

Honest floral signaling traits vary across and within populations in a generalist-pollinated plant

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Abstract

In flowering plants that produce concealed rewards, pollinator foraging preferences may select for traits that are correlated with rewards. We tested for variation in, and selection on, honest signals across and within populations and mating systems in *Arabis alpina*. In a greenhouse common garden, we tested for correlations between corolla area, floral scent, and nectar volume in 29 populations. In 12 field populations, we estimated pollen limitation and pollinator-mediated selection on corolla area. Across and within populations and mating systems, larger flowers generally produced more nectar. Total scent emission was not correlated with nectar production, but two compounds—phenylacetaldehyde and benzyl alcohol—may be honest signals in some populations. Corolla area was not under contemporary selection and was correlated with pollen limitation only across populations. Our results suggest that honest signals may be similar across populations but may not result from contemporary direct selection on floral advertisements.

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