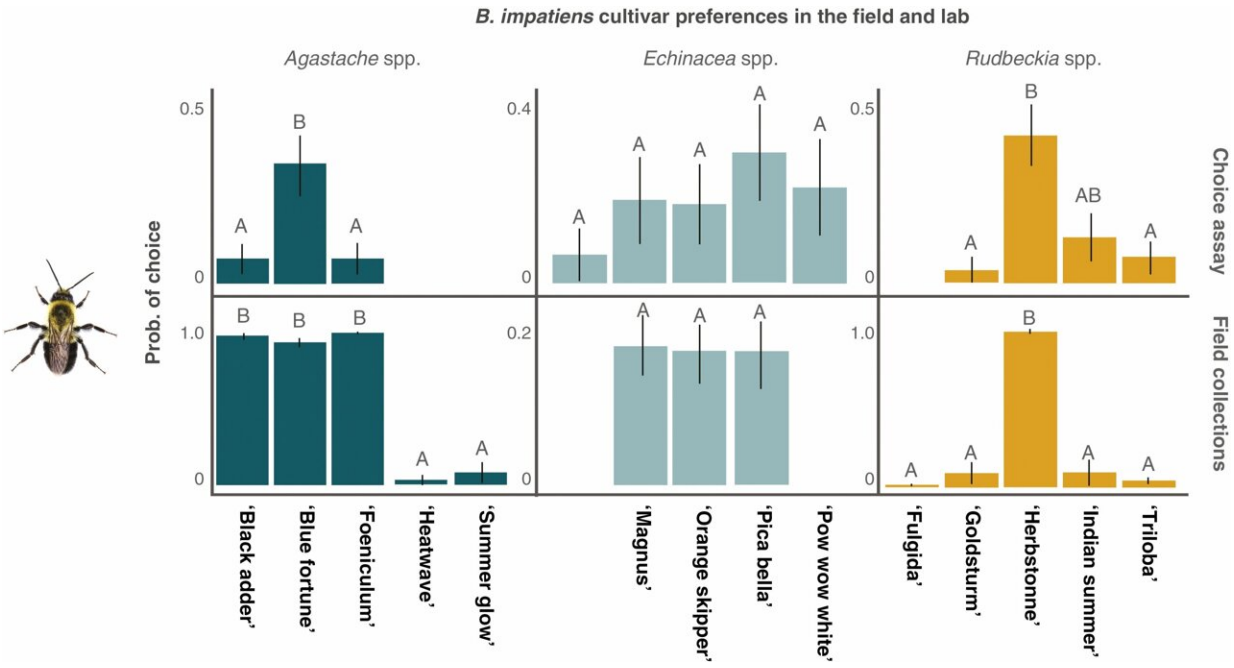
Which ornamental plants perform best for pollinators?

August 9 2022, by Alun Salt



Graph of bee selections for cultivars. Credit: Erickson et al. 2022.

