literature (Mîndru, 1980; Mîndru & Kis, 1967) from Valea lui David from the 1960's to the 1980's are *Bradyporus dasypus* (Illiger) and *Callimemus macrogaster longicollis* (Fieber). The species have never been found since the last recording and they are possibly extinct from Prut River Basin.

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ORTOPTERELE (INSECTA) DIN BAZINUL PRUTULUI MIJLOCIU ȘI INFERIOR

REZUMAT

Au fost studiate preferințele ecologice și bioacustica speciilor de coșai, greieri și lăcuste din bazinul mijlociu și inferior al Prutului, cercetări efectuate în 55 localități din România și în 33 localități din Republica Moldova. Un număr total de 91 specii de ortoptere au fost colectate în zona de studiu: 85 specii au fost întâlnite în partea vestică a râului Prut (9 Phaneropteridae, 24 Tettigoniidae, 1 Bradyporidae, 5 Gryllidae, 1 Gryllotalpidae, 1 Tridactylidae, 5 Tetrigidae, 39 Acrididae) și 76 specii au fost găsite pe partea estică (7 Phaneropteridae, 19 Tettigoniidae, 1 Bradyporidae, 5 Gryllidae, 1 Gryllotalpidae, 1 Tridactylidae, 3 Tetrigidae, 39 Acrididae). Patru specii sunt semnalate pentru prima dată în Republica Moldova: *Barbitistes constrictus* (Fabricius), *Poecilimon fuscii* Brunner von Wattenwyl, *Metrioptera roeselii fedtschenkoi* (Saussure) și *Pholidoptera frivaldskyi* (Herman).

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Ionuț Ștefan Iorgu, Elena Iulia Iorgu
“Grigore Antipa” National Museum of Natural History
Șos. Kiseleff 1, 011341 Bucharest 2, Romania
e-mails: nusi81@yahoo.com
elenap@antipa.ro

Nadejda Stahi
Institute of Zoology of Academy of Science of Moldova
Academiei street, no. 1, 2028 Chișinău,
Republic of Moldova
e-mail: n_stahi@yahoo.com