IN YOUR BACK YARD

A guide to the pollinators and plants you might find in your backyard, neighborhood, or local park.

PLANTS & POLLINATORS OF CENTRAL AND EASTERN TEXAS

SWCA

Spring and summer are great seasons to learn about the different pollinators and plants in your backyard vegetable patch, local park, or community garden.

Pollinators are all around us, and many of them are easy to identify. SWCA's natural resources experts compiled this booklet to help you learn more about pollinators, their habitats, and the important roles they play in all our lives. We've included several common pollinators, such as bees and butterflies, and even some that might surprise you, such as flies and beetles!

Look closely at your backyard during the warmer months and keep this guide handy as you learn all about pollinators and the plants they visit.

SO, WHAT'S THE BIG DEAL WITH POLLINATORS?

Pollinators play a key role in the production of more than 150 food crops in the United States, such as apples, alfalfa, almonds, blueberries, cranberries, kiwis, melons, pears, plums, and squash.

Many pollinators are becoming increasingly scarce because their habitats are shrinking and they lack a steady supply of food, access to good shelter, and freedom from disturbance and pesticides. The best action you can take to support pollinators is to provide food (flowers), shelter, and protection.

CHECK IF SPOTTED!

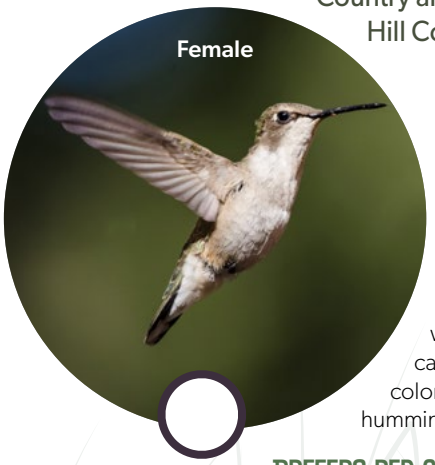
COMMON SPECIES

MOST LIKELY FOUND IN YOUR BACKYARD AND NEIGHBORHOOD

HUMMINGBIRDS

Most hummingbirds are tropical and live in South America. In the U.S., 27 different kinds of hummingbirds have been seen and only a dozen or so regularly live here.

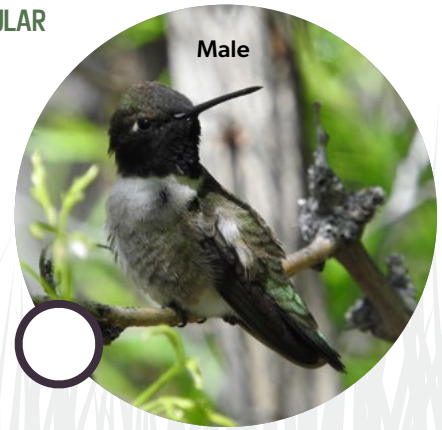
In eastern Texas, you are most likely to only see Ruby-throated Hummingbirds. In central Texas, you may see both Ruby-throated and Black-chinned Hummingbirds during migration and during the breeding season, with Black-chinned nesting in the Hill Country and Ruby-throated nesting east of the Hill Country.



BLACK-CHINNED HUMMINGBIRD

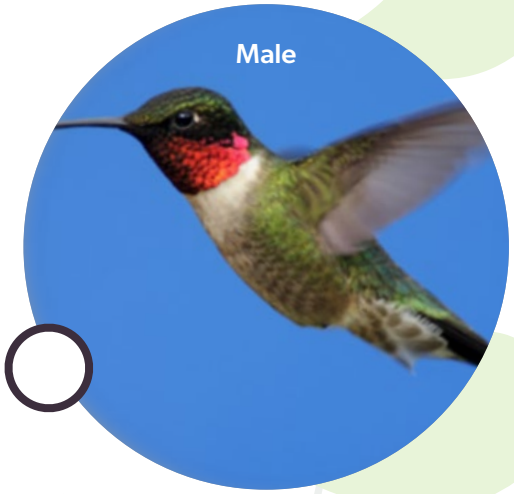
Black-chinned Hummingbirds can be found throughout much of the Central and East Texas during migration and winter. The male Black-chinned Hummingbird can be identified by his dark head and black chin, which is iridescent purple in certain light. The female can be identified by her bronze-green back and cream-colored throat and sides. This species will readily come to hummingbird feeders.

