

ABSTRACT

Plesispa reichei Chapuis (Coleoptera: Chrysomelidae) is an introduced pest in Sri Lanka that has caused economic damage to palm trees (Arecaceae, Palmae). It is spreading rapidly in all coconut growing areas in the country causing serious damage to coconut seedlings and young palms with age up to 5 years. The response of this beetle to coconut palm (*Cocos nucifera*) leaf volatiles is investigated in laboratory bioassays to develop a semiochemical based control method. Attraction of *P. reichei* for six types of chemical volatile compounds which consist in immature coconut leaf profile were investigated. Both sexes were attracted to (+) Limonene, β -Myrcene and α -Pinene volatiles in 0.01% (V/V), 10% (V/V) and 0.1% (V/V) concentrations respectively. Behavioral responses of this beetle for different volatile blends of identified volatile compounds were studied. 1:1 ratio of β -Myrcene (10%): (+) Limonene (0.01%), 1:1:1 ratio of α -Pinene (0.1%): β -Myrcene (10%): (+) Limonene (0.01%) and 1:2 ratio of α -Pinene (0.1%): (+) Limonene (0.01%) were selected as the potential blends for *P. reichei* management.

Key words: Coconut leaf volatiles, *Cocos nucifera*, Olfactometer, *Plesispa reichei*, Semio-chemicals.