

the TROPICAL GARDEN

SUMMER 2014

Harvesting Mango DNA The Science Behind the King of Fruit



PUBLISHED BY FAIRCHILD TROPICAL BOTANIC GARDEN

FEATURES



THE CALL OF THE WILD:
THE REBIRTH OF THE MANGO 31



17 HOW PLANTS
PACKAGE SEEDS

DEPARTMENTS

- FROM THE DIRECTOR 4
- FROM THE CHIEF OPERATING OFFICER 5
- SCHEDULE OF EVENTS 7
- GET IN ON THE CONSERVATION 9
- TROPICAL CUISINE 11
- EXPLAINING 12
- VIS-A-VIS VOLUNTEERS 15
- WHAT'S BLOOMING 22
- PLANT COLLECTIONS 29
- EDIBLE GARDENING 45
- WHAT'S IN STORE 51
- GARDENING IN SOUTH FLORIDA 59
- PLANT SOCIETIES 61
- GIFTS AND DONORS 62
- GARDEN VIEWS 65
- FROM THE ARCHIVES 68
- CONNECT WITH FAIRCHILD 70



38 LIVING WHERE OTHERS DARE
NOT: PLANTS OF THE DESERT

LIVING WHERE OTHERS DARE NOT
PLANTS OF THE
DESERT





**TEXT AND PHOTOS
BY KENNETH SETZER**

There are thousands of plants that have adapted to the driest, hottest places on Earth; their forms are both revealing and beautiful.

I ventured to the Mojave Desert last April and got to explore Red Rock Canyon National Conservation Area outside Las Vegas, while on the way to Death Valley National Park in California. During my travels, I learned that if you look closely, life abounds in the desert, including explosions of wildflowers after spring rains. Just remember to look down, since many desert plants are small. Botanizing in the desert can lead to unexpected rewards—Death Valley alone harbors more than 1,000 plant species, including more than 50 endemics that grow only there.

Joshua tree
Yucca brevifolia

A Mojave Desert icon with its own National Park, the Joshua tree was much more widespread immediately after the last ice age; its range has been shrinking ever since. Global warming may decrease it further, and the tree may be unable to migrate to cooler areas without an animal believed to have once eaten and dispersed its seeds: the extinct giant Shasta ground sloth.



1



2



3

1. Desert globemallow
Sphaeralcea ambigua

This desert perennial grows to about three feet tall, and contributes dozens of apricot-orange cupped flowers along its inflorescences. They seem to glow from within.

2. Desert fivespot
Eremalche rotundifolia

A desert annual, the desert fivespot has rounded, almost kidney-shaped leaves on dull red stems that nearly hug the ground in open, sandy areas. Before the flower opens, it resembles a pink globe, lit up by the desert sun. Each of its five petals sports a red spot on its inside base.

3. Beavertail cactus
Opuntia basilaris

TOP: A desert bee aiding in beavertail cactus pollination
BOTTOM: This is a congener (in the same genus) of the eastern prickly pear we see in Florida. The beavertail has no spines—only short, barbed bristles called glochids. (Our eastern prickly pear has both spines and glochids, as many hikers can attest.) The beavertail's flowers are arrestingly beautiful, adding shocks of fuchsia and magenta to an otherwise dun-colored ground.

4. Creosote bush
Larrea tridentata

This champion of survival—pictured here in Death Valley's Mesquite Flats sand dunes—is so efficient at extracting water from the soil that most plants can't grow nearby, but some annuals like *Phacelia* species will grow in its shade. Older creosotes die out in their center, but continue to grow, eventually producing a ring. The oldest known creosote ring, "King Clone," has been dated to almost 12,000 years old. Creosote produces hundreds of small yellow flowers followed by round, fuzzy, white seedpods.



4



5. Acton brittlebush

Encelia actoni

A California and Nevada native, this compact bush is a member of the large Asteraceae family. The solitary butter-yellow flowers catch the breeze a couple feet off the desert floor. Here it poses against an Aztec sandstone backdrop in Red Rock Canyon.

6. Chaparral dodder

Cuscuta californica

Many desert bushes are covered with an orange, filament-like material. It's this parasitic vine, dependent on its host for nutrients and water. Though native, it's considered a noxious weed. It's at least oddly intriguing.

7. Arrowweed

Pluchea sericea

Devil's Cornfield in Death Valley is a flat, open plain spotted with arrowweed, a bush that starts out as a grouping of straight, vertical stems with leaves bunched towards the top. As it grows, soil and sand gather at its base. In response, the plant grows taller, thus accumulating even more windblown soil. Plants can reach 12 feet or higher and look like stacked corn stalks.

8. Hollyleaf gilia

Gilia latiflora

Getting up close pays off. This California endemic's delicate purple flowers with white throats seem out of place in a harsh rock garden, yet it thrives.





9. Desert trumpet
Eriogonum inflatum

Interesting not so much for its inconspicuous yellow flowers, desert trumpet produces a nice “basal rosette” of leaves against the desert floor. More noteworthy, the stem develops a flattened swelling that serves to increase photosynthesis. The swelling then tapers, eventually branching out to the inflorescences.

10. Lilac sunbonnet/spotted langloisia
Langloisia setosissima ssp. *punctata*

This small bouquet was growing in its own rock garden. It’s as though the funnel-shaped flowers—with blue pollen—are trying to stand out from the desert background. I wonder how they appear to pollinators.

11. Gravel ghost/parachute plant
Atrichoseris platyphylla

These produce a rosette of fleshy, green-spotted leaves flat against the gravelly desert floor (*platyphylla* means “flat leaves”). A single branching stem rises and produces white flowers with pink-tinged, layered petals—each with a toothed edge. These plants enjoy tormenting photographers by incessantly swaying in the breeze, ghost-like.

12. Brownplume wirelettuce
Stephanomeria pauciflora

This small, shrub-like plant grows in many different Southwestern habitats, including deserts and woodlands. In its entirety, it looks fairly uninteresting, but up close I found scenes like this checkered white butterfly (*Pontia protodice*) accessing nectar from a tiny but attractive flower.





13. Devil's spineflower

Chorizanthe rigida

Common, but quite small, low and easily obscured, this plant's spikes and spoon-shaped rosette of leaves surround tiny chartreuse flowers.

14. Mojave desertstar

Monoptilon bellioides

Growing to only two inches tall, this annual wildflower can carpet bare, rocky areas if it receives sufficient spring rain. The flowers close by evening, leaving the hairy green leaves visible.

15. Desert gold poppy

Eschscholzia glyptosperma

This desert poppy produces deep-yellow flowers, but its foliage is also of interest. It's often found growing in washes, and its seeds are buoyant, possibly relying on floods to disperse. Note the standout fruit: It's the long, slender grayish cylinders alongside the flowers.

16. Cleftleaf wildheliotrope

Phacelia crenulata

There are three to five varieties of this fragrant annual. It grows interspersed in desert washes among rocks and boulders of orange and brown.



It was tough deciding which plants to share here, and there are so many I missed, such as the Eureka Valley dune grass (*Swallenia alexandrae*), Eureka Dunes evening primrose (*Oenothera californica* ssp. *eurekensis*) and Eureka Dunes milkvetch (*Astragalus lentiginosus* ssp. *micans*). All three occur nowhere else on Earth, and last February, the U.S. Fish and Wildlife Service recommended the first two be removed from the list of endangered species thanks to their recovery from near extinction. It's comforting to know they'll be there when I go back. 