PREFERS RED OR PINK TUBULAR FLOWERS



DID YOU KNOW?

There are about 300 kinds of hummingbirds in the world.



RUBY-THROATED HUMMINGBIRD

The default hummingbird throughout eastern North America, the Ruby-throated Hummingbird graces our backyard nectar feeders and flower gardens from late April to October. Although it subsists on nectar, the species also eats mosquitos, gnats, aphids, and spiders. Males are brilliant emerald green above with an iridescent red throat, while the females are duller green and have a white throat.

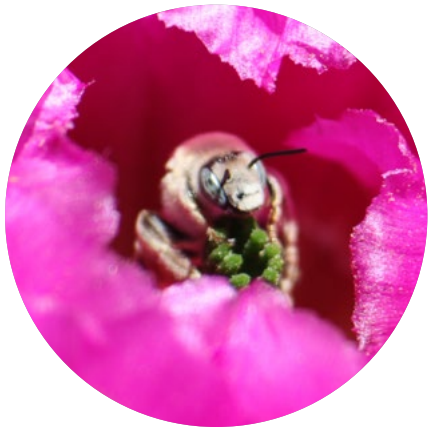
HABITAT:
Deciduous woodlands, orchards, and forest edges

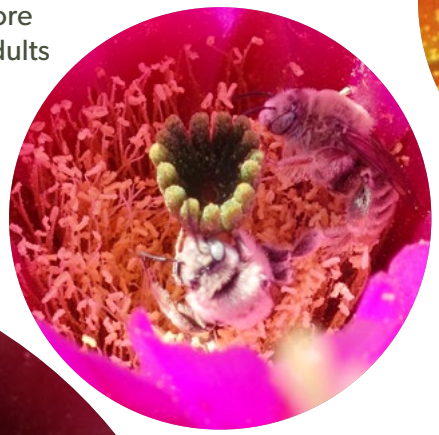
BEES
(ORDER HYMENOPTERA)

Bees tend to be attracted to brightly colored day-blooming flowers with lots of pollen. Individual bees feed mostly on the nectar of flowers but feed their babies the pollen, which is rich in protein and other nutrients.

Most bees are solitary. Each female makes her own nest, usually in a hole in the ground or in wood. She may make more than a dozen nests. She provisions her offspring with pollen, sometimes mixed with nectar, and usually seals the nest. Then she dies.

Many species of bees are active for only a very short period, for example, just the hour before sunrise for a couple weeks each year. The adults may live short lives, but the babies (larvae) continue to grow in the security of the nest created by their mothers.





CACTUS BEES
(FAMILY APIDAE)

Many bees specialize in pollinating specific types of plants such as wildflowers, trees, and even cactus flowers. Texas has more kinds of cacti than any other State, but some of the eastern counties have no cacti at all. Cactus bees feed primarily on pollen from cactus flowers, which provides all the nutrients, vitamins, and minerals the bees need. You'll see Cactus Bees in the flowers of prickly pear, cholla, and hedgehog cacti. The life cycle of these bees revolves around the flowering of cacti.

Cactus Bees are solitary, ground-nesting bees. Each female makes her own nest in a hole in the ground and provides a ball of cactus pollen as food for each larva when it hatches. Males are homeless and may sleep inside flowers, waiting for females to arrive.

A cactus bee covered in pollen

DID YOU KNOW?

More than 4,000 different kinds of bees live in North America.

BUMBLE BEES
(FAMILY APIDAE)

North America supports approximately 55 species of Bumble Bees, most of which share the same basic appearance and lifestyle. Texas has nine species of Bumble Bees, some common, others quite rare. A thick fur coat keeps the Bumble Bee warm on chilly nights and gives it a head start on cool mornings. Bumble Bees are efficient pollinators of complex flowers, like the Texas Blue Bonnet and tomatoes.