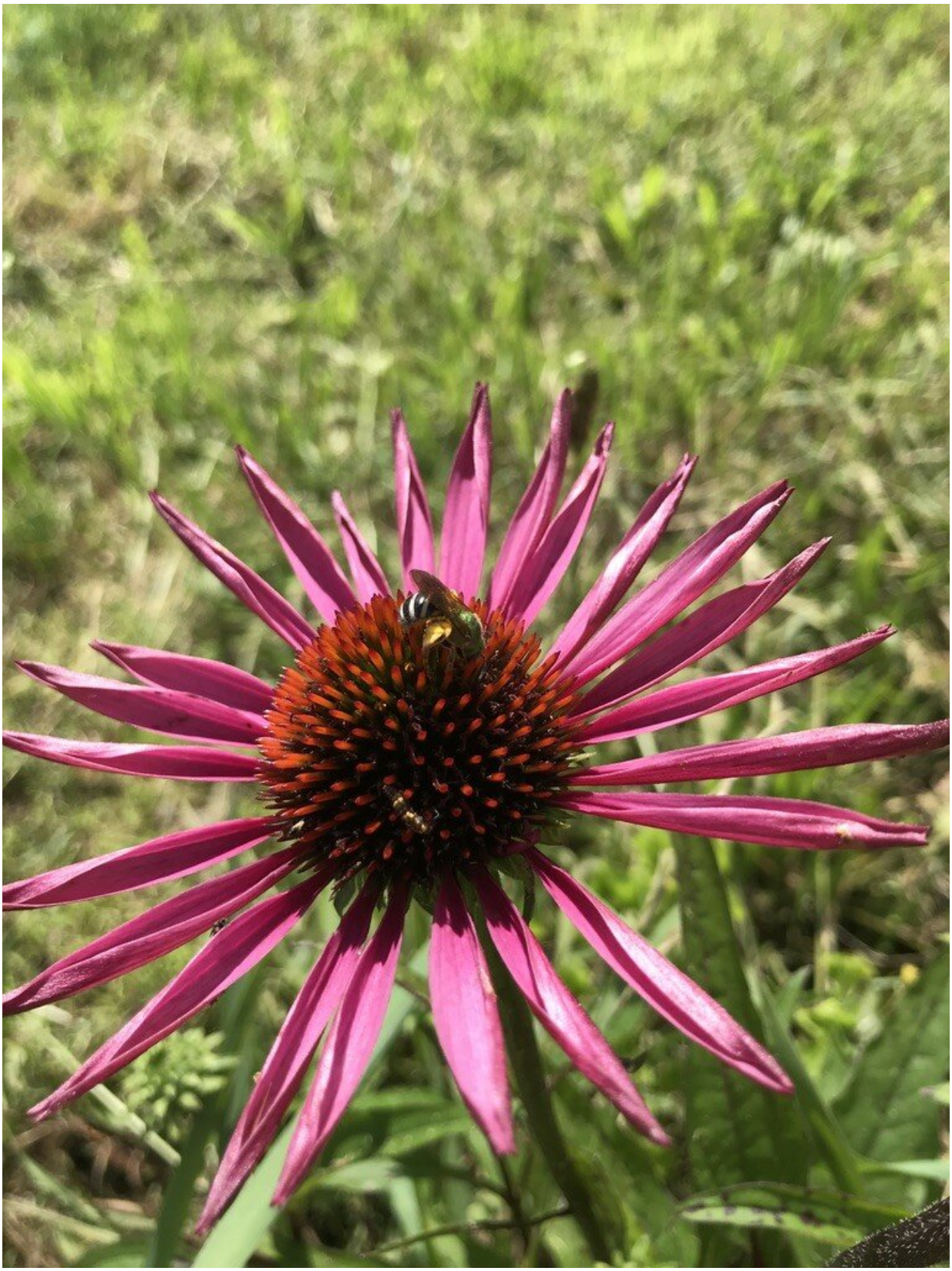
Guides suggest some species are better than others for pollinators, but when you get to the plant nursery you're confronted by half a dozen cultivars of the same species. How do you pick between them?

Many gardeners want to make a home for wildlife in their garden, and there are lists you can find that tell you what species attract pollinators.

But when you go shopping for these plants, it gets more complicated. Sure, bees like Salvia, but which variety or cultivar of Salvia works best? Emily Erickson and colleagues have tested popular plants to see which varieties are most popular. Their research, published in a forthcoming issue of *Annals of Botany*, gives some clues for what to look for in pollinator-friendly plants.

The team found that the best performing cultivars tended to be those close to the wild form of the plants. For example, in Agastache, the cultivars most attractive to plants were "Blue fortune," "Black adder," and "Foeniculum," which all share shades of purple. In contrast, the more orange-colored 'Heatwave' and 'Summer glow' were much less popular.

"I recommend that people opt for more 'natural' looking plants when selecting flowers for pollinators—that is, avoid doubled varieties or those with novelty colors. Novelty certainly doesn't preclude visitation by pollinators, and indeed can in some cases, promote visits by new species. However, I found that the most reliably attractive cultivars within genera were those that most resembled their wild types and are therefore a more 'sure bet' for pollinator gardens," lead author Emily Erickson said.

