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SIPPING ON NECTAR: BUTTERFLIES AND FLOWERS IN OAK SAVANNAS ON VANCOUVER ISLAND, BRITISH COLUMBIA

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Study Description

The negative impacts of non-native species have been well documented, but some non-natives can play a positive role in native ecosystems. We conducted field surveys of butterflies and flowering plants in oak savannas and found that non-native flowers are well integrated into native butterfly nectar diets. We provide novel evidence on the phenological patterns of flowering and foraging to show that non-native flowers are the main source of food for adult butterflies later in the season. Our study shows that non-native species have the potential to drive key species interactions in seasonal ecosystems.

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Photo 1. View of a Garry oak savanna field site in Camrose Park, Victoria, BC, Canada. Oak savannas in the region are characterized by rocky outcroppings, a dense understory of forbs, and an open canopy of mostly Garry oak trees (*Quercus garryana*) mixed in with Douglas Firs (*Pseudotsuga menziesii*) and Arbutus (*Arbutus menziesii*). In front of the treeline, the nectar-less yellow flowers of invasive Scotch Broom (*Cytisus scoparius*) can be seen. Photo credit: Stephanie A. Rivest.



Photo 2. Examples of flowering plants recorded in Garry oak savannas around Victoria, BC. Western Buttercup (top left panel: *Ranunculus occidentalis*) and Sea Blush (top right panel: *Plectritis congesta*) are native to the region, while Himalayan Blackberry (bottom right panel: *Rubus armeniacus*) and Cornflower (bottom right panel: *Centaurea cyanus*) are non-native. Photo credit: Stephanie A. Rivest.



Photo 3. A native Propertius Duskywing (*Erynnis propertius*) butterfly foraging for nectar on a native White Brodiaea (*Triteleia hyacinthine*) flower in an oak savanna in Victoria, BC. Photo credit: Stephanie A. Rivest.



Photo 4. A native Painted Lady (*Vanessa cardui*) butterfly foraging for nectar on a native Oceanspray (*Holodiscus discolor*) flower in an oak savanna in Victoria, BC. Photo credit: Stephanie A. Rivest.



Photo 5. A native Lorquin's Admiral (*Limenitis lorquini*) perched on a researcher's hand during a field survey of an oak savanna in Victoria, BC. The butterfly's proboscis explores the researcher's skin, hoping to collect the sodium from sweat. Photo credit: Stephanie A. Rivest.

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