

## Early stages of the enigmatic *Prodidactis mystica* (Meyrick) with comments on its new family assignment (Lepidoptera: Prodidactidae)

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### Abstract

*Prodidactis* Meyrick is a monotypic genus restricted to southern Africa (South Africa, Zimbabwe, and Swaziland). The early stages of *P. mystica* (Meyrick) are described and illustrated for the first time; the larval host is *Nuxia congesta* (Loganiaceae). The genus previously has been assigned to Tortricidae, Yponomeutidae, and Limacodidae; however, an examination of larval, pupal, and adult characters contradict these placements. Although evidence from the larval stage places *Prodidactis* in Crambidae (Pyraloidea), features of the adults convincingly contradict this assignment. As an interim solution, we propose Prodidactidae, new family, to accommodate this unusual genus.

**Key words:** Africa, biology, Crambidae, Immidae, larvae, Limacodidae, morphology, chaetotaxy, phylogenetic relationships, Tortricidae, Yponomeutidae, Zygaenoidea

### Introduction

*Prodidactis* Meyrick is a monotypic genus from southern Africa (South Africa, Zimbabwe, and Swaziland) that traditionally has defied confident familial placement. Historically assigned to Tortricidae (Meyrick 1918, 1921) and Yponomeutidae (Meyrick 1930), the genus has resided in Limacodidae for the last 39 years (Janse 1964). The current familial assignment of the genus fell into question in 1992 when Neville Duke (Swaziland), an experienced field lepidopterist, reared *Prodidactis* from field collected larvae. Upon emergence of the adults, Duke recognized that based on the larvae, *Prodidactis* did not belong in Limacodidae. While features of the early stages convincingly exclude *Prodidactis* from all previous familial assignments, the unique combination of larval and adult features con-