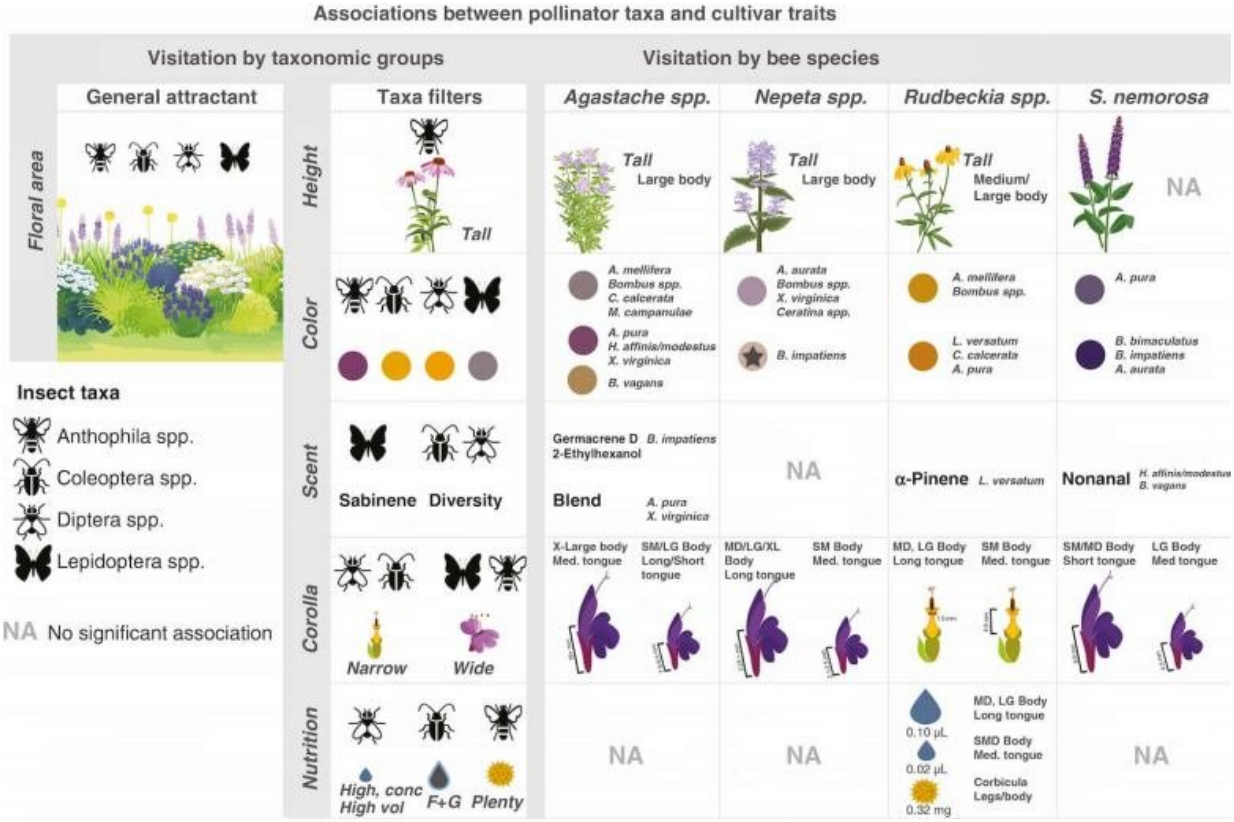


Bumble bee on an echinacea. Credit: Emily Erickson.

Gardens can provide vital refuges for wildlife, particularly in urban areas . While your own garden might be quite small, when combined with everyone else's, your garden can help provide food and shelter for many creatures among a sprawl of concrete.

Ecologists have started taking more of an interest in the biodiversity of gardens, just as gardeners have become more interested in biodiversity in recent years. But gardens are peculiar. In nature, plants live where they can find pollinators, and their presence is part of a process of natural selection. In gardens, they're there because a gardener wants them there. There are no ornamental plants in nature, but they're abundant in gardens.

These plants are often altered in ways that matter to a pollinator. We might breed plants for an attractive perfume or a new petal color, and these are features that matter to pollinators as they're signals a plant uses to attract insects to its flowers. An added complication is that often changing one factor, like petal color, can have effects elsewhere in the plant.



Biotic associations between pollinator taxonomic groups, bee species and floral phenotypic traits based on interpretation of linear regression and NMDS analyses. Credit: Erickson et al. 2022.

"One layer of this complexity is pleiotropy, where expression of multiple traits are controlled by a common gene and therefore selection on one trait impacts expression of the other. For example, color expression in Mimulus is linked to petal structure traits," said Erickson.

The study examines five plants popular with gardeners, Salvia nemorosa, Nepeta, Echinacea, Rudbeckia, and Agastache. "For this study, we chose cultivars of plant taxa that we knew would attract pollinators and that were commercially popular. Perennial cultivars in particular are often used in pollinator gardens due to their more naturalistic style and low-

maintenance growth habit," said Erickson.

For her own garden, Erickson looks for variety, something she recommends to other gardeners seeking to attract pollinators. "Ultimately, the best habitat for pollinators contains many different plant types, as communities need diversity! When planning my own garden, I opt for cultivars or nativars that are consistent with a naturalistic style, provide season-long bloom, and grow well in a garden setting. Some of my current favorite pollinator-friendly perennial plants and their cultivars are Rudbeckia, Solidago, Asclepias, Oenthera, Scutellaria, and Monarda."

More information: E Erickson et al, Complex floral traits shape pollinator attraction to ornamental plants, *Annals of Botany* (2022). DOI: 10.1093/aob/mcac082

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