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SPECIFICITY OF PLANT–PLANT COMMUNICATION FOR *BACCHARIS SALICIFOLIA* SEXES BUT NOT GENOTYPES

Xoaquín Moreira, Colleen S. Nell, Maria M. Meza-Lopez, Sergio Rasmann and Kailen A. Mooney

Study Description

In order to identify the chemical mechanisms underlying sex-specificity in plant–plant communication, we used artificial emitters (right) to expose *B. salicifolia* to volatile compounds induced by *U. macolai* feeding (left) and compared the performance of *U. macolai* on the experimental plants. Of the seven compounds induced by *U. macolai* feeding (speaking), pinocarvone emission was ca. fivefold greater in female than in male plants. When plants were exposed to pinocarvone in isolation via artificial emitters (right), *U. macolai* performance was reduced, with aphids feeding on male and female plants affected equally (listening).

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Photo 1. Left panel: A reproductive adult and nymph of aphid species *Uroleucon macolai* feeding on *Baccharis salicifolia* (left). This aphid species has an exceptionally narrow diet breadth, feeding exclusively upon non-woody terminal stems of *B. salicifolia* (a dioecious species) and one other congener species. Feeding by *U. macolai* causes the plant to emit volatile signals that induce anti-herbivore defenses in neighboring plants (i.e., plant–plant communication). Right panel: An artificial emitter is used to expose *B. salicifolia* to volatile compounds induced by *U. macolai*. Photo credit: C. S. Nell.

These photographs illustrate the article "Specificity of plant–plant communication for *Baccharis salicifolia* sexes but not genotypes" by Xoaquín Moreira, Colleen S. Nell, Maria M. Meza-Lopez, Sergio Rasmann, and Kailen A. Mooney published in *Ecology*. https://doi.org/10.1002/ecy.2534