



First record of the Eastern Dwarf Cricket *Stenonemobius bicolor* (Orthoptera: Grylloidea) in Slovakia

První nález cvrčka *Stenonemobius bicolor* (Orthoptera: Grylloidea) na Slovensku

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Abstract. *Stenonemobius bicolor ponticus* Gorochoy, 1984 (Orthoptera: Grylloidea: Trigonidiidae: Nemobiinae) is a small thermophilic cricket particularly associated with warm, dry environments including xerothermic grasslands, steppe-like vegetation, and semi-arid habitats. This cricket has recently shown a notable increase of records in south-eastern Europe, most likely due to increased sampling efforts. This note reports the first faunistic record of *S. bicolor ponticus* from Slovakia, based on a female collected at light in the surroundings of Šiatorská Bukovinka in southern Slovakia (Central Europe) in August 2025. Given its recent spread in neighbouring Hungary, the Slovak record could be interpreted as natural range expansion, further documenting the ongoing northward spread of thermophilous orthopteran species in Central Europe under current climate change conditions.

Keywords: Trigonidiidae, Nemobiinae, distribution, neobiota, range expansion, Central Europe

INTRODUCTION

The genus *Stenonemobius* Gorochoy, 1981 (Orthoptera: Grylloidea: Trigonidiidae: Nemobiinae) comprises three small-bodied cricket species distributed across North Africa, South-East Europe, and Asia (Gorochoy 1981, 1984, Cigliano et al. 2025). Two species of the genus *Stenonemobius* occur in Europe, *S. bicolor* (Saussure, 1877) and *S. gracilis* (Jakovlev, 1871). The species *S. bicolor* was originally described from South Asia (India), and two subspecies are currently recognized: *S. b. bicolor* (Saussure, 1877), distributed in southern Asia (India, Myanmar, Vietnam, China), and *S. b. ponticus* Gorochoy, 1984 (Fig. 1), occurring in south-eastern Europe (Armenia, Bulgaria, Croatia, Georgia, Hungary, Moldova, Romania, Russia, Ukraine, and Serbia) (Gorochoy 1984, Chobanov 2003, Popov 2007, Ilina & Savitsky 2018, Puskás et al. 2018, Skejo et al. 2018, 2024, GBIF.org 2025) and expected in Slovakia (Chobanov et al. 2016).

RESULTS

Stenonemobius bicolor ponticus Gorochoy, 1984

(Fig. 1)

Material examined. SLOVAKIA: Štiatorská Bukovinka, 430 m a.s.l., 48°09'53.45"N 19°47'44.76"E, 10.viii.2025, 1 ♀, a mosaic of dry thermophilic oak forests dominated by *Quercus cerris* (also with *Q. pubescens* and *Sorbus torminalis*), combined with small open stands of xerothermophilic herbaceous vegetation, beech forests on the northern slopes, and moister scree forests with *Acer* spp., individual *Ulmus glabra*, *Carpinus betulus*, and *Quercus petraea* in terrain cuts on steep slopes (Fig. 2), on light, A. & Z. Laštůvka lgt., P. Kočárek det. et coll.

Notes. *Stenonemobius bicolor* is a small light-coloured nocturnal gryllid, with an overall length not exceeding 6.5 mm, adapted to a ground-dwelling lifestyle and with a preference for habitats with abundant ground vegetation and leaf litter. It is a thermophilic species that particularly inhabits warm, dry environments including xerothermic grasslands, steppe-like vegetation, and semi-arid habitats (Skejo et al. 2024). Both European *Stenonemobius* species, *S. bicolor ponticus* and *S. gracilis*, are nocturnal, and are excellent fliers occasionally attracted to artificial light and collected during monitoring using light sources (Cassar 2008, Skejo et al. 2024). *Stenonemobius b. ponticus* is widely but sparsely distributed across the eastern Mediterranean and northern Black Sea region (GBIF.org 2025), as a result, it would be reasonable to assume that the species has been overlooked locally. Its small size, as well as its nocturnal habits, render the species relatively inconspicuous.

In recent decades, *S. b. ponticus* has experienced a notable increase of records, most likely due to increased sampling efforts (Skejo et al. 2024, GBIF.org 2025), while the number of records is expanding mainly in a north-western direction. In Hungary, the species was first documented in 2013 from two localities in Békés and Heves districts (Puskás & Merkl 2016), and between 2018 and 2025, 23 additional occurrence localities were recorded (GBIF.org 2025). This north-westward expansion, or increase of records, represents a characteristic pattern observed in some thermophilic orthopteran species in response to current climate change, making *S. bicolor* a biogeographically significant species for understanding insect range dynamics in Europe (e.g., Kenyeres et al. 2019, Löffler et al. 2019, Kaláb et al. 2021).

The record of *S. b. ponticus* from Štiatorská Bukovinka represents the first known occurrence of the species from Slovakia. According to its known distribution range, we may consider the occurrence in Slovakia to be a result of natural range expansion. Since only one female has been recorded so far, it may be a stray specimen from some nearby population in Hungary.

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Fig. 1. Female of *Stenonemobius bicolor ponticus* Gorochoy, 1984 collected in Šiatorská Bukovinka, Slovakia. Photograph Z. Laštůvka (10.viii.2025).

Obr. 1. Samice cvrčka *Stenonemobius bicolor ponticus* Gorochoy, 1984, nalezená v Šiatorské Bukovince, Slovensko. Fotografie Z. Laštůvka (10.VIII.2025).

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Fig. 2. Habitat of *Stenonemobius bicolor ponticus* Gorochoy, 1984 in Šiatorská Bukovinka, Slovakia. Photograph Z. Laštůvka (10.viii.2025).

Obr. 2. Biotop cvrčka *Stenonemobius bicolor ponticus* Gorochoy, 1984 v Šiatorské Bukovince, Slovensko. Fotografie Z. Laštůvka (10.VIII.2025).

SOUHRN

Rod *Stenonemobius* Gorochoy, 1981 (Orthoptera: Grylloidea: Trigonidiidae: Nemobiinae) zahrnuje tři drobné, převážně noční cvrčky rozšířené v severní Africe, jihovýchodní Evropě a Asii. Druh *Stenonemobius bicolor* (Saussure, 1877) má disjunktní areál výskytu se dvěma poddruhy: *S. b. bicolor* (Saussure, 1877) se vyskytuje v jihovýchodní Asii a *S. b. ponticus* Gorochoy, 1984 v Evropě, kde obývá oblast východního Středomoří a severního Černomoří. V posledních desetiletích je dokumentován zvyšující se počet nálezů, zejména v severozápadní části areálu. Práce přináší první faunistický údaj o výskytu tohoto druhu ze Slovenska, založený na nálezu samice přilákané na světlo poblíž Šiatorské Bukovinky (48°09'53.45"N, 19°47'44.76"E) v srpnu 2025. Jedná se o drobný druh termofilního cvrčka, vázaného na teplá, suchá stanoviště s bohatou přízemní vegetací a opadem. S ohledem na přibývajících nálezy v Maďarsku je slovenský nález interpretován jako pravděpodobný výsledek přirozené expanze areálu, která zapadá do obecného trendu šíření teplomilných druhů rovníkových ve střední Evropě v souvislosti se současnou klimatickou změnou.