

# Chihuahuan Desert Gardens

OF THE CENTENNIAL MUSEUM AT  
THE UNIVERSITY OF TEXAS AT EL PASO

*Welcome to the Chihuahuan Desert Gardens (CDG), a botanic garden dedicated to the flora of the Chihuahuan Desert and adjacent regions in the United States and Mexico. The Gardens were formally dedicated in September 1999 and contain over 625 different species of plants, comprising one of the largest captive assemblages of Chihuahuan Desert flora in the world. As you explore the Gardens, please remember that fruits and other parts of native plants may be quite toxic; be careful not to taste, or allow children to taste, any parts of the plants. Numbers given next to individual garden areas will help you locate that area of the gardens on the attached map.*

Your first glimpse of the Gardens begins at the front entrance of the Museum Building in what was officially dedicated as **Jubilee Square** in celebration of the University's 75<sup>th</sup> anniversary in 1994. The first plantings included Torrey's honey mesquite growing over lechugilla, an agave that is an important indicator plant of the Chihuahuan Desert. Other beds contain Apache plume, desert willows, yellow bells, Chisos rosewood, turpentine bush, and sages. *The yellow-flowered groundcover is Baja evening primrose, a favorite nectar source of the 5-lined Hawkmoth, so often mistaken for baby hummingbirds in late afternoon.*

As you exit Jubilee Square, turn right at the bottom of the stairs, but not before spotting the Apache pine straight ahead. Take the walkway around the southern side of the Museum building, passing a planting bed with hummingbird trumpets (sometimes called California fuschia), wild cotton, toothed serviceberry, a ground-covering salvia, and a number of annuals, biennials, and short-lived perennials. *Apache pine is among the longest-needled pines in North America and has been used to weave baskets since prehistoric times.*

Just beyond, specimens of Texas mulberry, littleleaf walnut, and pecan form the tree foundation for a future addition of an **Ethnobotanic Garden**.

The next garden area you encounter as the walkway passes to the rear of the building is the **Cactus Garden**, currently housing some 80 different species, including a number of rare and endangered cacti. *The CDG is one of only 64 US Plant Rescue Centers designated by the US Fish and Wildlife Service and the Department of Agriculture to salvage internationally-protected plant species confiscated at US ports of entry from illegal importation.*

On the right is another planting bed dating to 1994, featuring mature whitethorn acacia, longleaf soto, Texas persimmon, Big Bend silverleaf, and blackfoot daisy. Whether by passing alongside this planter or leaving the Cactus Garden, you will now enter and/or cross the parking lot to walk alongside a planting of five of the seven different species in the CDG *Leucophyllum* collection, including three cultivars and two hybrids of Texas ranger, the Southwest's most popular xeriscape plant. This bed ends with an evergreen silktassel plant and pink flowering anacacho orchidtree. Here you also encounter a distinctive wooden structure containing an authentic **Bhutanese Prayer Wheel** presented to the CDG in 2004 as a gift from the people of Bhutan. *The protective structure for the Prayer Wheel was constructed locally by master carpenter, Bruce Thacker, without use of nails or bolts. In the traditional Himalayan manner, interlocking oak pegs that are mostly hidden make a tight hold for this wonderful structure.*

Proceeding on beyond the Prayer Wheel and an adjacent staircase, you pass a small bed with endangered ashy dogweed, rare boucheas (flaxleaf and spoonleaf), blue sages, and wild lima-bean climbing over scarlet bovardia. Immediately beyond is the **Desert Shrub Garden (1)**, featuring plants native to the scrublands of the northern Chihuahuan Desert of western Texas and southern New Mexico. Here you can note the sticky resins of tarbush and viscid acacia and inhale the rainy-afternoon scent of creosote and the piney smell of turpentine bush, while admiring feather dalea and paleface hibiscus. Locally-native Big Bend silverleaf, shrubby zinnia, California trixis, javelina bush, Warnock's condalia, desert olive, and several local cacti are also featured. *Under the shrub canopy, look for unusual alicocha cactus, variously called strawberry or prostrate hedgehog cactus, snaking across the ground.*

