Annotated Bibliography
BIOL 862.01 Fall 2004
Plant and Animal Interactions
Cynthia Fenter

Galen, C. and Butchart, B. 2003. Ants in your plants: effects of nectar-thieves on pollen fertility and seed-siring capacity in the alpine wildflower, Polemonium viscosum. Oikos 101: 521-528. Very interesting methods (involving a moat around a ‘flower island’)! Ants secrete a compound that inhibits pollen hydration. Evidence for a negative effect on male fitness due to ant interaction with pollen.


Irwin, R.E. and A.K. Brody. 1998. Nectar robbing in Ipomopsis aggregata: effects on pollinator behavior and plant fitness. Oecologia 116: 519-527. Very dense methods, but seemingly thorough body of work on this particular system (see next four papers below). Found negative effects on plant fitness (lower fruit and seed set) and visitation rate.


Irwin, R.E. 2000. Hummingbird avoidance of nectar-robbed plants: spatial location or visual cues. Oikos 91: 499-506. Shows that hummingbirds definitely avoid plants with higher levels of nectar robbing. Was not able to determine how, but rules out a number of visual cues.

Irwin, R.E. and J. E. Maloof. 2002. Variation in nectar robbing over time, space, and species. Oecologia 133: 525-533. Comparison of nectar robbing levels between four species of plants. Found high variation between species and within species over time and space. Findings may have implications on floral trait selection.

Irwin, R.E. 2003. Impact of nectar robbing on estimates of pollen flow: conceptual prediction and empirical outcomes. Ecology 84(2) 485-495. Had the most difficult in interpreting this last paper. Although there was evidence for a positive effect due to possible outcrossing, author insists that this effect is outweighed by
reduced pollinator visits. I was not entirely convinced that there was no bias in the discussion.


Maloof, J.E. and D.W. Inouye. 2000. Are nectar robbers cheaters or mutualists? Ecology 81(10) 2651-2661. Excellent review of work before 2000. Highly recommended as an initial read to understand basic questions that have been explored and what possible future work may help to gain a deeper understanding of nectar robbing behavior.


Navarro, L. 2000. Pollination ecology of Anthyllis vulneraria subsp. vulgaris (Fabaceae): nectar robbers as pollinators. American Journal of Botany 87(7): 980-985. More of a pollination paper than thorough exploration into the effect of nectar robbing (no experiments per se, and therefore no control). Found a positive effect, but also observed nectar robbers pollinating.


**Stout, J.C., J.A. Allen and D. Goulson.** 2000. Nectar robbing, forager efficiency and seed set: Bumblebees foraging on the self incompatible plant *Linaria vulgaris* (Scrophulariaceae). *Acta Oecologica* 21(4-5): 277-283. Found neutral effect of nectar robbers on plant. Found long-tongued bees to be the legitimate pollinator and short-tongued bees to be the nectar robbers consistently. Discussed possibility that the high abundance of both pollinators and nectar robbers could account for effects. Convincing paper.

**Traveset, A., M.F. Willson, and C. Sabag.** 1998. Effect of nectar-robbing birds in fruit set of *Fuchsia magellanica* in Tierra Del Fuego: a disrupted mutualism. *Functional Ecology* 12: 459-464. Often cited in the more recent literature. Authors found a negative effect on fruit set. The most interesting part of this investigation was that the authors also measured nectar robbing levels in rare flower morphs of this plant. Found evidence for lower nectar robbing on rarer flower morphs. Evolutionary implications?