THE SONORAN DESERT 
surrounding TUCSON 
is renowned for its 
natural beauty and 
biological diversity. 
The beauty of the area 
draws new residents, 
but the growing 
population puts 
pressure on wildlife 
habitat. This 
gardeners’ guide was 
developed to raise 
awareness, knowledge, 
and appreciation for 
desert plants and 
animals, and to 
encourage people to 
create desert-friendly 
gardens that support 
wildlife and make up 
for lost habitat.

WILD ABOUT GARDENING: 
Invite Nature into your Landscape

Why garden for birds and butterflies? Well, for starters it’s 
interesting, fun, educational, and it’s also beneficial to our 
fluffy friends. A primary threat to both butterfly and bird 
populations is habitat loss; however, sanctuaries for these delightful 
creatures do not have to be very large. We can begin with our own 
backyards—restoring habitat one yard at a time. Birds and 
butterflies will come to our gardens if we provide what they need.

One wildlife-friendly garden may be of limited benefit, but your 
garden can be just the beginning. Encourage your neighbors to 
follow your example. By allowing nature back into our cities, we 
are not only helping the environment, but also enhancing our 
quality of life. The reward for us is the arrival of comely creatures 
to our gardens; the reward for wildlife is that they continue to find 
places to live, even in our growing cities.

For more than 25 years Tucson Botanical Gardens has been 
educating the public on the special relationships between 
gardening and the desert. Although situated in the very center of a 
large metropolitan area, the Gardens has attracted more than 90 
species of birds and 40 species of butterflies to its diverse grounds.

In 2002 the Gardens received a leadership grant from the Institute 
of Museum and Library Services for a project called “Desert 
Connections.” With these funds, and in partnership with Tucson-
Pima Public Libraries, we initiated a series of lectures about 
conservation through gardening with wildflowers and gardening to 
attract birds and butterflies. An extensive database and this 
gardeners’ guide were also important components of the project.

A complete table of the best bird and butterfly plants for the 
Tucson area is available at www.desertconnections.org.
Gardening Basics for the Tucson Area

Seasons

**summer** Summer is really two seasons: a dry "fore-summer" (May – June) and a summer rainy season (July – September), which ushers in occasional to frequent afternoon thunderstorms. Both seasons are hot, with high temperatures ranging from the mid-90s to low 100s.

**fall** (late September – early November) Fall months are typically warm to hot with cool nights. The first frost may arrive in early November, but this is not easy to predict. Many late-season flowers bloom during the warm days of fall, and this is the ideal time period for planting a variety of species.

**winter** (late November – February) Winter climate varies from cold, wet storms accompanied by freezes, to balmy periods with days in the 70s. If plentiful, seasonal rains in fall and winter set the stage for spectacular blooms in the desert the following spring.

**spring** (late February – early May) Spring days are pleasant, with occasional rains early on and then a gradual drying and intensifying of heat toward May. Moderate temperatures make it an important growing season. Windy days are common.

Water

Many gardeners use drip or other types of automatic irrigation systems, along with hand-watering with hoses or sprinklers. Some collect rainwater from rooftops; simple channels lined with rock can guide roof-collected water to trees and shrubs. "Gray water" may also be used for watering landscapes in Arizona as long as the water does not remain pooled or run outside your yard. Gray water is wastewater collected from clothes washers, bathtubs, showers, and laundry or bathroom sinks. Do not use water from kitchen sinks or toilets.

*new plants:* With their limited root systems, new plantings need to be carefully watered several times a week, or more frequently in hot, dry weather. Thoroughly soak the root ball and the soil around it, so new roots can push into the soil easily. Frequency of watering may also depend on how windy it is, because wind hastens evaporation.

*maturing plants:* Root systems take one to two years to become established. As plants mature, you may need to water more deeply to create a reservoir for roots to draw upon—for trees, up to two feet in depth. As trees and shrubs get larger, you should increase the circumference of the area watered.

During the heat of summer, watering schedules for established landscapes might look like this:

- **very low** (once a month or less): established cactus, ocotillo, agave, yucca
- **low** (every 2 – 4 weeks): desert trees and shrubs
- **moderate** (every 1 – 2 weeks): vines, groundcovers, small shrubs
- **high** (more than once a week): containers, herbs, veggies, seasonal flowers, roses, and other non-desert adapted plants

The frequency of watering may be cut nearly in half with cooler weather. Cacti and succulents generally do not need water in winter, except from the rain.

