



FIRST RECORDS OF THE ANT-LOVING CRICKET
MYRMECOPHILUS ACERVORUM (PANZER, [1799]) FROM ARMENIA
AND COMMENTS ON *MYRMECOPHILUS HIRTICAUDUS* FISCHER
VON WALDHEIM, 1846 (ORTHOPTERA: MYRMECOPHILIDAE)

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New records of the ant-loving crickets *Myrmecophilus acervorum* (Panzer, [1799]) and *Myrmecophilus hirticaudus* Fischer von Waldheim, 1846 for Armenia are presented. *M. acervorum* is reported for the first time from Armenia and the Caucasus. The criteria used for identification are described.

Ant guest – Caucasus – Myrmecophilus

Առկայացված են *Myrmecophilus acervorum* (Panzer, [1799]) և *Myrmecophilus hirticaudus* Fischer von Waldheim, 1846 ճռիկ-մրջնասերների նոր գրանցումներ Հայաստանում: *M. acervorum* տեսակն առաջին անգամ է նկարագրված Հայաստանի և Կովկասի համար: Նկարագրված են չափորոշիչներ, որոնք օգտագործվում են նրանց նոյնականացման համար:

Ճռիկ-մրջնասեր – Կովկաս – Myrmecophilus

Представлены новые находки сверчков-муравьеволюбов *Myrmecophilus acervorum* (Panzer, [1799]) и *Myrmecophilus hirticaudus* Fischer von Waldheim, 1846 в Армении. *M. acervorum* впервые описан для Армении и Кавказа. Описаны критерии, использованные для их идентификации.

Сверчок-муравьеволюб – Кавказ – Myrmecophilus

Ant-loving crickets (genus *Myrmecophilus* Berthold, 1827) are small insects, which are known to live as guests in the nests of ants. To date, 57 valid species have been described worldwide [6]. From the Caucasus, only *Myrmecophilus hirticaudus* Fischer von Waldheim, 1846 was known previously from the Greater Caucasus (Teberda, Russia) and the Lesser Caucasus (Armenia, Meghri) [9].

Materials and methods. During a trip to Armenia in July 2011, ant nests under stones were checked for ant guests. All specimens of *Myrmecophilus* were collected.

Results and Discussion. Two species of *Myrmecophilus* were found in Lori province and Syunik province.

Myrmecophilus acervorum (Panzer, [1799]) (fig. 1) was found in the northern and southern parts of Armenia. All specimens were found in ant nests under stones: 10 adults ♀♀, 10 nymphs ♀♀ and 16 nymphs of unknown sex in nests of *Lasius* sp., 24.07.2011, Sisian, Sjunik province, 39° 33' 02" N, 45° 59' 43" E, 1780 m, leg. & coll. T. Stalling; 10 adults ♀♀, 5 nymphs ♀♀ and 4 nymphs of unknown sex in nests of *Lasius* sp., 1 nymph ♀♀ and 6 nymphs of unknown sex in nests of *Myrmica* sp., 04.08.2011, Dzoraget, Lori province, 40° 56' 57" N, 44° 37' 34" E, 1065 m, leg. & coll. T. Stalling. The habitat was grass steppes interspersed with stones at both localities.



Fig.1. *Myrmecophilus acervorum*, female, Dzoraget, Armenia, 04.08.2011

Myrmecophilus hirticaudus (fig. 2) was found in the northern part of Armenia. All specimens were found in ant nests under stones: 2 adults ♀♀, 1 adult ♂ in nests of *Camponotus* sp., 2 nymphs ♀♀, 9 nymphs ♂♂ and 1 nymph of unknown sex in nests of *Myrmica* sp., 04.08.2011, Dzoraget, Lori province, 40° 56' 57" N, 44° 37' 34" E, 1065 m, leg. & coll. T. Stalling; 1 adult ♂ in a nest of *Camponotus* sp., 05.08.2011, Dzoraget, Lori province, 40° 56' 57" N, 44° 37' 34" E, 1065 m, leg. & coll. T. Stalling. The habitat was grass steppe interspersed with stones.



Fig. 2. *Myrmecophilus hirticaudus*, female, Dzoraget, Armenia, 04.08.2011

The records of *M. acervorum* are the first for Armenia and the Caucasus, and are the easternmost records known to date. Previously, the species was known from Austria [12], Czech Republic [3], France [4], [5], Germany [11], [14], Hungary [16], Luxembourg [13], Poland [1], Russia (Kaliningrad Oblast) [8] and Slovakia [8]. The exact eastern distribution boundary remains unknown. *M. hirticaudus* was previously known from the Crimea, the Caucasus [9], [10], [2], Croatia [15] and Bulgaria [7].