Many bees are very specific about the plants they feed in and pollinate, others may select a wider variety of flowers. Those that are very specific tend to have short adult lives. Those that are more general in food selection tend to have longer adult lives.

Most bees do not sting unless very provoked, for example, by being captured.

SWEAT BEES (FAMILY HALICTIDAE)

Sweat Bees approach people to harvest the water and salt of their sweat. They can sting if you swat them, so don't swat the sweat bees. There are more than 500 species in this family in the United States. Most of them are small and not colorful, but a few look like brilliant little jewels. They carry pollen on their hairy hind legs back to their underground nests to feed their larvae.

LARGE CARPENTER BEES (FAMILY APIDAE)

One of our biggest bees, the Large Carpenter Bee prefers large tubular flowers they can crawl into to harvest nectar and pollen. For smaller flowers that they cannot crawl into, these bees will bite holes in the base to suck out the nectar.

Large Carpenter Bees are approximately an inch long. They excavate nest holes in wood, sometimes in buildings but usually prefer dead branches or stalks of agaves, yuccas, or sotols. Male Carpenter Bees may guard nests made by females against intruders, including other males and sometimes people. They can't sting but are big and ferocious looking.

LEAFCUTTER, MASON, AND RESIN BEES (FAMILY MEGACHILIDAE)

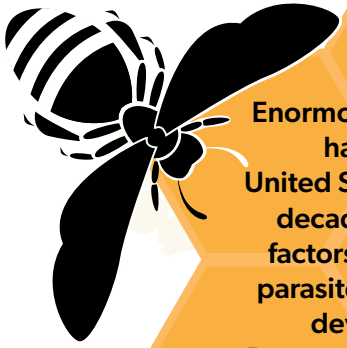
More than 600 different kinds of leafcutter bees have been found in the United States. These bees make the semicircular cuts you see in the leaves of your rosebushes. The cutting usually does not really harm the plant, and the bees use the pieces they remove to make cozy nests for their offspring. The mother bee carries pollen on the underside of her abdomen to feed to her offspring. Leafcutters are likely to use bee hotels (man-made nests or houses).

DID YOU KNOW?

Some bee species have declined dramatically over the past two decades, with some formerly common species disappearing entirely from some areas and others becoming endangered. Causes include introduced diseases, climate change, seasonal lack of available flowers, and other unknown reasons.

HONEY BEES (FAMILY APIDAE)

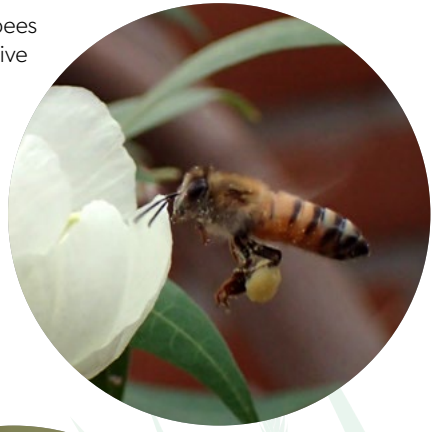
Spanish settlers introduced the Honey Bee (*Apis mellifera*) as a domestic animal to the Western world in the 1500s. Wild descendants of domestic Honey Bee colonies became established throughout the Western world and can be found almost anywhere flowers grow.



DID YOU KNOW?

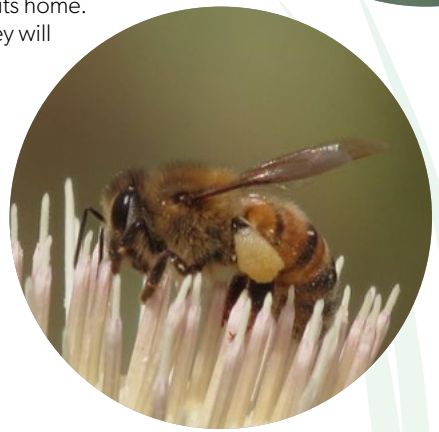
Enormous losses of Honey Bees have occurred in the United States over the past three decades because of various factors, including introduced parasites, diseases, and newly developed pesticides. Domestic bees have declined by an average of 30% per year, and many wild Honey Bee colonies have died.

