

Poster Abstract

Evidence of the Importance of Juvenile Hormone for Flight in *Solenopsis invicta* Female Alates and the Influence of Mating in Post-Nuptial Flight Dealation

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Juvenile hormone appears to be important in stimulating *Solenopsis invicta* female alates to engage in a nuptial flight. Alates that were topically treated with 100 μ g precocene II did not display typical pre-flight behaviors. These behaviors consist of alates ascending from the mound and climbing onto nearby vegetation. In addition, tethered precocene-treated alates could not be induced to fly.

Behaviors associated with a nuptial flight were examined in untreated female alates to determine whether one or a combination of behaviors contributes to post-mating dealation. Pre-copulatory behaviors investigated were 1) excited alates scurrying on the surface of the soil, 2) excited alates climbing onto vegetation, 3) tethered alates flying for 5min but not primed for a nuptial flight, and 4) alates displaying all of the described pre-mating behaviors. The time in which these alates were induced to shed their wings was significantly longer than that of just-mated female alates. Mating, alone or in combination with other behaviors and/or environmental cues, may be a major factor inducing dealation.