

**Pathogenicity of *Beauveria bassiana* against the tiger moth *Atteva sciodoxa*
(Lepidoptera: Yponomeutidae)**

ABSTRACT

Seven isolates of *Beauveria bassiana* were screened for pathogenicity and infectivity at a concentration of 5×10^7 conidia mL⁻¹ against *Atteva sciodoxa* at $27 \pm 2^\circ\text{C}$ and $75 \pm 5\%$ relative humidity with 12 h photoperiod. Based on screening results, isolates Bba-Pp and FS-11 were further bioassayed at 1×10^6 , 5×10^6 and 1×10^7 conidia mL⁻¹. All the isolates were found to be pathogenic. However, the infectivity varied significantly among the isolates. The earliest mortality was recorded three days after inoculation, The most virulent isolate, Bba-Pp, caused 100% mortality with a median infective time (ET50) of 3.6 days on day seven following inoculation while FS-11 caused 83,3% mortality with an ET50 value of 4.1 days, Bba-S13 was the least infective isolate with 24.9% mortality and 15.3 days of median effective time. Mycelia appeared on 24 to 48 h old cadavers, The highest level of sporulation on two-week old cadavers was 150.6×10^5 Bba-Pp conidia mg⁻¹ cadaver while the lowest was 12.23×10^5 Bba-S13 conidia. The median effective concentration (EC50) of Bba-Pp was 9.89×10^5 conidia mL⁻¹ while that of FS-11 was 3.85×10^6 conidia mL⁻¹. The ET50 values 1×10^6 1×10^7 conidia mL⁻¹ of Bba-Pp ranged between 7.0 and 4.4 days, respectively, while that of FS-11 were 10.3 and 5.8 days. A strong negative correlation was found between inoculum concentrations and food consumption ($R^2 = -0.99$). The infection by Bba-Pp and FS-11I resulted in 55.8 to 72.5% reduction in food consumption by *A. sciodoxa* compared to the controls.

Keyword: *Beuveria bassiana*; Pathogenicity; *Atteva sciodoxa*; Tiger moth; *Eurycoma longifolia*; Biological control