

BORAGINALES (Borages)

Borages



Family **BORAGINACEAE** (Phacelias)

Fremont's Phacelia (*Phacelia fremontii*)



Goodsprings Valley; NV



Goodsprings Valley; NV



Red Rock Canyon NCA; NV



Goodsprings Valley; NV



Goodsprings Valley; NV

- Flowers:** tubular/funnelform; 5-parted; white, pink, lavender, blue (yellow throat, white ring); .75"
- Stems:** erect, ascending; single to a few; branched; finely hairy; green to greenish brown; 8-20"
- Leaves:** obovate to lanceolate; deeply lobed to compound; basal; pubescent (finely hairy), green; 2-5"
- Blooms:** March to June
- Range:** southwestern US, northwestern Mexico
- Habitat:** sandy to gravelly; desert scrub, washes, etc.; Lower Sonoran to Transition Life Zones

Notes:

common; aromatic, herbaceous annual; grows to 2' (usually less) in the Mojave Desert and adjacent areas, south into Baja California, MEX, at elevations of ~2,000 to 5,000'; one to several flowers per stem; hairy, green calyxes; fruit is a capsule with 6-9 furrows; named to honor John C. Fremont; important host plant for bees

Mojave presence: native

Comments:

With variable vegetative features between individuals of even the same species (such as leaf shape), phacelias in general can be notoriously difficult to identify--unless flowers are present, which even professional botanists will confess is usually necessary to positively identify wildflowers regardless! In the case of this species, the definitive characteristics include a lavender flower with a yellow throat lined with a rim of white, and very short stamens.

Family **BORAGINACEAE** (Phacelias)

Notch-Leaved Phacelia (*Phacelia crenulata*)



low growth

Dante's View; DVNP



April

Frenchman Mountain; Las, Vegas, NV



cyme inflorescence

Willow Beh; Lk Mead NRA; AZ



lobed leaves

US 93; Lake Mead NRA; AZ



hairy stems

Frenchman Mtn; LV, NV

- Flowers:** campanulate; cymose; 5-parted; purple filaments, yellow anthers; lavender (white throat); .4"
Stems: erect; single to few; branched; stiff glandular hairs; green to deep red; 8-20"
Leaves: variable; pinnately divided; lobed; basal/alternate; hairy; green; 1-5"
Blooms: March to June
Range: southwestern US, northwestern Mexico, western South America
Habitat: sandy to gravelly; flats, washes, alluvial fans, etc.; Lower Sonoran to Transition Life Zones

Notes:

common; foul-smelling annual; grows to 2' in creosote scrub to pinyon-juniper woodlands from the eastern slopes of the Sierra Nevada east through the Mojave and Sonoran Deserts of the sw US and nw MEX below 6,000'; disjunct populations also found in SA (Peru, Bolivia, Chili); inflorescence often coiled (scorpioid) with many purplish buds growing on same side of stem; ovate capsule with 2-4 black, pitted seeds with longitudinal ridge between 2 grooves; can cause rashes upon contact to sensitive skin; aka **Notch-Leaf Scorpionweed**, **Heliotrope Phacelia**, **Caterpillar Weed**, etc.; host for bees and other insects; once used as an infusion to treat sore throat, and as a topical rub

Mojave presence: native

Comments:

As with all phacelias, the presence of flowers is helpful in positively identifying this species. Look for a dark purple corolla with a sharp white throat from which long stamens with purple filaments and yellow anthers protrude.

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Family **BORAGINACEAE** (Phacelias)

Lace-Leaf Phacelia (*Phacelia distans*)



Willow Beh; Lk Mead NRA; AZ



Xmas Tree Pass; Spirit Mtn; NV



US Hwy 93 at Willow Beach; Lake Mead NRA; AZ



Willow Beh; Lk Mead NRA; AZ



Xmas Tree Pass; Spirit Mtn; NV

- Flowers:** campanulate; wavy 5-parted, short purple stamens; **lt. blue**, pale lavender (white throat); .5"
Stems: erect to decumbant; branched or unbranched; stiff glandular hairs; **green** to **reddish**; to 30"
Leaves: highly variable; pinnate to pinnatifid; toothed to lobed; alternate; hairy; **green**; 1-5"
Blooms: February to May
Range: southwestern US, northern Mexico
Habitat: clay to rocky; washes, slopes, foothills, etc.; Lower Sonoran to Transition Life Zones

