

TOP NATIVE PLANTS FOR BEES AND GARDENERS

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INTRODUCTION

We addressed two questions related to garden plants and bees:

- Which native plants are most attractive to bees *and* gardeners?
- Can knowledge of which bees visit particular native plants improve gardeners' impressions of uglier flowers?



Native bee on *Solidago canadensis*

METHODS

We selected 23 native plants that:

- were tolerant to full sun and summer drought
- were reported to have value to beneficial insects
- had potential to perform well in urban gardens

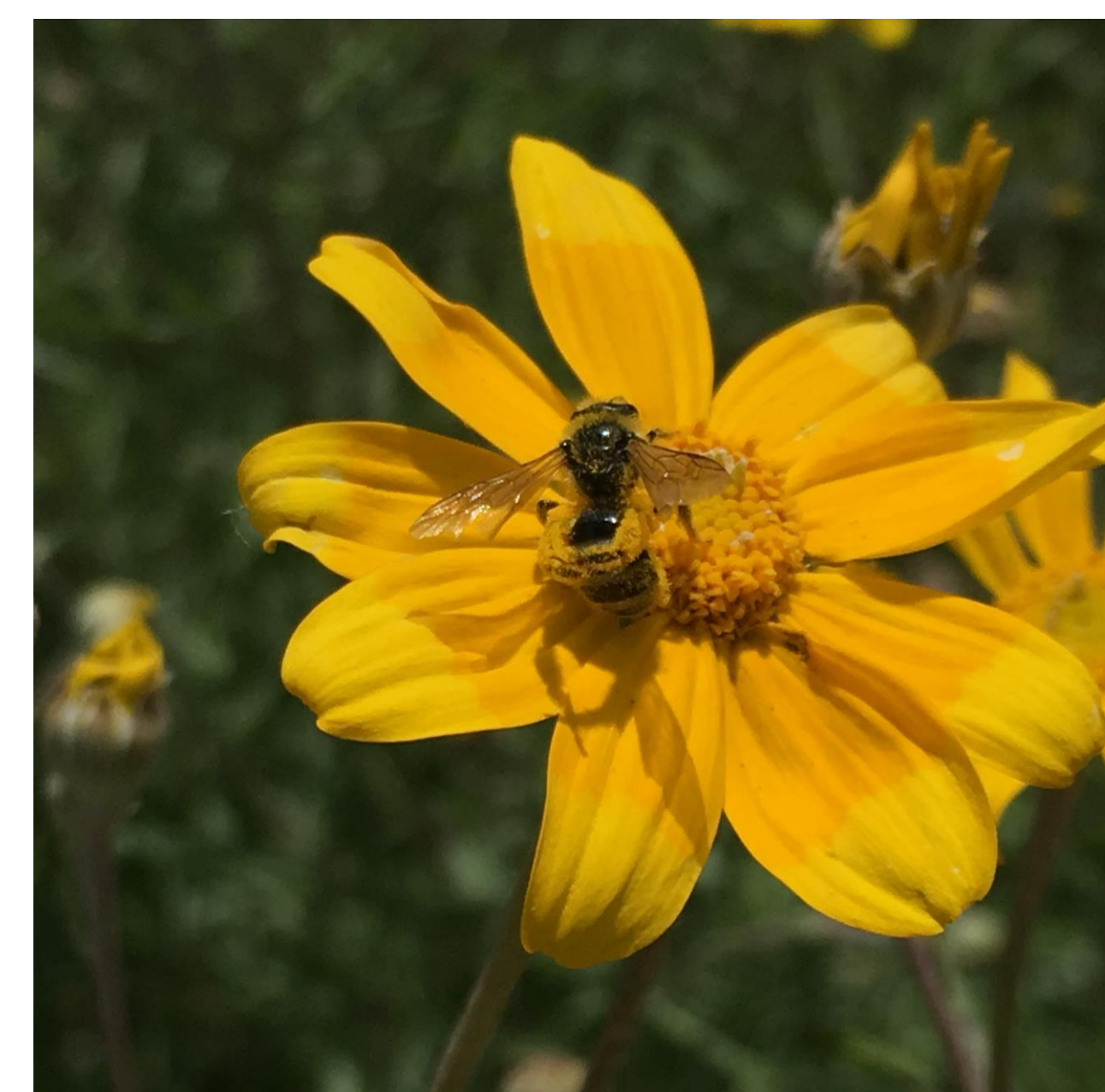
We studied which plants were most attractive to bees in a separate field study (not shown). We coupled the information from our field study with a series of surveys to address our study questions.

