

TITLE: WILD ENTOMOPATHOGENIC FUNGI ISOLATED FROM *Rhynchophorus palmarum* Linnaeus 1794 (COLEOPTERA: CURCULIONIDAE) IN NORTHEAST BRAZIL.

AUTHORS: DALBON, V. A. ¹; NASCIMENTO, E. S. ²; SILVA, J. M. ²; SANTOS, L. R. ³; FERREIRA, A. ¹; RIBEIRO-JUNIOR, K. A. L. ²; ACEVEDO, J. P. M. ⁴; RIFFEL, A. ⁵; GOULART, H. F. ²; SANTOS, T. M. C. ²; MARANHÃO, F. C. A. ³; SILVA, D. M. W. ³; SANTANA, A. E. G. ²

INSTITUTION: 1. Renorbio/IQB/UFAL - University Federal of Alagoas, Maceió-AL, BRAZIL. Email: viviane.dalbon@iqb.ufal.br; 2. CECA/UFAL – University Federal of Alagoas, Rio Largo, Brazil; 3. ICBS/UFAL – University Federal of Alagoas, Maceio, Brazil. 4. Colombian Corporation of Agricultural Research, Agrosavia, Colombia; 5. Brazilian Corporation of Agricultural Research – Embrapa Tabuleiros Costeiros, Sergipe, Brazil.

Rhynchophorus palmarum L. (1764), known as South american palm borer, belongs to the Coleoptera order of the Curculionidae family and feeding and ovipositing on the plants of the family Asteraceae, their habitual hosts. This insect is a plague in the coconut plantations (*Cocos nucifera*) and African oil palm trees (*Elais Guineans*). The current palm tree beetle management strategies include cultural, mechanical, behavioral, and biological practices. An environmentally viable alternative is the biological control related to behavioral with entomopathogenic fungi (EF) associated with the aggregation pheromone. The present study aimed to isolate native strains of EF that parasitize *R. palmarum* in the Alagoas State. Adult insects were caught with traps containing the rincoforol® (aggregation pheromone) associated with the sugarcane stem and distributed in lots from a coconut plantation located in the municipalities of Coruripe, São Miguel dos Milagres and Rio Largo and were captured 814 *R. palmarum* for 5 months, and a total of 100 (50 females/50 males) were kept in biochemical oxygen demand (BOD; 20 days) to evaluate the mortality and presence of EF10 insects showed fungal growth and were stored in sterile plastic recipients with moist filter paper, and fragments of the fruiting bodies were removed to incubation in potato-dextrose-agar (PDA) (25 °C; 7 days). Two distinct morphological profiles (strains 1 and 2) were identified and submitted to slide culture method for microscope analyses. The two strains produced white and powdery colonies with a white to beige reverse, with strain 1 rarely forming sinuses presenting septate, hyaline and thin-walled hyphae in groups of inflated lateral cells, which branch into conidiogenic cells globular to pyriform, isolated or in clusters, with terminal cells in the form of rachis, geniculate and denticulate. Hyaline, smooth-walled Amerospores, globose to ellipsoids are characteristic of *Beauveria bassiana*. In strain 2, the phalidus showed inflated at its base, gradually tapering towards the extremities, usually in verticillated or penicillated heads, producing hyaline amerospores, slightly pigmented, with a slightly ornamented wall, ovoid to fusoid and in basipetal succession, isolated or chain, typical of *Paecilomyces* spp. However, additional studies still need to be carried out to confirm the isolates identification and its pathogenic potential as a biological insecticide controller (pest insecticide) of the coconut and palm oil crops.

Keywords: Brazil, coleoptera, entomopathogenous pathogen, Isolate, pathogenicity,

Development Agency: Fapeal. CAPES. CNPq.