

BEHAVIORAL RESPONSES TO ASIAN LONGHORNED BEETLE PHEROMONES

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ABSTRACT

Despite their importance, monitoring and management tools for Asian longhorned beetle (ALB) (*Anoplophora glabripennis*) have remained elusive to date. In 2002, two male-produced chemicals were isolated from ALB adults that elicited strong GC-EAD responses from both sexes of ALB. In 2005, two female-produced chemicals were also isolated from trail washes of ALB females. The volatile male-produced chemicals, one alcohol and one aldehyde, were recently tested. Four different concentrations of each chemical alone, and a 1:1 mixture of the two, were tested in a glass tube arena using a unidirectional wind. This pheromone attracted virgin females but not males, suggesting this could be

a male-produced sex pheromone. The female-produced chemicals were applied in mixture in choice tests on maple twigs, where one branch was painted with the pheromone; this was repeated using maple logs divided into equal compartments. Virgin females and virgin males were tested separately. This pheromone attracted males, but was avoided by females. While further studies are planned, results suggest that tools to monitor female ALB adults in the field and to disrupt reproductive behavior are possible outcomes. Further studies will be conducted to determine the distance over which attraction occurs; field tests in China are planned for summer 2007.