Please turn around now and return to descend the short staircase beside the Prayer Wheel into the **Terrace Garden (4)**; then turn left onto the main walkway to enter the **Amphitheater Garden (5)**, a shaded concrete structure for audiences of up to 100 persons for lectures and music events. Featured plants in the back planters include butterfly

mistflower, Mexican and desert petunias, coyotillo (whose fruit is quite poisonous), sumacs, Chihuahuan cliffrose, several shrubby sunflowers, and a specimen of the very rare littleleaf brongniart, only found in the US on the edges of Big Bend National Park. Following around the seating area, you'll again descend a short flight of stairs after you pass large containers of Texas false agave, candelilla, and leatherstem on the left. Also on the left, under the desert willow, Wood's wild rose creates a bramble. The small planters on the right side of the stairs contain specimens of littleleaf ash and Toumey's oak.

Entering the Undergraduate Learning Center's **Plaza Garden** below, you will note Torrey mesquite and cherry sage on the left, center planters of Mexican plum and, to the far right, bigtooth maples footed by lavender-flowered Mexican rosemary mint, sometimes called lavender spice. In 1998, the new UGLC building became the largest state building in Texas landscaped with native plants. The 43 different species on its grounds are now incorporated into and complement the Chihuahuan Desert Gardens collection. You may tour the building perimeter separately to see Arizona cypress and Mexican pinyon and other plants not seen in the main gardens.

Turning right you will pass a large planter that forms the back, or stage area, of the **Amphitheater Garden (5)** with plantings of lemon dalea, Arizona rosewood, a western soapberry tree, and Texas hog plum. Passing this planter toward another set of stairs, you may inspect the lower beds of the **Terrace Garden (4)**, which feature three species of acacia (twisted, catclaw, and berlandiera) and Emory's mimosa on the right. On the left of the stairs, see blackbrush and Romer's acacia, as well as pinkie aniscanth, Mexican olive, Havard's and roughleaf agaves; then ascend the stairs to return to the main Gardens. Note the small size of the leaflets called pinnae, which together comprise a single pinnately compound leaf on these acacias, and on other members of the Legume family in the Gardens. A small leaf surface is a water-saving desert adaptation seen on many plants.

Once back in the center of the **Terrace Garden**, turn left onto the main walkway. This area features plants of the eastern and central Chihuahuan Desert region, including, in the upper planters alongside the walkway, royal sage, Chisos rosewood, dwarf anisacanth, silver dalea, Mexican pistache, desert yaupon, Scott's acacia, desert lantana, sweetstem, and a rare specimen of pink flowering melochia, surrounded by the blue flowers of the skullcap under the Texas persimmon.

Proceed ahead into the **Contemplative Garden (3)**, a flower-filled oasis featuring columbine, cedar sage, rose mallow, shade-loving "Summer Snow" (a white plumbago), and Mexican rosemary mint, under false indigobush and New Mexico privet. This garden, honoring the memory of Emil and Bernice Dittmer - whose generous contribution financed it - has as its centerpiece a unique, cooling, drip fountain fashioned by UTEP Metallurgy students. The overhead emitters provide a calming music of water droplets falling onto bell-shaped resonators and then into a still pool held in the massive copper pan. Notice that this garden is protected by massive, wind-buffering, circular walls and shaded by an overhead lattice of rough-sawn, sustainably harvested, cedar, which reduces evaporation and helps hold cooling humidity released by the re-circulating fountain.

Leaving this sheltered area, you enter the **Wall Garden (6)** to the left of a colorful dividing wall. Here visitors can relax under a shady pergola as they take in Texas mountain laurel, Mexican redbud, flame acanthus, numerous sages, and other members of the Mint family. The garden walls overlook the Undergraduate Learning Center, with its traditional Bhutanese-style architecture, first copied on the UTEP campus in 1916 from a 1914 issue of National Geographic Magazine featuring an article on the far-away Himalayan Kingdom of Bhutan.

