

Intraspecific Variation of *Diorhabda elongata*: implications for classical biological control of invasive *Tamarix* spp. weeds. Hillary Thomas, University of California, Davis

The role of intraspecific variation for improving the success of classical biological control has incited increasing interest in recent years. The Asian leaf beetle, *Diorhabda elongata* (Coleoptera: Chrysomelidae) is a classical biological control agent that has been released against invasive *Tamarix* spp. (Caryophyllales: Tamaricaceae) weeds in the Western United States. *D. elongata* causes observable defoliation and damage to *Tamarix* spp. where it has established, but has failed to establish in California. Both host range testing and field collected data detected significant differences in *D. elongata* host preferences for invasive *Tamarix ramosissima* over *Tamarix parviflora*, while the latter dominates Northern California release sites. I sequenced a portion of the mitochondrial gene CO1 using the primers S1859 and A2590 for newly collected specimens in the beetle's native range to (1) Detect possible differences in allelic frequencies between populations found on *T. parviflora* and *T. smyrnensis*, a *Tamarix ramosissima* synonym, (2) Detect regional population structure that may reflect unexploited phenotypic variation for herbivory on *T. parviflora* present in the beetle's native range, and (3) Compare genetic variation between wild and laboratory populations.