Soils

Tucson’s soils are alkaline and range from rocky in the foothills areas to sandy or clay-laden in the valley. Although rich in minerals, they contain little organic matter. Most native plants do well in unimproved desert soil as long as it drains well. Drainage refers to the ability of water to pass through the root zone; when water pools in one area, roots may be deprived of oxygen.

Drainage in heavy soils may be improved with the addition of sand and compost. It's common to find a hard layer of dissolved calcium, called caliche, below the surface of desert soil. Caliche impedes drainage, so try to break it up with a digging-bar before planting.
Planting Tips

trees and shrubs: Dig the planting hole about the same depth as the nursery container and two to three times as wide—most roots travel sideways. Soaking the ground the day before makes digging easier. When planting, never place any part of the living trunk beneath the surface, even for stability. If a tree seems wobbly, loosely tie it between two stakes. When replacing soil during the planting process, tamp it gently but firmly around the root ball. Build a low dike around the planting hole to hold water. After planting, soak until the soil is wet to the depth of the root ball.

cacti: It never hurts to have a helper when wrangling cacti. If the plant is large, lay it on a heavy piece of cloth or canvas and carry it like a sick person. To stand it up, lasso it gently with a rope, while your helper guides the root into the planting hole. You can also use pieces of canvas to help you “hold on” to it. Sturdy leather gloves work too. To avoid rot, don’t put any green part of a cactus below the ground. If it is unstable, use rocks both in the planting hole and above to stabilize it.

Landscape cacti can take the sun but may still sunburn after transplanting. To prevent this, ask the nursery to mark the side of the cactus that received the most sun and orient it in the same direction when you transplant. A new cactus in the landscape needs a soak every two weeks the first summer, then taper off, with little or none in the winter.

containers: It’s amazing what can be grown in pots and other containers on patios, balconies, porches, and in small gardens: dwarf citrus trees, small flowering shrubs, cacti, vines, flowers, herbs, and vegetables. Even apartment and townhouse dwellers can create small butterfly and hummingbird gardens. Handsome, roomy pots are easy to find, along with quality potting soil.

A few tips:

- Clay pots keep roots cooler because evaporating water cools the pot. Plastic pots, especially dark colors, absorb heat and can overheat roots. Yet they are lighter weight and hold moisture longer. If you use plastic pots, locate them in more sheltered locations.

- Group pots close together in very hot or cold weather to minimize exposure to extreme temperatures.

- Mulch with bark or other cover for a finished look.

- Use one or two pot-shards or rocks over the drain hole—not to block it, but to keep soil from washing out.

- Every few years re-pot root-bound plants into larger containers; or lift them, prune roots, and replant in fresh soil.

Sun

In the Southwest, sunshine plays a particularly significant role in planning and caring for your garden. Many potted plants and delicate succulents appreciate filtered light under airy desert trees or ramadas covered with vines or shade cloth.

western exposures are hot in the afternoon. Use tough plants that can take the heat. Watering may need to be frequent.

eastern exposures get full sun in the morning and relief from sun in the afternoon. A wide variety of plants thrive here.

southern exposures receive sun all day, even in winter. Plants that adore sunlight thrive in southern exposures. South-facing walls are the best places for cold-tender plants.

northern exposures do not get sun in the winter. North-facing walls are mainly useful for summer plantings, where they are likely to receive sun for a good part of the day.
At the Nursery

You can find the plants suggested in this guide at various local nurseries.

- Desert plant nurseries offer a wide choice of arid-adapted trees, shrubs, vines, groundcovers, and accent plants.
- Specialty nurseries focus on particular types of plants, e.g., native plants or cacti and succulents, often with an imaginative selection.
- Botanical gardens' nurseries may have regular hours, but most offer seasonal plant sales with selections reflecting their horticultural and educational focus.
- Full-service nurseries offer a general selection of trees, shrubs, groundcovers, vines, and accent plants, along with flowers, vegetables and herbs. Often they will carry a variety of desert plants, and some natives.

Native Plants & the Law

Wildlife has a natural affinity for native plants, and we recommend many Sonoran Desert natives in this booklet, as well as a number of Chihuahuan Desert natives. These are easy to grow, have minimal water requirements, and don't require fertilization or much maintenance. Although collecting native plants from the wild is illegal, many species—trees, shrubs, perennials, and cacti—are propagated by local specialty nurseries.

Luckily, nursery-grown plants transplant better anyway. If someone wishes to give you a native plant, such as a cactus, from their own private property, you must obtain a transportation permit from the Arizona Department of Agriculture in Tucson. The cost is currently about $5 per plant. If someone is selling wild-collected cacti or other plants, each plant must have a collecting permit tag attached. If there is no permit tag, don't buy it.