Surveys

- Created an online surveys with photographs of each species, and disseminated it via email and social media
- Recruited gardeners were asked to rank the attractiveness of each plant on a 1-5 Likert scale, as well as how likely they would be to plant each species in their home gardens.
- **Survey one** included all 23 plants.
- **Survey two** included a subset of 11 wildflowers identified as particularly attractive to pollinators in an accompanying field study.
- After the initial ranking, information was shared about the attractiveness of each of these 11 flowers to pollinators, and respondents were asked to re-rate how attractive they found each species and how likely they would be to plant them.
- In both surveys, gardeners had the option to make comments on each species.



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Native bee on *Eriophyllum lanatum*

HOW LIKELY ARE GARDENERS TO PLANT FLOWERS? (SURVEY ONE)

	<i>Aquilegia formosa</i> Western columbine Likelihood of Planting: 4.61		<i>Iris tenax</i> Oregon iris Likelihood of Planting: 4.45
	<i>Sisyrinchium idahoense</i> Idaho blue-eyed grass Likelihood of Planting: 4.33		<i>Camassia leichtlinii</i> Great camas Likelihood of Planting: 4.25
	<i>Gilia capitata</i> Globe gilia Likelihood of Planting: 4.21		<i>Sedum oregonense</i> Cream stonecrop Likelihood of Planting: 4.16
	<i>Nemophila menziesii</i> Baby-blue-eyes Likelihood of Planting: 3.99		<i>Asclepias speciosa</i> Showy milkweed Likelihood of Planting: 3.97
	<i>Symphyotrichum subspicatum</i> Douglas aster Likelihood of Planting: 3.92		<i>Achillea millefolium</i> Common yarrow Likelihood of Planting: 3.87
	<i>Helianthus annuus</i> Common sunflower Likelihood of Planting: 3.83		<i>Eschscholzia californica</i> California poppy Likelihood of Planting: 3.81
	<i>Clarkia amoena</i> Farewell-to-spring Likelihood of Planting: 3.78		<i>Eriophyllum lanatum</i> Oregon sunshine Likelihood of Planting: 3.73
	<i>Fragaria vesca</i> Wild strawberry Likelihood of Planting: 3.73		<i>Collinsia grandiflora</i> Giant blue-eyed Mary Likelihood of Planting: 3.72
	<i>Madia elegans</i> Common madia Likelihood of Planting: 3.55		<i>Lupinus polycarpus</i> Miniature lupine Likelihood of Planting: 3.54
	<i>Anaphalis margaritacea</i> Pearly everlasting Likelihood of Planting: 3.51		<i>Sidalcea asprella ssp. virgata</i> Rose checkermallow Likelihood of Planting: 3.44
	<i>Solidago canadensis</i> Canada goldenrod Likelihood of Planting: 3.02		<i>Acmispon parviflorus</i> Smallflower lotus Likelihood of Planting: 2.74
	<i>Phacelia heterophylla</i> Varileaf phacelia Likelihood of Planting: 2.73		

