Impacts of Invasives on Insects and other Arthropods

Santa Barbara Botanic the GARDEN

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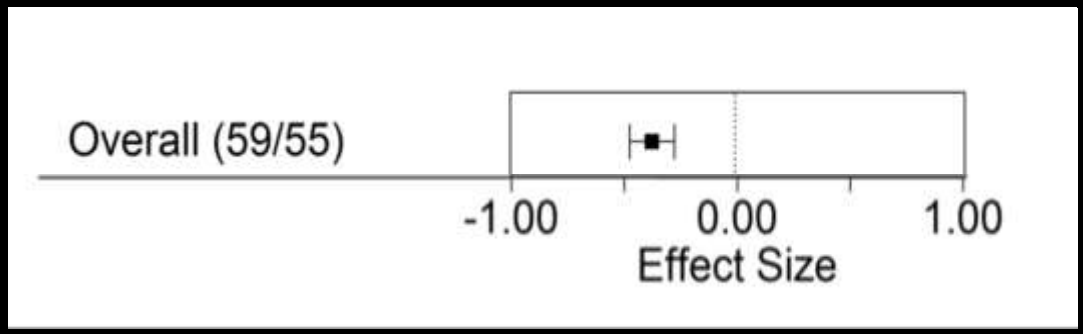
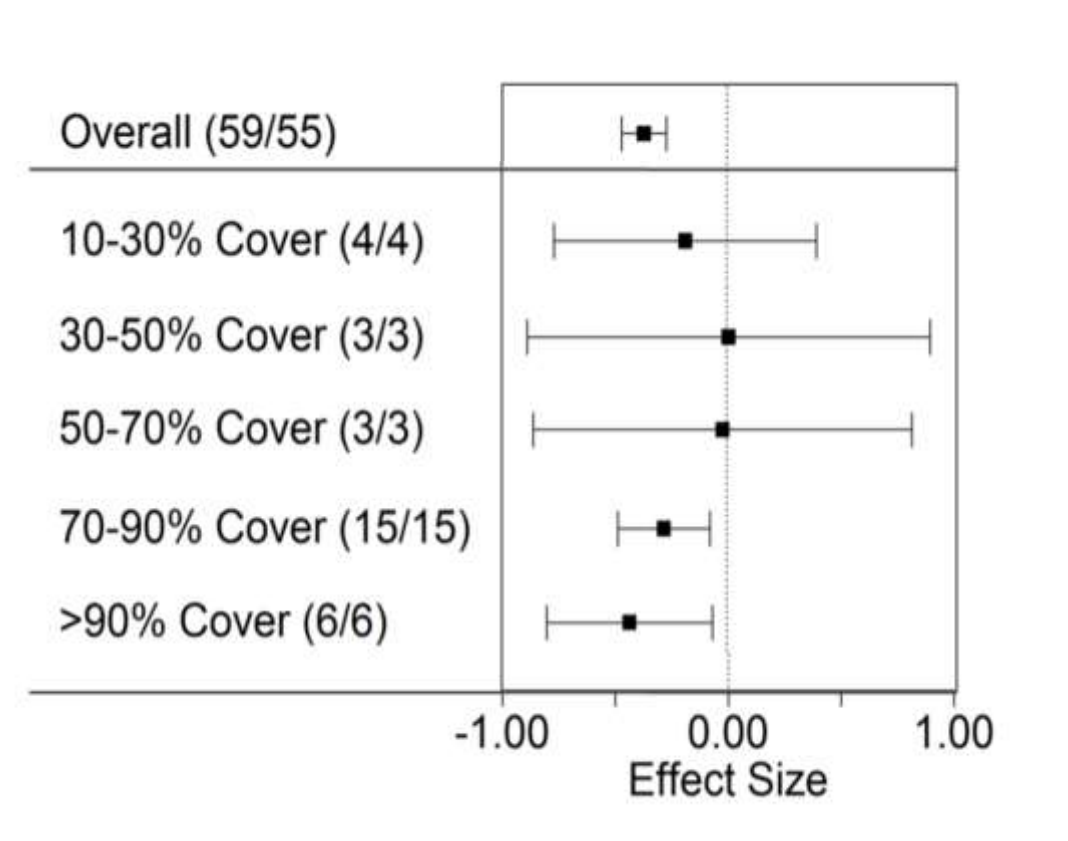
Meta-analysis of 55 studies reveals: Arthropod species richness is 31% lower in invaded areas.