Honey Bees are well adapted to urban life, with some domestic bees living in backyard or rooftop bee hives, and some wild residents live in building walls, attics, hollows in trees, or holes in the ground.



Honey Bees are considered important pollinators of thousands of species of plants and are among the world's most valuable domestic animals. Unfortunately, we don't yet have a clear understanding of how Honey Bees have affected populations of native bees and other pollinators or what their impact has been on native plants and other animals.

When a Honey Bee colony becomes crowded, some of the residents choose a new queen and take off in search of a new home. During this search, the swarm of bees may rest on trees or buildings temporarily. This may look scary, but the swarm will likely be docile because it is not defending its home. Once these bees establish a new home, they will defend it.



Honey Bees defend their homes and stores of honey against predators as a group, with each individual giving its life by stinging and leaving its stinger embedded in the attacker. Honey Bees can be dangerous to people and are statistically the most dangerous animals in the United States, having directly killed more people than any other creature except human beings.

BUTTERFLIES

It may seem almost impossible to identify every species of butterfly you see, but butterflies fit neatly into a few different families that are easy to recognize, and representatives of each family are found throughout the United States.

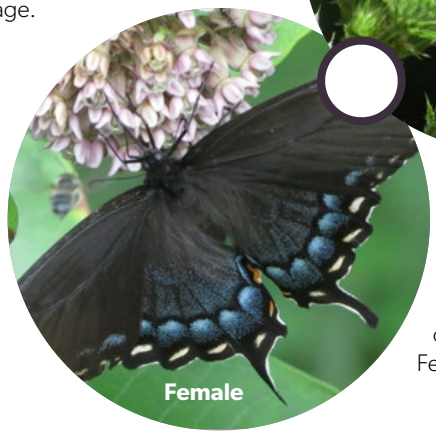
Butterflies play an important role in pollination, even though they do not pick up as much pollen as bees do. Plant species such as milkweed and other wildflowers depend on butterflies to transfer pollen. Butterflies typically visit flowers that grow in clusters, are brightly colored, and are open during the day when butterflies are most active. A butterfly will land on a flower and use its long mouthpart, called a proboscis, like a straw to reach deep into the flower and suck out the nectar. The butterfly will collect pollen on its body, fly to another flower to feed, and deposit the pollen there. Butterflies have good vision and a keen sense of smell, and they taste with their feet as well as the end of the tongue!

Here are some examples that you may see in your backyard, neighborhood, or local park.

TEXAS HAS HAD
430 BUTTERFLIES
RECORDED, MORE THAN
ANY OTHER STATE

SWALLOWTAILS (FAMILY PAPILIONIDAE)

Swallowtails are the largest butterflies in North America and are quite conspicuous with their vivid yellow and black markings. The wings of most Swallowtail species have tails, although some of these tails are small. Many species in this family feed on the leaves of trees or shrubs as caterpillars, whereas others feed on wildflowers or vines during that life stage.



Eastern Tiger Swallowtail
A common and conspicuous butterfly in town and country, the adults feed on many kinds of flowers. Caterpillars eat leaves of trees and shrubs of many kinds. Females may be yellow or black.

DID YOU KNOW?

There are about 20,000 species of butterflies in the world.

Giant Swallowtail
caterpillars eat citrus leaves. The adults drink nectar from many kinds of flowers and are common in cities and suburbs.

Pipevine Swallowtail
caterpillars eat a plant that is toxic to any bird that eats them. The orange and black colors of the adults are warning colors: "I'm poisonous!"

WHITES AND SULPHURS (FAMILY PIERIDAE)

Members of this butterfly family are usually associated with plants of the mustard family, which they feed on as larvae and adults. A few may even be garden and farm pests. With dozens of species in this family, you must get a very good look to identify them.

