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## Discovery of *Cryptophasa* Lewin, 1805 (Lepidoptera: Xyloryctidae) from Indonesia with the descriptions of three new species

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### Abstract

Three new species of *Cryptophasa* Lewin, 1805 are described from eastern Indonesia: *C. watungi* Sutrisno & Suwito, 2015 **sp. nov.**, *C. kwerbaensis* Sutrisno & Suwito, 2015 **sp. nov.**, and *C. choliki* Sutrisno & Suwito, 2015 **sp. nov.** Each species is described based on adult external and genital characters. The potential apomorphic character in male genitalia of *Cryptophasa*, the shape of the uncus, is discussed.

**Key words:** apomorphy, *Cryptophasa*, Gelechioidea, host plant, Myrtaceae, new species, Xyloryctidae

### Introduction

*Cryptophasa* Lewin, 1805 is the largest genus within Xyloryctidae, comprising more than 60 described species (McMillan 2013). As with many other genera of moths, historically this genus was defined on the basis of external characters only and no apomorphic characters have been proposed to support its monophyly. Previously this genus was placed in the Oecophoridae (Nye & Fletcher 1991; Common 1996). Hodges (1999) moved it to the family Xyloryctidae: Xyloryctinae. Recent molecular studies also place *Cryptophasa* within the Xyloryctidae (Kaila *et al.* 2011). Among xyloryctine moths, this genus is most diverse in Australia with 55 described species recorded (Common 1990). Unfortunately, there is no complete report of *Cryptophasa* species occurring in Indonesia, even though the subfamily Xyloryctinae appears to be diverse in Malaysia and New Guinea, as has been reported by Holloway *et al.* (2001).

This paper presents the descriptions of three new species of *Cryptophasa* from Papua, Halmahera, and North Sulawesi. Each species is described based on adult external morphology and (mostly male) genitalia characters. The monophyly and the potential apomorphic characters for this genus are discussed.

### Material and methods

The present study is based on material from field studies in Papua, Halmahera Island and North Sulawesi. All material examined in this study is deposited in the Museum Zoologicum Bogoriense, Research Center for Biology, the Indonesian Institute of Sciences, Cibinong.

Pinned specimens were examined with an incandescent light source. Genitalia dissections were prepared by the standard method of boiling in a 10% potassium hydroxide solution for about 10–11 minutes. Dissection of genitalia was performed under a stereomicroscope (Robinson 1976; Sutrisno & Horak 2003).

Terminology used for morphological and genital characters follow Holloway *et al.* (2001).