Exotics and Invasives

_Exotic plants_ are those that do not occur naturally in a given region. Tucson gardeners use many exotics successfully—from citrus to roses, rosemary to pyracantha. By and large these plants do fairly well under cultivation, but would otherwise not thrive in the desert.

_Invasive plants_ are exotics that enter a natural ecosystem and actually _alter_ it, sometimes causing dramatic ecological and economic damage.

Some invasive species have been introduced by agriculture, but a few have moved from ornamental landscapes into the desert. One example is the ubiquitous fountain grass (_Pennisetum setaceum_), which jumps easily from gardens, sneakers, and tires to roadsides and washes and on into the desert, where it out-competes native plants, displacing those that contribute resources to the local ecosystem. Fountain grass is rated as one of the most aggressive and destructive invasive plant threats in Arizona.

Importance of Insects

Butterflies get most of the press, but any way you look at it, insects are essential in the garden. The services insects provide—pollination, soil aeration, and the breaking down of decaying matter—are basic to the life cycle of any garden.

Keep pesticides _out_ of the garden; insects are naturally kept in check by birds and other animals. When you see a plant overrun by insects, it may mean the plant is stressed in some way.

- It's not happy with its location—too shady, too sunny, poor drainage.
- It's not happy in the desert—alkaline soil, heat stress, hot winds.
- It's not happy with you—too much love or neglect.
- Its life cycle is ending, and insects are helping it wind down.

Or perhaps it is a larval foodplant for a particular butterfly—something you _may want_ in your garden.
Butterflies are happy to come to our gardens if we provide what they need: flowering plants that provide nectar for adult butterflies to eat, and host plants where they can lay their eggs and which will nourish their caterpillars. Add plenty of sun, some shade and moisture, and you're all set. Beyond the pure pleasure we derive from watching the flight of these elegant creatures, we benefit from services they render in our gardens and in the desert around us. Along with hummingbirds, bees, and many other insects, butterflies play an important role in pollination, an essential process for many of our flowering plants.

In our mild climate, we can provide sources of nectar nearly year round, and many butterflies are on the wing in all seasons. In spring, annual and perennial wildflowers provide plenty of nectar. By summer, heat-loving flowers take over: red bird of paradise, lantana, butterfly bush, cosmos, and blue mist flower are all good choices. During the cooling days of fall, the golden flowers of mountain marigold and rabbitbrush extend the bloom.

Butterflies are closely tied to the plants on which their caterpillars, or larvae, feed. These are called larval foodplants. Southern Dogface use daleas; Empress Leilias use desert hackberry; Leda Ministreak caterpillars feed on mesquite; Giant Swallowtails use citrus plants; and the caterpillars of Black Swallowtails feed on parsley and rue. It's easy to integrate caterpillar foodplants into existing landscapes as background plants, shade trees, colorful accents, and herbs.

For a truly effective butterfly garden, a tolerance for holey leaves is recommended. Caterpillars rarely do any permanent damage. Let them nibble your plants, because the reward will be beautiful adult butterflies for all to enjoy. And some of your birdlife will be happy to pick off a caterpillar or two, helping to keep numbers in check.

On the following pages we provide tips for attracting butterflies to the garden, along with specific descriptions and gardening tips for six plants and the butterflies that they attract.
**Butterfly Garden Tips**

Butterflies are warm-weather fans, so choose a warm, sunny location.

Create windbreaks by planting shrubs or trees. Butterflies don’t like to be buffeted by the wind and won’t have to expend extra energy as they fly about looking for food and mates.

Provide shade. Even these sun-loving creatures need some shade, particularly when the temperature rises above 95 degrees.

Include flat stones or rocks. Butterflies like places to rest and places to bask in the sun.

Provide areas of damp soil. Male butterflies like to take in salts and nutrients from muddy soils.

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**Plants & Flowers**

Include a variety of larval foodplants, which supply leaves for caterpillars to eat.

Group flowering plants. Masses of colorful, fragrant flowers are more likely to capture the attention of a passing butterfly. Plants placed here and there will not be nearly as effective as five flowering plants clustered together.

Choose flowers that have short throats, are flat-topped (like Mexican sunflower) or clustered (like verbena). Butterflies like landing pads where they can sit comfortably to sip nectar.

Most butterflies prefer flowers in the yellow, orange, red, and pink range, but they will also visit flowers of other colors.

Plant with different blooming periods in mind. Butterflies may be on the wing year round in our area.

