

# Luring triatomines (Hemiptera: Reduviidae) into a trap : aliphatic and aromatic aldehydes as attractants of triatoma infestans

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## Abstract

To assess the attracting capacity of aliphatic and aromatic aldehydes to *Triatoma infestans*, the Chagas disease vector, laboratory tests were conducted using individual compounds and mixtures to evaluate their potential use in baited traps for intradomicile population dynamics analysis. Commercial samples of hexanal, nonanal, and benzaldehyde were used at 95% purity. The experiments were performed at 25°C and 65% relative humidity using two procedures: a glass arena with filter papers impregnated with 1, 5, and 10 QL of the tested compounds and a double-choice olfactometer. Attraction was scored positively if the insect remained more than 30 seconds on one of the surfaces. The results of the study showed that hexanal was attractive to females at higher concentrations (5-10 QL;  $P < 0.0001$ ), and IV instar nymphs were only attracted at the highest concentration (10 QL;  $P < 0.01$ ). Nonanal was attractive to IV instar nymphs at 1 and 5 QL ( $P < 0.0001$ ), whereas males and females were more attracted at 1 QL ( $P < 0.01$  and  $P < 0.05$ , respectively). Benzaldehyde showed significant differences with respect to controls, attracting females at low concentrations (1 QL;  $P < 0.0001$ ) and IV instar nymphs at 5 and 10 QL ( $P < 0.0001$  and  $P < 0.001$ , respectively). In the olfactometer, the 60:40 hexanal/nonanal mixture was the most effective. In conclusion, this study demonstrated that the aliphatic and aromatic aldehydes studied here, both individually and in mixtures, could be used as effective attractants for *T. infestans* in intradomicile-baited traps. These results suggest that mixtures of these compounds could be implemented in field trials for Chagas disease surveillance.