

Isaria fumosorosea and Metarhizium anisopliae for controlling *Atteva sciodoxa* (Lepidoptera: Yponomeutidae), a pest of *Eurycoma longifolia*

ABSTRACT

Tiger moth, *Atteva sciodoxa* (Lepidoptera: Yponomeutidae), is a major pest of tongkat ali, *Eurycoma longifolia* (Simaroubaceae). To find a safe and effective method for controlling the pest, two indigenous entomopathogenic fungi, *Isaria fumosorosea* and *Metarhizium anisopliae*, isolated from bagworms *Pteroma pendula* (Lepidoptera: Psychidae), were bioassayed against the pest. The larvae were separately sprayed with concentrations of 1×10^2 to 1×10^5 conidia mL⁻¹ of each fungal isolate. Both fungi were pathogenic to third instar larvae of *A. sciodoxa*. However, *M. anisopliae* was more virulent than *I. fumosorosea*. The median effective concentrations for *M. anisopliae* and *I. fumosorosea* were 4.23×10^3 and 8.24×10^4 conidia mL⁻¹ respectively. The median infective times ranged from 4.3 to 10.3 days for *M. anisopliae* and 7.6 to 16.3 days for *I. fumosorosea*. *Metarhizium anisopliae* killed 48 to 88% larvae while *I. fumosorosea*, 26 to 62% larvae for the lowest and highest concentrations respectively, 10 days after treatment. Spraying of *M. anisopliae* at 2×10^7 conidial mL⁻¹ suspension reduced the population of *A. sciodoxa* attacking 2-year-old saplings up to 89%, 7 days after treatment. This study indicates the potential of *M. anisopliae* for controlling *A. sciodoxa*.

Keyword: Biological control; Indigenous entomopathogens; Tiger moth