

What Mechanisms Determine Host Plant Quality?

Hemiparasite Root

Haustorium

Host Root

Photo by Scott Braswell
Molecular Analysis Facility

300µm

Hemiparasite (*Castilleja levisecta*)

Host (*Achillea millefolium*)

Background: Parasitic plants form haustoria, structures that attach to the vascular root tissue of other plants, to extract water, carbon, and mineral nutrients from their hosts. Hemiparasites are parasitic plants that are photosynthetically active. Performance of the hemiparasite varies with host identity. For example, species in the genus *Castilleja* perform best when attached to some host plants (“high quality” hosts) versus others. Our understanding of the mechanisms that determine host plant quality is incomplete.

Current Research: Using the study species *Castilleja levisecta* (golden paintbrush) I am studying how host identity influences the quality of haustorial connections, and the transfer of mineral nutrients and bacteria from host to parasite.

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