Keep herbicides or pesticides out of the butterfly garden. Herbicides may kill the larval foodplants; pesticides kill both caterpillars and adult butterflies.

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**Some butterflies commonly seen in Tucson**

**SWALLOWTAILS**
- Pipevine Swallowtail
- Black Swallowtail
- Giant Swallowtail

**WHITES & SULPHURS**
- Cabbage White
- Checkered White
- Clouded Sulphur
- Orange Sulphur
- Southern Dogface
- Cloudless Sulphur
- Large Orange Sulphur
- Sleepy Orange
- Mexican Yellow
- Boisduval’s Yellow
- Dainty Sulphur

**GOSSAMER WINGS**
- Gray Hairstreak
- Reakirt’s Blue
- Ceraunus Blue
- Marine Blue
- Western Pygmy-Blue

**SNOUTS**
- American Snout

**BRUSHFOOTS**
- Gulf Fritillary
- Variegated Fritillary
- Elada Checkerspot
- Texan Crescent
- Mourning Cloak
- Painted Lady
- West Coast Lady
- Red Admiral
- Common Buckeye
- Tropical Buckeye
- Empress Leilia
- Monarch
- Queen

**SKIPPERS**
- Funereal Duskywing
- White Common
- Checkered-Skipper
- Orange Skipperling
- Fiery Skipper
- Eufala Skipper
A SAMPLING OF PLANTS AND THE BUTTERFLIES THEY ATTRACT

BLUE MIST FLOWER

_Ageratum corymbosum_

These pretty blue flowers are magnets for male Queen butterflies that flit around this long-blooming perennial from mid-summer through fall. This is an essential plant for butterfly gardens and mixes well with other nectar plants such as lantana.

Grow blue mist in a large pot or in improved garden soil. Plant with other perennials of moderate water needs near patios, pools, or wherever flowers and butterflies may be easily seen.

Blue mist flower blooms best with at least a half day of sun (preferably morning) or in bright filtered light. Water every four to seven days, depending on sun exposure. This plant wilts noticeably when it needs water. Prune blue mist flower hard in late winter/early spring and again in early summer to encourage new growth.

QUEEN

_Danaus gilippus_

Common in our region, Queens are mostly dark orange-brown with white spots on black bodies and black wing margins. Males seek out particular kinds of flowers (_Ageratum, Eupatorium_ spp.) to obtain alkaloids they require for breeding. Milkweeds (_Asclepias_ spp.) are their larval foodplants. Milkweeds contain toxins that Queens store in their own tissues, making both caterpillars and adults disagreeable to predators.

GOODDING VERBENA

_Glandularia gooddingii_

Mounds of lavender flowers and colorful butterflies are the reward for planting this long-blooming perennial. Also known as desert verbena, this native provides nectar for many kinds of butterflies.

To get verbena up and blooming, plant nursery starts in the fall. Leaves and roots will establish all through the winter, and blooming may begin as early as February. Desert verbena is not fussy about soil, but periodic irrigation and full sun are best for flowering. Water once a week during blooming season to elicit mounding masses of lavender flowers.

During cold winter and hot summer days, desert verbena may brown and die back. Prune to several inches above the ground prior to the spring flush of growth, and again in July as rains begin.

Mix desert verbena with other perennial wildflowers for a low-water-use flower garden: penstemon, blackfoot daisy, desert marigold, desert globe mallow, and dogweed. In naturalistic landscapes, let Goodding verbena dot the landscape with lavender by planting next to rocks, which hold moisture in the soil. It works well with accent plants such as desert spoon, yuccas, cacti, and ocotillo.

There are other related plants labeled “verbena.” All have colorful clusters of flowers and provide nectar for butterflies, but some, such as rock verbena (_Verbena tenuisecta_), are more comfortable in desert gardens; the many varieties of Peruvian verbena may thrive in patio pots with some pampering.
DOGWEED

*Thymophylla pentachaeta*

Dogweed is an unfortunate name for this charming native wildflower. If you welcome this petite perennial into your garden, be sure to check it for Dainty Sulphurs that may be seeking a place to lay their eggs.

Dogweed is not fussy about growing conditions and accepts most soil types, but good drainage is preferable. Sow seeds in fall for peak bloom in spring, although plants may bloom on and off all year. If you find starts at a nursery, set them out in fall. Full sun is best, but avoid the reflected heat of western exposures.

If dogweed turns brown during long dry periods, or becomes scraggly, it may be snipped low to the ground. Usually there is life at the base of the plant and in the root zone; new growth quickly appears following irrigation or good rain.

