

**First record of *Modicogryllus truncatus* in Hungary
(Orthoptera: Gryllidae)**

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Abstract – First specimens of the cricket *Modicogryllus truncatus* (TARBINSKY, 1940) were detected in Kardoskút, Hungary. This locality in the eastern part of the Great Hungarian Plain, where the specimens were collected in an alfalfa field surrounded by different crops and grasslands, now marks the north-westernmost limit of the species' distribution.

Key words – *Modicogryllus truncatus*, new record, Hungary.

INTRODUCTION

Apart from the arboreal *Oecanthus pellucens* (SCOPOLI, 1763) and the ant hosted *Myrmecophilus* BERTHOLD, 1827 species, all other crickets (sub-order Grylloidea) occurring in the Carpathian Basin live on the ground level or partly in the soil of different grasslands and agricultural habitats. The most recent checklist of the Orthopteran insects of the Carpathian Basin (NAGY 2005) enumerated 14 cricket species, nine of which were mentioned in the last complete checklist of the Orthoptera of Hungary as well (NAGY 2003a). After the recent reconfirmation of the dubious, more than 150 year-old data of *Nemobius sylvestris* (BOSC, 1792) near Sopron, in the north-western edge of the country (BIRÓ 2008), this number was raised to ten.

Modicogryllus truncatus was originally described as *Tartarogryllus truncatus* based on specimens from Azerbaijan. Later KIS (1967) described *Gryllus chopardi* from Comana, south-eastern Romania. This combination proved to be a junior homonym and the species was renamed as *Gryllus geticus*

(VASILIU, 1968). Finally, after two decades GOROCHOV (1986) synonymised it with *Modicogryllus truncatus*. This cricket is distributed from Romania and Serbia through the East Balkans and Asia Minor to the Caspian Sea. IORGU *et al.* (2008) mentioned it from south-eastern Romania (Dobrogean Plateau, Romanian Planes' Steppe and Sylvosteppe and Găvanu-Burdea Planes), outside the Carpathian Basin. Until the recent publication of PAVICEVIĆ & KARAMAN (2001), in Serbia it was known only at Niš (HARZ 1969). According to their new data it occurs not only in the southern part of the country but also in central Serbia (at Bozman), near Beograd (at Miljanovač) and in the middle Banat (at Ečka, Zrenjanin and Žabalj). These latter records in Banat are the first published occurrences of this species in the Carpathian Basin, situated in the southern Tisza valley, at the southern edge of the Great Hungarian Plain.

MATERIAL AND METHODS

During the summers (June and July) of the years 2006–2009, as a background study of a LIFE Nature Project dealing with the conservation of the red-footed falcon (*Falco vespertinus*) in the Carpathian Basin, pitfall traps were used to estimate the potential prey availability of this falcon species feeding mainly on insects. Samples were collected in different habitat types (swamp meadow, alkaline pasture, oldfield, maize, wheat and alfalfa fields) in the Körös-Maros National Park, in the neighbourhood of Kardoskút, south-eastern Hungary. The traps collected mainly beetles, but in some cases contained many crickets as well. All the collected crickets were determined from the trap materials.

RESULTS AND DISCUSSION

Beside thousands of *Melanogryllus desertus* (FIEBER, 1844), hundreds of *Gryllus campestris* LINNAEUS, 1758 and tens of *Modicogryllus bordigalensis* (LATREILLE 1804), at only one sampling site (an alfalfa field) and only in 2008 altogether three cricket specimens (one male and two females) proved to be *Modicogryllus truncatus* (trapping period 28.06–12.07; geocoordinates N 46.466°, E 20.554°; elevation 80 m a.s.l.). One specimen is deposited in the orthopterological collection of the Hungarian Natural History Museum, Budapest, the others in the collection of the author. This is its first detection in Hungary, and *Modicogryllus truncatus* is the eleventh cricket species occurring here. The Orthoptera fauna of Hungary based on NAGY (2003a), supplemented by subsequent findings (BIRÓ 2008, NAGY 2003b, ORCI *et al.* 2004): *Nemobius sylvestris*, *Poecilimon brunneri* FRIVALDSZKY, 1867, *Isophya pienensis* MAŘAN, 1954, and by the extinct *Bradyporus dasyypus* (ILLIGER, 1800) and *Onconotus servillei* FISCHER DE WALDHEIM 1846, now really counts 125 species.

The newly discovered Hungarian population of *Modicogryllus truncatus* lives about 125 km north of its formerly known northernmost occurrences (Zrenjanin and Žabalj). The very low number of specimens collected, compared to the other cricket species occurring here, shows that at the northern border of its distribution, this species is very rare, or at least it is restricted to smaller plots of suitable habitats. The soil surface in that extensive alfalfa field was strongly cracked, which forms the habitat suitable for different ground dwelling crickets. It was surrounded by crops and alfalfa fields, swamp meadows and stepic alkaline grasslands. Syntopic orthopteran species were: *Conocephalus fuscus* (FABRICIUS, 1793), *Tettigonia viridissima* LINNAEUS, 1758, *Melanogryllus desertus*, *Gryllus campestris*, *Modicogryllus bordigalensis*, *Calliptamus italicus* (LINNAEUS, 1758) and *Chorthippus brunneus* (THUNBERG, 1815). Recognizing its habitat requirements in Hungary needs further investigations, but the habitat's characteristics and the co-occurring, mostly termophilous, mesophilous and xerophilous orthopteran species indicate that it presumably prefers relatively warm and rather open arable lands or grasslands. PAVICEVIĆ & KARAMAN (2001) also characterises it as a species occurring in mesophilous and xerophilous habitats.

The last comprehensive works dealing with the orthopterans of the south-eastern edge of Hungary (Körös-Maros National Park Directorate: NAGY & SZÖVÉNYI 1998, 1999) list a total of 51 species. Although these works were based partly on intensive collecting activity (in the Kardoskút area as well) and resulted in several interesting faunistic findings, this species still could have remained undiscovered. Its main reason is presumably the rarity, but recent colonisation and area expansion due to the climate change also cannot be excluded.

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