

STUDIES ON TOXIC, ANTIFEEDANT AND REPELLENT PROPERTIES  
OF THE DEFENSIVE SECRETION OF CORIDIUS JANUS  
FABRICIUS (HEMIPTERA, PENTATOMIDAE)

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Coridius Janus inhabits sweet pumpkin fields in the dry zone of Sri Lanka. This insect has very few predators possibly due to a defensive secretion that it produces. In the present study, effectiveness of this secretion and a synthetic mixture of its major volatile constituents, t-2-hexenal and n-tridecane, 60:40 w/w, (Gunawardena and Ranatunga, 1987) were tested against seven insect pests viz. Periplaneta americana, Sitophilus oryzae, Tribolium castaneum, Musca domestica, Oecophylla smaragdina, Eurema hecabe and Dysdercus cingulatus.

Toxicity was tested by topical application. Feeding deterrency was tested by measuring the consumption of their food source treated with the secretion or the mixture as compared with the untreated food source. Topical irritancy was tested by cockroach irritancy assay (Pescheke and Eisner, 1987) and repellency by means of an insect olfactometer.

The natural secretion was highly toxic to S. oryzae and M. domestica ( $LD_{50} < 1 \mu g$ ) and moderately toxic to the other test insects except P. americana ( $1 \mu g < LD_{50} < 125 \mu g$ ) which was unaffected even at the dosages upto 1mg. This secretion was a feeding deterrent to S. oryzae, E. hecabe and D. cingulatus, a topical irritant to P. americana and a repellent to O. smaragdina and D. cingulatus. The synthetic mixture was less effective than the natural secretion as an insecticide. However, both were equipotent as feeding deterrents and repellents to the pest species studied.

- References: 1. Gunawardena N.E., and Ranatunga P.R., (1987)  
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2. Peschke K., and Eisner T. (1987) J. Comp. Physiol.  
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