Attraction of Male Prionoxystus piger (Lepidoptera: Cossidae) to Isomers of 3,5-Tetradecadien-1-ol Acetate

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Dr. Stary has confirmed the identification of specimens reared from *Aphis gossypii* on cotton, from *Rhopalosiphum maidis* Fitch from sorghum, and *Aphis crassivora* Kock from *Gliricidia sepium*. The hyperparasite *Pachyneuron aphidis* Bouche (det. B. P. Subba Rao, Commonwealth Institute of Entomology), also emerged from the same collections of mummified aphids on *Ixora*, cotton and *Glyricidia*.

Mummified aphids parasitised by *A. mali* are small and often located away from colonies of live aphids and could have been overlooked by previous investigators. However, mummies of *L. testacipes* are readily noted and not easily overlooked. Therefore, prior to 1977, this parasite was absent or extremely scarce in Trinidad. As fresh vegetables have been imported in increased quantities from the USA and elsewhere in the Caribbean over the past two decades, it is probable that *L. testacipes* and its hyperparasite gained entry into Trinidad by this route. Its abundance since 1969 fits the view that it was absent during earlier investigations.

**REFERENCES CITED**


**ATTRACTION OF MALE *PRIONOXYSTUS PIGER* (LEPIDOPTERA: COSSIDAE) TO ISOMERS OF 3,5-TETRADECIEN-1-OL ACETATE**

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*Prionoxystus piger* (Grote) (=*P. baccharidis* Clarke) is a little-known cossid moth with a limited distribution in Florida and Cuba (Clarke 1952, Grote 1865). The larvae are borers in the main stem of *Baccharis* sp. Although a close relative of the carpenterworm (*Prionoxystus robiniae* [Peck]), an economic hardwood pest, *P. piger* is of little economic importance. Doo-
little et al. (1976) demonstrated attraction of male carpenterworm (P. robiniae) moths to (Z,E)-3,5-tetradecadien-1-ol acetate (TDDA) and suggested that it may be a component of the sex pheromone. The purpose of this study was to evaluate any attraction of P. piger to isomers of TDDA.

Trapping tests were begun shortly after pupae were found 17 February 1983, in eastern baccharis shrubs (Baccharis halimifolia L.). Isomers of TDDA, synthesized by Doolittle et al. (1976), were formulated in hexane in 7 mg/10-ml batches with 70 mg Sustane-6® (antioxidant) added. Isomeric purity was determined by gas chromatographic analysis, using a 19-m capillary column coated with 0.2% cholesteryl-p-chlorocinnamate and operated at 170°C at a linear flow rate of 18 cm/sec of helium. No detectable amount of other isomers was found in samples of Z,E- or E,Z-TDDA. Samples of E,E-TDDA contained ca. 2% each of the Z,E and E,Z isomers. (Z,Z)-3,5-Tetradecadien-1-ol acetate samples contained less than 1% of the Z,E and E,Z isomers. Cotton dental wicks used as dispensers were loaded with 250µl (437.5 µg) TDDA per wick. Treated wicks were positioned in the center of the sticky-coated bottom liners of Pherocon® 1C traps placed in the field.

Tests comparing moth attraction to the 4 isomers of TDDA were set up in a randomized complete block design on 22 February 1983. Four blocks were set up in a north-south line along a roadway in Dade Co. Florida, east of Cutler Ridge in an extensive area of B. halimifolia. Each block consisted of an unbaited control trap and traps baited with each of the 4 TDDA isomers. On 3 March (3 days after trap catches had dropped to zero), the test was repeated with new traps (rerandomized) and newly baited wicks. This provided a total of 8 treatment replicates. Within-block traps were positioned 15 to 20 m apart and were placed at heights of 1.5 to 2 m in B. halimifolia shrubs. Traps were serviced every other day.

Male P. piger were caught in traps baited with each of the 4 isomers of TDDA (Table 1). Catches of P. piger in Z,E-TDDA-baited traps were significantly greater than in all others (p >0.01) (Table 1). The possible attraction of male P. piger to all 4 isomers is unlike male P. robiniae, which is not attracted to the E,E, Z,Z, or E,Z isomer of TDDA (Doolittle et al. 1976). However, both species are attracted strongly to the Z,E isomer.

This is the first report of a sex attractant for male P. piger. After Clark (1952) this is only the second account of the species in the United States.

Table 1. Average catches of male Prionoxystus piger in Pherocon 1C traps baited with isomers of 3,5-tetradecadien-1-ol acetate. Dade County, Florida, February-March 1983.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mean ± S_x,a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z,E-TDDA</td>
<td>10.4 ± 3.5 a</td>
</tr>
<tr>
<td>Z,Z-TDDA</td>
<td>1.8 ± 2.3 b</td>
</tr>
<tr>
<td>E,E-TDDA</td>
<td>1.8 ± 2.2 b</td>
</tr>
<tr>
<td>E,Z-TDDA</td>
<td>1.2 ± 1.7 b</td>
</tr>
<tr>
<td>Control (untreated)</td>
<td>0.0 ± 0.0 b</td>
</tr>
</tbody>
</table>

*aMeans followed by same letter do not differ significantly at p <0.01, Duncan's new multiple range test.
We are grateful to D. M. Weisman and R. W. Hodges, Systematic Entomology Laboratory, USDA, Washington, DC, for identifying the larvae collected in tunnels in Baccharis shrubs and for confirming the identification of trapped moths. (Mention of a commercial or proprietary product does not constitute an endorsement by the USDA.)

REFERENCES CITED

