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Cashew volatile extracts reduce attractiveness of host plant volatiles to *Diaphorina citri* Kuwayama (Hemiptera: Liviidae)

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Huanglongbing (HLB) is the most severe disease of citrus. *Diaphorina citri* is a vector of the bacterial causative agent of HLB. Management practices for reducing HLB impacts include eradication of symptomatic trees, use of healthy plants and vector control. Manipulating insect behaviour through deployment of semiochemicals offers a promising prospect for protecting citrus crops. The aim of this research was to evaluate the behavioural responses of *D. citri* to plant volatile extracts. Volatiles were collected from host plants *Murraya paniculata*, *Citrus sinensis*, *C. reshni*, *C. limettioides*, *Poncirus trifoliata*, and from non-host plants *Psidium guajava*, *Mangifera indica*, *Anacardium occidentale*. In behavioural assays (four-arm olfactometry), *D. citri* spent more time in arms containing volatiles from either *M. paniculata* or *C. sinensis* compared to the control arms. In response to volatiles from *A. occidentale*, they preferred the control arm. Volatiles from the other plants did not influence the insect behaviour. Chemical analyses of volatiles from *C. sinensis*, *M. paniculata*, and *A. occidentale* revealed the presence of (*E*)-4,8-dimethylnona-1,3,7-triene (DMNT) and (*E,E*)-4,8,12-trimethyltrideca-1,3,7,11-tetraene (TMTT) in higher amounts in *A. occidentale*. In another series of behavioural bioassays, *D. citri* spent less time in arms containing a synthetic blend of DMNT and TMTT and in arms containing the synthetic blend in combination with volatiles from either *M. paniculata* or *C. sinensis* compared to the control arms. A blend of DMNT and TMTT, combined with the VOCs from host plants, inhibited the foraging behaviour of *D. citri*, indicating that these chemicals could be involved in the lack of attraction of *D. citri* to cashew volatiles.

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