Across the central walkway from the "Wall" is the **Succulent Garden (2)**, filled with various stem succulents such as lechuguilla, seven species of yucca, three of beargrass, and four of sotol - all plants that store precious moisture and have a soft sculptural appeal. Purple threeawn, colorful fairydusters, trixis, wild buckwheat, longflowered twinpods and desert rose mallows, Mormon teas or ephedras, and a green-spined allthorn are scattered throughout. Yucca, agave, and sotol are often mistaken for cacti, but they are more closely related to grasses and lilies than cactus.

Next, as you head north, you enter the habitat gardens. First, on the right, is the **Sand Garden (7)**, typifying El Paso's arid sand-dune landscape, with a catclaw acacia tree and desert rosemary mint, sand sage, and winterfat shrubs. Sand penstemon, desert marigolds, paperflower, hairy golden-aster, sand verbena, and Texas skeleton plant provide perennial color.

To the left is the **Arroyo Garden (8)**. Mirroring this region's many watercourses, this garden showcases cliff fenderbush, creosote, greythorn, bush sunflowers, and four-nerved daisies along the walkway, and a Mexican blue oak, skeletonleaf goldeneye, Apache plume,

yellow bells, burrobush, pink mimosa, and several acacias in the beds below which are also viewable from the UGLC patio. *It should be noted that rainfall is passively harvested through out the CDG using lipped planters, sloped walkways, berms and swales, and extensive underground perforated drains with no outlets.*

Back to the right of the walkway, a **Grass Garden (9)** exhibits several grasses that thrive in desert and upland grasslands, including sideoats grama, little bluestem, and bush muhly. Wildflowers such as sundrops, winecups, blue flax, and Mexican coneflowers also thrive here. Specimens of shrubby bundleflower and fern acacia will also be noted. *The Chihuahuan Desert was once famous for great expanses of short grass prairie, in contrast with the tall grass prairies of the eastern Great Plains. These grasslands and the plant and animals they support are now largely reduced to scattered patches threatened by continued overgrazing, oil and gas drilling, and speculative land developments.*

To many home gardeners, the residential **Patio Garden (10)** will be of special interest. This garden demonstrates an unmowed meadow of blue grama and alkali sacaton bordered by a tumultuous full-sun wildflower bed of gayfeather, coneflower, blue flax, spike rush, Wright's penstemons, and sunflowers, all well-suited to our desert climate. At the rear, large sturdy shrubs of littleleaf and flameleaf sumac blend into a transition of rock sage, smooth-margined Weber agave, and an unusual red-flowering Texas ranger. A rose-pink coral vine climbs the lattice that breaks the circular wall, and Texas clematis twines through the goldenball leadtree that shades the bench seating below. *The meadow area is irrigated by a continuous underground Netafim drip system.*

The **Sensory Garden (11)**, as its name implies, is designed to delight the senses of not only the many visiting hummingbirds and butterflies, but their human counterparts as well. The re-circulating fountain is designed to provide flat shallow trickles to maximize bird use. Fragrant gaillardia, white beebrush, Texas kidneywood, chocolate daisies, and white sagewort are just a few of the fragrant plants found here. Soft feathergrass, velvetleaf senna, and rough-leaved lantana also provide tactile sensations. In addition, among the low white sage specimens of chocolate daisy bring butterflies, and the rare perennial, *Salvia penstemonioides*, entices the hummingbirds almost within touching distance of the walk. *The Chihuahuan Desert Gardens are a certified Texas Wildscape site and are largely chemical free, being managed as organically as possible to protect wildlife. Watch out for bees and ants, for this is their home too!*

A beautifully-laid flagstone walkway, shaded by an elevated Mexican redbud above and flowering ash below, wends its way through colorful cardinal penstemons, mealycup blue sage, desert delphinium, and puccoon into the **Assembly Garden (12)**. Built with generous contributions from Phi Kappa Tau alumni, the Assembly Garden has a large covered-patio area complete with banquettes that invite guests to linger and share gardening tips over lunch. A number of rare, threatened, or endangered species also grows nearby, including littleleaf peach, *Salvia summa* (supreme sage), and the Organ Mountain evening primrose. Under the tornillo, or screwbean mesquite, a mix of yellow bells, a hoptree, sundrops, and shrubby penstemons accompanies a grape ivy vine.

