Speaker:

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Date: Monday, Oct. 12, 2020
Time: 4:00 pm - 4:50 pm
Zoom: 952-3324-4564
Passcode: 835322

Title:

"Exploring bee assemblages in commercial plant nurseries"

Abstract:

California is the top state in horticulture and contains numerous plant nurseries. Open-air nurseries hold many species of containerized flowering plants throughout the year, with at least some blooming at any given time. Despite growers seldomly requiring nursery stock to be pollinated, many varieties of ornamental plants are attractive to beneficial insects, particularly native bees. Large-scale nurseries thus represent diverse and dynamic artificial assemblages of flowering plants that can provide reliable pollen and nectar resources for these pollinators. We aimed to characterize native bee assemblages associated with different types of nurseries and to evaluate these areas' potential as bee habitats. We sampled bees using sweep netting and vane trapping in spring, summer, and autumn at thirteen plant nurseries in southern California, half of which specialized in California-native plants. Over three years, we detected 40 genera and over 150 species of bees. We documented plant associations for well over half of these species, spanning over 90 species of ornamental plants. We examined how nursery and landscape characteristics influence the composition of the resident bee assemblage—particularly with regard to bee functional traits like diet breadth, nesting location, and social organization—as well as the structure of plant-bee interaction networks. Knowledge of native bee diversity and floral associations in these agricultural systems can help inform management strategies serving to support entire local bee assemblages. Such strategies can serve to minimize exposure of wild bees to potential stressors like pesticides, while simultaneously reflecting positively on environmentally minded consumers.