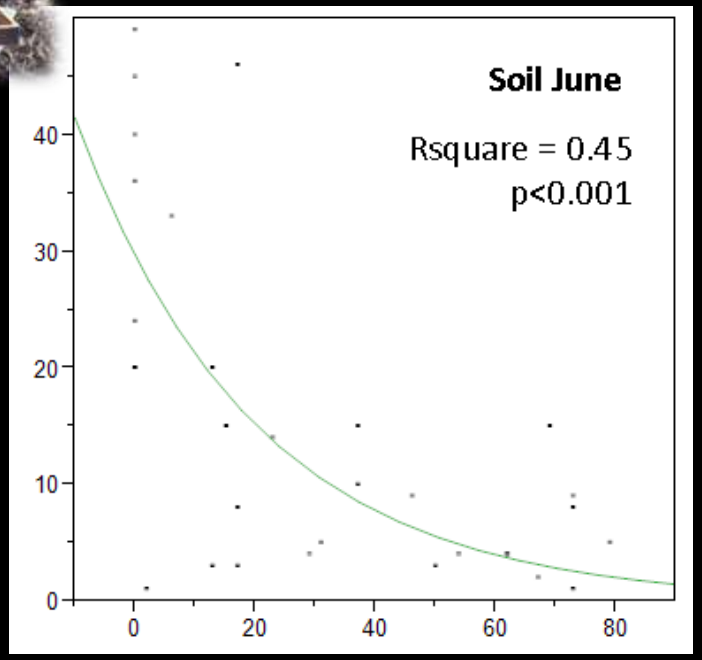
Meta-analysis of 55 studies reveals: Arthropod species richness is 31% lower in invaded areas.

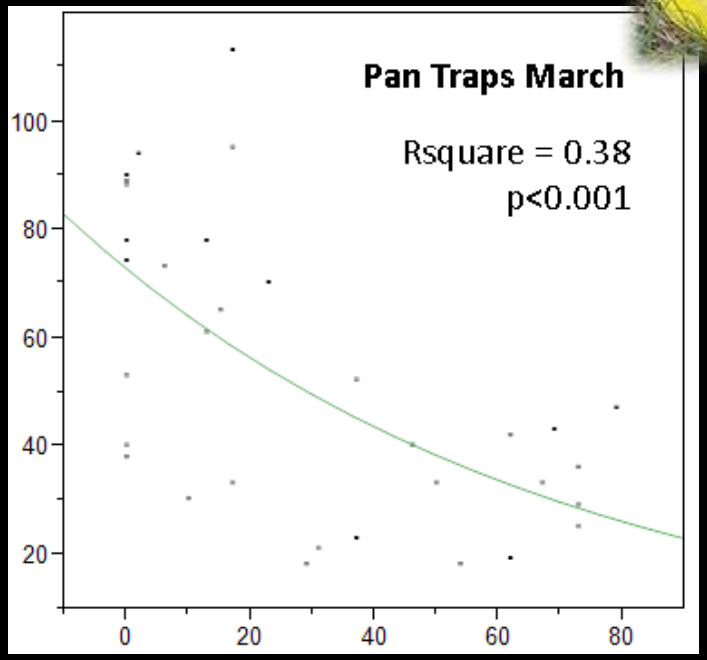
Negative effects strongest after 70% cover of invader



BUT: arthropod abundance and richness decrease dramatically with increasing *Carpobrotus edulis* cover.

Specialists, fossorial insects were the big losers





***Carpobrotus* cover**

Mesembryanthemum crystallinum reduces arthropod richness, functional diversity; changes composition











Eight of nine pollinator studies found that species richness was lower on non-native than native plants

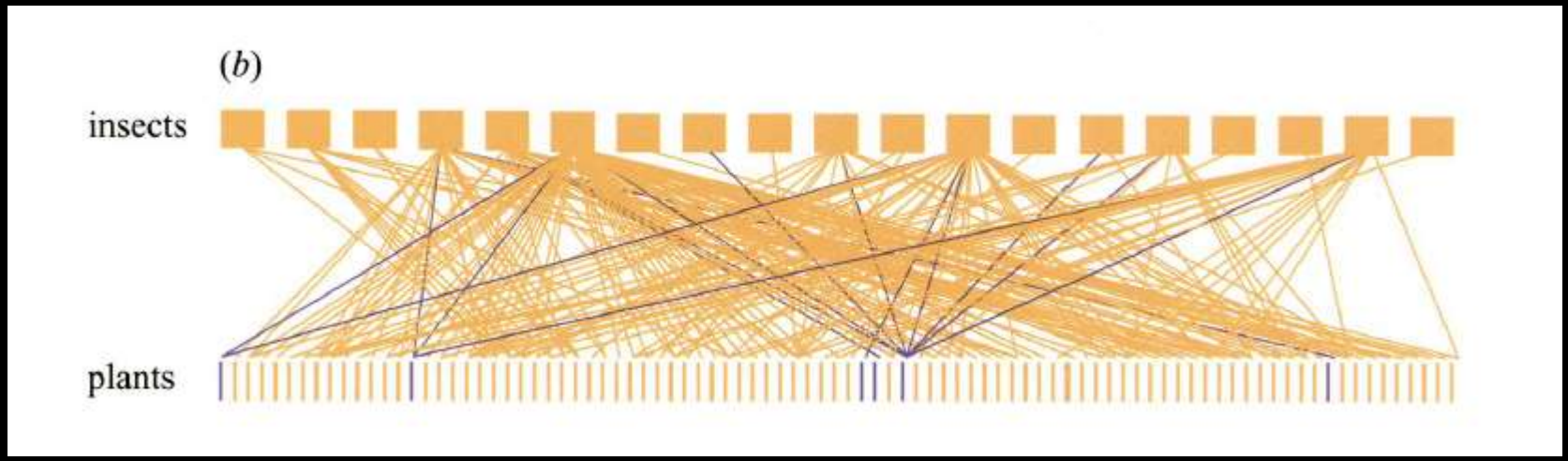


Generalists species like honeybees commonly use non-natives; specialists are most negatively affected