Across the way, massive andesite boulders pile up to create a dramatic backdrop to the **Water Garden (13)**, with a runoff catchment area or hueco, and a muddy mountain-seep spring filled with cattails and scouring rush. The low planters contain frogfruit, yerba mansa, and blueweed, which provide attractive groundcovers under the buttonbush, coyote willow, and canyon hackberry trees that shade the small pond. Native gambusia minnows consume the ample mosquito larvae population. "Hueco" means cavity or hole in Spanish, and such sheltered rocky basins of collected rainwater are a principal source of moisture for wildlife and man in the Desert. *Hueco Tanks State Park gets its name from them.*

As you leave the Assembly Garden, you will walk between planters that bring the soft, velvety leaves of a desert-adapted variety of threeleaf sumac and the crisp, pointy-toothed leaves of scrub live-oak into touching range on one side, and the sweet fragrance of kidneywoods and the pungent smell of Tarahumara and Graham's baby sages close on the other. You have now entered the **Sierra Garden (14)**, which features some of the plants from the western Chihuahuan Desert region. On the left, a dry watercourse is tucked alongside the walkway, sheltered by plastered walls that block noise and buffer the winds. In this bed you will find both the threeleaf and red barberries or algeritas, Thurber's acanthus, the yellow daisies of Skeletonleaf goldeneye, rubber-producing guayule and its cousin, mariola, cutleaf baccharis, pale wolfberry, and unusual plume coldenia mixed among purple three-awn grass, gyp dogweed, bahia, superb penstemon, and cutleaf goldenweed. Towering almost over the wall is a magnificent specimen of giant sacaton grass. On the right are three planters with fernleaf acacia, Mexican mint marigold, rubber rabbitbrush, native white-flowered honeysuckle, and desert four o'clocks below a Texas honey mesquite and a shade-loving Schott's yucca.

Exiting the Sierra Garden, you may detour into the **Point Garden (15)** by crossing the small wooden bridge, a sturdy construction that mysteriously shows no nails or visible fasteners. Here you are greeted by white and purple-flowering desert willows, whiteball acacia, and pink-flowering velvetpod mimosa on the left. Ahead, three species of Juniper (alligator, oneseed, and the rare drooping juniper) are evident, as is the Thomson yucca that stands sentinel at the "point". On the right, the dead-end path will take you by a very rare dwarf Havard's oak, an exceptional member of the Spurge family (*Manihot davisiae*), three specimens of the Gardens' agave collection (*A. palmeri*, *A. schottii*, and *A. striata*), Vasey's shin oak, and several perennial grasses, including buffalo grass and tanglehead, and wildflowers such as poison milkweed and canyon penstemon, before ending at a living ocotillo fence. Return to the main walkway; as you cross the bridge, note the raised bed below the alligator juniper to the left. Here you may see a very rare spiny kidneywood, the evergreen Big Bend soapbush or guayacan, *Penstemon ramosus* or lanceleaf penstemon, longleaf ephedra, twinleaf senna, or sand amsonia as you turn left to re-join the walkway.

Before you exit into the parking lot, immediately to your right is the **Thornless Garden**, another demonstration of sand-loving plants, including shrubby southwestern rabbitbrush, dune broom, broom dalea, sand sage, winterfat, soaptree yucca, perennial Thurber's and sand penstemons, Indian ricegrass, and rare Havard's ipomopsis. This garden is most notable in the early spring and late fall when winter and summer annuals are in their glory, under the canopy of a special thornless selection of honey mesquite.