Notes:

common; annual/perennial; grows to 2.5', often within other shrubby plants for support, at an elevation of 1,000-4,000' in chaparral to woodlands in the sw US (CA, NV, AZ) and nw MEX (Baja, Sonora); usually curving **cyme** inflorescence with numerous sub-sessile flowers; pitted **capsular** fruit; aka **Scorpionweed**, **Distant Phacelia**, etc.; important host plant for bees and other insects

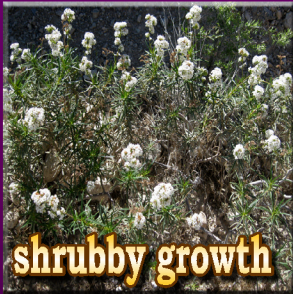
Mojave presence: native

Comments:

For this species, note the lavender corolla with wavy lobes, a whitish throat that blends gradationally into the lavender, and short stamens with purple filaments and anthers.

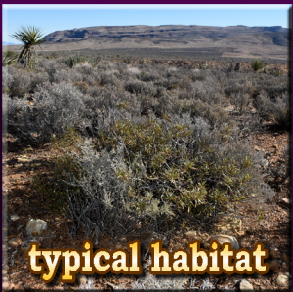
Family **BORAGINACEAE** (Yerba Santa)

Narrowleaf Yerba Santa (*Eriodictyon angustifolium*)



shrubby growth

Sandstone Qry; RRNCA; NV



typical habitat

Oak Creek; RRNCA; NV



April

Sandstone Quarry; Red Rock Canyon NCA; LV, NV



linear leaves

Sandstone Qry; RRNCA; NV



December

waiting till spring

Oak Creek; RRNCA; NV

- Flowers:** funnellform; cyme inflorescence; 5-parted, short stamens; white; .25"
Stems: erect; branched; woody, glabrous, sometimes sticky; **green**; 72"
Leaves: linear; entire/toothed; alternate; short-petiole/sessile; sticky above, hairy below; **green**; 4"
Blooms: April to August
Range: southwestern US, northern Mexico
Habitat: dry, rocky; hillsides, chaparral, washes, etc.; Lower to Upper Sonoran Life Zones

Notes:

uncommon; evergreen perennial; grows to 6' or more (usually less) in chaparral to woodlands in the Mojave Desert (CA, NV, UT, AZ) and nw MEX (Baja California) at an elevation of 2,000-7,000'; black **capsular** fruit; aka **Mountain Balm**; tea used as a decongestant, allergy reliever, and to treat or prevent hair graying

Mojave presence: native

Comments:

Unless in bloom, this species is an inconspicuous member of the desert plant community. A helpful characteristic is its very long linear leaves that are rather sticky to the touch.

Family **BORAGINACEAE** (Heliotropes)

Alkali Heliotrope (*Heliotropium curassavicum*)



Clark Co. Wetlands Pk; LV, NV



Clark Co. Wetlands Pk; LV, NV



Clark County Wetlands Park; Las Vegas, NV



Clark Co. Wetlands Pk; LV, NV



Clark Co. Wetlands Pk; LV, NV

- Flowers:** campanulate; cyme inflorescence; 5-parted; white to lt. purple (yellow throat); .25"
Stems: erect/spreading; usually unbranched; fleshy, glabrous; whitish green; 4-24"
Leaves: oblanceolate; entire; opposite/alternate; short petiole/sessile, glabrous; whitish green; 1-3"
Blooms: March to November (year-round for perennial varieties)
Range: North America to South America; introduced elsewhere worldwide
Habitat: salty, sandy; alkali flats, springs, marshes, etc.; Lower to Upper Sonoran Life Zones

Notes:

common; annual/perennial; grows to about 2' (usually much less) in salty environments throughout most of the Americas from CAN south throughout US to Argentina at elevations under 5,000'; scorpioid cyme inflorescence of 2-4 spikes each with numerous tiny flowers; fruit consists of 4 smooth nutlets; aka **Salt Heliotrope, Quail Plant, Chinese Pulsey, Monkey Tail**, etc.; 5 subspecies; used as an ornamental plant in desert landscaping, rock gardens, etc.; food source for granivorous birds (particularly quail, thus inspiring one of its common names), but can be toxic to cattle

Mojave presence: native

Comments:

This species is common in riparian areas of the Mojave. The specimens shown here at the **Clark County Wetlands Park** in May of 2021 are showing off their scorpioid inflorescences (curled like a scorpion's "tail"), a characteristic feature conspicuous in the field.

