July 12, 2018 – with pictures

# Please, Pamper Our Pollinators!

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Go out in the early morning, just as the sun starts to warm the air. Sit down near a flower bed. Listen for humming and buzzing. Watch for vibration in the flowers or on stems and stalks. There's a whole world of work going on right in front of us. It's our pollinators!

Pollinators are obliging, industrious carriers of pollen between plants, allowing fertilization and eventually - the production of flowers, fruits, nuts, and seeds. The world is a better place as pollinators make a living and gather food for themselves and their offspring. There are many types of pollinators: insects such as bees, flies, butterflies and moths, beetles, and even ants. Things that go *buzz* are not our enemies! Birds, particularly hummingbirds, bats, and other small mammals also pollinate. Some plants rely on wind for pollination at long distances.

Living pollinators have co-evolved with plants in a sort of mutual aid society. Pollinators developed special techniques and body parts to gather the nectar and pollen that they depend upon for food. In turn, the plants rely on the pollinators for reproduction.

Some of the amazing adaptations on the pollinator side are the remarkable long tongue of hummingbirds, developed in order to gather nectar from deep inside a tubular flower. Or think about the furry legs and torsos of bees. Looking like tiny gauchos with yellow chaps, bees carry pollen from plant to plant as they make their rounds. Butterflies have a curious tongue called *proboscis* that they unfurl to lap up nectar. Bumblebees fan flowers and dance about in hopes of kicking up pollen,

The plants, too, have evolved to attract the attention of pollinators. Specific colors can be attractants. Hummingbirds really go crazy for reds, for example. Plants have structures that make pollinator activity easier. Simple daisy-like flowers are attractive to bees by providing a shallow landing platform. Tubular flowers such as honeysuckle (*lonicera*) or penstemon are the delight of hummingbirds. Butterflies enjoy many different types of flowers, but strangely are also attracted to carrion and over ripe fruit. Who knew? (A remarkable book about plants and pollinator relationships is The Botany of Desire by Michael Pollan.)

Interesting. Beautiful. Essential to life as we know it.

Are you drinking a cup of coffee while you read this? Thank a pollinator. Do you like chocolate? Impossible without a tiny midge fly. Almonds? Honeybees have to be imported from all over the world to maintain the almond industry. It is estimated 1/3 of all foods we eat depend on pollinators.

How can we attract and protect pollinators in our garden?

First: Do No Harm! The biggest threat to our pollinator population is the use of pesticides. Most pesticides do not discriminate between the beneficial insects and the harmful ones. *Beneficial and neutral insects far outnumber the harmful ones in a healthy landscape!* Let's say you spot

holes chewed in your young cucumber leaves. Cucumber beetles, you guess, and grab the insecticide. Oops, bye-bye bees! The same ones you are depending on for pollination of your crop! Check in with ipm.ucanr.edu for information on how to avoid use of harmful pesticides.

Provide shelter: Design a layered garden with short annuals and perennials, medium sized shrubs, and taller trees. On cold mornings, you may find a bumblebee dozing inside a partially folded hollyhock (*Alcea rosea*). So adorable! Pollinators need places to rest out of the wind and in the shade. Don't forget to leave some bare earth. Our solitary native bees nest in wood and in dirt .

Water: Pollinators like a drink just like the rest of us. A birdbath, water features, nearby bodies of water are helpful. Some enjoy mud - especially the butterflies called puddlers.

Food: That would be flowers with nectar and pollen for adult insects and birds. Plant a combination of natives and non-natives for a seasonally changing buffet. For example, sweet peas (*Lathyrus odoratus*) may be available for only a few weeks in the spring, but if you add sunflowers (*Helianthus annus*), California fuchsia (*Zauschneria*) and Germander (*Teucrium*), you'll be supplying food for many months.

Plant masses - 3 feet by 3 feet or larger. This minimizes energy expended in the search for food, and bright colors will attract them. Our local Anna's Hummingbirds like eucalyptus, currants (*Ribes*), manzanitas (*Arctostaphylos*), but will forage on many introduced species. Bell shaped flowers such as penstemons and honeysuckle (*Lonicera*) are suitable to their long tongues. Native bees and bumblebees enjoy herbs such as basil (*Ocimum basilicum*), sage (*Salvia sp.*), oregano (*Origanum*), and rosemary (*Rosmarinus*).

Hover flies double-down on being helpful; they eat aphids *and* pollinate vegetables!
Plus don't forget to feed the babies. Adult pollinators find food from multiple plants, but babies are picky! Social bees feed their larvae in hives, but butterflies and moths lay their eggs on plants that will support their young. *Remember, you will have to tolerate some chewing*.

Here are some wonderful websites that can help you design your pollinator friendly landscape:
The Forest Service > Wildflowers > Pollinators at www.fs.fed.us/wildflowers/pollinators
The Xerces Foundation for Invertebrate Conservation at www.xerces.org
The California Garden Web at www.cagardenweb.ucanr.edu

UCCE Master Gardeners of El Dorado County are available to answer home gardening questions Tuesday through Friday, 9:00 a.m. to noon, by calling (530) 621-5512. Walk-ins are welcome at our office, located at 311 Fair Lane in Placerville. Visit us at the Sherwood Demonstration Garden, located at 6699 Campus Drive in Placerville, behind the Folsom Lake College-El Dorado Center. We're open 9:00 a.m. to noon, Fridays and Saturdays.

For more information about our public education classes and activities, go to our UCCE Master Gardeners of El Dorado County website at http://mgeldorado.ucanr.edu. Sign up to receive our online notices and e-newsletter at http://ucanr.edu/master gardener e-news. You can also find us on Facebook.

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*Western Tiger Swallowtail, Papilio rutulus, nectars on zinnia, unaware of the danger below.*
*(Photo by Kathy Keatley Garvey)*


*Close up of garden spider tucked beneath the petals.*
*(Photo by Kathy Keatley Garvey)*