This low-growing perennial may be scattered in a flower bed, dotted here and there in a desert landscape, or used as an edging. It may be snipped or mowed or used between stepping stones. Dogweed reseeds prolifically.

DAINTY SULPHUR

*Nathalis iole*

Smallest of the sulphurs, Dainty Sulphurs are common in open habitats, including deserts, fields, and vacant lots. They usually flutter within inches of the ground as they seek reflected warmth. In flight they look greenish yellow, with a yellow and black wing surface.

BLOODFLOWER

*Asclepias curassavica*

Named for its rich red flowers, this perennial adds fire to any small patio garden. It is a foodplant for the caterpillars of Queen and Monarch butterflies. Hummingbirds also find nectar in the flowers, and the fruits and seeds are relished by several species of birds. Verdins and Cactus Wrens may use the silken down surrounding the seeds for nesting material.

Plant bloodflower from one-gallon containers in spring or late summer. For best bloom, locate in a spot that receives at least a half day of sun, preferably morning sun. Bloodflower needs some pampering and works best in pots, planters, or small beds.

Water requirements are moderate: once a week if it’s in the ground and two to three times a week if planted in a container. If the plant receives too much water, the stems become floppy and unattractive.

Bloodflower blooms madly in late summer. In winter, it may freeze to the ground. On very cold nights, cover or wrap the plant with frost cloth or a towel to ensure survival of the root. After frost danger has passed, prune away damaged stems.

MONARCH

*Danaus plexippus*

Monarchs are probably the most famous of all North American butterflies. Millions of Monarchs migrate from eastern and central North America to spend the winter in the mountain forests of central Mexico. Their large, rich cinnamon-orange wings are veined with black. Monarch caterpillars feed primarily on milkweeds, which make the caterpillars and adult butterflies distasteful to predators, a protective device.
PASSION VINE

*Passiflora foetida*
This annual vine native to the Sonoran Desert bears elegant flowers with a somewhat “fetid” odor. Allowed to twine in a corner of the garden or patio, it delights both by its form and flower and by the bright orange Gulf Fritillaries it attracts.

Plant passion vine when it’s warm—from April to August—where it gets at least a half day of sun. Water daily at first, then every few days. Grow in a large pot or in improved soil in the ground. Next to it, fashion a trellis or use a tall sturdy stake five to seven feet tall, wrapping the stake loosely with chicken or rabbit wire. Help the vine twine at the start.

Gulf fritillary caterpillars chow down on the leaves of this plant, and that’s the point! In some years when butterfly numbers are high, the foliage may be heavily consumed, but the plant generally revives during the rainy season.

Passion vine may be killed by frost. In mild winters, it comes back from the root. Protect the vine on freezing nights by wrapping it loosely with an old sheet secured with clothespins. Harvest a few fruits in late fall and save seeds in case your vine is killed by frost. White-crowned sparows enjoy the gelatinous seeds.

GULF FRITILLARY

*Agraulis vaniHae*
Gardens containing passion vine easily attract this butterfly of southern regions. From above, their wings are bright red-orange with black markings, with a few black-ringed white spots on the forewing. From below they are a brownish orange with elongated silver spots. Gulf Fritillaries fly rapidly, usually well above the ground.

RED BIRD OF PARADISE

*Caesalpinia pulcherrima*
Red bird of paradise is one of the most spectacular blooming shrubs for the desert landscape. Its lush growth and bright, exotic flowers give it an appealing tropical look. It is a nectar plant for swallowtails, sulphurs, and other butterfly species, as well as for birds such as orioles.

Plant red birds in full sun in spring or late summer. Water deeply once a week during the first year, less often in winter. As the plant ages, water every two to four weeks depending on how much sun it receives.

In the Tucson area stems often freeze to the ground during winter. Cut dead stems of frosted plants to the ground in spring, when danger of freeze has passed. Plants revive quickly, and blooming resumes in late summer and fall.

Red birds are used as focal points anywhere a spot of fiery red is desired. Because they freeze back, it’s better not to plant them in masses, as this leaves a hole in the landscape during winter and early spring. [*note: Seed pods and seeds are toxic; eating them may cause severe stomach discomfort.*]

PIPEVINE SWALLOWTAIL

*Battus philenor*
Large and noticeable, pipevine swallowtails are a familiar sight in the southern United States. Their wings are black on top with a single row of pale spots near the edges. The hindwing shows a blue iridescence and has a row of bright orange spots. Pipevines are often seen sipping nectar at red bird of paradise. They lay their eggs on pipevine plants (*Aristolochia* spp.).
No two birds have exactly the same requirements for living. Many are permanent residents, here all year. Some arrive to nest and raise their young in the spring and summer, and others spend only winters . . . Still others come through in migration, stopping for food and shelter on their way elsewhere.

