Trifurcula (Glaucolepis) lituanica sp. nov., an unexpected new stem-miner on Salvia pratensis occurring in eastern Europe (Lepidoptera: Nepticulidae)

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Abstract

Trifurcula (Glaucolepis) lituanica Ivinskis & van Nieukerken, sp. nov., is described from adults reared from stem-mining larvae on Salvia pratensis (Lamiaceae) from Lithuania and some specimens taken as adults in Austria, Slovenia and Greece. In addition the new species is recorded from Bulgaria, the Czech Republic and Romania. Superficially, it resembles Trifurcula (Glaucolepis) headleyella (Stainton, 1854), especially the male, but it differs by male genitalia with additional cornuti, a unique character for the subgenus, and the female genitalia differ by the larger number of convolutions in the ductus spermathecae. It is the only known Trifurcula to make its cocoon partially inside a stem-mine. The synonymy of Nepticula dubiella Hauder, 1912 with T. headleyella is confirmed, but some specimens recorded under this name from Austria belong to the new species. DNA barcodes are provided and compared with related species.

Key words: Taxonomy, new species, hostplants, Lamiaceae, DNA-barcodes, COI gene, Palearctic

Introduction

The nepticulid genus Trifurcula Zeller, 1848 comprises globally 68 described species, of which the large majority occurs in the Mediterranean region; only six named species and a few unnamed ones are known from North America, Asia (outside the Mediterranean region), South Africa and Australia (van Nieukerken 1986b; van Nieukerken 2010). The species occurring in the Mediterranean are specialized in feeding on shrubs and herbs, where they make stem-mines or leaf-mines. The subgenera Trifurcula (with 26 species) and Levarchama Beirne, 1945 (7 species) all feed on Fabaceae, the first making stem-mines, the latter leaf-mines, and the subgenus Glaucolepis Braun, 1917 (29 species) makes stem- or leaf-mines, or a combination of both, on plants belonging to families such as Lamiaceae, Apiaceae (only the genus Bupleurum), Plantaginaceae (genus Globularia) and a few others. In Europe the diversity of the genus sharply declines towards the north (van Nieukerken et al. 2010); only a few species of Glaucolepis are known from northern parts in Europe: T. (Glaucolepis) headleyella (Stainton, 1854) on Prunella goes as far north as southern Sweden, Finland and Estonia, T. (G.) thymi (Szöcs, 1965) on Thymus is occasionally encountered in extremely hot localities in Germany and Poland (van Nieukerken & Johansson 1990) and T. melanoptera Van Nieukerken & Puplesis, 1991 has recently been recorded from Germany (van Nieukerken et al. 2010). It was thus a surprise for the authors to discover an unknown species in Lithuania, where hitherto only T. headleyella had been recorded (Diškus 2003).

Stem-mines and cocoons attached to the stems, characteristic for Nepticulidae, were found on Salvia pratensis in a river valley. The emerging moths externally resembled those of T. headleyella. However, T. headleyella has a completely different life history, with mines going through several leaves, petioles and stem of Prunella. Two species of Trifurcula have hitherto been recorded as leafminers on Salvia species: T. (G.) trilobella Klimesch 1978, common in Greece and Turkey, on Salvia fruticosa and T. (G.) salvifoliae Z. Laštůvka & A. Laštůvka, 2007 from Spain on Salvia lavandulifolia.