

INTERMALE VARIATION IN AGGREGATION PHEROMONE RELEASE IN *Prostephanus truncatus*

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Abstract—Intermale variation in pheromone signaling has been confirmed and quantified by measurements of pheromone produced by single adult male *Prostephanus truncatus* (Horn) (Coleoptera: Bostrichidae). Males varied in both the amounts of the two components of their aggregation pheromone and the ratio of one component to the other. The mean rates of production of the pheromone components T1 and T2 were 1.9 and 0.5 $\mu\text{g/day}$, respectively. There were repeatable differences among males in the amounts of T2 produced and the proportion of T1 in the pheromone blend over two weeks. Of the 15 males studied, one released a large burst of pheromone in a short period, while the remainder, if they did release, did so over an extended period. This suggested that there may be two alternative release strategies and the significance of this is discussed.

Key Words—Aggregation pheromone, individual variation, sexual selection, larger grain borer, *Prostephanus truncatus*.

INTRODUCTION

The larger grain borer, *Prostephanus truncatus* (Horn) (Coleoptera: Bostrichidae), is an important pest of farm-stored maize and dried cassava in Africa and Central America (Hodges, 1986; Markham et al., 1991). Once a male has reached a suitable food source, an aggregation pheromone is released consisting of two components, 1-methylethyl (*E*)-2-methyl-2-pentenoate and 1-methylethyl (*E,E*)-2,4-dimethyl-2,4-heptadienoate (Cork et al., 1991; Dendy et al., 1991), given the trivial names Trunc-call 1 and Trunc-call 2 (T1 and T2), respectively. Natural and synthetic pheromone are attractive to both females and males in the laboratory

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