



<http://dx.doi.org/10.11646/zootaxa.3717.1.3>

<http://zoobank.org/urn:lsid:zoobank.org:pub:A31FFCE4-FA99-4676-9D01-158EE4B129EA>

New species and checklist of Turkish *Eupithecia* Curtis (Geometridae: Larentiinae)

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Abstract

Four new species of *Eupithecia* are described from Turkey; seven species are added as new for the fauna of Turkey; two taxa are raised from subspecies rank and restored from synonymy to species rank; one species is downgraded to subspecies rank; five other species names are synonymized; an updated checklist of the genus *Eupithecia* in Turkey is provided.

Key words: Lepidoptera, Geometridae, *Eupithecia*, new species, *E. gelbrechti*, *E. niveata*, *E. antigraphata*, *E. perigraphata*, checklist, taxonomy, Turkey

Introduction

Eupithecia Curtis, 1825 is the most species-rich genus in the family Geometridae, and is particularly rich in Turkey, where there is a mixed fauna including European, Mediterranean, Transcaucasian and Iranian elements. Some species of *Eupithecia* are endemic to Asia Minor and have not yet been recorded from other adjacent territories. This area was fairly well collected from the late nineteenth century onwards and a large number of species of *Eupithecia* were identified or described from Turkey and adjacent countries. However, much modern material remained unidentified.

A full list of Turkish *Eupithecia* was published by Riemis (1994), where 76 species were mentioned for this fauna. There is also a large references list of the Geometridae of Turkey in this publication. Later, Mironov (2003) added some new species of this genus to the Turkish fauna, including the following: *E. tenuiata*, *E. inturbata*, *E. minusculata*, *E. pusillata*, *E. pimpinellata*, *E. karadaghensis*, *E. ochridata*, *E. antalica*, *E. extraversaria*, *E. mekrana*, *E. satyrata*, *E. spadiceata*, *E. fuscicostata* and *E. orphnata*.

This paper is based both on a re-examination of the collections in the Museums of Munich, Bonn, Karlsruhe, Berlin, Budapest and Copenhagen, and on material intensively collected, mainly over recent decades by German, Danish, Finnish and Hungarian entomologists in Turkey. The author has been able to locate and examine almost all of the original type material used by F. Treitschke (TTM, Budapest), P. Rambur, E. Wehrli (ZSM, Munich), C.F. Freyer, O. Staudinger, O. Bohatsch, K. Dietze, E. Schütze (MNHU, Berlin), S. Alphéraky, H. Christoph (ZISP, Saint Petersburg), W. Brandt (NHRS, Stockholm), R. Pinker (NHMW, Vienna) and L.B. Prout (BMNH, London). As a result, in this paper 4 new species are described, 2 taxa are restored from subspecies rank and synonymy to species, one taxon is downgraded from species to subspecies rank, one taxon is returned from the genus *Gymnoscelis* to *Eupithecia*, 5 species names are synonymized, and 7 species are recorded for the first time for the fauna of Turkey. In view of the number of changes, I also include an updated checklist of Turkish *Eupithecia* at the end of this paper, where 99 valid species of this genus are listed. Five species not found by me in collections are preceded by an asterisk (*). A full list of taxonomic changes is included at the end of this paper.

Material and methods

Institutional and other acronyms used are as follows: BMNH: British Museum (Natural History), London, United