Lynn Hassler Kaufman, *Birds of the American Southwest*

What do birds need for survival? The precise answer would depend on the particular species of bird, but in a general way all birds need food, water, shelter, and space. This basic formula guides our decisions about what to plant in a bird garden.

Many people feed birds with store-bought seeds or other products, but it’s healthier for the birds—and more fun—to provide food the natural way. By enhancing our landscapes with plants that provide seeds, berries, and nectar, as well as shelter and cover, we can enjoy a greater variety of birds.

To make your garden bird-friendly, think of it from the standpoint of “habitat”—the type of place where an animal normally lives. Most yards have roughly three levels: an upper level that includes tree canopies and telephone wires, a mid-level with shrubs, walls, or fences; and a lower level with flowers, cactus, weeds, groundcovers, rocks, and soil.

Each level may be used by different birds—from ground-foraging species such as Curve-billed Thrashers and doves, to hummingbirds at flowering shrubs, to tree-roosting predators such as hawks and owls. Gambel’s Quail uses all of these natural strata—occasionally nesting in flowerpots, foraging on the ground, poking into succulent prickly pear fruits, and roosting in trees at night.

To create a successful bird garden, it is not necessary to pull out all existing plants and start over. Mature plants of whatever variety will provide a certain amount of cover while new plantings are still getting established.
Bird Garden Tips

**plants**
- Include plants that provide berries for fruit-eating birds such as thrashers, phainopeplas, and mockingbirds.
- Include plants that produce seed for seed-eating birds such as cardinals, sparrows, quails, doves, and finches.
- Include flowers that provide nectar for hummingbirds, orioles, verdins, and other nectar lovers.
- Plant at least one tree. Trees provide places for nesting, roosting, and hiding, as well as song perches and food—either directly with seeds, flowers, or fruit, or indirectly through the insects they attract.
- Plant trees and shrubs of different heights to accommodate different kinds of birds.
- Birds like lots of protective cover. The more vegetation you provide, the safer they will feel.
- Choose a variety of plants that bloom in all seasons. Some hummingbirds live here year round.

**elements**
- Provide a source of water. Moving water is preferable to prevent parasites and disease. If moving water is not possible, keep the bird bath scrubbed clean and make it shallow enough for small birds. Keep it away from vegetation where stalking cats might hide.
- Intersperse rocks among your plants. Birds like to perch on them.
- Logs or brush piles harbor many insects, an important source of food.
- Some birds like to take dust baths. If you have areas of bare ground with loosened soil, leave it for the birds.

**maintenance**
- Don’t use herbicides or pesticides. Most birds eat insects at one time or another.
- Don’t “deadhead” or cut off dead flowerheads—they hold seeds that many birds relish.
- Leave shrubs in natural shapes with branches low to the ground for optimal cover.
- Allow leaf litter to accumulate beneath trees and shrubs, which will attract insects and birds. Too much tidiness may actually make your garden less attractive to birds.

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**Short List of Plants that Attract Hummingbirds**

**Trees**
Desert willow *Chilopsis linearis*

**Shrubs**
Autumn sage *Salvia greggii*
Baja fairy duster *Calliandra californica*
Cape honeysuckle *Tecomaria capensis*
Chuparosa *Justicia californica*
Desert honeysuckle *Anisacanthus thruberi*
Flame anisacanthus *Anisacanthus wrightii*
Red justicia *Justicia candidans*
Mexican honeysuckle *Justicia spicigera*

**Accent Plants**
Aloe *Aloe spp.*
Ocotillo *Fouquieria splendens*

**Vines**
Trumpet honeysuckle *Campsis radicans*

**Perennials & Patio Plants**
California fuchsia *Epilobium canum* (previously known as *Zauschneria*)
Penstemon, *Penstemon spp.*, most kinds
Scarlet sage *Salvia coccinea*
Shrimp Plant *Beloperone guttata*
A SAMPLING OF PLANTS AND BIRDS IN AN URBAN BIRD GARDEN

BAJA FAIRY DUSTER
Calliandra californica
Bright red puff balls on this medium-sized shrub are magnets for both butterflies and hummingbirds, and provide dramatic color in sunny areas. Mix with desert perennials such as globe mallow and brittlebush.