Family **BORAGINACEAE** (Forget-Me-Nots)

Cushion Cryptantha (*Cryptantha circumscissa*)



small, shrubby habit

Hoover Dam; Lake Mead NRA



April

Portage Road; Hoover Dam; Lake Mead NRA



spiked inflorescence

Hoover Dam; Lake Mead NRA



bristly, linear leaves

Hoover Dam; Lake Mead NRA



bristly, erect stems

Hoover Dam; Lake Mead NRA

- Flowers:** funnellform; cymose inflorescence; 5-parted, sessile; white to lt. purple (yellow throat); .25"
Stems: slender, decumbent; branched; hairy (bristly, coarse); green; 4-24"
Leaves: linear to lanceolate; curled margins; alternate; sessile, strigose; green; 1-3"
Blooms: February to October depending on precipitation
Range: southwestern US
Habitat: moist, alkaline, sandy to gravelly; washes, canyons, etc.; Lower to Upper Sonoran Life Zones

Notes:

common; herbaceous annual; grows up to 2' near springs and streams in the sw US from s CA east to TX below 7,000' elevation; scorpioid inflorescence of 2-4 spikes at end of stem, each with numerous tiny flowers; one of the earliest springtime bloomers; fruit has 2-4 nutlets; aka **Panamint Cryptantha**, **Bristlelobe Cryptantha**, **Pick-Me-Not**, etc.; important food source for birds and other animals (but toxic to cattle), and visited by bees, butterflies, etc.

Mojave presence: native

Comments:

At a casual glance, cryptanthas not in bloom can look confusingly like their fiddleneck cousins, since both have very bristly stems and leaves. In bloom, the most conspicuous difference is the white flowers of the cryptanthas, versus the yellow presented by the fiddlenecks.

Family **BORAGINACEAE** (Forget-Me-Nots)

Scented Cryptantha (*Cryptantha utahensis*)

bristly leaves, stems



Furnace Creek; DVNP

tiny popcorn-like flowers



March

linear leaves



curled edges

Furnace Creek; DVNP

young plant



Furnace Creek; DVNP

Furnace Creek Ranch; Death Valley National Park, CA

- Flowers:** funnelform; cymose inflorescence; 5-parted, sessile; white with yellow throat; .25"
Stems: erect, slender, ascending; branched; sessile or short petiole; strigose; green; 12"
Leaves: linear to narrow oblong; entire; opposite/alternate; sessile, strigose; green; 2"
Blooms: March to July
Range: southwestern US (mainly Mojave Desert)
Habitat: arid, sandy to gravelly; washes, slopes, etc.; Lower to Upper Sonoran Life Zones

Notes:

uncommon; aromatic, herbaceous annual; grows up to 1' in creosote and other desert scrub habitats to pinyon-juniper woodlands of the Mojave Desert and adjacent areas up to an elevation of 6,500'; cyme inflorescence of tiny, overlapping flowers in open clusters; schizocarp fruit with 1-2 nutlets; aka Scented Catseye, Scented Forget-Me-Not, Utah Cryptantha; host to butterflies and moths, such as the flat moth *Ethmia brevistriga*

Mojave presence: native

Comments:

Various species of cryptanthas are difficult to differentiate one from another. However, this species is the most prevalent--if not the only one--in Death Valley National Park, such as the ones shown here in March of 2018.

