Tea bark volatile compounds for X*yloborus fornicatus* (*Colioptera: Scolytidae*) host-finding and applications for its management

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Abstract.

Five volatile chemical compounds isolated from the tea bark were examined for their attractant or repellent properties towards the shot-hole borer (*Xyleborus fornicatus*), both under laboratory and field conditions in Sri Lanka. Modified olfactometer was used to examine the beetle response to individual and different combinations of the volatile compounds from the tea bark in the laboratory. The vertical sticky traps were used for testing the same under field condition. The field experiments were carried out in three geographically different locations in tea growing areas of Sri Lanka, the mid country wet zone (Hantane estate), mid country dry zone (Attampettiya estate) and up country (St. Coombs estate). The volatile compounds , Phenyle acetaldehyde and methyl salicylate have significantly increased trap capture at St. Coombs estate whereas, Linalool showed comparatively a mild attraction. However, Linolool significantly increased trap capture at Attampitiya and Hantane estates while methyl salycilate and phenyl acetaldehyde showed a mild attraction. Shot-hole borer beetles were less attracted or they did not show any response to the two volatile compounds, geraniol and t-2 hexanal at any of the three locations. When used in combination (two chemicals at a time) Linolool, methyl salicylate and phenyl acetaldehyde attracted more beetles than the individual compounds. Beetles were not attracted to the combination of geraniol and t-2 hexanal. Observations made on beetle response to volatile chemical compounds in the laboratory and in the field are similar. The possibility of the use tea bark volatile compounds in the management of *X. Fornicatus* in tea.is discussed