Sleepy Orange

Cabbage White

Dainty Sulphur

Checkered White

Orange Sulphur

BLUES (FAMILY LYCAENIDAE, SUBFAMILY POLYOMMATINAE)

Almost 50 species of little blue butterflies, collectively called "blues," are found in North America. The males usually have some bright blue coloring, and the females are usually brownish. Identification beyond "blue" may be difficult and usually requires getting a close look at both the upper and lower sides of the wings.

Spring Azure

Eastern Tailed Blue

Western Pygmy-Blue

Marine Blue

Ceraunus Blue

Reakirt's Blue

A mixture of blues at a puddle

BRUSH-FOOTED BUTTERFLIES (FAMILY NYMPHALIDAE)

A large family with eight subfamilies and more than 6,000 species in the world, these butterflies are named for their reduced front feet, which may be used as brushes to clean the butterfly's face and taste organs. Most of these butterflies are fairly large and colorful. Here are a few that you are likely to see around town.

American Snout

The larvae of this species feed on hackberry leaves. During the fall, clouds of American Snout butterflies can sometimes be seen moving across central Texas.

Queen

The larvae of this species feed on milkweeds.

Painted Lady

The larvae of this species, which is the world's most common butterfly, eat asters, thistles, and mallows.

Common Buckeye

Spots may look like scary eyes to birds and other predators

Mourning Cloak

The larvae of this species eat willow, cottonwood, and Chinese elm

Gulf Fritillary

The larvae of this species feed on the passion flower.

Texan Crescent

The larvae of the Texan Crescent eat leaves of plants in the Acanthus family. Texas has more species of Acanthaceae than any other state (42 native, 5 introduced)

DID YOU KNOW?

In North America, about 725 species of butterflies have been documented north of Mexico, with about 575 of these occurring regularly in the lower 48 United States and 275 occurring in Canada.

MONARCH BUTTERFLY

Possibly the best-known and most-loved North American butterfly, the Monarch is in serious trouble.

Once one of our most abundant butterflies, Monarchs have become scarce. Millions of Monarchs originating in the Eastern United States, and some in the West, used to spend the winter perched on tree branches in a tiny area in a mountain range in Mexico. There, they found the perfect temperature and weather conditions to survive the winter. Most of those that grew up west of the Rocky Mountains used to spend the winter perched on trees in a few areas along the Pacific Coast in California. In their wintering areas, the Monarch-covered trees were a great tourist attraction. Imagine millions of orange and black beauties swirling around your head, filling the sky above you, and festooning the trees.

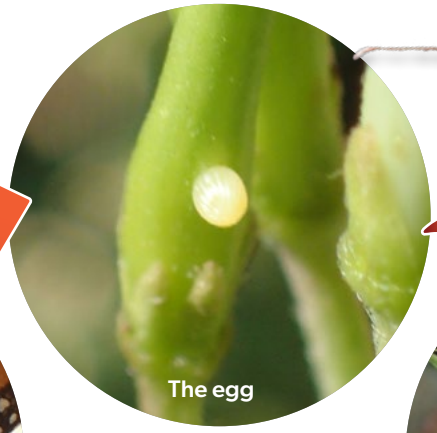
Because of exposure to insecticides, changes in farming practices, loss of trees on the wintering grounds, bad weather, climate change, and unknown reasons, the Monarch population has crashed. The U.S. Fish and Wildlife Service has determined that Monarchs warrant listing as a threatened species under the Endangered Species Act, but the agency lacks the budget capacity to protect the butterfly.

In the absence of legal protection, citizens, businesses, local organizations and governments, utility and transportation agencies, and several national nonprofit organizations are committing to work individually and collectively to protect the Monarch.

To learn more, including what you can do, visit one of the websites listed on the last page of this booklet.

The Monarch depends upon an abundance of Texas wildflowers in Spring and Fall to power its mass migration between its wintering grounds in Mexico and its northern breeding grounds throughout the United States.

THE LIFE CYCLE OF A MONARCH BUTTERFLY


The egg


A caterpillar


A chrysalis


Ready to emerge: a new butterfly


A new male Monarch, ready to fly, find a mate, and continue the cycle


A female Monarch lays an egg on a milkweed

DID YOU KNOW?