Plant Baja fairy duster from one- or five-gallon containers in spring. Full sun, or at least a half day of sun, will guarantee lots of flowers. Choose a location that retains warmth in winter, as this species is frost sensitive.

Baja fairy duster is drought tolerant, but supplemental water induces more profuse bloom. Water once a week during the first summer, then about once a month in winter. After the first year, water about every two weeks through the warm season.

Typically, flowering begins in spring, peaks in the fall, and lasts until frost. In mild years it may bloom nearly year round. Baja fairy duster does not need pruning, but do remove dead wood from frosted plants in spring, when all danger of frost has passed and you can see new green growth emerging along the stems.

Calliandra x 'Sierra Starr' is a hybrid that looks similar but is slightly smaller. It is hardy to 18° F, which makes Sierra Starr ideal for Tucson’s colder valley locations.

BLACK-CHINNED HUMMINGBIRD
Archilochus alexandri
Males have a black chin or throat. In certain light, the throat shows an iridescent purple border. Arriving in the spring to breed after wintering in Mexico, Black-chins are common at hummingbird feeders in Tucson gardens. They feed on nectar and small insects and love tubular flowers in the red-orange range.

BRITTLEBUSH
Encelia farinosa
Stands of native brittlebush may blossom into masses of gold against a sunny backyard wall. Prolific seed producers, these small shrubs attract many seed-eating birds such as finches, sparrows, quail, doves, and cardinals, as well as small mammals. Fragrant stems give this gray-green perennial its Spanish name, incenso.

Plant brittlebush from one-gallon containers in fall in well-drained soil. To avoid transplant shock, try not to disturb the root ball. Brittlebush is also easy to start from seed in fall.

Water new plants twice a week for several weeks, then reduce to weekly, then monthly. Watering, though infrequent, should be deep and thorough.

In rainy seasons, brittlebush leaves are large and lush, while in dry seasons they are sparse, small, or nonexistent. It’s tempting to increase watering when plants display their dry season bedraggled appearance, but resist the temptation. They’ll thicken up with rains.

Mix brittlebush with other desert perennials such as globe mallow and penstemon, or with accent plants like ocotillo, agave, desert spoon, and cactus.

NORTHERN CARDINAL
Cardinalis cardinalis
Males are brilliant red with black faces, large pinkish-orange bills, and pointed crests. Their heavy bills enable them to extract seeds from plants and flowers by cutting or crushing the shells. They also eat insects and berries. Their musical, whistled song sounds like what cheer what cheer what cheer. This species occurs in eastern North America, and many people are surprised to see them here—a testimony to the diversity of the Sonoran Desert.
PLANTS AND BIRDS

AUTUMN SAGE
*Salvia greggii*

The magenta, tubular flowers of this small shrub are alluring to hummingbirds. Quail like to eat the flowers, as do desert spiny lizards. Autumn sage may be mixed with other perennials to create a vibrant show of color in small beds, or in large containers.

Plant this Chihuahuan Desert native from one-gallon containers in spring or fall, choosing a location with morning sun or filtered light. Mix a little compost and sand with the soil to improve drainage. Be careful not to bury any part of the main stem below the soil line. Established plants need watering every week in summer, and every seven to ten days in winter. If plants become woody, cut them back hard in early spring, and they will fill out nicely. Tidy up plants anytime by removing bare bloom stalks, or pinching back here and there to encourage flowers. If plants seem to wilt in warm weather, add a layer of mulch at the base to keep roots moist and cool longer.

Although the common name is autumn sage, this lovely shrub also produces a strong bloom in spring and again during the summer rainy season, continuing until frost. Plant it anywhere people may enjoy the visiting hummingbirds, especially near patios and pools.

GAMBEL'S QUAIL
*Callipepla gambelii*

Gambel's Quail are plump, ground-dwelling birds with plumed topknots. In winter they form large groups, or coveys, and maintain contact with one another through a series of clucking, crowing calls. Gambel's Quail eat seeds, the flowers of your favorite perennial, and some insects. It's not uncommon to discover a nest in a patio flowerpot. Provide a water source to encourage daily visits from these comely creatures.

DESERT HACKBERRY
*Celtis pallida*

This large native shrub is a cornerstone for the wildlife garden. Fruit-eating birds and mammals feast upon the orange berries. Desert hackberry's dense growth makes it a perfect hideaway and nesting site for birds. Two butterfly species use it as a foodplant for their caterpillars.