The criteria used for identification are described by Stalling & Birrer [15]. The adults of the two species differ distinctly according to the following criteria: body colour, dark reddish-brown with pale ochreous posterior border on the pronotum and tergite in *M. acervorum*, uniformly brown in *M. hirticaudus*; number of spines on the metatarsus of the hind legs, two dorsal spines in the proximal and medial positions in *M. acervorum*, three dorsal spines positioned in the proximal, medial and distal parts of the metatarsus in *M. hirticaudus* (spine sometimes absent in the medial position, whereas spine in the proximal position always present).

M. acervorum and *M. hirticaudus* were found together at Dzoraget in single cases and even in the same ant nests, which demonstrated sympatric occurrence. No males of *M. acervorum* were found so the species can also be assumed to reproduce parthenogenetically in this part of its range. *M. hirticaudus* males and females were found so the species can be assumed to reproduce sexually.

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REFERENCES

1. *Baccetti, B.* Notulae Orthopterologicae XXII. Il Genre *Myrmecophilus* (Berth.) in Italia. *Redia*, 50, 1-33, Firenze, 1966.
2. *Baccetti, B.* Notulae Orthopterologicae. 50. Su alcuni ortotteroidei del mediterraneo orientale. *Fragmenta Entomologica*, 23, 2, 247-276, 1992.
3. *Bezděčka, P., Kočárek, P., J. Šuhaj* Distribution of the Cricket *Myrmecophilus acervorum* (Orthoptera: Myrmecophilidae) in Moravia and Silesia with notes on the biology. *Klapalekiana* 36, 7-17, 2000.
4. *Chopard, L.* Orthopteroïdes. Faune de France, 56, 196-197, 1951.
5. *Defaut, B., Sardet, E., Y. Braud* Orthoptera: Ensifera et Caelifera. Catalogue permanent de l'entomofaune française, fascicule, 7, 2009.
6. *Eades, D.C., Otte, D., Cigliano M.M., H. Braun* Orthoptera Species File Online. Version 2.0/4.1. [05.01.2013]. <http://Orthoptera.SpeciesFile.org>, 2013.
7. *Fet, V., A. Popov*. Biogeography and Ecology of Bulgaria. Dordrecht (Springer), 2007.
8. *Fedor, P.J.* The orthopteroid insect fauna in the surroundings of the Zemplínska Sirava reservoir (Eastern Slovakia) after forty years. *Acta Zoologica Universitatis Comenianae*, 44, 51-56, 2001.
9. *Gorochov, A.V.* Towards the fauna of crickets (Orthoptera, Gryllidae) of the Transcaucasus [in Russian]. *Bulletin of the Academy of Sciences of the Georgian SSR*, 114, 3, 621-624, 1984.
10. *Gorochov, A.V.* Faunistic and Systematic Notes on Gryllidae (Orthoptera) of the Crimea [in Russian]. *Vestnik Zoologii*, 1, 12-20, 1984.
11. *Hölldobler, K.* Studien über die Ameisengrille (*Myrmecophilus acervorum* Panzer) im mittleren Maingebiet. *Mitteilungen der Schweizerischen Entomologischen Gesellschaft*, 20, 7, 607-648. 1947.
12. *Junker, E., U. Ratschker* Zur Verbreitung der Ameisengrille *Myrmecophilus acervorum* (Panzer (1799)), in Sachsen (Insecta, Ensifera, Myrmecophilidae). *Faunistische Abhandlungen Staatliches Museum für Tierkunde Dresden*, 22, 2, 11-21, 2000.
13. *Proess, R.* Verbreitungsatlas der Heuschrecken des Großherzogtums Luxemburg. *Ferrantia* 39, 7-178, 2004.
14. *Schimmer, F.* Beitrag zu einer Monographie der Gryllodeengattung *Myrmecophila* Latr. *Zeitschrift für wissenschaftliche Zoologie*, 93, 409-534, 1909.
15. *Stalling, T., S. Birrer*, Identification of the ant-loving crickets, *Myrmecophilus* Berthold, 1827 (Orthoptera: Myrmecophilidae), in Central Europe and the northern Mediterranean Basin. *Articulata* (press.), 2013.
16. *Zoltan, K.* Adatok a Dunántúli-középhegység egyenesszárnyú (Orthoptera) faunájának ismertéhez II. *Folia Historico Naturalia Musei Matrensis*, 30, 189-201, 2006.

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