Family **BORAGINACEAE** (Forget-Me-Nots)

Torrey's Cryptantha (*Cryptantha torreyana*)



low, shrubby habit

Red Rock Cyn NCA; NV



June

Red Rock Canyon National Conservation Area, NV



flowers in pairs

Red Rock Cyn NCA; NV



erect leaves

Red Rock Cyn NCA; NV



strigose overall

Red Rock Cyn NCA; NV

- Flowers:** funnellform; cymose inflorescence (congested at tips); 5-parted, usually in pairs*; white; .2"
Stems: erect to ascending; branched/unbranched; bristly; green; 3-18"
Leaves: linear to oblanceolate; entire; opposite/whorled; strigose; green; 1.25"
Blooms: April to July
Range: western US/Alaska, southwestern Canada
Habitat: dry to moist, sandy to gravelly; washes, slopes, etc.; Lower to Upper Sonoran Life Zones

Notes:

uncommon; herbaceous annual; grows to 1.5' as a low shrub to upright plant in w US from MT/WY west to Pacific coast, north through British Columbia, CAN, to Alaska at elevations from 1,000-5,000'; **schizocarp** fruit with 1 **nutlet**; aka **Torrey's Catseye**, **Torrey's Cryptantha**; host to various butterflies

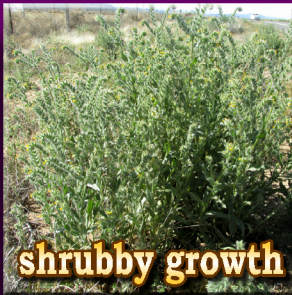
Mojave presence: native

Comments:

Despite its extensive range, this cryptantha is rather uncommon, and even more so in the Mojave. While the flowers resemble those of its cousins, this particular species does have a couple notable characteristics. The flowers usually occur in ***pairs**, its growth habit is generally **shrubbier** than other species, and the leaves are often erect in a **cup-like** formation (similar to some lupines) around the inflorescence. The only specimen I have encountered was the one shown here in June of 2019 in the **Red Rock Canyon** National Conservation Area near Las Vegas, NV.

Family **BORAGINACEAE** (Fiddlenecks)

Common Fiddleneck (*Amsinckia menziesii*)



shrubby growth

US93; White Hills, AZ



April

Pierce Ferry Road; Dolan Springs, AZ



5 calyx lobes

Dolan Springs, AZ



wavy, oblanceolate leaf

Dolan Springs, AZ



bristly stems, leaves

Dolan Springs, AZ

- Flowers:** tubular; cymose; 5-parted, 5 calyx lobes*; yellow with orange streaks/spots in throat; .25"
Stems: erect; singular to many; mostly unbranched; bristly white hairs; lime green; 36"
Leaves: linear to lanceolate (basal, cauline); wavy; alternate; sessile/short petiole; stiff bristles; green; 8"
Blooms: March to June
Range: western North America, parts of eastern and central US
Habitat: dry, sandy to gravelly; desert scrub, disturbed areas, etc.; Lower to Upper Sonoran Life Zones

Notes:

common; herbaceous annual; grows to 3' (usually much less) in creosote bush scrubland, chaparral, deserts, woodlands, etc., of w NA from Alaska south through CAN and w US (some populations in e US from ME to VA) to Mexico up to 5,500' elevation; "fiddleneck" derived from the cincinnous inflorescence (coiled like the neck of a fiddle), with 2 rows of buds, terminal flowers developing first; tiny egg-shaped nutlet fruit; hairs have bulbiferous bases; aka Devil's Lettuce, Fiddleneck; 2 subspecies; seeds are an important food source for some birds

* distinguished from Bristly Fiddleneck (which has 3-4 calyx lobes)

Mojave presence: native

Comments:

Mature plants become dry and turn brownish, such as displayed by this roadside crop along Highway US 93 near White Hills, AZ, in May of 2023.

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Family **BORAGINACEAE** (Fiddlenecks)

Bristly Fiddleneck (*Amsinckia tessellata*)



Red Spring; RRNCA; NV



Red Spring; Red Rock Canyon NCA; Las Vegas, NV



Red Spring; RRNCA; NV



Dolan Springs, AZ



US Hwy 93; Lake Mead NRA

- Flowers:** tubular; spiked inflorescence; 5-parted, 3-4 calyx lobes*; yellow with orange throat; .4"
Stems: erect; profusely branched*, stout; hairy (bristly, coarse); green: 36"
Leaves: linear to lanceolate; entire; alternate; sessile upper leaves; stiff bristles; green: 4"
Blooms: March to June
Range: western North America
Habitat: dry, gravelly; desert scrub, woodland habitats, etc.; Lower to Upper Sonoran Life Zones