Photos by Rollin Coville; Thanks to the Urban Bee Lab at U.C. Berkeley (www.helpabee.org)

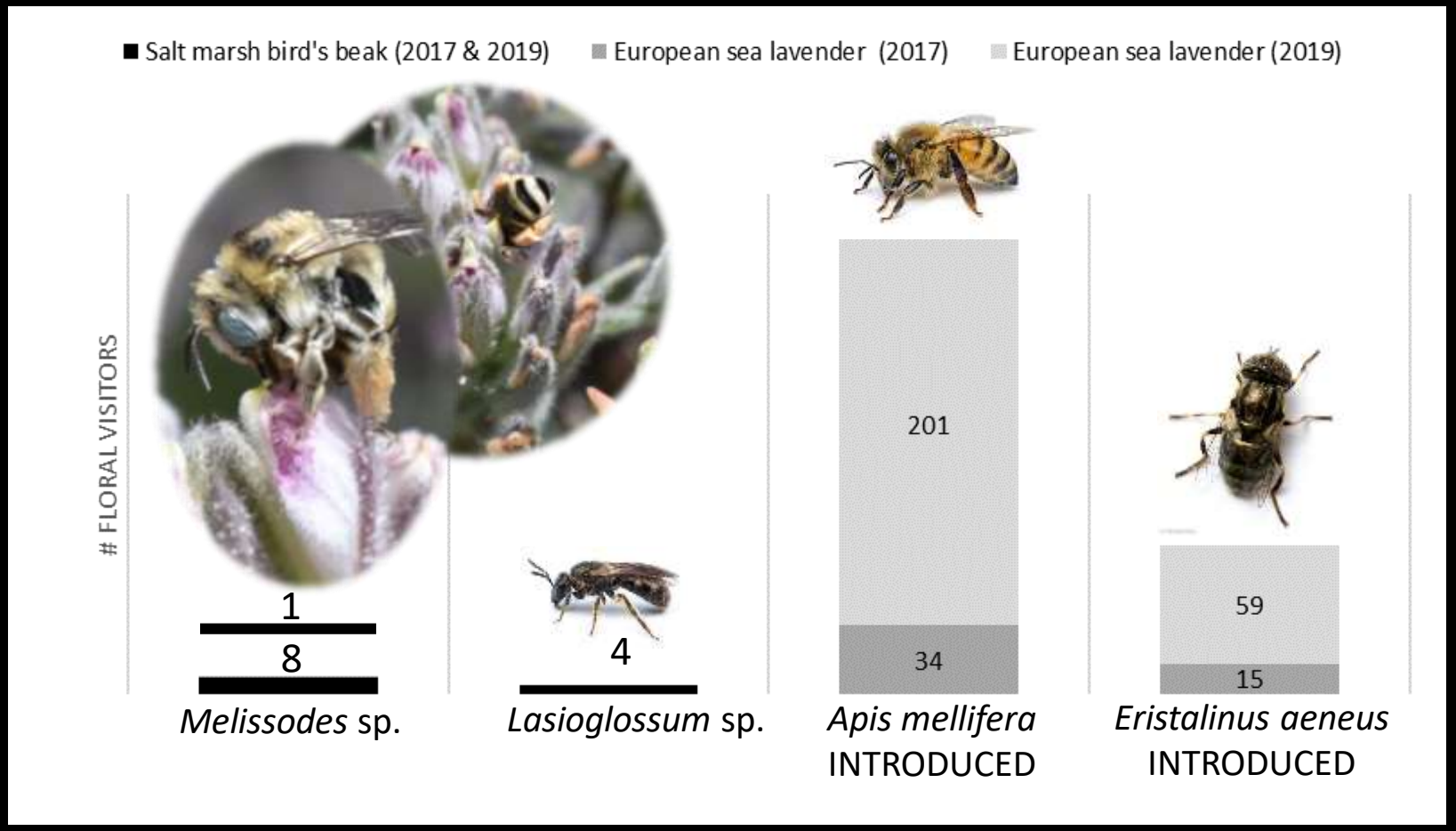
Flowers of alien plants are visited by significantly fewer animal species than those of native plants (and most are generalists)

Memmott and Waser 2002:



In a web of interactions, alien plants are less richly connected than natives

A common phenomenon:
European sea-lavender supports **European** flower visitors



This is bad for the endangered Salt Marsh Bird's Beak

(Calloway & Knapp, CalIPC poster)