



***Dichrorampha dinarica*, new species, a century of confusion in European lepidopterology (Lepidoptera: Tortricidae) resolved by combining morphology and DNA barcoding**

PETER HUEMER^{1,4}, BOYAN ZLATKOV² & JOAQUIN BAIXERAS³

¹Tiroler Landesmuseen Betriebsgesellschaft m.b.H., Naturwissenschaftliche Sammlungen, Feldstr. 11 a, A-6020 Innsbruck, Austria.

E-mail: p.huemer@tiroler-landesmuseen.at

²Department of Zoology and Anthropology, Faculty of Biology, Sofia University "St. Kliment Ohridski, 8 Dragan Tsankov Blvd., 1164 Sofia, Bulgaria. E-mail: bzlatkov@gmail.com

³Cavanilles Institute of Biodiversity and Evolutionary Biology, University of Valencia, P.O. Box 22085, 46071-Valencia, Spain

E-mail: joaquin.baixeras@uv.es

⁴Corresponding author

Abstract

Dichrorampha dinarica, new species, is described from the Dinaric mountains (Macedonia, Bosnia and Herzegovina). The new species was formerly confused with *D. ligulana* (Herrich-Schäffer, 1851) from the Alps and *D. rilana* Drenowsky, 1909 from the Rila mountains (Bulgaria). Therefore, a re-description of *D. rilana* is provided based on topotypical specimens. The diagnostic morphological characters of the involved species, supported by significant divergence of the mtDNA barcode (COI fragment of 658 bp), are discussed in detail.

Key words: Lepidoptera, Tortricidae, *Dichrorampha*, misidentifications, new species, Europe, high mountains, endemism, DNA barcode

Introduction

In the context of the current global biodiversity crisis, a comprehensive inventory of species is one of the greatest challenges facing taxonomists. Our knowledge of species diversity of mega-diverse insect orders such as Lepidoptera is still far from complete, with estimates of the described species richness varying from 157,000 (Nieukerken *et al.* 2011) to 175,000 species (Kristensen & Skalski 1999). The Lepidoptera fauna of Europe encompasses about 9500 described species (Lopez-Vaamonde *et al.* 2010) and is considered to be the world's best-known fauna. Alpha-taxonomy is thought to be largely resolved in most groups. However, despite of the long history of exploration, encompassing more than 200 years, new species are still regularly discovered and described, particularly from easternmost Europe, the Mediterranean area, and the lesser explored mountain systems. Accessibility of remote areas as well as recently established molecular methods have increased considerably such discoveries (Huemer & Hausmann 2009, Huemer & Hebert 2011, Lopez-Vaamonde *et al.* 2011). The European Alps and other alpic mountain systems in particular seem to harbor examples of cryptic diversity and/or overlooked species, many of them locally endemic (Huemer 2011). The identities of other species have been confused over decades resulting in misidentifications (Mutanen *et al.* 2012, Segerer *et al.* 2011). In this paper we discuss an example of long standing confusion within the genus *Dichrorampha* and its taxonomic and faunistic consequences.

Dichrorampha is a well known and diverse genus of Tortricidae radiated primarily on Asteraceae with a mainly Holarctic distribution. The world catalogue (Baixeras *et al.* 2010) lists 114 described species, 53 of which are known from Europe (Karsholt & Nieukerken 2011). Few supplementing taxa have been described recently, among them the western alpine *D. tarmanni* (Huemer 2009), which is not yet incorporated in the aforementioned catalogue. During an excursion to the high mountains of Macedonia (Mount Korab) we collected a series of a species which has been known for more than a century as either *D. ligulana* or *D. rilana*. Careful re-examination of