Notes:

common; herbaceous annual; grows to 3' (usually much less) in creosote bush scrubland, chapaarral, deserts, woodlands, etc., of w NA from Canada (British Columbia) south through the Great Basin and Mojave Desert to nw MEX (Baja, Sonora) up to 5,000'; specific name *tessellata* refers to the checker-patterned nutlet fruit; aka **Devil's Lettuce**, **Checker Fiddleneck**, **Tessellate Fiddleneck**, etc.; food source for indigenous peoples, eaten as greens, and seeds were dried and ground into flour; seeds toxic to livestock

(* distinguished from the very similar **Common Fiddleneck** (*Amsinckia menziesii*), which has 5 calyx lobes)

Mojave presence: native

Comments:

Though very similar to the **Common Fiddleneck**, and difficult to differentiate where their ranges overlap, this species is best distinguished by its usually shorter leaves, possession of three or four calyx lobes, profuse branching*, and a less-coiled inflorescence.

Family **BORAGINACEAE** (**Namas**)

Purple Mat (**Nama demissum**)



sandy/gravelly soil

Red Rock Cyn NCA; NV



June

First Creek; Red Rock Canyon NCA; Las Vegas, NV



tubular flowers

Red Rock Cyn NCA; NV



red-purple stems

Red Rock Cyn NCA; NV



spatulate leaves

Red Rock Cyn NCA; NV

- Flowers:** tubular/funnelform; 5-parted, numerous at stem tips; pink to purple (yellow throat); 1"
Stems: spreading, prostrate; forked branching; tomentose; red-purple; 4"
Leaves: narrow, spatulate; entire; opposite; sessile; fleshy, hairy, dense at stem tips; 1-3"
Blooms: April to May
Range: southwestern US, northern Mexico
Habitat: dry, sandy to gravelly; desert scrub, flats, washes, etc.; Lower Sonoran Life Zone

Notes:

common; herbaceous annual; grows to 4" tall, about 1' wide, in the desert sw US from se CA east to AZ, s NV, sw UT south to n MEX and Baja California below 4,000' elevation; 3 subspecies; capsular fruit; aka **Leafy Nama**; seeds ground to mush and eaten by native people

Mojave presence: native

Comments:

Though a common species in general, it is nonetheless sparsely distributed in the Mojave. This low-growing plant can be easily overlooked, but is readily recognized by its very attractive presentation of both purple and pink flowers. To date, I have only witnessed and photographed this species at the **Red Rock Canyon NCA**, such as the specimen shown here from June of 2019.

Family **BORAGINACEAE** (Crinklemats)

Palmer's Crinklemat (*Tiquilia palmeri*)



low, shrubby growth

Bullhead City, AZ



April

AZ Highway 95; Bullhead City, AZ



tubular flowers

Bullhead City, AZ



woody, hairy stems

Bullhead City, AZ



strigose leaves

Bullhead City, AZ

- Flowers:** campanulate/tubular; axillary inflorescence, clustered; 5-lobed, sessile; blue, lavender, purple; .4"
Stems: spreading to prostrate; opposite branching; woody, shaggy hairy; white to beige; 6"
Leaves: ovate to round; crenate; alternate; short petioled, clustered, strigose; .5"
Blooms: April to June
Range: southwestern US, northern Mexico
Habitat: dry, sandy to gravelly; desert scrub, flats, washes, etc.; Lower Sonoran Life Zone

Notes:

uncommon; woody perennial; grows to 12" tall, about 2' wide, in the Mojave Desert of sw US, south into n MEX at elevations up to 3,000'; fruit produce spherical, smooth, glossy seeds bearing 1-4 deeply 4-lobed nutlets; aka **Palmer's Tiquilia**; host plant for various insects

Mojave presence: native

Comments:

This crinklemat is a rather uncommon plant found growing sporadically in the Mojave Desert. When not in bloom, it can easily be mistaken for the more common **Smallseed Sandmat Euphorbia polycarpa**, though its growth is not as densely packed. It is the main host plant for the rare **Coachella Valley Grasshopper Spaniacris deserticola** found only in the deserts of southern California and adjacent areas into Sonora, Mexico. I photographed the specimen shown here in Bullhead City, Arizona, in April of 2024--the

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only place I have encountered the plant thus far.