There are more than 100 species of milkweed in North America.

Monarchs like many kinds of milkweed. To learn which kind to plant, consult a local nursery.

FLIES (ORDER DIPTERA)

Shoo fly! Don't bother me! But wait! Flies are important pollinators as well, second only to bees! Flies can visit flowers to feed on nectar, and as they do, pollen sticks to hairs on their body when they move to the next flower. Some flowers even give off the scent of rotting meat to attract flies for pollination. Some flies mimic the appearance of bees with black and yellow stripes. Others, such as biting midges, are believed to be the only insect to pollinate the flowers of the cacao tree. These tropical trees require a tiny pollinator to navigate their flowers. Without these flies, there would be no chocolate! As annoying as some species of flies may be, remember other species of flies are important pollinators of more than 100 types of fruits, flowering plants, and other crops.

Flies in the family Tachinidae are covered with spiky hairs that carry pollen as the insects feed on nectar. The larvae of these species develop as parasites in caterpillars and other insects. There are more than 1,300 species in North America. Some members of this family are large, colorful, and ferocious looking but harmless. Most of them are small and inconspicuous.

Flies in the Family Bombyliidae are fuzzy

DID YOU KNOW?

There are more than 150,000 kinds of flies in the world and more than 24,000 kinds in the United States, and at least 17,000 are known to be pollinators.

Flies in the family Syrphidae are called "flower flies" because they are usually seen visiting flowers. They are also called "hover flies" because they are skilled at hovering while they sip nectar.

Larva eating aphids

Flies in the family Calliphoridae may be shiny green, blue, or gold.

BEETLES (ORDER COLEOPTERA)

There are more kinds of beetles (350,000+) than any other kind of animal. Some species feed on flowers, consuming pollen and nectar and carrying pollen as they move about. Here are a few examples you might find.

Soldier Beetles (family Cantharidae) may have orange and black warning colors that tell predators "I'm poisonous, so don't touch me!"

Fig Beetles (family Scarabaeidae) consume nectar, pollen, and fruit.

Blister Beetles (family Meloidae) are pretty but contain defensive chemicals that can cause painful blisters to those who handle them.

Metallic Woodborers (family Buprestidae)

The adults of these species feed and often mate in flowers. The larvae live in and eat wood.

Longhorned Beetles (family Cerambycidae) have antennae that are longer than their bodies.

BEYOND YOUR BACKYARD

LOOK FOR THESE POLLINATORS WHEN YOU'RE AT YOUR LOCAL PARK, WETLANDS, OR FORESTED NATURAL AREA

JUNIPER HAIRSTREAK

Larvae feed on juniper leaves. In the same family as Blues, the Hairstreaks are represented by over 12 species in the Central and Eastern Texas.

GREAT PURPLE HAIRSTREAK

Larvae feed on mistletoe

TWO-TAILED SWALLOWTAIL

This magnificent creature is most often found in riparian areas with ash trees, an important food for larvae.

BLACK SWALLOWTAIL

This butterfly is most likely to be seen in open fields, meadows, parks, marshes, and gardens. The larvae of this species feed on plants in the parsley family, including Queen Anne's lace, carrot, celery, and dill. The adults prefer thistles, clover, and milkweed.

WHITE-LINED SPHINX MOTH

Its wings blur when this large moth hovers to reach its proboscis to the depth of flowers to extract the sweet nectar. Sometimes mistaken for a hummingbird.

PLANTS

The primary function of flowers is to attract animal pollinators, many of which rely on nectar as their primary energy source. That is why flowers produce nectar, are colorful, and smell sweet (or smell unpleasant to us but attractive to pollinators). About 80% of all flowering plants depend upon animals to transfer pollen between plants.

The following flowers are pollinator favorites that you are likely to see in Central or Eastern Texas.

