

# Response of *Xyleborus Fornicatus* Eichhoff to Some Volatile Compounds Identified From Tea Bark

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## ABSTRACT

Some of the volatile compounds present in the bark of tea (*Camellia sinensis* Kuntze) were identified, and examined for their attractant or repellent properties on the adult beetles of *Xyleborus fornicatus* Eichhoff, both under laboratory and field conditions. The selected volatile compounds were used individually and in combination in an olfactometer in the laboratory, and in vertical sticky traps in the field. Field experiments were carried out at selected locations in three geographically-different zones in the tea-growing areas of Sri Lanka, namely the mid-elevation wet zone (Hantane Estate), the mid-elevation dry zone (Attampitiya Estate), and the up-country (St. Coombs Estate).

The olfactometer studies revealed that crude extracts, obtained from the uninfested bark of the tea cultivars, TRI 2025 and TRI 2023, attracted higher numbers of beetles than the numbers attracted by the infested bark. *X. fornicatus* beetles were attracted to the volatile compounds, such as phenyl acetaldehyde, methyl salicylate and linalool, while they did not show any response to geraniol and trans-2 hexenal in the laboratory, or in the field at any of the three field locations. Different combinations (two compounds at a time) of linalool, methyl salicylate and phenyl acetaldehyde attracted more beetles than the compounds individually.