Plant desert hackberry from one- or five-gallon containers in any season. It prefers well-drained soil and full sun. During the first warm season water weekly. Over time water every two to four weeks in summer, occasionally in winter. It is slow-growing and takes several years to mature, but for a wildlife garden it's worth the wait.

Mature desert hackberries are impenetrable shrubs used primarily as background plants. As plants get larger, they may be pruned into small trees. Although considered an evergreen, this hackberry may lose its leaves in very cold winters, but recovers quickly.

GILA WOODPECKER
*Melanerpes uropygialis*

Gilas are noisy, cheeky birds with black and white barred backs and plain brown heads and underparts. Males have bright red rounded caps on their heads. Not at all picky, they are omnivores and eat almost anything. Gilas often excavate holes in saguaros for their nests.

CURVE-BILLED THRASHER
*Toxostoma curvirostre*

Almost uniformly brown with startling yellow-orange eyes and a downward-curving bill, thrashers spend a lot of time on the ground sweeping their heavy bills in soil or leaf litter, searching for grubs and insects. They usually select cholla cactus for nesting sites. In the same family as mockingbirds, thrashers are also talented songsters.
DEERGRASS

*Muhlenbergia rigens*
This striking native bunchgrass is attractive to birds for several reasons. It produces lots of seed; the blades are a great source of material for nests; and the arching mounds provide cover and nesting sites.

Plant this perennial from containers in full or filtered sun. Deergrass prefers well-drained fertile soils, but tolerates most kinds. In rocky soils it may require more frequent watering. It becomes quite drought tolerant over time, requiring only a deep soaking about every two to three weeks during the warm months.

The neat, symmetrical mound may be cut back every few years. As fresh leaf blades grow over the old, a thick thatch of straw builds up. You may cut the plant to the ground in late winter to allow it to renew itself, but in wildlife gardens deergrass thatch provides excellent shelter, and pruning is not absolutely required.

Clumps of deergrass are most striking when planted in groups, whether massed casually among desert trees, or neatly lining a walkway. Because it is large, a single plant may be all that is needed for a small garden.

Deergrass and several other handsome *Muhlenbergia* species are superb substitutes for the invasive fountain grass.

CACTUS WREN

*Campylorhynchos brunneicapillus*
Large and sociable, this is the state bird of Arizona. Cactus wrens build massive, bulky nests in cholla cactus and desert trees. They often make use of paper products such as tissue or wax paper for nesting material. Cactus wrens feed mostly on insects and also on some fruits.

VERDIN

*Auriparus flaviceps*
Verdins are tiny, active birds of hot desert regions. At first glance they appear rather nondescript—brown-gray overall—but both male and female adults have velvety yellowish heads and small chestnut-colored shoulder patches, which are difficult to see. Verdins comb twigs and branches for insects and larvae. They also eat small fruits and berries, and satisfy their sweet tooth with nectar. Their stick nests are spherical in shape, about the size of a large softball, with a hollow center and a round entrance on the side.

PLANTS AND BIRDS

ENGELMANN'S PRICKLY PEAR

*Opuntia engelmannii*
Fleshy, purple-red fruits in late summer attract wildlife and people alike. Prickly pear fruits are eaten by most desert creatures. It's not unusual to see birds or small mammals with bright red stains around their bills or mouths from feasting on these delicious fruits.

Plant from containers in the warm days of spring or fall. Prepare the hole by loosening the soil and adding sand to enhance drainage. If new plants are wobbly, nestle them in a few rocks for support. Wait a week before watering to let any broken roots callus over.

A new cactus plant is vulnerable to sunburn—a bleaching of the green stems or pads. In the hottest days of its first summer, protect with a layer of shade cloth (or old pillowcase). Uncover in the waning days of summer. Native cacti survive on rainfall, but newly planted individuals look best when watered every two weeks the first summer. The following year, water every month or two if no rain falls.

Packrats love to make their homes in older clumps of prickly pear. Prune clumps around the base and clean out dead material to discourage them.

Wild About Gardening 15
The Tucson Botanical Gardens is a private, nonprofit organization whose mission is to preserve the historic home and property of the Porter family, promote responsible and appropriate use of plants and water in a desert environment, and provide a place of beauty and tranquility for Tucson residents and visitors. This booklet is the first in a series on desert gardening topics.

**Sources for Further Information**

Be sure to visit the Gardens’ interactive website, [www.desertconnections.org](http://www.desertconnections.org), which has a searchable plant data base with more than 100 plants that attract birds and butterflies.

**Desert Gardening & Landscaping**


**Bird & Butterfly Guides**


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**Graphic Design:** Linda M. Brewer/Bailiwick, Ink

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