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RESPONSES OF *Teretrius nigrescens* TOWARD THE DUST AND FRASS OF ITS PREY, *Prostephanus truncatus*

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Abstract—*Teretrius nigrescens* is considered to be a specialized predator of *Prostephanus truncatus*, a serious pest of stored maize and dried cassava roots. Using a bait-bag behavioral bioassay, this investigation found *T. nigrescens* to be strongly arrested by dust and frass produced by *P. truncatus* on maize, whereas responses to maize flour were weak. Attempts to increase the arrestiveness of flour by altering its physical properties (coarseness or particle size range) were unsuccessful. The arrestive property of dust/frass did not degrade with long-term storage nor did it volatilize or degrade with oven baking up to 150°C. However, extraction with methanol and reapplication was successful in transferring the arrestive property from the dust/frass onto maize flour. The prey dust/frass also induced more oviposition than did maize flour, as judged by production of F1 offspring. The results provide strong evidence for the existence of a high boiling point compound(s) in *P. truncatus* dust/frass that acts as a contact kairomone for *T. nigrescens*. This, or another compound(s) also seems to act as an oviposition stimulant for female *T. nigrescens*.

Key Words—*Teretrius nigrescens*, *Prostephanus truncatus*, Coleoptera, Bostrichidae, Histeridae, predator, contact kairomone, involatile kairomone, arrestant, arrestment, oviposition stimulant.

INTRODUCTION

Prostephanus truncatus (Horn) (Coleoptera: Bostrichidae) is an important pest of stored maize that produces large quantities of dust and frass by boring. It is indigenous to Mesoamerica (Wright, 1984), but in the late 1970s was accidentally

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