PINK HONEYSUCKLE

TEXAS THISTLE

TEXAS BLUEBONNET

INDIAN PAINTBRUSH

RUELLIA

BLANKETFLOWER

YELLOW BELLS

More Pollinator Favorite Plants You're Likely to See

Antelope Horns Milkweed

Agarita

Sunflower

Texas Ranger

Fleabane

Purple Coneflower

Yarrow

Silverleaf Nightshade

Providing for Pollinators: Food, Shelter, Water

Like all wildlife, pollinators need three basic things: food, shelter, and water. These are fairly easy to provide at some level, from a window box to a wildlife park. You don't need a lot of space to attract some interesting and wonderful creatures.

Ruby-throated hummingbird feeding

Food

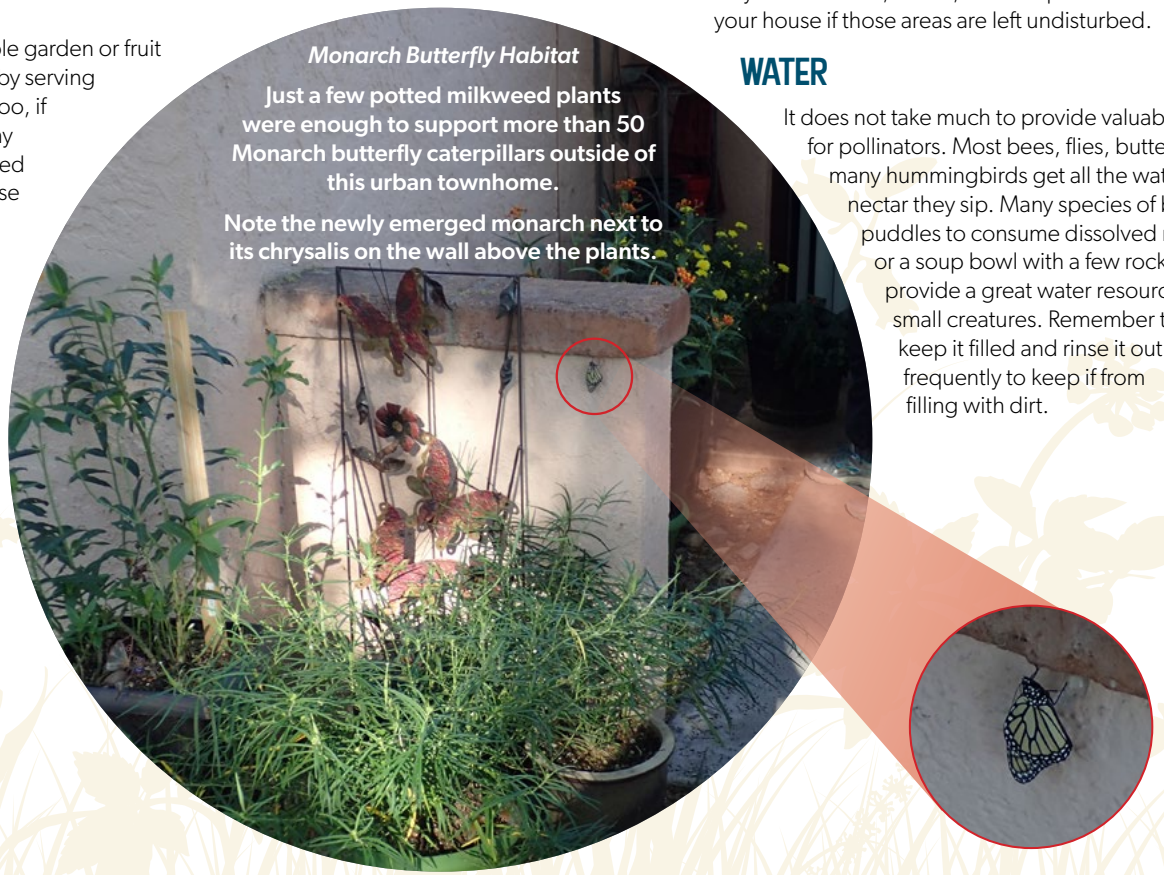
Perhaps the most important trick is to provide resources that are available in time for the different life stages of pollinators. Migrating hummingbirds and butterflies will stop to visit and possibly nest if suitable food is available when needed. Bees, butterflies, and other insects emerging from the pupal stage will be hungry, and having access to food is critical to their survival. Dandelions are among the best early foods for many kinds of native insects. Long-flowering native sunflowers have been found to provide food for more than 400 species of native bees. Autumn flowers are essential for overwintering queen bumble bees.

