Alamosa Landscapes

Flower Color and Pollinators

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I've often heard that flower color is very important in the relationship between flowers and pollinators. According to the Colorado State University extension "Creating Pollinator Habitat" factsheet, pollinator species include bees, beetles, flies, moths, butterflies, hummingbirds, and bats. More than 70% of the world's flowering plants rely on pollination which is essential for producing fruits and seeds.

Honey bees carry out more pollination than any other insect and provide pollination of nearly 80% of crop pollination according to Nikki Tilley writing at the gardeningknowhow.com website. In order for plants to entice pollinators, they must first offer their favorite foods: nectar and protein. Since most pollinators fly, the colors of a flower must attract them; therefore, the brighter the flower, the more likely it will be visited, reports Tilley.

Pollinators that are busy during the day have well-developed color vision, and in most cases can see a wider range of the color spectrum than can humans, says Sara Reverte in the June 2016 edition of the "Annals of Botany."

Flower color significance also depends on the specific pollinator. For instance, bees are attracted to bright blue and violet colors. Bees cannot see red, but they can see blue and green, as well as ultraviolet light reports James Bullen at the ABC Science website. For example, many flowers have "ultraviolet nectar guides" on them that are invisible to humans but tell bees where to find nectar in a flower. "The patterns are like signposts telling bees where to go to find the nectar," said Dr. Adrain Dyer of Melbourne's RMIT University.

Interestingly, compared to humans, bees can't see very well. Their visual acuity (sharpness or keenness of vision) is low. Their eyes focus when up close to an object, but not from further away. Dyer says they only really distinguish a flower from about 20 inches away. So, from a distance, bees use scent, rather than sight, to find a flower.

Hummingbirds prefer red, pink, fuchsia or purple flowers. Butterflies enjoy bright colors such as yellow, orange, pink and red. Beetles tend to visit white or cream colored blooms, wasps brown and yellow, and flies yellow and white. Night-blooming flowers take advantage of pollinators active at night, like moths and bats. Since they don't see colors, these flowers are not as colorful. Instead, the flower's fragrance attracts these pollinators.

Some flowers such as Chinese honeysuckle, an Asian tropical climber actually undergo a floral color

change during the life of a bloom and attract different pollinators at different times according to Juan Yan in an article at nature.com. Pollinators include moths and bees in the white floral stage, bees and butterflies in the pink floral stage, and butterflies in the red floral stage.

The “Creating pollinator habitat” factsheet has a list of plants suitable for Colorado pollinator habitats across the seasons as does Sonya Anderson of the Denver Botanic Gardens. Below I’m listing those that do well in Alamosa. Early-season: crocus (crocus species), tulips (tulipa species), winecups (Callirhoe involucrate), blue flax (Linum lewisii), penstemons (Penstemon species), and yarrow (Achillea millefolium).

Mid-season: asters (Aster species), blanket flower (Gaillardia aristat), poppies (Papaver species), crab apples (Malus species), and salvia (Salvia species), snapdragons (Antirrhinum majus), currants (Grossulariaceae), and mock orange (Philadelphus lewisii).

Late-season: Rocky Mountain bee plant (Cleome serrulata), common sunflower (Helianthus annuus), goldenrod (Solidago species), and rabbitbrush (Chrysothamnus nauseosus).

"*Roses are red, Violets are blue; But they don't get around Like the dandelions do.*" Slim Acres