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A review of the taxonomic history and biodiversity of the genus *Urodeta* (Lepidoptera: Elachistidae: Elachistinae), with description of new species

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Abstract

The taxonomic history of the genus *Urodeta* Stainton 1869 (Lepidoptera: Elachistidae: Elachistinae) is presented. Three new species: *Urodeta acinacella* Sruga et De Prins, **sp. nov.**, *U. quadrifida* Sruga et De Prins, **sp. nov.** and *U. trilobata* Sruga et De Prins, **sp. nov.**, from South Africa are described. The new species are diagnosed and illustrated with photographs of the adults and genitalia. A global, annotated catalogue of the *Urodeta* species diversity is presented. The impact of formerly published taxonomic decisions on the position of *Urodeta* within Gelechioidea is discussed.

Key words: Lepidoptera, Elachistidae, Elachistinae, *Urodeta*, new species, South Africa

Introduction

The apoditrysiian family Elachistidae, including its subfamily Elachistinae, has recently gained a comprehensive phylogenetic treatment (Kaila 1999, 2004; Kaila & Sugisima 2011, Kaila *et al.* 2011) culminating with a landmark monograph on the biodiversity of its Australian fauna (Kaila 2011). However, sub-saharan Africa still remains as one of the major sources for new discoveries especially in fragmented and restricted microhabitats suitable for the elachistine fauna (Landry 2011). The enigmatic genus *Urodeta* Stainton, 1869 serves as one of the best examples illustrating that the exploration of the elachistine diversity in sub-saharan Africa might significantly change our understanding of the global elachistine diversity pattern as well as the phylogeny of these moths. It may perhaps also reflect more generally the current state of knowledge on small-sized moths in tropical and other less comprehensively explored regions. The aim of this paper is to review the controversial taxonomic history of *Urodeta* Stainton, 1869, its species diversity and to describe three new *Urodeta* species from sub-saharan Africa.

Historical review

Based mainly on life history and pupal characters, Stainton (1869) described the genus *Urodeta* and indicated its closeness to *Elachista* (for a detailed re-description refer to Kaila 2011: 45; for the generic characters applicable to the Afrotropical *Urodeta* taxa, refer to Sruga & De Prins 2011: 3–4). For ca. 140 years *Urodeta* was considered a Mediterranean monotypic genus. The generic concept in the early 19th century was different from the present practice and the generic name *Elachista* introduced by Treitschke (1833) meant more ‘small moths’ in general than a monophyletic or closely related species group (Kaila 2011). However, even at that time, the awareness among lepidopterists was growing to classify the lepidopteran taxa according to their ‘natural’ groupings (Zeller 1848; the series of ‘Natural History of Tineina’ by Stainton (1855, 1857, 1858a, 1859, 1860, 1861, 1862, 1864, 1865, 1867, 1870a,b, 1873), assisted by Zeller, Douglas and Frey. Therefore, the initial placement of *Urodeta* close to *Elachista* was made by Stainton based on a thorough knowledge of the natural history of both genera. Meyrick (1881) followed this trend and was very attentive to the biological characters while suggesting his classification of micro moths. Regarding *Urodeta* and its relatives, Meyrick (1881: 133) wrote the following: “There are however a few