Grow a Vegetable Garden

If you have the space to grow a vegetable garden or fruit trees, your produce will benefit greatly by serving pollinators. The pollinators will benefit too, if you don't use chemical pesticides. Many nursery plants and some seeds are treated with pesticides to deter insects, but these chemicals can be deadly to visiting pollinators, too. Be certain to use only plants and seeds that are assured to be free of toxic products. Some plant nurseries sell or specialize in toxin-free plants and seeds. When in doubt, ask the nursery staff, and if the answer is, "I don't know," don't buy those products for your pollinator garden.

Hang a Hummingbird Feeder

Hummingbird feeders may provide the primary food resource for some urban wildlife. An inexpensive simple feeder can support a family of hummingbirds. It is important to keep feeders filled and clean. Some feeder designs attract honey bees, which may become a nuisance.



Monarch Butterfly Habitat

Just a few potted milkweed plants were enough to support more than 50 Monarch butterfly caterpillars outside of this urban townhome.

Note the newly emerged monarch next to its chrysalis on the wall above the plants.

Shelter

Some native bees and flies will use artificial nest sites or make their own nests if we provide the basic elements. "Bee hotels" are easy to make following plans online, and ready-made models are widely available for purchase. Bee hotels must be available when mother bees are looking for places to nest, so it is best to have them available early in spring. Try not to be discouraged if hotels are not used the first year. Other native pollinators will build nests in bare dirt, and some will nest under dead leaves or grass. Letting grass in your lawn grow just a bit taller or mixing lawn grass with low-growing flowers can provide both food and shelter. Rooftop gardens, even in large urban areas, can provide great resources for some pollinators, especially if nesting or resting sites are included. Hummingbirds may nest on trees, rafters, or other parts of your house if those areas are left undisturbed.

Bee Hotel

Water

It does not take much to provide valuable water for pollinators. Most bees, flies, butterflies, and many hummingbirds get all the water they need from the nectar they sip. Many species of butterflies also visit mud puddles to consume dissolved minerals. A bird bath or a soup bowl with a few rocks in it may provide a great water resource for small creatures. Remember to keep it filled and rinse it out frequently to keep if from filling with dirt.

Blues at mud puddle

QUESTIONS ON THOSE WINGED FRIENDS?

Contact us at POLLINATORS@SWCA.COM

ADDITIONAL RESOURCES

Pollinator Partnership provides free regional planting guides that are full of information about suitable plants, planting techniques, pollinators that may visit, and other tips for attracting and providing for native pollinators in almost any environment from flower box to farm.

ONLINE GUIDES FOR INSECT IDENTIFICATION

- BugGuide
- Butterflies and Moths of North America

MORE DETAILED INFORMATION INCLUDING HOW TO ATTRACT AND PROVIDE FOR POLLINATORS:

- The Bees in Your Backyard
- Xerces Society - provides a wealth of information, including regional planting guides
- How to Help Pollinators in Your Own Garden
- How to Build a Pollinator Garden
- Lady Bird Johnson Wildflower Center
- Houston Botanic Garden

BOOKS

- The Bees in your Backyard
- A Swift Guide to Butterflies of North America
- Kaufman Field Guide to Butterflies of North America
- Kaufman Field Guide to Insects of North America

Photo credits: Male Black-chinned Hummingbird: Justin Streit; Female Black-chinned Hummingbird: Richard Keller; Texas Bluebonnet: Randy Heisch; Texas Thistle: Sandy Smith; Ruby-throated Hummingbird (Pg. 3): Steve Byland; Ruby-throated Hummingbird (Pg. 16): Kyle Bedell; all other photographs courtesy of Dr. Ken Kingsley.