Once in the parking lot, there are three small planting areas of note, two of which were part of the original 1994 plantings: a triangular planter tucked between the nearby parking areas, and a raised planter just outside the University Avenue entrance to the Museum (where an elevator provides main floor access for the handicapped or the just plain weary). The first planter contains a mature canyon senna, a woolly butterflybush, four species of rain sage (*Leucophyllum minus*, *revolutum*, *prunoisum*, and *zygophyllum*), Texas tuberose, red and giant hesperaloe, and a lovely white-flowering anacacho orchid tree. The bed at the Museum entrance contains a desert willow and small papershell pinyon, with several species of wildflowers including lemon beebalm, common sunflowers, and a white evening primrose. A tiny third planter, made quite obvious by the neighboring stately ocotillo and a 50-year-old southern barrel cactus, marks another entrance to the Gardens beside the utility enclosure across the parking lot.

Continuing the tour, go up the stairs along the north side of the Museum building to enter the **Upland Garden**. A young Chisos red oak tree dominates the first level on the right, accompanied by a drooping juniper, woolly butterflybush, trailing dalea groundcover, and a number of perennial grasses and wildflowers found in the mountains of the Trans-Pecos region of Texas. The second tier showcases plants of southeastern Arizona and southwestern New Mexico, where the Chihuahuan and Sonoran deserts meet and mingle with the mountainous spine of western Mexico's Sierra Madre Occidental. These plants include various giant hyssops, Thurber's acanthus, lemon sage, Sonoran passionflower, Mexican penstemon and bluestars with more eastern plants such as New Mexico privet, littleleaf forestiera, and deergrass. Along the side of the building to the right of the walkway, you may examine white honeysuckle, Mexican rosewood, flowering ash, rose pavonia, pink lantana, purple beebalm, cardinal flower, and several perennial members of the four o'clock family. See if you can spot the small plastic emitters that provide irrigation to plants throughout the Gardens from underground distribution pipes. On automatic timers, they efficiently deliver water to the root zone with low volume output measured in gallons-per-hour rather than gallons-per-minute as is the case with an ordinary water wasting sprinkler head.

The empty half-circle wall on the left of the walkway will serve as the foundation for the planned **El Fortin Garden**. It will be a partial replica of the circular adobe and stone fort-like towers that served as havens from hostile marauders of all types in the early Southwest. As you round the corner, note the pedestal for a dramatic sculpture piece to be installed in association with the El Fortin project. This large red sandstone and green glass piece, entitled "Rake Mark," is being donated by nationally-known sculptor Otto Rigan, previously of Santa Fe. The Rigan studio is now located in Bisbee, AZ.

On the right, the **Escarpment Garden** highlights plants of the Sacramento-Guadalupe escarpment in south-central New Mexico and adjacent western Texas. It contains a large alligator juniper and shrubs of pale wolfberry, cliff fendlerbush, mockorange, current, buckthorn, ceanothus, and mountain spray. Hooker's evening primrose, Engelmann sunflower, and cardinal and Alamo penstemons provide perennial color. The conspicuous groundcover is silver dicondria or ponyfoot. The Chihuahuan Desert region encompasses both the largest and the least-explored desert areas in North America. It is estimated to contain nearly 4000 species of plants.

As the walkway winds back to where the tour began, another planter of the 1994 creation of Jubilee Square is located on the right. Now a continuation of the Escarpment Garden,

notable plants here include a goldenball leadtree, false indigo bush, Utah serviceberry, a rare Tracy's hawthorn from the Davis Mountains, and numerous white rain lilies and annual gaillardias.

At this point you are back at the main entrance to the Museum: ¡Hasta luego!; come again!

*We hope you enjoyed your tour. The Chihuahuan Desert Gardens are open 7 days a week, 365 days a year, from dawn to dusk, without admission charge. Guided tours for groups may be arranged by calling 915-747-5565. A current list of plants found in the Gardens, listed alphabetically by either Plant Family or by Genus and species is available at the front reception desk of the Museum, as is information on the butterflies of the area. The Museum is open from 10:30 am to 4:30 pm, Tuesday through Saturday.*

*Information on opportunities for provision of meaningful and lasting memorial or honorary tributes for family, friends, or mentors in the Gardens can be obtained by calling the Botanical Curator or Director of the Centennial Museum at the number above. The Chihuahuan Desert Gardens are funded entirely from private donations and plant sale income; your support, in any amount, will be sincerely appreciated.*

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The Chihuahuan Desert Gardens  
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