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## Review of the species of *Visiana* Swinhoe from the Papua New Guinea region (Lepidoptera: Geometridae: Larentiinae)

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### Abstract

The genus *Visiana* Swinhoe which belongs to the subfamily Larentiinae (Lepidoptera: Geometridae) is widely distributed within the Indo-Australian region. The present study is the first extensive review of historic *Visiana* specimens from the Papua New Guinea region deposited in the Natural History Museum (London, UK) and Australian National Insect Collection (Canberra, Australia). The species examined are as follows: *V. hyperctenista* (Prout) from the Bismarck Archipelago, *V. vinosa* (Warren) from the eastern part of Papua New Guinea, *V. ranensis* (Prout), **stat. nov.** from the Moluccas (Indonesia), and four newly described species *V. horista*, **sp. nov.** from Bougainville Island, *V. grandivinoso* **sp. nov.** from New Britain, *V. variovinosa*, **sp. nov.** from the eastern part of Papua New Guinea, and *V. morobensis*, **sp. nov.** from the Morobe province. The lectotype is designated for *V. hyperctenista*. Redescriptions of *V. hyperctenista*, *V. vinosa* and *V. ranensis* are provided, the four new species are described, figures of all seven species are shown. The species *V. hyperctenista* and *V. horista* are treated as a sister-group, the diagnostic characters are defined. A checklist of the known Papuan species of the genus *Visiana* is provided.

**Key words:** Endemic species, geometrid moths, faunistics, Indo-Australian region, Indonesia, larentiine moths, lectotype designation, Moluccas, morphology, new species, Papua New Guinea, Solomon Islands archipelago, *Urtica*, *Visiana*

### Introduction

The fauna of larentiine moths (Lepidoptera: Geometridae) of the New Guinea region is poorly studied. During recent years, only few larentiine species from this region have been reviewed as part of taxonomic and biogeographic studies of the Australasian genera *Anachloris* Meyrick, *Chaetolopha* Warren, *Parachaetolopha* Schmidt and *Scotocyma* Turner (Schmidt 2001, 2002, 2005).

The present review of the widely distributed within the Indo-Australian region larentiine genus *Visiana* Swinhoe (1900) continues the study of the genus (see Holloway 1986, 1997, Schmidt 2005, 2006a, 2006b, 2006c, 2009). All supraspecific taxa of *V. sordidata* have been regarded as distinct species, namely *V. inimica* (Prout), *V. robinsoni* (Prout) and *V. tamborica* (Prout), and the specimens from Borneo (Malaysia) were assigned to a new species *V. hollowayi* (Schmidt 2006a). In the most recent taxonomic report on the Indian and Indonesian species of *Visiana* another undescribed species *V. fuscata* Schmidt from Khasis which was distinguished by Prout as infrasubspecific variation of *Xanthorhoe sordidata* has been described, additionally, a unique female of *V. inimica* from eastern Java which was discovered in the Royal Belgian Institute of Natural Sciences (Brussels) has been described (Schmidt 2009).

All the Papuan species of *Visiana* were described within the first half of the 20<sup>th</sup> century based on external morphological characters of adults only. The genitalia have not been studied so far. In the Catalogue of geometrid moths of the world (Scoble 1999) two species of the genus are listed from the Papua New Guinea region, namely *V. hyperctenista* (Prout 1939) and *V. vinosa* (Warren 1907) with one Moluccan subspecies *V. v. ranensis* (Prout 1939). The status of the subspecies needs to be reconsidered and several species remain to be described as new.

The specimens involved in this study were collected during expeditions to the Papua New Guinea region, including the Moluccas, from 1903 to 1964. Material suitable for DNA analysis from the region of interest was not available therefore the present work is based on morphological characters solely. Three species descriptions are