# The blackberry cane-boring sawfly – what does its DNA tell us about its host specificity?

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**Summary** European blackberry taxa (*Rubus fruticosus* L. agg.) are a major threat to natural and agricultural ecosystems in Australia. Biocontrol using the leaf rust fungus, *Phragmidium violaceum* has achieved some advances in the suppression of susceptible *Rubus* genotypes, but the rust is not effective in low rainfall or moisture-stressed habitats. New agents for blackberry are still required and research should concentrate on natural enemies attacking blackberry crowns and primocanes (first year canes) because they are likely to have greater impacts on infestation characteristics. Larvae of the cane-boring sawfly, *Phylloecus faunus* (= *Hartigia albomaculata*) tunnel within the primocanes causing them to weaken and break thereby reducing daughter plant production. Initial host specificity testing conducted during the 1970s indicated that some *Rosacea* species might be at risk of attack, although it was suspected that the lab-based trials might have overestimated the true host range of this insect. Using DNA barcoding to rapidly identify larval specimens, we conducted a field survey in Mediterranean Europe to further our understanding of the field host range of *P. faunus* as a first step to assessing its potential as a candidate agent for the biological control of European blackberry in Australia. All specimens of *P. faunus* were collected exclusively from *Rubus fruticosus* and no evidence of the sawfly was found in *Rosa canina* plants growing nearby. Instead, a different sawfly species, *Cladardis elongatula* was found within *R. canina* canes. This study gathered supporting evidence that the ecological host range of the blackberry sawfly might be more restricted than initial studies suggest. Further investigation to assess its safety for introduction into Australia should be considered.

**Keywords** European blackberry, DNA barcoding, *Phylloecus faunus*