
Identification of *Aspergillus Nomius* in Floral Visitors of Brazil Nuts

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Resumo

The occurrence of aflatoxins in Brazil nuts is the main obstacle on their commercialization. The soil has been systematically recognized as the dominant source of aflatoxigenic fungi that contaminate Brazil nuts. However, their occurrence in nuts collected from the tree (*Bertholetia excelsa*) was recently reported. Among the aflatoxigenic fungi, *Aspergillus nomius* that belongs to section Flavi has been described as the main culprit for the presence of aflatoxins in Brazil nuts. *A. nomius* belongs to *A. nomius* clade besides *A. pseudonomius* and *A. bombycis*. Remarkable, their identification on the basis of morphological features is very difficult. In the present study, the β -tubulin gene sequences of all taxa belonging to the *A. nomius* clade, available in GenBank database (a total of 50), accessed at 6/14/2014) were used to design a polymerase chain reaction (PCR) primer pair (BtubNomF/ BtubNomR) to amplify *A. nomius* DNA only. In order to predict their specificity to *A. nomius* strains, the primer pair was tested in silico against all available sequences of section Flavi species. Only *A. nomius* strains sequences showed 100% of identity with the primer pair here designed. In vitro assays confirmed the BtubNomF/BtubNomR specificity supporting its utility for detecting and identifying *A. nomius*. Then we investigated the occurrence of *A. nomius* in floral visitors of *B. excelsa* tree by means of PCR and *A. nomius* was detected in the following bees: *Xylocopa frontalis*, *Bombus transversalis*,

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Centris denudans, *C. ferruginea* and *Epicharis flava*. The presence of *A. nomius* in visitor bees of Brazil nuts opens new avenues for increasing the knowledge about the contamination process of Brazil nuts by aflatoxin producing fungi.

Palavras-Chave: *Aspergillus nomius*, Brazil nuts, floral visitors

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