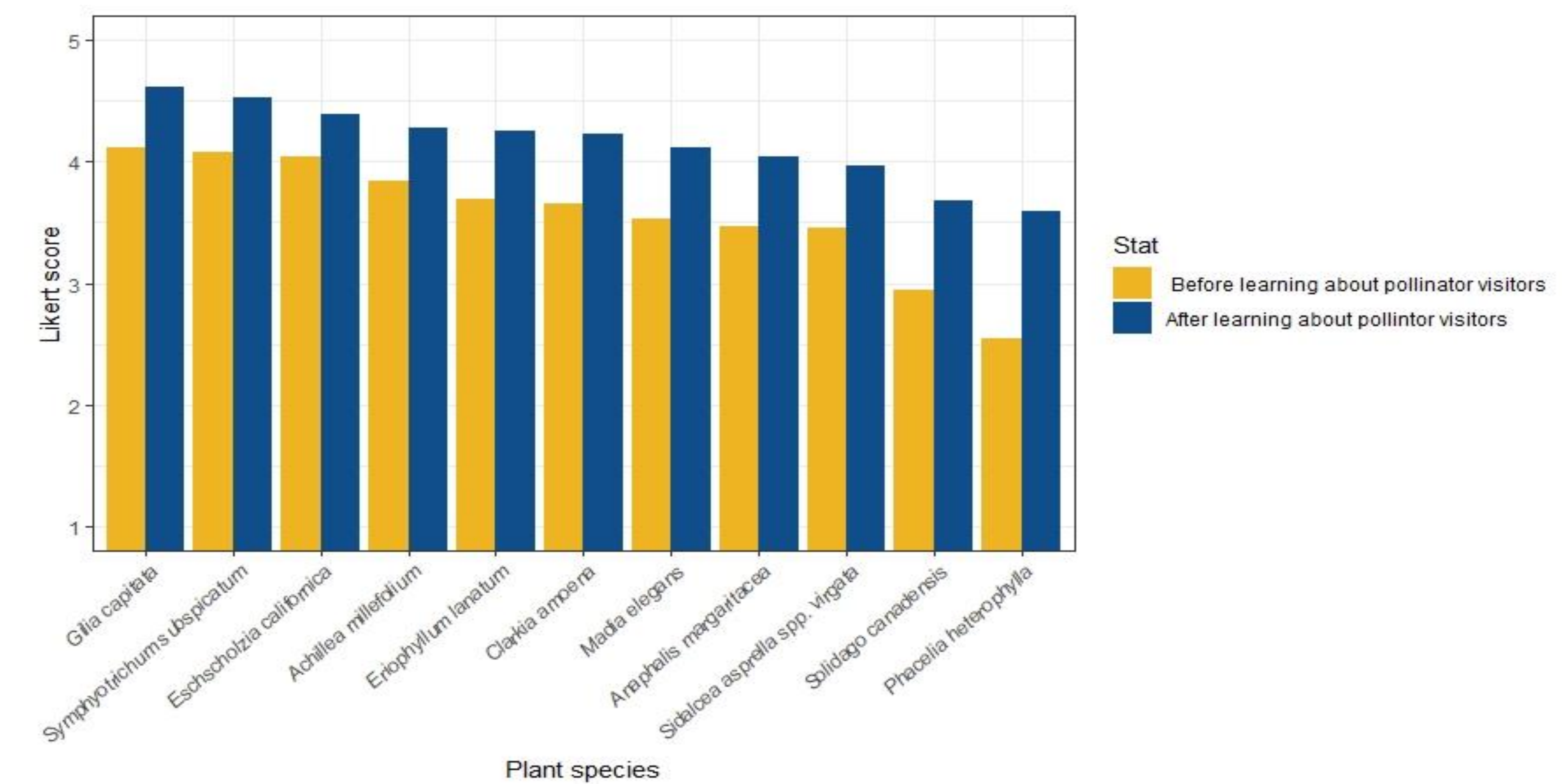
Table 1: Study plants (including Latin and common names), ranked by gardeners' likelihood of planting, on a Likert scale of 1 (low) to 5 (high). Flowers that ranked highly for pollinators and were included in the second survey are bolded in orange.

TOP GARDENER COMMENTS BY CATEGORY (SURVEY ONE)

Negative	Count	Positive	Count	Neutral	Count
Aesthetics	184	Already have	627	Need more information	172
"looks like a weed" "not much color"		"In my garden now" "already grow"		"water needs?" "how does it spread?"	
Aggressiveness	121	Aesthetics	107	I would if...	38
"roots spread fast" "reseeds too much" "hard to get rid of"		"tidy, attractive" "nice color"		"if it would survive in clay soil" "if available"	
Yard-habitat issue	57	Ecology	52	Unfamiliar with plant	26
"too dry in my yard" "we have shade"		"drought hardy" "great for butterflies"		"new to me" "don't know the plant"	
Establishment/growth	48	Ease of care	13		
"hard to grow" "gets crowded out"		"self seeds well" "needs little water"			
Availability	44	Edible/medicinal	8		
"don't see this offered at native plant sales" "hard to find"		"edible"			
Pest concerns	30	Phenology	6		
"deer eat it" "prone to mildew"		"long bloom" "great fall filler"			
No space	27	Pest resistance	3		
"grows too tall for my yard" "takes too much space"		"Deer resistant"			
Allergies	23				
"this gives me allergies"					
Phenology	23				
"short bloom" "browns quickly"					

Table 2. Common themes identified in the open-ended comments from survey one, with examples and total counts.

LIKELIHOOD OF PLANTING BEFORE AND AFTER LEARNING ABOUT POLLINATORS (SURVEY TWO)



DISCUSSION

- Combined with the results from our pollinator field trial, the top plants for both gardeners and bees are: *Gilia capitata*, *Eschscholzia californica*, *Symphyotrichum subspicatum*, *Eriophyllum lanatum*, and *Achillea millefolium*.
- Our second survey suggests that sharing a small amount of information on the benefits provided by bee-friendly plants can significantly increase how likely gardeners would be to use these plants.
- The comments revealed that:
 - Aesthetics and the aggressiveness/weediness of native plants are top gardener concerns.
 - Many gardeners need more information about these species, showing the need for increased outreach and education on native plants.